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# Indian Journal of Mental Health

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Schizophrenia and the Workplace

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Schizophrenia is a debilitating mental illness characterized by classic symptoms of loss in touch with reality, experiencing hallucinations and delusions and formal thought disorder (disorganized speech and behavior). The individual suffering from schizophrenia may also experience loss of motivation (avolition), loss of interest in earlier pleasurable activities (anhedonia), blunted affect and ambivalence in attitudes and emotions expressed. At a global level, the prevalence of schizophrenia is up to 1% (1 out of 100 people). Genetic vulnerability, imbalance in biochemical matrix, environmental factors and dysfunctional brain anatomy are implicated risk factors in the development of schizophrenia [1].

Socio-occupational dysfunction in schizophrenia

Many patients with schizophrenia have problems in occupational and social functioning. Cognitive dysfunction is paramount in schizophrenia and is central to the development of the psychotic symptoms of the illness. Multiple areas of cognition are affected and include attention, learning, memory (working memory and semantic memory), reasoning, processing speed, task shifting and executive functioning [2]. The cognitive reserve and cognitive capacity of the individual is reduced in patients of schizophrenia. The deterioration in cognitive functioning is related to the severity of illness and consequently affects the social, occupational and day to day functioning of the individual. Thus, relationships with people, working and performing day to day functions such as maintaining personal hygiene and social relationships deteriorate [3].

Schizophrenia and its impact on the Workplace

The functional ability of an individual at the workplace is inversely proportionate to the severity of psychiatric illness he may have. Cognitive deficits in schizophrenia lead to problems with planning and organizing work, remembering tasks, socializing with colleagues and paying attention to targets. At times, the positive symptoms (hallucinations and delusions) may also actively interfere with work. However, the psychotic process in schizophrenia is shown to defeat productivity and participation [4].

An essential aspect of understanding the effect of schizophrenia at workplace depends on who is affected the workplace. When the employees at the lower rung are diagnosed with schizophrenia, it does not impact the overall organization as much as they either lose the job or their work may get covered by other co-employees. Whereas, if someone from the managerial level is affected by schizophrenia, the entire team bears the brunt of mismanagement and lowered work output; as a result of which the team suffers without any anchor out of the situation. Multiple areas at the workplace may be impacted by schizophrenia and these include –

1. **Can the issue be resolved during screening and recruitment:** There is no particular type of job that is well suited for an individual with schizophrenia. The severity of the illness (which consequently determines the socio-occupational functioning of the individual) along with the interest levels and skill set of the individual determine if an individual will be capable of doing that job. The extent of disability differs from individual to individual and is positively correlated with the severity of illness. Some of the general accommodations made for people with mental health problems include- providing them the comfort of workplace, allowing them to leave early the days they may feel a trigger, flexible working hours and allowance to do a job that may not push them too much in a zone of discomfort [5].
2. **Absenteeism at the workplace:** As the disability increases due to schizophrenia, it eventually culminates in absenteeism at the workplace. This threatens the job security of an individual and affects the overall productivity for an organization. Repeated hospitalizations and relapse of an illness are also major contributors for absenteeism. It is also crucial to consider that sometimes it may not be the illness itself but a comorbid condition that may lead to absenteeism. Alcoholism or substance dependence (47%), depression (50%), obsessive compulsive disorder (23%) and panic attacks (15%) are the commonly co-occurring mental conditions that may lead to absenteeism [6].

3. **Being present but not working due to the illness:** When the employee suffering from schizophrenia maintains to come to work, the quality of work may dwindle down severely and productivity suffers. The work output of the employee drastically reduces and may involve troubles for the co-workers where the employee suffering from schizophrenia may hamper work of the employees, disrupt working environment and have interpersonal disturbances at the workplace at all rungs of employment [7].

4. **Delusions related to the workplace and colleagues:** There are two instances when it severely hampers the occupational functioning of an individual at work. One, is when the severity of illness is high enough to impair work and two, if delusions are based with relation to their co-employees. Since delusions are irrational beliefs that are deeply entrenched, it is better to have the individual work in independent positions as far as possible and have minimal team interaction as possible (in the case that it may irk them in any way) [8].

5. **Violence and Aggression at the workplace:** Though the depiction of violence is stigmatic in association with mental illnesses, it is in evidence that people with mental illnesses may indulge in some bizarre and arbitrary acts of violence. There are controlled studies in arrested offenders, inpatients, outpatients, and families with a mentally ill member, epidemiological surveys, and longitudinal cohort studies all report a relationship between violence and schizophrenia [9]. One of the most common and predictable factors for violence in schizophrenia is a previous act of violent behavior. There are some clinical predictors of violence in schizophrenic patients with exacerbation of psychotic symptoms viz. type and characteristics of delusions, delusions causing fear and anguish, persecutory delusions, active seeking of information to confirm or refute the delusional belief, systematization and conviction of the delusion, quality of the hallucinations, previous violence and less insight into symptoms [10].

6. **Reintegration at the workplace after treatment:** Reintegrating individuals who have had psychoses, into the workforce, a number of factors are considered to be associated with good occupational outcomes. The fitness to work of someone after a first episode of illness remains unanswered in most cases. Studies of patients admitted for schizophrenia, evidences that those with predominantly negative symptoms are less likely to be employed [11].

**Role of the Human Resource Team in an Organization**

When an employee suffers from schizophrenia, the organization and its team are also implicated in the process of screening and recruiting, accommodating at the workplace and reintegrating them back to work. It must be the responsibility of the Human Resource (HR) department in the organization to make sure that the individual / employee suffering from schizophrenia is provided with adequate on the job training, extra supportive training (if required) and that the individual receives sufficient accommodation to carry out work adequately. However, this scenario is ideal and not all organizations may be able to make available the aforementioned accommodations. Making therapeutic sessions available on the job if required or otherwise for cognitive remediation and social skills training also is a part of HR responsibility when there is knowledge about an employee suffering from schizophrenia.

A panel of psychotherapists and psychiatrists is a crucial aspect of the HR that may play focal role to not just manage employees with schizophrenia but also assist them at the work, psycho-educate co-workers and keep the best of interest for employees and the organization. It is important to recognize that having seniors who support mental health problems at work makes a huge difference about making workplace more inclusive for people with mental illnesses.
Role of Organizations
Every organization has provisions for employee well-being. Employment provides five categories of psychological experience that promote mental well-being: [12]
1. Time structure (an absence of time structure can be a major psychological burden)
2. Social contact
3. Collective effort and purpose (employment offers a social context outside the family)
4. Social identity (employment is an important element in defining oneself)
5. Regular activity (organizing one’s daily life).

With regards to mental health, there may not be specifically laid out rules and provisions however, there are some organizations that do provide for accommodation for people with mental illnesses. Most accommodations in the workplace can be established with minimal or no cost. Accommodations call for some flexibility and creativity, and quick to place in the system.

Accommodations may include –
1. Creating a supportive environment – It is critical for individuals with mental health conditions to work with colleagues and leadership who are positive, open, and welcoming.
2. Removing workplace stressors – Working in an office or workspace that is quiet may be more comfortable and manageable.
3. Adjusting the approach to supervising – It could be as simple as scheduling recurring one-on-one meetings to see how things are going.
4. Flexible schedules – Flexible arrival and departure times also allow individuals to perform duties when they can be most productive.
5. Providing opportunity to telework – Telework may be an option in circumstances where the physical presence may not be necessary.
6. Treatment – Counselling and Psychotherapeutic help should be made available as part of the HR in order to manage employees with schizophrenia when the time arises.

Leave for Mental Health Problems
Paid leave for medical illnesses, maternity and paternity leave are a norm of every company/organization. Considering the rampantly growing burden of mental illnesses, it is a dutiful consideration to raise the question if organizations should pass a bill for paid leaves for mental illness. Though, there are some organizations in the West that do allow ‘mental health days’ however, it is not a norm. it may be wise to consider mental health leaves as they may aid in retaining talent as more employees can successfully return to work after mental health-related leaves of absence [13].

REFERENCES

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Group Interventions for Children and Adolescents with Emotional Problems: A Review of The Literature

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ABSTRACT

Group interventions play an important role in therapeutic programs with children and adolescents with emotional problems or disorders, which have high rates of comorbidity and can persist into adulthood. The aim of this study was to review literature in the area of group interventions for children and adolescents, particularly with regard to emotional problems. Relevant studies were reviewed with regard to methodology, findings and implications. Gaps in existing literature, particularly within the Indian context, have been highlighted. Recent literature trends towards the use of brief closed group interventions, the use of transdiagnostic protocols, and varying levels of parental involvement. The implications of carrying out group interventions in various settings have been described.

Keywords: Group intervention, emotional problems, childhood, adolescence.

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INTRODUCTION

The periods of childhood and adolescence lay the early foundations for further development, well-being and satisfaction. Conversely, problems that arise in these periods could also contribute to further difficulties and maladjustment. Thus, there is significant scope for both promotive and therapeutic mental health interventions during these developmental stages.

The term emotional disorders [1] is synonymous with internalising disorders in the paediatric population, which is used to refer to anxiety, depression and somatic complaints which have high comorbidity rates [2]. A review of epidemiological work carried out in community surveys across the world [3] summarises that approximately one-fourth of youth experience a mental disorder over the previous year, while one-third experience one over their lifetime. Of these, anxiety disorders are the most frequent, and behaviour, mood and substance use disorders follow. Among the cases presenting to a Child and Adolescent Psychiatry clinic in North India, diagnoses of neurotic and stress related disorders constituted 16.4%-18.5% [4].

Meta-analytic research findings on psychotherapy with this age group [5-6] indicate effect sizes which are comparable to that for empirically-based adult treatments. Treatments which have emerged as well-established with children and adolescents [7] include cognitive-behavioural therapy, exposure, modelling, CBT with parents, education, and CBT with medication. A recent emphasis is also on transdiagnostic approaches to psychotherapy with this population [8], such as a ‘transdiagnostic internalising toolbox for paediatric practice’ [2], as well as principle-guided approaches [9].
Application of group interventions for children and adolescents in clinical settings

Group psychotherapy with adults had its origins in the early work of Pratt, Moreno and Yalom in the 20th century. Pioneers in the field emphasised the role of therapeutic factors in groups, which include that of instilling hope, universality, imparting information, altruism, corrective recapitulation of the primary family group, developing socialising techniques, imitative behaviour, interpersonal learning, group cohesiveness, catharsis and existential factors [10].

Shechtman [11] distinguishes between three types of groups used with children and adolescents: guidance or educational groups (primary level prevention groups), counselling groups (secondary level prevention groups), and group psychotherapy (tertiary level prevention groups). Kymissis [12] describes the main indicators across groups with adolescents as those whose problems arise in the context of peer relationships, whose individual therapy may be stagnant or cannot begin individual therapy for various reasons (financial and otherwise), and who lack social skills. On the other hand, key contra-indicators include those who exhibit psychotic, violent, impulse-control, or substance use symptoms, are unmanageable or may tend to monopolise, become scapegoats or bullies in the group.

The benefits of groups can include efficiency in time, space, staff and finances; ongoing assessments as individuals can be observed in interactions with peers with regard to use of skills; the availability of social comparison and learning; and motivation to engage and be active [13]. Groups with adolescents may be characterised by more feedback and confrontation as compared to groups with children, while bringing challenges of resistance to authority, inflexibility and intolerance [11]. Research recommends the use of same-age groups to ensure similarity in developmental tasks, interests and abilities; and same-sex groups to exclude the possible tension that could arise between genders [11-12].

The recent decades have seen highly specialised group intervention modules or packages developed in the western settings, for specific problems such as anxiety disorders, depression, ADHD, anger and aggression, post-traumatic stress disorder (PTSD), substance abuse, deliberate self-harm, eating disorders and so on. Such programs may be applicable to groups which are homogenous in diagnoses, which may be possible only in randomised controlled trials (RCTs), but are ‘the exception’ in most clinical settings [14], where comorbidity amongst disorders is common. This is especially true with regard to anxiety and depressive disorders in children and adolescents, where comorbidity can occur through multiple developmental pathways [15]. Groups can be conducted in inpatient or outpatient settings; those in an outpatient clinical setting have the advantages of being able to recruit larger numbers of participants and offering a setting very similar to school [14].

FINDINGS FROM STUDIES ON GROUP INTERVENTIONS FOR CHILDREN AND ADOLESCENTS

Method of literature search

The purpose of this review was to identify and examine the literature on group interventions with children and adolescents, with a specific focus and outlook towards those with emotional difficulties. This was done through a literature search during the period of 2015-2018, with online searches on databases or search engines including PubMed, Proquest and Ebsco. Keywords used included ‘group therapy / group psychotherapy / group intervention / group work with children’, and similar terms with the word ‘adolescents’. Additional searches were made for meta-analytic studies and those from the Indian context. Efforts were made to trace articles cited in books and chapters on the topic, and these were reviewed if relevant. Journal articles were explored through abstracts for relevance. Following this, full-length articles were reviewed if these highlighted or explored certain key aspects of conducting group interventions with this population, or if these used groups with children/adolescents with emotional problems or disorders. The first section of the review will be on studies using group interventions with children and adolescents across target groups and formats, before moving to studies with a specific focus on emotional problems or disorders. A few studies examining processes in group interventions will be examined. Group interventions in the Indian context will then be analysed, and meta-analytic reviews in this area of study will be elucidated on. The paper ends with a summary of points gleaned from across the studies, as well as with implications for clinical practice and research.
**Group intervention studies across formats and target groups**

The studies reviewed in this section were chosen as these highlight certain key or unique aspects with regard to the utility of groups for children and adolescents. These studies were conducted across various presenting problems and utilising diverse formats.

An early study by Abraham, Lepisto and Schultz [16] explored the perceptions of adolescents following their experience in structured group therapy and process group therapy. The study recruited 82 inpatient adolescents with psychotic, affective, behavioural problems or personality disorders. All were simultaneously undergoing specialty groups (12 weekly sessions based on common themes of divorce/adoption/sexual abuse, etc.), and process groups running over 10 months which were more 'interpersonally oriented'. Adolescents' self-report indicated that all preferred individual therapy over all other forms of treatment, including groups and family therapy. Process groups were preferred with regard to relating with peers and staff, but speciality groups were preferred with regard to understanding and dealing with the problem. This is one of the few studies identified which was able to compare experiences in various groups and also between group and individual therapy simultaneously; this format may not be possible in routine clinical settings, but rather in long-term residential settings.

Another study from an inpatient setting by Snyder, Kymissis and Kessler [17], looked at the efficacy of brief group therapy in reducing anger and aggression in adolescents. Adolescents with varied diagnoses were seen, if they scored at least 75% or higher on the Trait Anger scale of the State-Trait Anger Expression Inventory (STAXI). While the treatment group received 4 sessions focusing on anger management, the control group were shown relevant psychoeducational videos. Post-treatment, the treatment groups' self-reported anger had decreased, while the control groups' had increased slightly. Merits of this study include the brevity of the intervention which proved efficacious, formation of groups based on a common problem even with heterogeneity in diagnosis, use of blind ratings by teachers and nurses, and the emphasis on generalisation and maintenance of skills.

Most research on the topic involves closed groups with the same group composition from beginning to end. This is possibly because of the inherent difficulties in conducting research with open groups, where members enter and leave the group at different time points. Only one study could be identified [18] which compared open and closed group interventions; this was done with adolescent girls who had encountered sexual abuse. While 13 girls experienced an open group intervention in comparison to 13 girls in a control condition (no treatment), 29 girls experienced a closed group intervention. Both open and closed group interventions involved 20 weekly sessions with 'psychoeducational content'. Not many details are included about the treatment manual, although it is evident that the intervention included structure while facilitating group processes to emerge around common experiences. Results indicated that both group intervention formats had similar significant gains. The exact nature of open groups is not clearly specified, which would have been relevant to understanding how to conduct these groups in clinical practice.

A program titled *Exploring Together* [19] addressed children and early adolescents with externalising behaviour problems in Australia. The treatment condition consisted of 106 children in groups of 4-8 participants for 8-10 weeks, each weekly session being 1.5 hours long, in comparison to a waitlist condition. Each session involved the children’s group focusing on anger management, social and problem-solving skills (1 hour); the parents group conducted simultaneously aimed at parents-skills training (PST) and their difficulties; thereafter, both were seen together (0.5 hour) focusing on their interactions. Results indicated that children’s behaviour problems reduced and social skills improved at home, and these gains were maintained at follow-up. The significance of this study lies in the use of concurrent parent and child groups as well as combined groups, and the brief nature of the program coinciding with the length of the school term.

A study distinctive in its format [20] was conducted with 63 adolescents, referred after an act of deliberate self-harm (DSH) and with at least one previous act of DSH in the last year. Participants were randomly allotted to either group therapy with routine care, or routine care alone; the groups were conducted according to a manualised program titled *Developmental group psychotherapy*. This involved six acute-care group sessions, while the longer-term group therapy phase that followed was held weekly as long as perceived necessary by the adolescent. Adolescents in the intervention condition reported fewer DSH attempts and better school attendance than the comparison condition, although there were no significant
effects on self-reported depression or suicidal thinking. Significant points to be gleaned from the study include its unique format and flexibility in number of sessions, and the nature of the intervention which appears eclectic in approach.

Other articles have similarly focused on different presenting problems or target groups; for instance, with children and adolescents with 'learning disabilities' [21]; Scholten et al. [22] through the use of a psychosocial group intervention, titled 'Op Koers' ('On Track') for children with chronic illnesses; Cone, Golden and Hall [23] through a short-term cognitive-behavioural group therapy (CBGT) for adolescents with attachment difficulties, residing in adoptive/foster/group homes; with juvenile offenders [24]; for students who engage in proactive aggressive behaviours or bullying [25]; for adolescents who have witnessed or experienced complex traumas [26]; online groups, such as for adolescents having received treatment for cancer [27]; through support groups for children who have parents with a psychiatric illness [28]; and so on. Various cognitive-behavioural group interventions for different presenting problems are presented in the Handbook of Cognitive-Behavioural Group Therapy with children and adolescents [29]. Research has also examined parent-child groups [30-32]. Although not exhaustive in its coverage, this section focused on a few studies which are notable for the design or intervention model that was utilised. The studies that follow, specifically involve group interventions targeting emotional disorders or difficulties.

**Group interventions with children and adolescents: a focus on emotional problems**

The studies available on group interventions with children and adolescents with emotional problems were found to involve the development and utilisation of treatment protocols, targeting either emotional disorders or emotional problems, and applied in a community setting or clinical setting. Some of these treatment protocols are seen in the studies reviewed below.

With regard to depression, one of the widely recognised protocols is *Coping with Depression-Adolescents (CWD-A)*. Clarke, Rohde, Lewinsohn, Hops and Seeley [33] replicated the findings of efficacy of this program with 123 adolescents diagnosed with major depression or dysthymia. The acute phase included either adolescent group therapy of 16 hours, adolescent groups with a parent group, and the waitlist control group, while the maintenance phase randomised all treatment completers (n=96) to booster session groups. Results indicated that the two treatment groups were superior to the waitlist group. The value of this study lies in the large sample, the emphasis on booster sessions and maintenance of gains, and the involvement of parents. The authors also suggest alternatives to booster sessions: for instance, telephone calls, or booster sessions only for adolescents with a higher risk of recurrence of depression. Other adaptations of the same program have also been found, including a school adaptation [34].

Straub et al. [35] carried out a pilot study to study the feasibility, efficacy, and safety (suicidal ideation) of a brief CBGT program for adolescents with depression in an outpatient setting. It was conducted with 15 adolescents in three groups of 4 to 6 participants, using the “Manualised Intervention to Cope with depressive symptoms, Help strengthen resources, and Improve emotion regulation” (MICHI) intervention of 5 sessions. Results indicated good feasibility, in terms of attendance, overall satisfaction, and adherence rate with the manual. Depressive symptoms, suicidal ideation and quality of life improved; however, there were no significant changes in parents’ rating of adolescents’ symptoms or functioning. The strength of this pilot study lies in the clearly-defined screening process, and the findings that suggest that a brief format of 5 sessions can bring effective change. A description of the full study and its allied objectives is found in Straub [36]. The effects of this program on neural network connectivities in adolescents have been reported [37], by comparing 19 adolescents with depression to 19 healthy controls. The treatment group received the 5-session program described above. Resting-state scans done prior to therapy, indicated that connectivity of the amygdala and subgenual ACC with regions of the default mode network, was stronger in patients as compared to healthy controls, and this decreased after intervention; whereas connectivity of the affective regions and those processing cognitions and salient stimuli, improved after intervention. The use of interpersonal psychotherapy (IPT) for adolescent depression is well-recognised, and its application in a group format has been explored in a few studies. Mufson, Gallagher, Dorta and Young [38] comprehensively describe the session content of a group adaptation of interpersonal psychotherapy for depressed, non-bipolar disorder adolescents, and the rationale of the same in allowing adolescents to
practice skills learnt in this environment which acts as a ‘social laboratory’, reducing their sense of isolation, and using collaborative efforts of the group to motivate adolescents and find other solutions. Their adaptation consists of two intensive pre-group individual sessions followed by 12 group sessions, with individual parent-adolescent sessions mid-way and at the end of treatment. Further studies have explored the use of such group formats of IPT. For instance, O’Shea, Spence and Donovan [39] compared and evaluated the effects of individual and group IPT for depressed adolescents. Their study included 39 adolescents, with 20 adolescents in three groups in the group therapy condition, and 19 in the individual therapy condition, both receiving similar content through 12 sessions and 4 maintenance sessions. Adolescents in both formats showed significant improvements on measures of depression, anxiety, youth-reported internalising problems, and clinician-rated functioning. Only the measure of parent-reported internalising problems evidenced a significant difference between formats in the completers sample, with individual therapy showing greater improvements. Another study done in Puerto Rico [40] compared 12 sessions of both individual and group formats of CBT and IPT (as ‘probably efficacious treatments’ for depressed adolescents) for 112 adolescents. 62% in the CBT format, and 57% in IPT, moved from clinical to normative scores on CDI, indicative of clinically significant change. No difference was seen between individual and group formats, although individual formats had some increased efficacy in terms of effect size. The paper is a noteworthy example of how well-accepted manuals can be adapted according to the culture, as it has a clear description of the Latino values that the adaptation was linked to.

Another noteworthy study from outside the western context addressing depression in adolescents, was that of Bella-Awusah, Ani, Ajuwon, and Omigbodun [41] in Nigeria. This used a school-based CBT program of 5 sessions among 20 children with depression as a single group, compared to 20 waitlist controls. The treatment group showed significantly lower depressive symptoms at post intervention and 16 weeks post treatment. What is commendable about this study is the inclusion of various culture-specific components, including religious and cultural coping strategies, local metaphors and analogies. The study is also portrayed as an exemplar of a CBT-based intervention in a lower and middle-income country (LAMIC). However, the program involved a single group of 20 children from the same school, which may not have facilitated the development of group dynamics. Programs have also been developed for anxiety disorders as a whole, or specific anxiety disorders. An RCT by Manassis et al. [42] used the Coping Cat program, comparing individual and group therapy with children (aged 8-12 years) with different Axis I anxiety disorders. The study randomly assigned 78 children to either individual or group therapy, both involving parents intensively. Both formats received 12 sessions of therapy from Kendall’s Coping Cat Workbook, adapted for individual and group therapy (titled as the Coping Bear Workbook). Regardless of the condition, there was significantly decreased anxiety and improved global functioning at the end of the study. The study was thus able to compare individual and group interventions and demonstrated their relatively equivalent contributions. The authors however mention that children with higher social anxiety might do better in individual therapy, and that children with comorbid depression could also receive therapeutic components of mood regulation, which highlights the value of transdiagnostic approaches.

The Coping Cat program has also been used in other settings, including in the Chinese context by Lau, Chan, Li and Au [43], and in the Brazilian context by de Souza et al. [44]. The first involved 45 children between ages 6-11 years, diagnosed with an anxiety disorder or problems excluding specific phobias. The participants received nine two-hour weekly sessions in groups of 7 to 9 children. Changes, termed as ‘culturally relevant’, included involving parents as ‘collaborators’, taking parents/children’s questions prior to ending sessions, telephoning after missed sessions to avoid dropouts, including Chinese concepts in therapy, and offering psycho-education. Results indicated that children in the treatment condition showed a significant improvement in terms of anxiety symptoms as compared to the waitlist condition. The two variables of anxiety cognitions and coping, mediated the association between treatment status and outcomes. The contributions of this study lie in providing further evidence for this program in a non-Western scenario, and the culture-specific adaptations that could be made.

The study by de Souza et al. [44] also used the group version of the Coping Cat for children aged 10-13 years. The authors cite it as an example of a CBGT for children with anxiety disorders in the community.
in a lower and middle income country (LaMIC). The open clinical trial saw 20 completers of 28 children recruited, who participated in 14 group sessions and 2 concurrent parent sessions, with children showing an improvement on all measures including of anxiety, functioning, and externalising symptoms; however, depressive symptoms and quality of life did not significantly improve. While an important study in terms of the use of CBGT in the community and in a non-western setting, it lacked follow-up information, as well as any information on adaptations made for the context, and had a small number of completers for analysis.

Another study along similar lines targeting anxiety disorders [45] used an RCT implementing a cognitive-behavioural group therapy program termed as the FRIENDS program (Feeling worried? Relax and feel good; Inner thoughts; Explore plans; Nice work so reward yourself; Don’t forget to practice; Stay calm, you know how to cope now). This involved 71 children aged 6-10 years in 10 treatment groups, for 10 weekly sessions with 2 booster sessions, besides an intensive parent component. At post-intervention, 69% of the children were diagnosis-free, as compared to 6% in the control group, besides high rates of treatment satisfaction from both parents and children. However, booster session attendance was very low, and the authors suggest these sessions may be recommended only for those who report of difficulties in skills generalisation or maintenance. The paper also states that a parallel version for adolescents aged 12-16 years has been developed.

One study identified which targeted a specific anxiety disorder, is that of Hayward et al. [46], who examined the efficacy of cognitive-behavioural group therapy for adolescent girls with social phobia through a pilot study. Their 16-week group intervention was implemented for 12 adolescents, as compared to 23 untreated controls with social phobia, and 18 adolescents without social phobia. The sessions focused on psycho-education, skills training, and exposure, besides other elements. The results indicated a significant improvement on the primary outcome measures for the treatment group. At post treatment, 55% in the treatment group, as compared to 96% in control, besides high rates of treatment generalisation or maintenance. The authors also highlight the ‘synergistic’ relationship between social phobia and depression in this study, which lends further credibility to studies which utilise a transdiagnostic approach towards anxiety and depressive disorders.

Amongst the transdiagnostic cognitive-behavioural approaches is that of the Unified Protocol for the treatment of emotional disorders in children and adolescents. Bilek and Ehrenreich-May [47] utilised the group protocol of the same, titled the Emotion Detectives treatment protocol, in working with 22 children aged 7-12 years with primary anxiety disorders and comorbid depressive symptoms. In line with the Unified Protocol, it used core principles of altering antecedent cognitive appraisals, preventing emotional avoidance, and modifying behavioural action tendencies. The treatment protocol of 15 sessions (further described in Ehrenreich-May, Bilek, Queen & Rodriguez [48]), included content on awareness of emotions and acceptance of emotional states, cognitive appraisal, problem-solving skills, behaviour activation, exposure and parent training. Results indicated an improvement in child-reported anxiety symptoms, parent-reported depressive symptoms, and clinician-rated symptom severity. However, children with a primary depressive disorder diagnosis were not included, and being a feasibility study, involved a small sample and did not include a control group. The adolescent version of the Unified Protocol has been examined in various studies, such as in Ehrenreich-May, Rosenfield, Queen, Kennedy, Remmes and Barlow [49], which however is in an individual therapy format.

Another transdiagnostic protocol is that of the Cool Kids Adolescent Anxiety and Depression program, developed at the Centre for Emotional Health Clinic, Macquarie University, Australia. Varied forms of the Cool Kids program exist, and Rapee [50] elaborates on what appears to be an early version of the program for anxiety disorders, tested as a nine session program in groups, involving 95 children (aged 7 to 16 years), with major components of cognitive restructuring, exposure to fear-related stimuli and teaching the parents management techniques. The treated children improved compared to waitlist children, on measures of anxiety. Perini, Wuthrich and Rapee [51], in their commentary on the use of the Cool Kids in Denmark, also succinctly summarise the various versions including for anxiety alone, for anxiety and depression, school-based and outreach programs, the various formats of the program such as individual and group formats, and the involvement of parents to varying degrees. The Cool Kids Adolescent Anxiety and Depression program manual [52] includes components in 16 sessions, with a focus on psychoeducation;
thought-feeling link, realistic thinking and working on core beliefs; exposure; managing emotions; behavioural experiments; problem-solving and its application to relationships; and a focus on assertiveness, teasing and stress management.

Other than cognitive-behavioural formats, alternate treatment protocols have also been used. For instance, narrative group therapy was used for boys, aged 10-11 years, with social phobia in Iran [53], randomly distributed to intervention versus waitlist groups. The male therapists were able to work only with boys, given the nation’s policies regarding the same. The children received 14 narrative group sessions in the school setting, which were largely activity based. Detailed descriptions of the activities appear to target problem-solving through narrative means, besides a focus on emotions. The study reports a significant difference between treatment and waitlist group post-treatment and after one month; however, these reports are largely based on parental and teacher report, and the child's self-report would have added greater validity to results. The age range of participants also appears very limited, and there is little focus on group processes.

Another study, among the recent ones on group interventions with children and adolescents, is that of Salum et al. [54], comparing group CBT and attention bias modification (ABM) in children, aged 7-11 years, with anxiety disorders. The study was carried out in Brazil, and used a factorial design to compare group differences in children receiving G-CBT and ABM to their respective control interventions of Control Therapy and attention control training (ACT). Here, the group intervention received 10 weekly sessions based on the *Friends for Life* program, to increase social and emotional skills, resilience and reduce symptoms. However, the results from the study indicated significant improvements in all groups, with neither G-CBT nor ABM showing additional effects beyond that of control groups; in addition, the analyses pointed to higher dropout rates when G-CBT was combined with ABM.

**Process-related research on group interventions**

Most research on process factors in group interventions with this population, focuses on therapeutic factors. For instance, Brouzos, Vassilopoulos and Baourda [55] examined the endorsement of therapeutic factors in groups run for children with social anxiety in Greece. This was done though an analysis of answers on the Critical Incidents Questionnaire, reported by group members after each session, and categorised according to the stage of group development. Therapeutic factors most reported were learning from interpersonal actions and instillation of hope at the beginning; and guidance at the working and ending stages of the group, which the authors relate to the culture. Universality was unusually not reported at all, and acceptance reported only in the beginning. Vicarious learning was more prominent towards later stages, interpreted as important once cohesion increases and participants observe each other. Although the size of groups (mentioned as 9-16 in a group) and the fact that all group members were drawn from one school might have affected group processes, this study is an interesting example of the analysis of processes in groups and the manner in which such an exploration might be done.

Another qualitative insight into the experiences of adolescents in group therapy was undertaken through a dissertation [56], exploring the experiences of 8 such adolescents through semi-structured interviews. The adolescents had undergone three months of ‘interpersonal group psychotherapy’. In their report of their experiences, they mentioned that they found the group as a place of gathering of hope, found support, received help and so on. While referring to the ’process’ (or stages of the group), they referred to a ‘nervous’ phase, before settling in by session 3-4, later with deepening connections and sharing in the middle phase, and mixed emotions as they neared the end. Among their recommendations for future groups, they mentioned the importance of a comfortable physical space, small groups composed of 4-6 participants of similar age, and involving adolescents only if they are motivated to be there. Bussell [57] also explored group processes through the use of the *Session Evaluation Form (SEF)* for adolescents. The study found that the SEF, tapping into Group, Facilitator, Skills and Exploration Impact, could differentiate between groups in terms of impact of the therapy process. The use of the measure was taken further in the study by Garcia [58], including an investigation of its psychometric properties.
Studies on group interventions: the Indian scenario

Studies in India with children and adolescents have been carried out primarily in non-clinical settings. An intervention study by Akoijam [59] tested the efficacy of counselling for adolescents with adjustment problems in the school setting, wherein the minimal contact group received a single group session with information on problem-solving skills. Among other significant results was that the minimal contact group also showed signs of improvement with the inputs from the group session. Anand [60] explored the contribution of Mindfulness-Based Stress Reduction (MBSR) conducted in groups, in reducing stress in adolescents, with results indicating significant differences in stress, well-being and adjustment in the intervention group as compared to the control group. However, a limited age group (aged 13-15 years) was taken, limiting the generalizability of results, and the program itself was promotive in nature.

Singhal [61-62] explored the efficacy of a school-based group coping skills program for adolescents with subclinical depression; the intervention condition of 10 groups, received 8 weekly sessions, while the control condition received one interactive session focusing on psychoeducation. The intervention group showed a clinically significant reduction in depressive symptoms, negative cognitions and academic stress, with increased social problem-solving and coping skills, while no corresponding changes were seen in the control group. This study was one of the few group intervention programs for adolescents in the Indian setting, which utilized the cognitive-behavioural format, and it incorporated common elements from well-recognised manualized group interventions. However, it was carried out in a school setting, where adolescents are likely to have already known and been familiar with each other.

Banerjee [63] utilised the narrative approach with groups of adolescents in schools, using an adaptation of the manual of Monk and Winsdale. Adolescents aged 13-18 years, were seen in 6 groups over 6 sessions, with average group size being 31 adolescents. Participants’ self-report revealed that the narrative approach aided in making them feel more confident in reaching goals, and in recognising their own ability to solve their own and others’ problems. However, the large size of groups may have also limited group interactions and dynamics. Another study in the school setting [64, 65] developed and explored the efficacy of a group intervention for adolescent girls, aged 13-15 years. The 8-session group intervention with a class of female students, aimed at mental health promotion and development of self-awareness. Students showed improvements at post-intervention, although not all improvements were maintained at follow-up. All these studies reviewed so far, worked with adolescents considered ‘at-risk’ or with subclinical problems in a school setting, and results may not be generalizable to groups for those with psychiatric disorders in clinical settings.

Another recent study in this area in the Indian setting, by Easvaradoss and Cabral [66], used a CBGT program for adolescents from dual-earner families, with the rationale that such adolescents face distinctive difficulties. The sample consisted of 50 adolescents in 4 groups, each with 12-13 students, with 6 modules emphasising group dynamics, social skills, problem-solving skills, cognitive self-change and attribution retraining. Adolescents showed an increase in scores of emotional maturity, frustration tolerance, study involvement and parent and peer attachment after the intervention. This study is a fairly recent use of cognitive-behavioural group therapy in the Indian setting. However, a clearer description of the content of intervention is required.

Only one study utilising groups in a clinical setting could be noted in the Indian context [67] which examined the efficacy of transdiagnostic cognitive-behavioural group therapy, for an adolescent population with comorbid anxiety disorders and headache. The study utilised a 12-session group protocol, primarily developed after FGDs and examining related literature. It was carried out with 63 adolescents randomised to intervention versus treatment as usual (TAU). It is significant to note that groups were stratified by age (10-14, 15-19 years), although details about gender distribution are not specifically mentioned, leaving one to assume these groups were formed with both males and females. Results indicated that the treatment group showed significant improvement on state and trait anxiety scores, while TAU did not; although both conditions improved on measures of headache intensity and clinician-rated functioning, the treatment condition showed significantly greater improvement.

It is relevant to note the stages through which the transdiagnostic protocol was developed, with the inclusion of content on assertiveness training, emotion regulation and management of stress, based on themes from focused-group discussions with adolescents with such problems. However, details are not
available regarding how content was made suitable for adolescents, in terms of means of delivery; whether the headache or anxiety disorder was the primary diagnosis; nor about group processes or facilitation of the same (besides that initial sessions sought to facilitate group cohesion and socialisation); and whether and how session content or process differed between groups stratified according to age. The session content described, appeared to primarily target anxiety symptoms, with less focus on the diagnosis of headache (other than monitoring of the headaches). In addition, adolescents with depression were deliberately excluded, but details about these adolescents are not given; this would have been relevant given high rates of comorbidity between anxiety and depression. In addition, a symptom-based measure of anxiety, rather than the State Trait Anxiety Inventory, would have been more suitable as an outcome measure. Nonetheless, this study points to the use of a transdiagnostic protocol for an emotional disorder in the Indian setting, and is highly significant in this regard.

Meta analytic studies and reviews
An important meta-analytic review of 56 articles by Hoag and Burlingame [68] specifically on child and adolescent (age 4 – 18) group treatments, found that various forms of groups are more effective than waitlist or placebo control groups (with an effect size of .61), indicating that these children and adolescents were better off than 73% of those in control groups. The review indicated that studies of group interventions in school settings (ES = .53) were significantly less effective than in clinical settings (ES = 1.13); studies wherein experimenter allegiance was clear (ES = .72) were more effective than therapies where allegiance was absent; groups oriented to counselling or therapy (ES = .65) were more effective than psychoeducational groups (ES = .40); and that were relatively fewer studies with mood and anxiety disorders.

A recent meta-analytic review [69] compared and ranked the different types of psychotherapies aimed at acute anxiety disorders in children and adolescents. This network meta-analysis examined 101 randomised controlled trials with 6625 participants. The most significant finding from the analysis was in support of group CBT, in that only group cognitive behaviour therapy was significantly more effective at post-treatment than other psychotherapies (SMD range, -0.82 to -0.43) and all neutral control conditions (SMD range, -1.43 to -0.76). The study concludes that group CBT may be considered as the first choice of psychotherapy for anxiety disorders in children and adolescents, though group BT might be preferable in children.

CONCLUSIONS

This review paper sought to examine and analyse existing literature related to group interventions with children and adolescents, with a specific focus on those with emotional problems or emotional disorders. Literature has emphasised the developmental needs of this population, and the need for psychological interventions to be cognizant of their developmental abilities and mental health concerns that can arise during this period.

As noted from literature, group interventions confer many possible advantages and clinical benefits for children and adolescents and their families, as well as for professionals working with them. Not least amongst these are the advantages in terms of cost, time, and manpower efficiency, besides the benefits accrued to children and adolescents in being able to work alongside peers with similar difficulties.

With regard to theoretical frameworks, most recent studies reviewed from the Western setting utilised cognitive-behavioural group therapies (CBGTs), often with specific manualised programs, for children and adolescents with emotional problems. Other frameworks were also noted, including that of narrative therapies. These were largely developed for the clinical setting, at times used in community or school settings for those with sub-clinical problems or as a preventive approach. Adaptations of well-recognised manualised programs have been carried out in non-Western settings; some have outlined the process of adaptation and the inclusion of changes based on cultural values, with a focus on aspects such as feasibility and efficacy. The recent trend appears to be in favour of transdiagnostic or principle-guided approaches, which recognise the role of comorbidity in diagnoses.
The majority of studies utilised closed groups, and it would therefore be important to understand the role of open groups for children and adolescents in clinical settings. Group interventions have been carried out with varying group sizes, ranging from 5 in a group to more than 30, although most studies appear to endorse a maximum of 8 in a group. Studies often utilised homogenous samples in terms of diagnosis or presenting complaints, while at other times approaching children or adolescents through a common presenting problem such as anger, anxiety, or deliberate self-harm attempts, regardless of diagnosis. Particularly with regard to emotional problems or disorders, studies were carried out in outpatient clinical settings, which give individuals the opportunity to use these skills and inputs outside the therapy setting. The use of groups in outpatient settings may however restrict the chances of conducting multiple therapeutic interventions simultaneously, which may be possible in inpatient or residential settings. Many studies have moved towards the use of brief interventions, at times using 5 sessions, and have noted effectiveness of the same. Other studies have utilised booster sessions to facilitate maintenance of gains. A few have explored distinctive and flexible formats, including with varied levels of parental involvement. Some studies have referred to different versions of the group intervention based on age groups, for example with those in childhood, versus early, middle or late adolescence. The results of such group interventions have primarily been explored through measures of symptom rating, reported by self, parents, or through clinician-rated measures. However, it is important to note that experiences of the group may not be accessible only through such measures. While most studies propose that children and adolescents can benefit from therapeutic processes of the group, they do not explore these group processes extensively. Thus, group experiences may need to be analysed through other means such as process ratings, adolescent and parent interviews, and therapist observations of session processes. In the Indian setting, interventions using the group format are few and have largely been restricted to community or school settings. These studies in non-clinical settings can ensure homogeneity, for instance in terms of language or socio-economic status. Within these settings, group interventions have proven to be beneficial. Most such studies suggest or imply that similar programs need to be implemented in clinical settings. Only one study was found which utilised the same with adolescents in an outpatient clinical setting, through a transdiagnostic approach.

Implications
Given the advantages of group intervention approaches, the use of these programs can present a novel and clinically relevant approach to working with children and adolescents, specifically with emotional problems, in the Indian clinical setting. Such programs could be implemented with children or adolescents with a specific disorder, or with a common presenting problem regardless of diagnosis, or with transdiagnostic protocols aimed at highly comorbid conditions. In hospitals or private practice clinical settings, running group interventions during periods when academic demands may be less, such as during vacation periods or weekends, might ensure greater attendance and participation. In such contexts, it may be necessary for individual therapy and group interventions to complement each other, rather than either taking the place of the other. In a busy hospital setting, single-session groups can be a viable option to bring children or adolescents together on the day of their consultation, serving the purposes of providing psychoeducation and information on treatment options, allowing them to interact with other individuals with similar difficulties, as well as acting as a stepping-stone for more intensive group interventions. In general hospital or paediatric settings, children and adolescents presenting with primary medical issues along with other emotional difficulties, can be seen together in a group format to address mutual concerns. The involvement of parents in sessions is also extremely important, and the extent of involvement must be explored through clinical practice and research, ranging from a single session to sessions held concurrently with those of their children. Most importantly, the content of sessions, whether drawn from existing manualised programs or developed for the population at hand, must be adapted according to the specific age group in terms of activities and means of delivery, for instance through games, relevant examples, group discussions, role-plays, videos, and the like.
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Digital Amnesia: are we headed towards another amnesia

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ABSTRACT
Digital amnesia is a concept that existed since 2007 and has addressed this phenomenon as a constant threat to human memory arising out of excessive digital gadget use. The following review paper looks at the construct of digital amnesia from its inception to its current conceptualization. The paper also reviews the phenomenon named the Google effect and the seminal findings from studies of Kaspersky Laboratory conducted in India and abroad. The process of how digital amnesia is caused is addressed and preventive measures for the same are suggested.

Keywords: Digital amnesia, amnesia, digital use, google effect.

Digital amnesia is a concept that has existed since 2007, first introduced in the study conducted at Dublin [1] that addressed the phenomenon as a rising threat to the human memory as a consequence to overuse of technology. The term was also referred to as technology induced memory atrophy. Another synonymous term is 'Digital Dementia', coined by a German neuroscientist Manfred Spitzer [2], used to describe how overuse of digital technology is resulting in the breakdown of cognitive abilities in a way that is more commonly seen in people who have suffered a head injury or psychiatric illness. The history of digital amnesia as a phenomenon also recognises the work done by three major universities – Harvard University, University of Columbia and the University of Wisconsin. Researchers from these universities were interested to study the effect of technology on youth and their research resulted in coining the term ‘Google Effect’ that was described as the tendency to forget information that can be easily found online (via search engines like ‘Google’) [3]. Digital amnesia and Google effect are used in an exchangeable manner; however, digital amnesia is referred to as the tendency to forget information that one has stored on a digital device. The term was officially coined by Kaspersky Laboratory [4], a cyber-security firm based in Moscow, Russia. Both of these phenomena are similar, in that one forgets, either intentionally or unintentionally, information that is digitally available. The prime reason for this forgetting is that the source of the information is better remembered than the information itself. Thus, every time one wants to access information, it is available at the click of a button (instead of recalling the information / data, one says, “let’s Google it”). Undeniably, over-reliance on connected devices (digital devices connected to the internet) and the internet contribute to developing digital amnesia. These digital devices range from smartphones, palmtops, tablets, laptops, computers to all other digitally equipped technological devices; however, research on digital amnesia in general and this review shall often refer digital devices and smartphones interchangeably as smartphones are the most used digital devices. The symbiotic living with digital devices, as a result of the technological evolution, is changing the way we think, learn, behave, remember, live and evolve!
What does Kaspersky Laboratory reports tell us
Kaspersky Lab, a cybersecurity firm in Moscow conducted a survey-based research in 2015 with the aid of Opinion Matters, to unravel how far the reliance on technology has come and the impact on peoples' daily lives. The study questioned over 6,000 consumers in Europe, across the UK, France, Germany, Italy, Spain and the Netherlands. The research findings reported a direct link between the availability of data at the click of a button and a failure to commit that data to memory. The research found that many people struggle to recall memories and simple information they entrust to their devices, including the phone numbers of partners and parents. Based on these findings Kaspersky Lab coined the term “Digital Amnesia” – the experience of forgetting information you trust a digital device to store and remember for you. Kaspersky Lab conducted the study (2015-2016) across Europe, India and the U.S.A. [4].

The research conducted in Europe revealed some surprising statistics where people reported the following:

- Devices were being used as digital brains, to store information people needed to remember.
- 34% of European consumers admitted that their smartphone was their memory, as it contained almost everything they need to know or recall.
- 32% of people admitted their digital devices are like an extension of their brain.
- Over three-quarters (79%) of respondents were more reliant on their digital devices then for accessing information than they were five years ago.
- Digital amnesia was seen as a phenomenon in the old and young age groups.

The research conducted in the U.S.A. revealed –

- There was an overwhelming number of consumers who easily admitted their dependency on the Internet and devices as a tool for remembering.
- Almost all (91.2%) of those surveyed agreed that they use the Internet as an online extension of their brain.
- Almost half (44.0%) also admitted that their smartphone serves as their memory—everything they need to recall and want to have easy access to is all on it.
- In addition, many consumers were happy to forget, or risk forgetting information they could easily find, or find again online.
- When faced with a question, half of U.S. consumers would turn to the Internet before trying to remember and 28.9% would forget an online fact as soon as they had used it.

The research conducted in India delineated the following –

- 50% of the survey group treats the internet as an extension of their brain
- 73% of them use their smart phones to connect to the internet
- 50% of Indians aren't interested in remembering facts as much as they are interested in remembering the source for the facts
- The trend of smart phone dependency seems to decrease as the age of the test group increased. That's because smart phones have not been around for long enough to influence a 55-year-old man or woman the same way it's influencing a teenager.

Is Digital Amnesia all bad?
Findings across Europe, India and the U.S.A revealed the fact that very few people remembered the phone numbers when they were 15, yet few remembered the phone number of their spouses or children. Statistically, 8 out of 10 people rely on their digital devices much more than they did 5 years ago. Reliance on digital devices is a convenient & reliable way of holding information to remember. Along with our behaviour, our brain is adapting too [5].

Apart from the above stated findings across the three geographical locations, it is also crucial to look at the following results –

1. In Europe, 64% of consumers using a connected device to ‘remember' information meant that they could concentrate on something else instead. It is not always wrong with intentionally forgetting things that we know our devices can remember for us. There are so many things to remember, that an external memory-storage unit in such instances can be of great help. However,
relying on devices to remember for us can be a problem if we need to remember the information directly or that information is important to us (for example- remembering a password).

Overreliance on digital devices can also be problematic if –

- Information is needed to be readily available when there is no access to digital storage or to a search engine.
- Information is crucial to remember since one cannot afford to rely only on a digital backup.
- Information is required to be internalized and remembered in the long-term.

2. Research also found that 58% of people did not antivirus to protect their information on the digital device, and only 29% people backed up the important information on their devices. More than 80% of people in general use accessories to make their digital devices look appealing however only 30% (approximately) invest to protect their information stored in the digital devices from any kind of malware, cyber-threat, theft, loss or virus invasion.

3. Kaspersky reports also discuss that digital amnesia is not just a millennial phenomenon but is and can be equally present (and sometimes more prevalent) in older age groups because the older age group may have more information to sort through. Depending on digital devices can help them offload some information to the device, which could further make recalling the retained information more easily. This is further evidenced by Kathryn Mills from UCL University of Cognitive Neurosciences who explains that dependence on digital devices is also the purpose behind some computing concepts like enterprise content management to big data- so that we can use information effectively than remember it. This delineation comes to the conclusion that there is a school of researchers who believe that remembering information is not as important as using information effectively [6].

4. Apart from adverse effects to the memory, newspaper reports have had mental health professionals sharing the incidence of behavioural problems like attention deficit, high irritability, aggression levels rising up. The presentation of depression, anxiety, panic attacks and post-traumatic stress disorder have also shown to have links with digital amnesia. Consequently, psycho-social variables like low self-esteem, low self-confidence and lack of self-identity also surface to concern. These behavioural and psychological signs emerged in individuals who either lost their smartphones which had a barrage of their personal and professional information; or their data was lost due to third-party malice [7].

5. There are theoretical linkages of digital amnesia with smartphone addiction. The distractions caused as a result of multi-tasking on smartphones is proposed as a reason for the inability of long-term memory formation and greater memory loss. It is further proposed that it interferes with the sleep patterns, causing interruptions. Interrupted sleep further reduces the ability for synaptic pruning to take place, thus, impairing the ability to retain new information and form new memories [8].

It is for us to further question whether freeing up space in our brain, by depending on digital devices, does it indeed make space for learning new skills and can it really lead to us to use our minds in newer ways? Research continue to strive for the answer while sifting the benefits of digital amnesia in the dearth of its limitations and adverse consequences.

The ‘how’ of Digital Amnesia

Psychologists have believed that stress can cause amnesia or affect the memory adversely. However, that is not the only reason, excessive use of mobile phones, can and does also lead to memory loss in humans. The ‘how’ of digital amnesia can be explained like this- when an individual relies on the digital devices, every time one wants to look for information, they reach out to the smartphone. This quick-fix of looking up the internet for any information / data, reduces the burden on human memory systems. Thus, our working memory systems engage only in finding the source of information and the information referred to remains only in the short-term memory system. Because information is only a click away, we don’t feel the need to remember it as it can quickly be looked up online and our digital devices can store that information for us. Such reliance on digital devices refrains us from learning a new-skill. Consequently,
there is no information input to be rehearsed; when there is no rehearsal, there is quick decay of information; leading to nothing being stored in the long-term memory system. In conclusion, Maria Wimber, from the University of Birmingham, says that there seems to be a risk that the constant recording of information on digital devices makes us less likely to commit this information to long-term memory, and might even distract us from properly encoding an event as it happens" [9-11]. Another explanation also goes that when information is encoded and stored using lesser sensory inputs, the retention is likely to be poorer and weaker. Multisensory memories using the senses of sensation, vision, auditory and other senses help better store the same information as opposed digitally encoding it which in most cases using only the sense of vision (sometimes auditory).

Can Digital Amnesia be prevented
Whilst addressing the preventive aspect of digital amnesia, a quick check on the identification can be of great help. There are some questions that one can address, either to the self or another, in order to check if there has been a crawling effect of digital device usage on their memories:

- Where have you been storing your data- has it always been any of the digital devices?
- Have you been spending excessive time on digital media?
- Has your pattern of communication transformed to become only virtually?
- Have you been observing an adverse impact on your work- have you been experiencing forgetfulness, unfinished tasks, forgotten responsibilities?
- Are you unable to imagine a technology free zone?
- Do you feel amiss without your digital device?

Apart from maintain a mental health hygiene, some simple steps that one can undertake to keep the neurons firing and prevent digital amnesia are –

- Making a habit to memorise important information to you
- Making travel experiential, rather than clicking and snapping every moment on digital devices. Sometimes reminiscing the travel makes it more memorable
- You can still be where you want to, without a check-in
- Digital detox is essential, especially when done on a family level where the entire family practices spending digital free hours in order to motivate one another to inculcate the same.
- Safety of digital data should be maintained by investing into security for stored data rather than merely investing in the décor of the hardware.
- Bonding with nature is a good holistic practice to rejuvenate and detox.

Conclusions
Digital amnesia is a phenomenon under research and put in elementary understanding, it explains that what is not needed to be remembered, is easily forgotten. Cognitive neuroscientists and psychologists have not yet affirmed digital amnesia as a scientific phenomenon, but they agree that relying less on the mind, builds fewer neuron connections in the brain, stagnating its development. Among the restricted literature available, the disadvantages of digital amnesia outweigh the constricted advantage it possibly has. Given the lack of secure procedures to save the digitally stored information and the lurking threat of behavioural addiction, it is essential to realise the adversities of the growing phenomenon of digital amnesia.

REFERENCES


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The Study of Phenomenology, Family Factors, Functioning and Quality of Life in Childhood and Adolescent Depression

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ABSTRACT

Background and Objectives: Depression is a common psychiatric illness. The illness can present as a simple sadness to a major depressive disorder or even bipolar disorder. It is also found to affect children and adolescents. The aims and objectives of our study were, to assess the phenomenology, family factors, quality of life and functional status of children and adolescents with depression.

Methodology: Subjects diagnosed with depression, before 18 years of age, were recruited in the study. Parents and children were interviewed. Demographic details were taken. Scales i.e. Children Depression Inventory, Family Assessment Device, The PedsQL core generic scale and Children's Global Assessment scale were applied.

Results: Females had slightly higher scores on CDI. On using Pearson’s correlation test significant correlations were found between the Family Assessment Device and PedsQL scale and CDI scale.

Conclusion: Families of affected female children, had more unhealthy family functioning as compared to male children. More physical complaints were seen in families, where problem solving was not used as a coping mechanism. Clearer the role definition in family, better the expression of emotion, better is the behavioral control at home and less is the problematic behavior in school. Better the affective responsiveness, affective involvement in family lesser the depressive symptoms.

Keywords: Children and adolescents, quality of life, family factors, depression.

INTRODUCTION

Depression is a common psychiatric illness, affecting more than 300 million people of all ages globally. World Health Organization, states that depression is the leading cause of disability as measured by years lived with disability (YLD) and fourth leading contributor to global disease burden. Around 3-4% of India’s 100 crores plus population suffer from a major mental disorder. In the southeast Asian region, 11% of DALY’s and 27% of YLD’s are attributed to neuropsychiatric disease [1]. Hence, depression as an illness is an absolute cause of concern.

The clinical spectrum of the illness can range from simple sadness to a major depressive disorder or sometimes to bipolar disorder [2]. Depression in adolescents is a disabling condition that is associated with serious long-term morbidities and even suicide [3]. About 5% of the general population of children and...
adolescents may experience depression at any given point in time and its prevalence continues to rise [3]. Although depression is common among children and adolescents, it is still frequently unrecognized [2]. Depression is treatable but depressed children and adolescents may present with different behaviour than those of depressed adults. Hence, child and adolescent psychiatrists, caution parents to be acquainted with the signs of depression in their children [4]. Children younger than seven years may not be able to describe their internal mood state and may express their distress through vague somatic symptoms or pain, irritable mood, angry outbursts & hostile behaviour.

Jacob and others [5] reported that while western societies may view depression as a medical problem that requires professional attention, more traditional societies assume depressive symptoms as social problems or as emotional reactions to situations. Similarly, in India, depression has been considered as a major health problem, but the treatment seeking remains rare. People deny psychological distress and instead interpret such distress as somatic illness taking help for same [6].

Prevalence estimates of unipolar depression vary with the time of reference and method of assessment. The reported point prevalence rates (30-day or 1 year) of major depressive disorder in non-referred samples range between 0.4% and 2.5% in children, and between 0.7% and 9.8% in adolescents [7-8]. Incidence of childhood depression is 4-8%. However, studies from India found it to be 0.1% (Bangalore) and 0.16% (North India) and more common in females, with a male/female ratio of 1:2. Elevated risk for the disorder begins in the early teens, and continues to rise in a linear fashion throughout adolescence, with lifetime rates estimated to range from 15% to 25% by late adolescence [9-11]. These prevalence estimates of adolescent depression are comparable to the lifetime rates reported in adults, suggesting that, the rates of depression begin to plateau by early adult life [10-11]. The data also indicate that, for a substantial proportion of adult cases, the onset occurred during adolescence [12]. The prevalence of depression in youngsters is even greater when minor depression and sub-syndromal depressive symptoms are considered.

The effect of family factors on depression has been well documented in adults. Studies in children and adolescents, using both symptom assessment and diagnostic criteria, have linked depression to lower socioeconomic status. Lower socioeconomic status may be a marker or a specific risk factors associated with depression, rather than exerting a direct influence. This is because low socioeconomic status is associated with high levels of chronic stress due to economic difficulties, adverse environmental conditions and family disruption [13]. Research has found that 20% to 50% of children and adolescent with a family history of depression or other mental health disorder have depression in early childhood or adolescence. Children with pre-pubertal onset of depression are at higher risk of developing other mental health disorder in adulthood, such as bipolar disorders [14]. In a family study results showed that relatives of depressed children have higher rate of major depressive disorder.

Diagnosis of primary depressive mood disorders requires that physicians rule out depression from other medical causes, and when present, the condition is referred to as depressive mood disorder secondary to other medical conditions. Depressive disorders in children and adolescents are associated with significant economic and social burden on individuals, families, and societies. Moreover, other factors frequently associated with depression, such as comorbid psychiatric disorders, poor family functioning, low socioeconomic status, and exposure to stressful life events they all impact psychosocial functioning of a person. Depression in children and adolescents is also associated with an increased frequency of suicidal behaviours, delinquency, and alcohol and drug use. Prospective studies found that after recovery, children and adolescents continue to manifest impaired psychosocial functioning in multiple domains [15].

Since, depression can have an impact on his/her future well being, there is a need for appropriate and timely intervention for early diagnosis and treatment for the same. Although, there is no agreed upon definition for, “quality of life” the World Health Organization (WHO) conceptualizes it as the result of the interaction between social, economic, environmental, and health factors that affect human and social development. It is a broad definition which encompasses physical health, psychological wellbeing, level of independence, social relations, personal beliefs and the relationship with the environment, being determined by the capacity to obtain necessary resources and maintain autonomy and independence in accordance with age [16].
The aims and objective of the current study was to study the phenomenology, family factors, quality of life and the functional status of patients with childhood and adolescent depression.

**METHODOLOGY**

We designed an observational cross-sectional study, which was conducted in a tertiary care hospital in Mumbai. The study began after taking the approval of our Institutional Ethics Committee. The study included children and adolescents with depression, recruited from outpatient department of school mental health clinic, in Department of psychiatry, of a tertiary care hospital in Mumbai. We enrolled children/adolescent diagnosed with depression according to DSM 5 [17] criteria. Consecutive type of non-probability sampling was used for the selection of subjects. Based on the hospital data of past 3 years, the cases of childhood and adolescent depression is found to be 1-2 per month. Since this is periodic sample, minimum 30 diagnosed cases of childhood and adolescent depression were taken in the 9 months study duration.

Our sample included, children/adolescents between 8-18 years of age referred for academic difficulties. Parents willing to give informed consent and children giving ascent. Children/adolescent diagnosed with major depressive disorder according to DSM 5 criteria. We excluded children and adolescents with any comorbid chronic /acute other medical or psychiatric condition like bronchial asthma, epilepsy, substance abuse, ADHD, ASD or any other neurodevelopmental disorder etc.

A total of 30 subjects diagnosed with depression, by psychiatrist as per DSM-5 criteria, before 18 years of age, were recruited in the study. The parents and children were interviewed by the trainee psychiatrist conducting the study. The interview consisted of a filling of semi-structured proforma which included demographic details of the participants followed by administration of the rating scales.

**Instruments used in the study**

1. **The Children’s Depression Inventory (CDI):** It is a psychological assessment that rates the severity of symptoms related to depression and/or dysthymic disorder in children and adolescents. The CDI was developed by American clinical psychologist Maria Kovacs, PhD, and was first published in 1979. It was developed by using the Beck Depression Inventory (BDI) of 1967 for adults as a model and "starting point." The assessment is now in its second edition. The CDI is a 27-item scale that is self-rated and symptom-oriented. Clients rate themselves based on how they feel and think, with each statement being identified with a rating from 0-2. Cronbach’s alpha used to obtain high reliability measures, across one group of nine studies, alpha measures were 0.71-0.89, reflecting good internal consistency. Regarding the short factor subscales alpha reliability measures for internal consistency reliability were 0.59-0.68 [18-19].

2. **Family Assessment Device (FAD):** The Family Assessment device based on the McMaster model of family functioning [MMFF]. The model evolved from previous work of Epstein, Sigal and Rakoff 1962, Westely and Epstein 1969. It describes structural and organizational properties of the family group and patterns of transaction among family member which helps distinguish between healthy and unhealthy family. Family Assessment Device is a 53-item questionnaire which constitutes a part of the larger Family Assessment Device. Each item is rated from 1 (Strongly Agree) to 4 (Strongly Disagree). The questionnaire takes approximately 15-20 minutes to complete. A series of studies have investigated the reliability and validity of the McMaster Family Assessment Device (FAD). The results indicated that the FAD has: (a) adequate test retest reliability, (b) low correlations with social desirability, (c) moderate correlations with other self-report measures of family functioning, and (d) differentiates significantly between clinician-rated healthy and unhealthy families. Cut-off scores for identifying healthy and unhealthy families are developed which have adequate sensitivity and specificity [20-21].

3. **The PedsQL (pediatric quality of life) core generic scales (PedsQL):** The PedsQL measurement model, is a modular approach to measure health related quality of life (HRQOL) in healthy children and adolescent and those with acute and chronic health conditions. The PedsQL measurement model integrates seamlessly both generic core scales and disease specific modules
into one measurement system. It contains 23 items, taking only 4 to 5 minutes to complete and designed for community, school, clinically pediatrics populations. It is multidimensional assessing physical, emotional, social and school functioning [22-23].

4. **Children's Global Assessment Scale (CGAS):** The Children's Global Assessment Scale (CGAS) is an adaptation of global assessment scale developed by Endicott et. al. (1976). The CGAS comprises of one item that is rated on a 100-point scale. The instrument contains behaviourally oriented descriptive example, it has no sub scale, raters assign one score ranging from 1-100. Test retest intra-class correlation across a 6-month interval ranged from 0.69 to 0.95, intra-class correlation across raters at two occasions were 0.84 to 0.85, the CGAS correlated significantly with other clinician rated measures of impairment and correlation ranged from 0.76 to 0.92. A cut-off value of 60 or lower on the CGAS is indicative of definite impairment [24-25].

**STATISTICAL ANALYSIS**

The data was studied using statistical software SPSS-Version 20. Qualitative and demographic variable was analysed using descriptive statistics. The relationship between the study variable were computed using relevant inferential statistics. All the scales were described with frequency, mean, standard deviation. Pearson's correlation test was used for finding the co-relation of various scales.

**RESULTS**

Through our study, we have tried to understand the dynamic relationship between various factors that could be causative for the onset depression in an early age. Through the data given below, we have represented how, the phenomenology of the illness, family dynamics can or does influence the functioning and quality of life of children and an adolescent. We take a close look, as to how each factor is interwoven and independently associated with depression.

Table 1 – Mean scores and range on all the scales

<table>
<thead>
<tr>
<th>Scale</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children Depression Inventory (CDI)</td>
<td>21</td>
<td>46</td>
<td>28.53</td>
<td>5.619</td>
</tr>
<tr>
<td>Pediatric scale of Quality of Life (PedsQL)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>About My Health And Activities (AMHAA)</td>
<td>28</td>
<td>81</td>
<td>47.93</td>
<td>14.607</td>
</tr>
<tr>
<td>About My Family (AMF)</td>
<td>0</td>
<td>65</td>
<td>29.92</td>
<td>12.705</td>
</tr>
<tr>
<td>How I Get Along With Others (HIGAWO)</td>
<td>25</td>
<td>85</td>
<td>52.50</td>
<td>19.946</td>
</tr>
<tr>
<td>About School (AS)</td>
<td>20</td>
<td>85</td>
<td>39.50</td>
<td>11.697</td>
</tr>
<tr>
<td>Children Global Assessment Scale (CGAS)</td>
<td></td>
<td></td>
<td>67.93</td>
<td>6.068</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Scale</th>
<th>Problem Solving</th>
<th>Communication</th>
<th>Roles</th>
<th>Affective Responsiveness</th>
<th>Affective Involvement</th>
<th>Behavioural Control</th>
<th>General Functioning</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.90</td>
<td>1.93</td>
<td>1.85</td>
<td>1.89</td>
<td>1.79</td>
<td>1.82</td>
<td>1.81</td>
</tr>
<tr>
<td></td>
<td>0.310</td>
<td>0.517</td>
<td>0.516</td>
<td>0.330</td>
<td>0.634</td>
<td>0.487</td>
<td>0.420</td>
</tr>
</tbody>
</table>
Most of our study population belonged to the age group of 14 to 17 years (56.7%) followed by age group 10 to 13 years (43.3%). Thus, most of them were school going between class fifth to tenth class. We observed a higher percentage of females (60%) compared to males, depicting more females come to psychiatric OPD with depressive symptoms, i.e. the illness being more common in this gender. Nuclear family type (80%) was observed to be common. Also, most of them belonged to the 25,000 – 35,000 income group (43.3%) followed by (15,000 to 25,000) income group (33.3%). We had 16.7% of our study population with family history of psychiatric illness, predisposing children to mental health issues. On comparing the male-female data on the Children Depression Inventory we observed that the scores were higher for depression in the age group of 14 to 17 years followed by being slightly higher for the females, though statistical significance was not observed. In our study, we observed that, on the Pediatric Quality of life scale the social functioning (problem with how I get along with others-HIGWO) was more affected in females, whereas the physical functioning (problem about my health and activities-AMHAA), emotional functioning (problem about my feelings-AMF) and functioning at school (problem at school-AS) is more hampered in males. We also found that physical, emotional, social functioning and functioning at school was more affected among the 14 to 17 years of age group. This difference however, did not have statistical significance.

On children's global assessment scale, we found that there was a higher (16.7% males, 11.1% females) trend of some noticeable problem (60-51) i.e. variable functioning with sporadic difficulties or symptoms in several but not all social area in males followed by the same high trend in some problem (70-61) i.e. some difficulty in single area, general functioning is well in males (58.3% males, 44.4% females). Which suggests that there are more chances of them going unnoticed. Also, we observed that the overall functioning was more hampered in the age group of 14 to 17 years. But it was statistically insignificant.

Thus, the above findings support the fact that depression in children presents as problem with academic functioning, irritable behaviour, anger issues, defiance, somatization, poor peer relations and above all difficulty expressing their emotions.

On Family assessment device, we found high unhealthy functioning in females on the problem solving (33.3% females, 16.7% males), roles (22.2% females, 16.7% males), affective responsiveness (27.8% females, 25% males) and behavioural control (55.6% females, 41.7% males) sub-domains, and males had high unhealthy functioning on communication (41.7% males, 33.3% females) and affective involvement (41.7% males, 27.8% females) but the difference was statistically insignificant. We also observed that there was a higher trend of depressive features in children from nuclear families and in families with history of psychiatric illness.

Table 2 – Correlation between the various scales

<table>
<thead>
<tr>
<th>Scales</th>
<th>FAS</th>
<th>CDI (n=30)</th>
<th>CGAS (n=30)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>r value</td>
<td>p value</td>
<td>r value</td>
</tr>
<tr>
<td>Problem Solving</td>
<td>-0.266</td>
<td>0.156</td>
<td>0.095</td>
</tr>
<tr>
<td>Communication</td>
<td>-0.305</td>
<td>0.102</td>
<td>-0.167</td>
</tr>
<tr>
<td>Roles</td>
<td>-0.09</td>
<td>0.635</td>
<td>0.214</td>
</tr>
<tr>
<td>Affective Responsiveness</td>
<td>-0.413</td>
<td>0.023*</td>
<td>-0.011</td>
</tr>
<tr>
<td>Affective Involvement</td>
<td>-0.440</td>
<td>0.015*</td>
<td>0.011</td>
</tr>
<tr>
<td>Behaviour Control</td>
<td>0.3</td>
<td>0.107</td>
<td>0.083</td>
</tr>
<tr>
<td>General Functioning</td>
<td>-0.180</td>
<td>0.341</td>
<td>0.174</td>
</tr>
</tbody>
</table>

*Correlation is significant at p ≤ 0.05 level
On correlating the sub-domains of Family assessment device with CDI, we found significant correlation between the affective responsiveness and affective involvement with depression scores on Children Depressive Illness. This suggests that people with experience of inappropriate affect among the family members and unhealthy affective involvement i.e. no value regarding each other’s concerns and activities lead to higher depression scores on CDI.

Table 3 – Correlation between the sub-domains of FAS and sub-domains of Peds QL scale

<table>
<thead>
<tr>
<th>Subscales of FAS and Ped QL (n=30)</th>
<th>AMHAA</th>
<th>AMF</th>
<th>HIGAWO</th>
<th>AS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Score</td>
<td>r value</td>
<td>0.315</td>
<td>0.333</td>
<td>0.153</td>
</tr>
<tr>
<td></td>
<td>p value</td>
<td>0.09</td>
<td>0.072</td>
<td>0.419</td>
</tr>
<tr>
<td>Problem Solving</td>
<td>r value</td>
<td>-0.376</td>
<td>-0.05</td>
<td>-0.265</td>
</tr>
<tr>
<td></td>
<td>p value</td>
<td>0.041*</td>
<td>0.791</td>
<td>0.157</td>
</tr>
<tr>
<td>Communication</td>
<td>r value</td>
<td>-0.321</td>
<td>-0.087</td>
<td>-0.403</td>
</tr>
<tr>
<td></td>
<td>p value</td>
<td>0.084</td>
<td>0.647</td>
<td>0.027*</td>
</tr>
<tr>
<td>Roles</td>
<td>r value</td>
<td>0.176</td>
<td>0.392</td>
<td>-0.165</td>
</tr>
<tr>
<td></td>
<td>p value</td>
<td>0.351</td>
<td>0.032*</td>
<td>0.383</td>
</tr>
<tr>
<td>Affective Responsiveness</td>
<td>r value</td>
<td>-0.069</td>
<td>0.182</td>
<td>-0.149</td>
</tr>
<tr>
<td></td>
<td>p value</td>
<td>0.718</td>
<td>0.336</td>
<td>0.431</td>
</tr>
<tr>
<td>Affective Involvement</td>
<td>r value</td>
<td>-0.173</td>
<td>0.086</td>
<td>-0.145</td>
</tr>
<tr>
<td></td>
<td>p value</td>
<td>0.360</td>
<td>0.651</td>
<td>0.444</td>
</tr>
<tr>
<td>Behaviour Control</td>
<td>r value</td>
<td>-0.09</td>
<td>-0.064</td>
<td>-0.058</td>
</tr>
<tr>
<td></td>
<td>p value</td>
<td>0.636</td>
<td>0.737</td>
<td>0.760</td>
</tr>
<tr>
<td>General Functioning</td>
<td>r value</td>
<td>0.1</td>
<td>0.206</td>
<td>-0.1</td>
</tr>
<tr>
<td></td>
<td>p value</td>
<td>0.6</td>
<td>0.274</td>
<td>0.599</td>
</tr>
</tbody>
</table>

*Correlation is significant at p ≤ 0.05.

On correlating sub-domains of Family Assessment Device and sub-domains of Pediatric Quality of life scale we found following significant correlations. The problem-solving attitude in the family i.e. resolving issues and preserving family’s integrity and functioning impacts child’s cognitive development and helps him or her deal better with life problems. Thus, somatization and bodily complaints seem to be an outfall of lack of problem-solving attitude in the family. (p = 0.041). A healthy communication style within the family is necessary for children and adolescents to perform social interactions and maintain peer relations. Thus, lack of strong peer relation and unhealthy social behaviour could be an outcome of less clear and lack of direct communication practices among the family members. Clearer the communication style at home, lesser are the problems with social functioning. (p = 0.027). Defined roles in family determines, that responsibility is delivered better among the family members. This creates an atmosphere such that one can better emote their emotion. Hence, emotional functioning and regulation becomes better (p = 0.032). Similarly, adequate expression of emotions within the family members leads to regulation of behaviour at home, which translates into better behaviour at school too (p = 0.001).

**DISCUSSION**

Globally, up to 15% of children and adolescents have some symptoms of depression. Five percent of those are between 9 to 17 years of age and they meet the criteria for major depressive disorder, 1.4 and 3% of adolescents have dysthymic disorder [26]. On our comparison of male-female data on the CDI scale we saw, the scores were higher for depression in the age group of 14 to 17 years followed by being slightly higher for the females. Though statistical significance was not observed. The incidence of depressive disorders markedly increases after puberty. After, 14 years of age, depressive disorders are found to be two times more common in girls compared to boys, possibly because of the differences in the coping styles or the hormonal changes during puberty [4]. Researchers have reported that in the pre-pubertal age, the depression rates for boys and girls are similar, and that they are doubled in females after puberty. Females are at a higher risk of first onset of major depression from early adolescence until their mid-50’s and have a
lifetime depression rate of 1.7 to 2.7-fold greater than males [27-28]. Crowe and others [29] report that depressed girls are more likely to have internal symptoms such as feeling lonely and unhappy, crying and hating themselves. The study also concluded that for both the adolescent girls and boys, the most common reported characteristics of depression includes interpersonal (social withdrawal, irritability and loneliness) and thought processing symptoms (difficulties with concentration and indecisiveness). In above findings, we observed that on the Pediatric Quality of life scale, the social functioning was more affected in females, whereas the physical functioning, emotional functioning and functioning at school was more hampered in males. We also found that these four levels of functioning were more affected in adolescents belonging to 14 – 17 years age group. Though we did not find any statistical significance between the two.

On, children’s global assessment scale we found that males mostly belonged to the category of some problem and some noticeable problem, both in which single or some aspects of social functioning are affected but the overall general functioning is good, which means that they are likely to go undetected. Adolescence is a critical time of development and it signifies a period of high risk for depression. At this stage of development, depressive symptoms are often dismissed or ignored as signs of adolescence or teenage behaviour. Depressed mood has been referred as a common experience during adolescence [30-31]. We also observed that there was a higher trend of depressive features in nuclear family and families with history of psychiatric illness. Studies in children and adolescents, using both symptom assessment and diagnostic criteria, have linked depression to lower socioeconomic status. This is possibly because low socioeconomic status is associated with high levels of chronic stress due to economic difficulties, adverse environmental conditions and family disruption [13].

A study showed that those with high number of psychosocial risks in the family, had higher scores, but it decreased as the number of protective factors (Family provides structure, limits, rules, monitoring, and predictability, Supportive relationships with family members, clear expectations for behaviour and values) increased [32]. On correlating the sub-domains of Family Assessment Device with Children Depression Inventory, we found significant correlation between the affective responsiveness and affective involvement with depression scores, suggesting that people with experience of inappropriate affect among the family members and unhealthy affective involvement (with even possibly alexithymia) [33], have high depression scores.

We found that when families lack problem solving attitude, it impacts negatively on child’s cognitive development and capabilities of dealing with life challenges resulting in decline in physical functioning and somatization complaints. When communication style among the family members is better and healthy it leads to less difficulties in the social engagement with others. With better defined roles in the family, we can have better expression of emotion and lastly, better the behavioural standards at home, lesser problematic behaviours are observed in school [34]. Research has shown that a child diagnosed with depression has an increased risk of developing depression in his or her adulthood. However, although there were substantial evidences in the continuity of depression from adolescence to adulthood, the consistency in the result from pre-pubertal to adulthood is less. Thus, warranting a closer look in the transitional phases of life along with emphasis on emotional change that come with it [35].

Thus, all the above findings clearly show us how the family dynamics with regards to interactive relationships and emotional involvement with each other have a great impact on the overall development of a child and that, how these learned skills and experiences help them in various aspects of their day to day functioning and future challenges within the family and in the outside world. Also, when components of family dynamics are affected, it results in rise in depressive symptoms, which seemed to reflect more in affected female children.

To conclude, our study had 60% female population and we had 56.7% population who belonged to the age group between 14 to 17 years. Females showed slightly higher scores on the depression scale, and unhealthy functioning on four out of seven sub-domains of the family assessment device i.e. problem solving, roles, affective responsiveness and behavioural control. Also, we observed that when families lack problem solving attitude, it impacts negatively on child’s cognitive development and capabilities of dealing with life challenges resulting in decline in physical functioning and somatization complaints. We also found that communication style among the family members have an impact on child’s other social engagements. When roles in the family are better defined, then the emotional quality of life is positively
influenced. When behavioural standards at home are better, lesser problematic behaviour was observed in school. Children with better affective expression of emotions and better affective involvement had lesser scores on depressive scale. We observed that, in our study population, children belonging to the age group between 14 to 17 years showed hampered physical as well as emotional, social and school functioning, in comparison with the younger group. On, children’s global assessment scale, males mostly belonged to the category of some problem and some noticeable problem, both in which single or some aspects of social functioning are affected but the overall general functioning is good, which means that there are chances of depression in them going unnoticed.

**Limitations and Implications of our study**

Our study was a cross sectional study. It was a biased hospital sample, all being referred for academic difficulties. We excluded children with co-morbidities so the effects of co-morbidities were not evaluated. Last but not the least, we had a small sample size, a larger sample would lead to a more generalizable result. The implicates, that advocacy and awareness in both schools and communities is essential to diagnose childhood depression early, so intervention can be planned early. Older adolescents specifically, must be regularly screened for the same. Family dynamics do play a role in childhood depression, and these must be included in intervention strategies. Life skill development programs should include families to involve them in maintaining healthy relationships and communications styles, as well as use problem solving and adequate role definition as a preventive strategy.

**REFERENCES**


Acknowledgements – Nil
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Prevalence and subtype of Depression and Anxiety Disorders in referred outpatients from Neurology with headache: Neuro-Psychiatry Interface in Headache

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ABSTRACT

Background and Objectives: Headache is an extremely common symptom and collectively headache disorders are among the most common of the nervous system disorders. Primary headache disorders – migraine, tension headache and cluster headache – constitute nearly 98% of all headaches; however, secondary headaches are important to recognize as they are serious and may be life threatening. The aim of this study is to study the prevalence of depression, anxiety and subtypes of depression and anxiety with headaches, using pertinent clinical test profiles.

Methods: A cross sectional survey conducted to study depression and anxiety symptoms in patients with headache presenting in neurology OPD with study of MRI findings and associated medical co morbidities. Data was collected over a period of 2 months and study setting was at MGM Medical College, Navi Mumbai.

Results: 32% reported no depressive features, while 36% reported features suggestive of mild depression, 18% had moderate depression, 8% had severe depression and 6 % reported to have very severe depression. 60% of the patients reported to have mild anxiety while 22% had mild to moderate anxiety and 18% had moderate to severe anxiety.

Conclusion: Depressive disorders are very common comorbid psychiatric disorders among the patients presenting with headache followed by anxiety disorders. Female gender is more likely to suffer from an underlying Depressive or Anxiety disorder. Tension type headache is one of the most common presentation in majority of these patients. Familial stressors, adjustment problems, marital disharmony and financial stressors add to the occurrence of Headache as recurring symptom as it was seen in our study.

Keywords: Depression, anxiety, subtype, headache.

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INTRODUCTION

Headache is an extremely common symptom and collectively headache disorders are among the most common of the nervous system disorders, with a prevalence of 48.9% in the general population. Headache affects people of all ages, races and socioeconomic status and is more common in women. Some headaches are extremely debilitating and have significant impact on an individual’s quality of life. Primary headache
disorders – migraine, tension headache and cluster headache – constitute nearly 98% of all headaches; however, secondary headaches are important to recognise as they are serious and may be life threatening. [1]. There has been much discussion about a possible relationship between psychological factors and headache for a very long time. In 1937, Wolff defined the “migraine personality” including ambition and perfectionism, mental instability and immaturity, vulnerability to frustrations, and shyness. The psychiatric diagnoses most commonly associated with headaches are anxiety and depressive disorders and the personality trait most frequently associated is neuroticism. Population-based studies have confirmed this positive association in patient samples. In the Zurich Cohort Study of Young Adults, the combination of anxiety disorder and major depression was significantly associated with migraine [2]. Literature data show that psychiatric comorbidity in migraine and tension-type headache is very similar (88% and 85% respectively). Anxiety disorders is the most frequent association (54.9% and 52.5% respectively) followed by mood disorders (34.4% and 36.4% respectively). Edward Leiving described the psychiatric symptoms of migraine, depressed mood, irritability, anxiety, fatigue and impaired memory concentration over 100 years ago. Although this pioneer observation has been confirmed in successive studies conducted over decades in both psychiatric and neurological settings, it is only recently that the psychiatric comorbidity with primary headache has been systematically examined [3]. There are good reasons for wishing to establish whether or not there are associations between the common headache disorders and the common psychiatric disorders, all of them major contributors to public ill health and the burden of disability [4]. The aim of the current study was to study prevalence of Depressive disorders and Anxiety in patients with headache and to assess subtypes of depression and anxiety disorders in this group.

METHODOLOGY

It was a cross sectional survey conducted to study depression and anxiety symptoms in patients with headache presenting in neurology OPD with study of MRI findings and associated medical co morbidities. Data was collected over a period of 2 months and study setting was at MGM Medical College, Navi Mumbai. All patients attending the neurology clinic presenting with complaints of headache MGM Hospital, Kamothe, Navi Mumbai were eligible to participate in the study. The inclusion criteria comprised of cases who presented with a complaint of headache were clinically interviewed by the Consultant and were given appropriate clinical diagnosis and provided standard psychiatric rating scale to assess depression and anxiety. Patients willing to participate in the study after filling an informed consent were included in the study. The data was collected using a semi structured proforma. Data was analysed for demographic factors, psychiatric diagnosis, neurological diagnosis, medical co morbidities and MRI findings if done were recorded. Data was entered in excel sheet and Data collected was analysed using SPSS 20. Institutional Ethics clearance was obtained.

Scales Used –

**Hamilton Anxiety Rating Scale (HAM -A):** The Hamilton Anxiety Rating Scale (HAM-A, sometimes termed HARS), dating back to 1959, is one of the first rating scales to measure the severity of perceived anxiety symptoms. It is still in use today, being considered one of the most widely used rating scales, and has been translated into Cantonese, French and Spanish. It has been used as a benchmark for more recently devised scales. It consists of 14 symptom-defined elements, and caters for both psychological and somatic symptoms, comprising anxious mood; tension (including startle response, fatigability, restlessness); fears (including of the dark/strangers/crowds); insomnia; ‘intellectual’ (poor memory/difficulty concentrating); depressed mood (including anhedonia); somatic symptoms (including aches and pains, stiffness, bruxism); sensory (including tinnitus, blurred vision); cardiovascular (including tachycardia and palpitations); respiratory (chest tightness, choking); gastrointestinal (including irritable bowel syndrome-type symptoms); genitourinary (including urinary frequency, loss of libido); autonomic (including dry mouth, tension headache) and observed behaviour at interview (restless, fidgety, etc.). Each item is scored on a basic numeric scoring of 0 (not present) to 4 (severe): >17/56 is taken to indicate mild anxiety; 25–30 is considered moderate–severe [5].
Hamilton Depression Rating Scale (HAM-D): The Hamilton Rating Scale for Depression (HAM-D) is one of the longest standing, most widely used measures of depression severity in research and clinical practice. Originally designed to measure symptom severity in depressed inpatients, the 17-item HAM-D has evolved over the past 50 plus years into 11 modified versions that have been administered to various patient populations in an array of psychiatric, medical, and other research settings. Bagby and colleagues examined internal reliability using Chronbach’s alpha. They found alphas ranging from 0.46–0.92. In eight of the 12 studies reporting Chronbach’s alphas, internal reliability coefficients were less than or equal to 0.76 [6].

**Inclusion Criteria:**
1. Patients between 18 to 60 years of age.
2. Patients willing to participate in the study.

**Exclusion Criteria:**
Patients having severe psychiatric and severe medical illness, mental retardation or sensory impairments rendering them uncooperative for assessments and consent shall be excluded from the study.

**RESULTS**

**Demographic Profile**
Study comprised of 50 individuals who were referred from Neurology clinic to psychiatry with consistent complaints of headache and had been treated earlier without a desirable outcome. These patients were assessed using HAM-A and HAM-D scale for subsequent assessment for anxiety and depression. Of all the participants majority of the 29 (58%) were women and 21 (42%) were male.

**HAM–D Profile**
HAM–D profile consisted of assessing the levels of depression in 5 categories consisting of Normal or no depression, Mild depression, Moderate depression, Severe depression, Very severe depression. 16 (32%) reported no depressive features, while 18 (36%) reported features suggestive of mild depression, 9 (18%) had moderate depression, 4 (8%) had severe depression and 3 (6%) reported to have very severe depression.

**HAM–A Profile**
HAM–A profile results were classified as mild anxiety, mild to moderate anxiety, and moderate to severe anxiety. 30 (60%) of the patients reported to have mild anxiety while 11 (22%) had mild to moderate anxiety and 9 (18%) had moderate to severe anxiety.

**Psychiatric Illness Profile**
Of the 50 respondents 12 (24%) patients with complaints of headache had Diagnosis of Major Depressive disorder, 12 (24%) had diagnosis of Generalized Anxiety Disorder, 8 (16%) of the patients had Somatoform Disorder, 5 (10%) had adjustment disorder, 4 (8%) had Panic Disorder, another 4 (8%) were given a diagnosis of Mixed Anxiety Depression, 2 (4%) of the respondents had a diagnosis of Social anxiety disorder, 2 (4%) had diagnosis of migraine and 1 (2%) of the total patients had Dysthymia.

**DISCUSSION**

Researchers in their study on depression increasing tension type headache found that almost all the participants with headache had association with depression and who were not likely diagnosed otherwise also Depression increased the risk of headache and the individuals in the headache prone/depressed group reported experiencing a headache [7]. In our study almost 68% of the respondents had Depression depicted on HAM D ranging from mild to very severe depression.

Other researchers in their study found co morbid Depression in almost (48.5%) patients with headache while (17.90%) suffered from anxiety related disorders (generalized anxiety disorder or agoraphobia or social phobia or panic disorder). In our study we found depression to be co morbid in 68% of the patients with Major Depressive Disorder been the most common diagnosis and Generalized anxiety disorder to be most
common anxiety disorder while 60% of the patients had Mild anxiety 60%, 22% had moderate to severe anxiety and 18% had severe anxiety in our study [8].

In yet another study, it was found that Depression and anxiety were prevalent both amongst men and women with ration of 28:64, we found that ratio to be 58:42, the study indicates that majority of women above the age group of 40 and above presenting with complaints of headache and body ache are mostly having comorbid depression or anxiety in our we found patients having co morbid Depression or Anxiety or both in majority of the patients [9].

In study on the Prevalence of psychiatric co-morbidity in patients presenting with chronic daily headache: a hospital based cross sectional study found psychiatric disorders to be co morbid with patients presenting with complaints of headache in 74% of the patients [10]. Out of 74% of the psychiatric illnesses; 28% were suffering from affective spectrum disorders, 16% were suffering from anxiety disorders, 16% had psychotic disorders, 12% had other neurotic stress related disorders (6% had adjustment disorder, 5% had dissociative disorders, and 1% had somatization disorder) and 2% had personality disorder. While the ambit of our study was limited we did find the psychiatric morbidity to be quiet high amongst the patients and 24 % of them had Major Depressive Disorder, 24% had Generalized anxiety Disorder, 16% of the patients has Somatoform Disorder , 10% had Adjustment disorder, 8% had Panic disorder, 8% had Mixed anxiety Depression 4% patients had co morbid Social anxiety disorder, while another 4% had migraine as their main diagnosis, while 2% of the patients had Dysthymia [10].

CONCLUSION

Depressive disorders are very common comorbid psychiatric disorders among the patients presenting with headache followed by anxiety disorders. Female gender is more likely to suffer from an underlying Depressive or Anxiety disorder. Tension type headache is one of the most common presentation in majority of these patients. Taboo against psychiatrist and lack of psychiatrist throughout India means that majority of these patients are being treated by either Neurologists or General Physicians who may not be trained in Psychiatry and are likely to diagnose majority of cases as migraine, and patients being not relieved of their symptoms for log duration until eventually they get referred to a psychiatrist. Familial stressors, adjustment problems, marital disharmony and financial stressors add to the occurrence of Headache as recurring symptom as it was seen in our study.

Limitations of the Study

A relatively small sample size and also selective intake of patients as these patients were refereed from Neurology OPD having undergone treatment prior to being referred to psychiatry adds to the high prevalence of psychiatric morbidity. Most of the patients referred had a co morbid psychiatric illness. Other parameters were left out of the study that could have been included that of socioeconomic data and its likely impact could have been studied, educational profile could have been studied. A follow up study of these patients undergoing psychiatric treatment and re assessment could have predicted the better efficacy of patients with headache been treated with psychiatric medications.

REFERENCES


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Stress, Burnout, Social Support and General Health of Nurses in Intensive Care Unit

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ABSTRACT

Background and Objectives: Nurses working in the intensive care unit (ICU) may be exposed to considerable stress. Gaps in research focusing on stress, burnout, social support and general health of nurses is evident within developing contexts like India. The study aim was to assess the level of and the relationship between (1) stress, (2) burnout, (3) social support, & (4) general health of nurses working in intensive care units.

Methods: A cross-sectional study was performed at ICUs at tertiary care hospitals, Indore. The self report questionnaire consisted of a demographic questionnaire, The Multidimensional scale of Perceived Social Support, The Abbreviated Maslach Burnout Inventory, the Perceived Stress Scale, and lastly the General Health Questionnaire. 115 of 186 (62%) answered the questionnaire.

Results: The mean age of study subjects was 27 years (SD=4.85; n=111). Out of the total 71 were males, with mean age of 27.7 years, and 40 females with the mean age of 26.25 years. Mean Burnout score of total study population was 30.27(SD=11.09; N=111). No significant difference in mean burnout scores of males and females was found (p=0.960; t=0.0502; df=110). One-way ANOVA was done taking Burnout as a factor with 3 levels: Higher mean GHQ-12 scores were seen in groups with higher burnout severity [F(2,108) =13.470; p<0.05]. GHQ-12 scores better predicted burn out than perceived stress and social support. But, people with high perceived stress had significantly lower social support mean scores [F(2,108) = 6.17; p=0.0017]. Correlation between stress and burnout was insignificant.

Conclusion: GHQ-12 scores better predicted burnout in ICU staff. Staff with higher stress levels had poorer social-support.

Keywords: Depression, anxiety, stress, medical interns.

INTRODUCTION

The critical care nurse has always been considered to be having one of the most taxing of job profiles. Patient management protocols are strict, time-bound and demand attention and efficiency. Working hours may be long, working shifts change often and patient monitoring requires constant vigilance. With stress, weather work related or personal, and poor coping skills burnout in nurses maybe anticipated to be high [1]. Studying burnout in such environments is relevant. Burnout can be seen as a psychological experience attitudes, motives and expectations and my result in feelings of overburden, feelings of lacking agency and lacking meaningful connections. Maslach considered emotional exhaustion, depersonalization and personal accomplishment to be the defining characteristics of burnout [2].
High levels of burnout are not only deleterious to the subject but also to the organization as a whole [3]. High frequency of absenteeism, decreased institutional turnover, poor patients’ satisfaction and confrontational attitude towards patient caregivers have been shown to be related to burnout [4]. Poor patient outcome is another important concern related to burnout as it directly affects patient-care [5]. On the other hand, institutional limitations themselves maybe factors that lead to poor job satisfaction and eventually high burnout. The mismatch between job expectation and actual working environment frequently results in poor job satisfaction [6].

Personal stress and personality too play an important role in predicting burnout. High neurotic traits, as anticipated, have been shown to contribute to stress and burnout after controlling for factors like age, working hours and total duration of work. High conscientiousness has also been shown to have a stress aggravating effect [7].

In the present study, we have considered the role of personal stress, social support, and general health in predicting burnout in the intensive care unit staff. As per the evidence from previous studies, we hypothesize that high stress and poor general health may be associated with high burnout while good social support may have a protective effect. The study aimed to assess scores of personal stress, perceived social support, general health and burnout using appropriate questionnaires and to analyse the extent to which the variance in burnout scores is explained by age, stress, social support and general health.

METHODOLOGY

A total of 136 ICU nurses in different hospitals in Indore city were approached for a cross sectional survey of burnout, perceived stress, perceived social support and general health. Out of these, 111 subjects responded to the questionnaires. Maslach Burnout Inventory – Human Services Survey (MBI-HSS) [8] was used to grade the severity of burnout syndrome. The Perceived Stress Scale [9] was used to assess personal stress. For quantifying social support, the Multidimensional scale of Perceived Social Support [10] was used and the General Heath Questionnaire-12 (GHQ-12) [11] was used to assess physical and mental wellbeing. The subjects were matched for their demographic variables. The variables that showed significant difference between burnouts and non-burnouts were considered for one-way ANNOVA to analyse the variance contributed by them. One-way ANNOVA was also applied to stress, social support and GHQ12 scores keeping burnout scores as a factor at three levels.

RESULTS

In all we recruited 111 subjects out of which 71 were male and 40, female. The mean age of subjects in the study was 27 years (SD=4.85) and the mean burnout score was 50.69 (SD=20.35), with no significant difference in the burnout scores between male and female subjects (p=0.960; t=0.0502; df=110). The mean scores of other measures are mentioned in table 1. Depending on approximately one standard deviation subjects were categorized into having no/low burnouts (scores 0 to 40, n=49), medium (41 to 60; n=34) and high burnouts (61 or more; n=28).

Table 1 - Scores on various scales used in the study

<table>
<thead>
<tr>
<th>Scale</th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maslach Burnout Inventory</td>
<td>50.69</td>
<td>20.35</td>
<td>2 - 84</td>
</tr>
<tr>
<td>GHQ-12</td>
<td>4.98</td>
<td>2.40</td>
<td>0 - 11</td>
</tr>
<tr>
<td>Perceived Social Support</td>
<td>5.08</td>
<td>1.37</td>
<td>1 - 6.92</td>
</tr>
<tr>
<td>Perceived Stress</td>
<td>19.65</td>
<td>5.31</td>
<td>1 - 30</td>
</tr>
</tbody>
</table>

One way ANOVA was done taking burnout as the factor (with 3 levels of severity) against GHQ-12, Perceived Stress and Perceived Social Support scores. In the case of GHQ-12, low burnouts had the mean score of 4, medium burnouts scored a mean of 4.88 and high burnouts scored 6.67 (Table 2). The differences in the GHQ-12 scores between the categories were highly significant [F (2,108) =13.470; p<0.00001]. The
differences mean GHQ-12 scores at three levels of perceived stress were insignificant \([F(2,108)=1.084;\ p=0.341]\).

<table>
<thead>
<tr>
<th>Table 2 – Burnout and GHQ scores</th>
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<tbody>
<tr>
<td>GHQ scores of low burnouts</td>
</tr>
<tr>
<td><strong>N</strong></td>
</tr>
<tr>
<td><strong>Mean</strong></td>
</tr>
<tr>
<td><strong>Std.Dev.</strong></td>
</tr>
</tbody>
</table>

Mean perceived stress scores at the three burnout levels were not significantly different (table 3) from each other \([F(2,108)=1.19595;\ p=0.306]\); also the correlation between them was weak and insignificant \([R=-0.054;\ p=0.574]\). Among the different domains of Burnout, high personal accomplishment correlated with low perceived stress \((R=-0.217;\ p=0.02)\). Other domains showed no correlation.

<table>
<thead>
<tr>
<th>Table 3 – Burnout levels and difference in mean Perceived Stress Scores</th>
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<tbody>
<tr>
<td>Stress scores of low burnouts</td>
</tr>
<tr>
<td><strong>N</strong></td>
</tr>
<tr>
<td><strong>Mean</strong></td>
</tr>
<tr>
<td><strong>Std.Dev.</strong></td>
</tr>
</tbody>
</table>

The mean Perceived social support score was 5.08 (SD=1.37), which falls in ‘high’ social support category. Only 12 out of 111 subjects fell in the low social support category range between 1 and 2.9. Social support scores were also tested against perceived stress (Table 4) at three levels of stress (low, moderate and high). Mean social support score of subjects who perceived high levels of stress was significantly low (3.64) compared to those who perceived low or moderate stress (5.21 and 5.22; \(F(2,108)=6.706;\ p=0.0017\)). Social Support scores and GHQ-12 scores also showed a significant positive correlation \((R=+0.337;\ p<0.001)\) (Table 6).

<table>
<thead>
<tr>
<th>Table 4 – Relation between perceived stress and perceived social support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social support scores of low stress levels</td>
</tr>
<tr>
<td><strong>N</strong></td>
</tr>
<tr>
<td><strong>Mean</strong></td>
</tr>
<tr>
<td><strong>Std.Dev.</strong></td>
</tr>
</tbody>
</table>

Social support scores of high burnouts were higher compared with scores of low and medium burnouts \([F(2,108)=10.07;\ p=0.00009]\). Burnout domains of depersonalization and emotional exhaustion, both had significant positive correlation with perceived social support (+0.347 and +0.440, respectively; \(p<0.0001)\) (Table 7). Domains of satisfaction with work and personal accomplishment did not show any correlation with perceived social support.

**DISCUSSION**

The aim of our study was to examine the effect of demographic variables, perceived Stress, general health and social support on burnout. We had hypothesized that older age, high perceived stress, low social support and poor general health should predict high burnout.
The age of our subjects explained the variations in burnout and perceived stress scores significantly better than variations in GHQ12 and social support scores. The more the age the chances of burnout were higher, but perceived stress was the highest in mid-range of age (25 to 29 years). At the same time, the variations at different levels of age were more discreet in regard to burnout (F-ratio= 175.56) than perceived stress (F=4.52) (Table 5). Explained by more stressful life events in this age group? Correlation of increasing age with burnout has been reproduced in numerous studies. A study from Pune that recruited 298 nurses also found a negative correlation between age and burnout scores. The study did not analyze the correlation between stress and burnout, but like our study, found nurses of the mid age-range to be having the highest stress [12].

Table 5 – Stress scores at different age levels

<table>
<thead>
<tr>
<th>Age Range</th>
<th>N</th>
<th>Mean</th>
<th>Std.Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>21 – 24 Years</td>
<td>38</td>
<td>18.9737</td>
<td>4.9728</td>
</tr>
<tr>
<td>25 – 29 Years</td>
<td>51</td>
<td>21.1373</td>
<td>4.7708</td>
</tr>
<tr>
<td>30 and above</td>
<td>22</td>
<td>17.4091</td>
<td>6.2386</td>
</tr>
<tr>
<td>Total</td>
<td>111</td>
<td>19.6577</td>
<td>5.3181</td>
</tr>
</tbody>
</table>

When burnout was taken as factor at three levels of severity against perceived stress, the differences in mean stress scores were not significant, but numerically, ‘high burnouts’ had lowest stress scores. In a study from Johannesburg that recruited 895 nurses, personal stress accounted for 27% variance in burnout scores [13]. Although we found no correlation between stress and burnout, but the personal accomplishment domain had a significantly negative correlation with stress, suggesting that with more personal accomplishment stress was low. Noha Elshaer and colleagues, analyzed job related stress against burnout domains and found significantly higher scores of emotional exhaustion in subjects who suffered from intragroup conflicts, and low emotional exhaustion in subjects who assumed responsibility for people's lives, who had job satisfaction and perceived control [14]. We had initially hypothesized a relationship between burnout and perceived stress, but found none. One possible reason could be that our high burnouts fell in the upper age-range, while the same age range had the least perceived stress, so it is not surprising that burnout and perceived stress had weak and poor correlation. Subjects in the mid age range of 25 to 29 years had the highest perceived stress. High Burnouts had higher GHQ12 scores, but at that same time, surprisingly they had higher perceived social support too. Perceived social support, curiously, also had a strong positive and significant correlation with GHQ12 scores. In short, social support was significantly higher in High-burnouts and in subjects with higher GHQ12 scores (poor general health). High perceived stress on the other hand, predicted low social support.

Table 6 – Correlation between the scales

<table>
<thead>
<tr>
<th></th>
<th>Correl. Coeff.</th>
<th>P value</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burnout Vs. GHQ12</td>
<td>0.478</td>
<td>&lt;0.0001</td>
<td>111</td>
</tr>
<tr>
<td>Social Sup. Vs. GHQ12</td>
<td>0.337</td>
<td>&lt;0.0001</td>
<td>111</td>
</tr>
<tr>
<td>Burnout Vs. Social Supp.</td>
<td>0.434</td>
<td>&lt;0.0001</td>
<td>111</td>
</tr>
</tbody>
</table>

Numerous studies have confirmed association between burnout and poor physical/mental health [15-17]. In another study on 1200 nurses in Johannesburg, Natasha Khamisa and her team found that emotional exhaustion and depersonalization domains of burnout 31% variance in anxiety/insomnia and 21% variance in somatic symptoms. The study also observed that work stress (especially related to safety of nurses) explained 11% of variance in social dysfunction [18]. In our study social support was uniform and high across the three levels of age, with a high overall average of 5.08, suggesting a negative skew (mode=6.50; Skew= -0.86). This should explain why social support is showing disproportionately strong positive correlations. Also, since we did not screen for specific disorders it will be wrong to assume that all those who scored high on GHQ-12 fulfilled the full criteria for specific
disorders (like Major depression, anxiety etc.). Two domains of Burnout: Depersonalization and Emotional Exhaustion, contributed most towards significant positive correlation with social support. The same domains also contributed the most towards a positive correlation with psychological morbidity. So, it is plausible that subjects with higher emotional exhaustion and depersonalization pursued social support more, and got it.

Table 7 – Correlation of Emotional Exhaustion and Depersonalization

<table>
<thead>
<tr>
<th></th>
<th>Vs. GHQ-12</th>
<th>Vs. Per. Social Supp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Exhaustion</td>
<td>R=0.495; p&lt;0.0001</td>
<td>R=0.440; p&lt;0.0001</td>
</tr>
<tr>
<td>Depersonalization</td>
<td>R=0.497; p&lt;0.0001</td>
<td>R=0.347; p&lt;0.0001</td>
</tr>
</tbody>
</table>

Limitations

Duration of service is an important factor that we did not look deeper into in our study. Various studies have suggested that duration of service and working hours may be important factors in predicting burnout; but many studies have found no correlation as well. Skewed perceived social support scores may have been responsible for significant positive correlation with burnout. Applying non-parametric tests may have led to more robust result in this context.

CONCLUSION

Perceived stress does not predict burnout, except personal accomplishment, which is negatively correlated with stress. Highly stressed subjects had significantly poor social support. But perceived stress and GHQ12 scores were not related. High GHQ12 scores predict burnout, especially in emotional exhaustion and depersonalization domains. On the other hand, high burnouts and subjects with high GHQ12 scores perceived good social support. Only 9% of subjects reported low social support.

REFERENCES


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A study to assess impact of teaching proper case history taking of the most common psychiatric disorder - Major Depressive Disorder (MDD) in Interns

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ABSTRACT

Background and Objectives: Psychiatry lectures & clinical posting are the only learning experience of psychiatry for Medical Graduates. Only interns attend their compulsory psychiatry posting. The aim is to make Interns competent to elicit & write proper history of MDD and able to describe different components of history taking, diagnostic criteria, to demonstrate communication skills.

Methods: It was a Prospective Interventional Study done in 45 Interns posted consecutively in Psychiatry. On Day1, Interns were asked to take and write history of MDD patient and evaluated on Checklist for history taking (10 components), SMCQ (15) and Mini-CEX. Then Interns were taught about MDD by CBL, SGL and Role Play. On Day 7, they were again evaluated on Mini-CEX. On term ending, they were again evaluated as per Day1. Feedback of Interns and faculties were taken. Appropriate Statistical Tests were used using SPSS Version 16.

Results: On Checklist for history taking of MDD apart from Negative History and Mental Status Examination, Interns’ skills improved significantly. Mean score on SMCQ got doubled from 6±0.83 to 12±0.83. On Mini-CEX, apart from clinical judgement, counselling skills and overall clinical competence, Interns improved from unsatisfactory to superior level. Feedback was positive on most of the components of study but few were satisfied completely with their history writing & communication skills and diagnosing ability. Faculties’ perceptions were very encouraging.

Conclusion: Teaching of MDD case history taking was well taken & perceived by interns. Knowledge about MDD & competency to take history and identifying patients of MDD improved satisfactorily.

Keywords: Interns, history taking, MDD, psychiatry, mini-CEX.

INTRODUCTION

There has been an increasing demand to improve psychosocial skills of medical care among medical students. All medical students will not be psychiatrists. For those, psychiatry lectures and clinical posting are the only experience of psychiatric practice before they start to work as clinicians. For all doctors, Knowledge of psychiatry is important because prevalence of mental illness is 5 to 20% in general population.
and the most common is Major Depressive Disorder (MDD) [1-2]. It is so common that each doctor should know how to take history of MDD patient, what the diagnostic criteria are and how it can be treated. In severe cases, MDD patients can attempt and commit suicide. Around fifty (50%) of patients with MDD attempt suicide and 15% of the patients die of suicide, still patients don’t seek treatment from mental health professionals or any doctor just because of stigma attached to mental illness. There are about 6000 psychiatrists in India, i.e., <0.5 per 1,00,000 population [3]. The ideal number required is 1 per 1,00,000 population [4]. It has been found that 20% of new consultations to a primary care physician are for somatic symptoms for which no physical cause can be found [5]. Primary care physician often fail to recognize psychiatric disorders in patients with physical illness [6]. In medical and surgical wards, half of the psychiatric morbidities are not detected by doctors [7]. The training that the undergraduates and interns gets in their psychiatry posting will change this situation. Currently, medical undergraduate students have multiple lacunae in their knowledge of psychiatry with various myths, misconceptions and negative attitude [8].

Skills in communication and the ability to form empathy are fine-tuned while learning psychiatry and are essential qualities for a doctor. Encouraging positive mental health and counselling skills to reduce stress and cope with chronic physical health problems are necessary for all doctors to master. Also an increasing need for improved skills by medical graduates in the psychosocial aspects of medical care has been noted [9]. In the course of his or her professional life, a clinician will conduct between 1,00,000 and 2,00,000 patient interviews [10-11]. The medical interview is the most common task performed by physicians. Thus, for good reason, Engel and Morgan called it “the most powerful and sensitive and most versatile instrument available to the physician” [12]. Scientific discoveries and technological innovations of the last decades fundamentally changed diagnostics and treatment of diseases. Imaging studies and laboratory tests seem crucial for an accurate diagnosis, all the more in times of multidisciplinary treatments and overall availability of instrument-based examinations. However, neither scientific nor technological advances in medicine have changed the fact that a physician’s core clinical skills are interpersonal [13-15]. Interview skills contribute significantly to problem detection, diagnostic accuracy, patient and physician satisfaction, patient adjustment to stress and illness, patient recall of information, patient adherence to therapy and patient health outcomes [16-20]. Accuracy of diagnoses and the establishment of a good physician-patient relationship depend on effective communication within the medical interview [21-22]. By the medical history, physicians garner 60–80 % of the information that is relevant for a diagnosis [22-26] and the history alone can lead to the final diagnosis in 76% [22].

Encouraging positive mental health and counselling skills to reduce stress and cope with chronic physical health problems are necessary for all doctors to master [9]. It is a matter of concern that students are not clear of the psychiatrist’s role in the multidisciplinary team and they think a medical background is not necessary to practice psychiatry [27-28]. Because knowledge and attitude of undergraduate toward mental health & psychiatric disorder is of great importance as they are going to be involved in care of these patients directly or indirectly during their careers [29]. Studies in medical students found out opinion about Mental Illness have shown ignorance about psychiatry, psychiatric patients and their treatment [30].

Most of the literatures show negative attitude of the students toward psychiatry [31-33]. Emphasis on psychiatry during undergraduate training has been low. The MCI has recommended that all undergraduate students receive 2 weeks’ clinical posting and 20 lectures in psychiatry in the fifth semester and assessment in the form of short notes in paper two of General Medicine [34]. From 2008, 2 weeks psychiatry posting is compulsory during internship. Formal teaching during internship is not feasible given the time constraints in most departments, but having a guideline about what the posting should achieve for the intern and the department is beneficial, it can go a long way to benefit students [35].

While planning for undergraduate teaching, we should consider that this essential training/learning experience not only provides knowledge and skills but makes psychiatry interesting and removes the stigma of being a psychiatrist and also toward psychiatry and its patients. The quality of the teaching, enthusiasm of the clinical teachers, the holistic approach and scientific basis of psychiatry are the parameters that influence the students’ attitude toward psychiatry [36-37].

There are very few studies in which impact of teaching of psychiatry in medical undergraduates has been studied [33]. In psychiatry, the history taking and Mental Status Examination are the most important
diagnostic tools to make an accurate diagnosis. History taking and communication skills programmes have become cornerstones in medical education over the past 30 years and are implemented in most US [15], Canadian [17], German [38] and UK [39] medical schools. National accreditations and expert panel consensus guidelines have stressed the importance of educational interventions addressing history taking [40-41].

The only essential quality that a teacher should have to teach psychiatry is interest in teaching. Everything else can be learnt. Greater faculty involvement in teaching and direct observation of medical trainees with actual patients are important for the assessment of clinical skills [42]. Application of skills in the areas of medical interviewing, physical examination, and counselling is required for the successful practice of medicine [43]. However, medical students report that they are rarely being observed during patient encounters; one main reason is a lack of faculty time [44]. The direct observation is mandatory for the reliable and valid assessment of interviewing and counselling skills [45-46].

Although traditionally lectures impart information and knowledge didactically, it is good to use role-play and to demonstrate skills while teaching communication skills. Other good teaching practices, e.g., asking questions, giving opportunities for the students to ask questions, etc., should be paid attention to. Appropriate use of audio-visual aids remarkably improves the impact of the class [42].

For checking knowledge, Structured Multiple Choice Questions (SMCQs) are more reliable, because of the large number of items that can be easily tested and marked. These can be adapted to test knowledge as applied to problem solving or clinical reasoning [47].

For evaluation of skills, it is better to use more appropriate, structured, reliable, and valid methods of skill assessment such as OSCE, OSPE, Mini-CEX, and Objective Structured Long Examination Review (OSLER) [48].

The mini-Clinical Evaluation Exercise (Mini-CEX) is a method of the assessment of clinical skills including counselling skills and professionalism, developed by the American Board of Internal Medicine [49] and has been used in clerkships as a feedback tool [50]. After an evaluator observes a trainee’s performance in a normal clinical encounter, trainee receives immediate feedback [51]. For each encounter, an examiner (attending) recorded the date, the complexity of the patient’s problem on 3-point scale (low, moderate, and high), [52] the sex of the patient, the number of minutes spent in observing the encounter, and the number of minutes spent in giving feedback [53]. Using 9-point scale (in which 1–3 were “unsatisfactory,” 4–6 were “satisfactory,” and 7–9 were “above expected”), the examiner (attending) rated the student on interviewing, physical examination (mental status examination), professionalism, clinical judgment, counselling, organization and efficiency, and overall competence [52]. The emphasis on counselling included student’s interaction with the patient professionally (introduced himself/herself, maintained good eye contact) and education (explained the rationale for test/treatment). After the interview, the examiner (attending) completed the rating form and provided feedback [54].

Psychological aspects of medical care give an additional opportunity for hospital psychiatry, and the internship offers interpersonal experiences of the clinical encounter and medical care [55]. Given this position, clerkship provides a great opportunity for exposure in patient communication.

Keeping this important aspect of history taking as an essential tool for any doctor, I decided to study this as my education project of Advance Course in Medical Education (ACME).

As specified by the Medical Council of India (MCI), Faculty Development Programs aim to improve the quality of medical education by training and sensitizing teachers about new concepts in teaching and assessment methods; develop knowledge and clinical skills required for performing the role of competent and effective teachers, administrators, researchers and mentors; assist clinicians to acquire competency in communication and behavioural skills and update knowledge using modern information and research methodology tools [56]. MCI, in 2014, started Advanced Courses in medical education with the aim to develop educational practitioners who can lead informative, instructional and educational changes in their institutions and thereby making the medical education responsive to the health needs of the society.

ACME is a one-year course approved by MCI and run only by MCI Nodal Centre. Faculty in medical college who had done Basic Course of Medical Education Technologies (MET) can only enrol for ACME. The purpose of the Basic Courses in MET is to provide the basic knowledge, skills and eventually change
the attitude of the faculty in medical colleges, which the faculty can implement in their day-to-day practice in different areas of teaching and assessment (classroom, laboratory, clinical and field work) [57]. I did this course at MCI Nodal centre for faculty development at Smt. NHL Municipal Medical College, Ahmedabad, Gujarat. It had two contact sessions at MCI Nodal Centre, first for 5 days and second after 6 months for 3 days. After first contact session, each faculty had to make one research project and present poster of the same during second contact session. At the end of course, faculty had to submit complete project. In first six months, there were online discussion on 5 different topics namely CBME, Integrated teaching, faculty development, E-learning and Qualitative research. Faculties are divided in a group and each group had to moderate one allotted topic. Each topic was discussed for 1 month duration. In each topic, 5-7 threads are released online at 3-4 days interval by moderating group. In which each participant had to mail at least 2 mails during a week. Two expert faculties in each group give active guidance to participants and look after online activities. Each participant compulsorily had to moderate one thread and keep record keeping of one thread in a group allotted. Even senior batch also had to participate actively in this online activity until that batch’s one year course is completely finished and approved by Nodal centre. In a second contact session, each faculty had to present a poster of his or her research project. After second contact session, again participants were divided in 5 groups. Now, new batch joined with our batch. In last six months, there were online discussion on other 5 different topics namely programmatic assessment, interactive teaching, giving and receiving feedback, professionalism and ethics and scientific paper writing & grant writing. Same procedure mentioned above for first six months are again done in these six months with different topics, groups and experts. At the end of all topic discussion, each faculty had to submit his or her complete project online for completion of course which would be approved by Nodal centre as per criteria and guidelines. So, ACME is a rigorous and meticulously planned course for faculty development. The aim of the study was to make Interns competent to take proper case history of the most common psychiatric disorder - Major Depressive Disorder (MDD). The objectives were to make sure that interns should be able to describe different components of psychiatric case history, the diagnostic criteria of Depression and should be able to demonstrate communication skills with patient while taking history of MDD along with being able to write history of patient of Depression

**METHODOLOGY**

It was a Prospective Interventional Study and was done in 45 Interns during their 15 days of compulsory posting in compulsory posting in Psychiatry Department in AMC- MET Medical College and Sheth L.G. Hospital, Ahmedabad as a part of education project of Advance Course in Medical Education (ACME).

**Inclusion Criteria:**
1. The Intern Doctor posted in the Department of Psychiatry for their compulsory rotating internship duties.
2. The particular intern doctor had to give consent after being explained in his/ her language of understanding, the entire study aims and design.
3. Age more than 18 years
4. Either gender
5. Able to understand Hindi/English/Gujarati

**Exclusion Criteria:**
1. Intern Doctors who were not posted in the Department of Psychiatry
2. Intern Doctors who did not give consent

**Pre-test (Day 1):**
- On day 1 of enrolment in Psychiatry Dept., Interns were asked to take case history of patient of MDD. and to write down the history taken.
- Interns were observed on Structured MCQs (SMCQ) and Mini-CEX while taking history and written history was evaluated on Checklist for history taking.
Midterm Evaluation (Day 7):
- Interns were taught in detail about history taking method of MDD patients (T-L Method: CBL, small group lecture/discussion, audio-visual method, role play) and lectures were taken on MDD
- After 7 days, Interns were observed on Mini-CEX (2nd time) while taking history of MDD patient.

Post-test (Day 15):
- At the end of term, Interns were asked to take case history of patient of MDD and to write down the history taken.
- Interns were observed again on SMCQ and Mini-CEX (3rd time) while taking history and written history was evaluated on Checklist for history taking (2nd time) to see the change of skills and method of history taking of patient
- Feedback of Interns was taken by standardized Feedback form
- Qualitative feedback from both Interns and Faculties were taken

Data collection period was 2.5-3 months and the total study duration was 6 months. The total number of interns enrolled in the study were 45. Pre-test (Day 1), Day 7 and Post-test (Day 15) data were analysed using appropriate statistical tests using SPSS Version 16.0. Wilcoxon signed rank test was used to compare pre and post-test findings of checklist of history taking. Unpaired t-test was used to compare pre and post-test SMCQ score. Chi square test and Friedman test was used to compare Mini-CEX results. P value of < 0.05 was considered statistically significant.

Instruments used
- Socio-demographic profile sheet: It consists of a structured format to record certain variables regarding the intern doctor, such as age, gender, type of family, income of family, locality etc.
- Informed Consent Form: for participation in study
- The ABIM Mini-Clinical Evaluation Exercise for Trainees (Mini-CEX): is intended to facilitate formative assessment of core clinical skills. It can be used by faculty as a routine, seamless evaluation of trainees in any setting. The Mini-CEX is a 10- to 20-minute direct observation assessment or “snapshot” of a trainee-patient interaction. It is a questionnaire comprising of 7 questions which has feedback answers graded on a Likert Scale and 2 questions of evaluator's and trainee's satisfaction [53, 58-59].
- Check list for History Taking (Annexure IV): Is a check list comprising of 10 topics on which the components of the history taking can be assessed. This check list can be administered in a span of 10 minutes by assessing the history taken by the candidate.
- Structured Multiple-Choice Questions (SMCQ) (Annexure V): It is a questionnaire comprising of 15 questions with 4 options each. The questions are framed based on the DSM 5 diagnostic criterion of Major Depressive Disorder, its treatment and on basic history taking in Psychiatry. The questionnaire can be applied in about 10 minutes and is used to evaluate the candidate’s knowledge on Psychiatric History taking and Major Depressive Disorder.
- Standardized Feedback Form for students (Annexure VI): Is a questionnaire comprising of 10 questions which has feedback answers graded on a Likert Scale. The questionnaire is aimed at understanding the student’s point of view as far as the teaching in medical colleges is concerned. This can be administered in a span of 10 minutes. It comprises of knowing as to what would comprise a conducive and encouraging atmosphere for students to ask questions uninhibitedly and discuss topics and ideas frankly.

RESULTS

Socio-demographic Profile:
Total 45 Interns were enrolled in the study. Mean age of Interns was 22.38 years. Majority were from nuclear family and of urban background.
Table 1: Socio-demographic details

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>24</td>
<td>53.3</td>
</tr>
<tr>
<td>Female</td>
<td>21</td>
<td>46.7</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean (SD)</td>
<td>22.38 (±0.490)</td>
<td></td>
</tr>
<tr>
<td>Family Type</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nuclear</td>
<td>34</td>
<td>75.6</td>
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<tr>
<td>Extended</td>
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<td>24.4</td>
</tr>
<tr>
<td>Locality</td>
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<tr>
<td>Urban</td>
<td>40</td>
<td>88.9</td>
</tr>
<tr>
<td>Rural</td>
<td>05</td>
<td>11.1</td>
</tr>
</tbody>
</table>

Checklist of History Taking:

Figure 1: Checklist of History Taking

Table 2: Checklist of History Taking

<table>
<thead>
<tr>
<th>Component of History Taking</th>
<th>Pre-Test Median (Mean)</th>
<th>Post-Test Median (Mean)</th>
<th>Z value</th>
<th>Significance (2 tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socio-demography</td>
<td>2(2.24)</td>
<td>3(2.78)</td>
<td>-3.986a</td>
<td>.000</td>
</tr>
<tr>
<td>c/o according to patient</td>
<td>1(1.27)</td>
<td>3(2.69)</td>
<td>-5.706a</td>
<td>.000</td>
</tr>
<tr>
<td>c/o according to relative</td>
<td>1(1.33)</td>
<td>3(2.64)</td>
<td>-5.844a</td>
<td>.000</td>
</tr>
<tr>
<td>ODP</td>
<td>1(1.38)</td>
<td>3(2.60)</td>
<td>-5.907a</td>
<td>.000</td>
</tr>
<tr>
<td>Negative History</td>
<td>1(1.24)</td>
<td>2(1.62)</td>
<td>-3.710a</td>
<td>.000</td>
</tr>
<tr>
<td>Past History</td>
<td>2(1.80)</td>
<td>3(2.51)</td>
<td>-4.641a</td>
<td>.000</td>
</tr>
<tr>
<td>Family History</td>
<td>2(1.98)</td>
<td>3(2.89)</td>
<td>-5.586a</td>
<td>.000</td>
</tr>
<tr>
<td>Personal History</td>
<td>1(1.40)</td>
<td>3(2.78)</td>
<td>-5.755a</td>
<td>.000</td>
</tr>
<tr>
<td>General Examination</td>
<td>2(1.96)</td>
<td>3(2.89)</td>
<td>-5.514a</td>
<td>.000</td>
</tr>
<tr>
<td>MSE</td>
<td>1(1.16)</td>
<td>2(1.56)</td>
<td>-4.025a</td>
<td>.000</td>
</tr>
</tbody>
</table>

Wilcoxon signed rank test to compare median (a=Based on negative ranks)
As per figure 1 and table 2; Checklist of history taking of Major Depressive Disorder (MDD) patients has higher median score in post-test than in pre-test in all components of history taking. Interns had poor skills of taking history in asking complaints to the patient and relatives, Origin, Duration and Progress (ODP) of illness, Negative history and MSE. These all skills improved post-test up to excellent level, which indicates that teaching history taking of MDD during 2 weeks term was very useful.

**Evaluation by SMCQ Score:**
Total 15 SMCQs related to MDD and history taking was asked on Day 1 and Day 15. Mean score of SMCQ test was higher post-test (Mean=12 ±0.83, 80% result) than pre-test (Mean=6 ±0.83, 40% result). This suggests that Interns knowledge improved twice in their term posting.

**Feedback by Interns:**

As per figure 2, Majority (around 90%) interns reported that awareness by such teaching can reduce stigma toward psychiatric illness. All interns gave feedback that they are sure that treating patients of MDD can reduce rate of suicide and they will refer patient to psychiatrist so that treatment can be started early. This is very encouraging statement. Around half of the interns (60%) were very much satisfied with topic & methodology of the study, learned components of history taking and all interns learnt criteria of MDD. More than 90% of Interns said that now they can diagnose patients with MDD and more than 85% reported that they can take history of MDD now. Around 95% of Interns were confident that their communication style with patients improved significantly.

**Evaluation by Mini-CEX:**
As per figure 4 and table 3, interns had unsatisfactory skills (1, 2, 3) of medical interview, professionalism, clinical judgment, counseling skill and organization whereas satisfactory level of physical examination skill and overall clinical competence in pre-test evaluation. On post-test evaluation, components like medical interview skill, physical examination skill, professionalism an organization skill had increased score up to superior level (7, 8, 9) whereas clinical judgment, counselling skill, clinical competence, satisfaction of evaluator and interns had increased score up to satisfactory level (4, 5, 6)
Figure 3: Mini-CEX findings

Mini- CEX

Components of Mini-CEX
1,2,3=Unsatisfactory 4,5,6=Satisfactory 7,8,9=superior

<table>
<thead>
<tr>
<th></th>
<th>Pretest</th>
<th>Then</th>
<th>Posttest</th>
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<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>2</td>
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<td>8</td>
<td>2</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>9</td>
<td>2</td>
<td>4</td>
<td>6</td>
</tr>
</tbody>
</table>

By Friedman Test, * is Median Score

Qualitative Feedback:

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a. Qualitative feedbacks from Interns:

- I have never learnt taking history of any psychiatric disorder in such a systematic & detailed way.
- I will never forget taking history of MDD patient because of such a nice personalized experience.
- If I will refer MDD patient to a psychiatrist & he will improve, it will be a most satisfactory thing to me.

b. Qualitative feedbacks from Faculties:

- It was a very satisfactory & novel experience of teaching & evaluating case history to interns.
- If at least 50% of interns have properly learnt taking history of MDD, I will consider this as a success of this project.
- I have used MINI CEX for the 1st time to evaluate students & found it easy, useful & reliable tool for evaluation.
- By conducting such projects not only interns get knowledge regarding common psychiatric disorders, it will go a long way to reduce stigma of psychiatric disorders.
- It has motivated me also to take such projects in U.G.s & interns in future.

DISCUSSION

From 2008, 2 weeks' psychiatry posting is compulsory during internship. Formal teaching during internship is not feasible given the time constraints in most departments, but having a guideline about what the posting should achieve for the intern and the department will be beneficial to both. As such every intern should work up cases of depression, anxiety, psychosis, other mood disorders, delirium, substance dependence, consultation liaison psychiatry cases to identify abnormal illness behaviour and psychiatric aspects of physical illnesses. This should be both in inpatients and in outpatients. The number of cases to be worked up depends on the availability of patients in the department and the faculty required for supervision. They have to demonstrate skills to take psychiatric history, to do a mental state examination and counsel patients.

We focused on teaching proper history taking of MDD only so that Interns at least learn what the components of history taking of MDD are and how psychiatry history can be taken. The primary objective as mentioned is to equip the interns to practice psychiatry at the primary care level. So as an initiative, we taught them the most basic and essential part of psychiatry which is history taking in the patients of MDD which is very common among general population. Before teaching history taking in the study; while on taking history of MDD patients on Day 1, students found socio-demographic details, past and family history and general examination components of history taking easier than other components of history taking like how to ask chief complaints, ODP of illness, negative history and MSE. After teaching, other components of history taking also became easier on Day 15 which indicates that session of teaching acted as a learning tool evoking previous knowledge acquired during MBBS and helped to reconstruct knowledge, skills and attitude.

The reason why interns found socio-demographic details, past and family history and general examination easier than other components may be that they have learnt history taking during their clinical terms in other departments which are similar in history of psychiatric patients and other patients. In our study overall results of SMCQ on pre-test was 40% with mean score of 6±0.83 which increased to 80% with mean score of 12±0.83 after teaching MDD. This study is supported by Kumar AT et al in which test scores in paediatric patients before and after teaching had statistically significant difference. This is contradictory to result a study in which there is no effect of teaching on MCQ scores among students. The reason for lesser score in pre-test may be that they might have read psychiatric disorder only for exam purpose as only 2 questions of psychiatry are asked and that is also in general medicine paper in final MBBS and giving much attention to specific things like criteria of disorder, duration of illness and clinical aspects like history taking especially MSE.

Results of Mini-clinical evaluation exercise (Mini-CEX) in our study suggest that there was statistically significant difference in level of satisfaction regarding various components of Mini-CEX pre-test and post-test. So, Mini-CEX was found to be useful tool for assessment of impact of education among medical students. In another study, undergraduate students have found Mini-CEX as feasible and satisfactory tool.
A systematic review and meta-analysis done also suggested positive effect of Mini-CEX application on trainee’s performance [64]. One third of students were satisfied of learning medical interview skills and two third were more than satisfied with same which is similar to results of a study in which 96% students were satisfied with communicative skills [65]. There are many studies indicating positive effects of teaching on communication skills [66-68]. 94% students in our study were much satisfied with their diagnosing ability of M.D.D. after learning history taking of M.D.D. which is similar to that seen in previous studies [63]. 89% students agreed that their attitude towards psychiatry has been changed which is similar to study done previously [69]. In our study almost all students were much sure treating patients of M.D.D. can reduce rate of suicide which has been studied by authors that education and teaching reduced suicidal rate by 60% [70]. Qualitative feedback by both interns and faculties were positive and encouraging which was similar to the studies done in the past [71-72].

CONCLUSION

From this study, conclusions that were reached:
Teaching history taking improved interns,
- Art of detailed history taking
- Communication skills
- Diagnostic competency
- Attitude (stigma) toward Psychiatry

Limitations
- We taught only history taking and one disorder that was M.D.D. due to time limitation of only 15 days for compulsory internship Psychiatry posting.
- During internship also, students have NEET PG classes and for that they take leaves so they can’t concentrate properly in clinical term.

Recommendations
- To learn proper history taking skills, to know basic and common psychiatric disorders, to master the communication skills, to learn a good doctor-patient relationship and to decrease stigma towards Psychiatry all undergraduate students and Interns should be compulsorily posted in psychiatry.
- All medical students should receive compulsory clinical posting in Psychiatry department in second year and in internship for optimum period (Minimum 1 month) because communication skills will make them better doctor and it will help them in their clinical practice in future.
- The training should use clinically evaluable methods like Mini-CEX, OSCE and OSPE etc. and should primarily address most basic and problem defining skills of psychiatry.
- Moreover, Psychiatry should be a separate subject at undergraduate level. At present weightage of Psychiatry is so low that students are not taking interest and not taking the subject sincerely.

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Funding – Nil
Severity and Dimensions of Obsessive-Compulsive Disorder and Family Accommodation: OCD severity and Family Accommodation

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ABSTRACT

Background and Objectives: Family accommodation (FA) refers to ways in which family members assist the patient in the performance of rituals, compulsions, avoidance of anxiety provoking situations, or modification of daily routines to assist a relative with obsessive-compulsive disorder. The purpose of this study was to study the association between the family accommodation and dimensions of obsessive-compulsive disorder (OCD).

Methods: The study included 45 patients and their family members, Yale brown Obsessive-Compulsive scale (YBOCS) was used to assess the severity of OCD in patients and Dimensional Yale brown Obsessive-Compulsive scale (DYBOCS) was used to identify the severity of different dimensions in OCD patients family members were assessed on Family Accommodation Scale for Obsessive–Compulsive Disorder – Self Rated version (FAS-SR) for understanding accommodation level in family. A Pearson’s correlation coefficient was used to evaluate the association between variables.

Results: FA was found to be highly present in the family of patients with OCD. On the DYBOCS we found the dimension of cleaning and washing were prevalent and highly correlated with FA.

Conclusion: The findings suggested that the family accommodation is very common in families of OCD patients and strongly associated with symptom severity of few specific dimensions.

Keywords: Family accommodation, obsessive–compulsive disorder, predictors, symptoms dimensions.

INTRODUCTION

Obsessive-Compulsive Disorder (OCD) is a heterogeneous disorder. According to the American Psychiatric Association, Obsessions present in the form of intrusive thoughts, images, or phrases that persistently enter into the individual’s mind. Compulsions manifest by rituals or mental acts that need to be, repeatedly carried out, often in response to experiencing anxiety or distress due to an obsession. Affecting an estimated 1% of the adult population [1]. Individuals with OCD experience significant interference in various aspects of their lives including social, occupational, academic or family impairment [2]. Obsessive-compulsive disorder is an insidious condition that is capable of tricking and deceiving not only the sufferer, but his or her entire family as well.
In the last few years, family accommodation is a concept which has obtained specific interest in this area. Family accommodation can manifest in various forms including modifying family routines, engaging in the patient's compulsions, and facilitating avoidance of OCD triggers [3]. For instance, a parent or partner may engage in excessive hand washing rituals to assuage the patient's contamination fears, or excessively reassure the patient that the stove is turned off and the house will not burn down. Although family members often engage in these behaviors in hopes of attenuating OCD-related distress and mitigating the time occupied by symptoms [4], OCD symptoms also allow the individual to avoid confronting his/her obsessional thoughts (through continued engagement in compulsions) and strengthens associations between these obsessions and anxiety. Thus, in the longer term, such family responses can also yield a negative impact, legitimizing patient's obsessional beliefs and creating an escalating cycle between family members' accommodating responses and OCD symptoms [5]. Approximately 75% of OCD relatives participated at least minimally in rituals or avoidance or modified their behavior to accommodate patient's symptoms. Accommodation include providing reassurance (>30%), active participation in rituals and/or avoidance at patient's request (33-60%), taking over patient duties (>33%), and modifying family activities and routines (>35%) [4]. Higher levels of family accommodation are associated with increased OCD symptoms, increased functional impairment, and poorer therapeutic treatment outcome in both children and adults [4].

Symptom accommodation maintains the OCD symptomology by disallowing the individual with OCD to face their feared situations. The possible reason found by authors is that they suggest functional impairment in patients with OCD and long term adjustment with them OCD patient might influence the family function and family accommodation may be a work as a contributor in disturbed family functioning [3]. The aim of the study was to explore the severity of illness, dimensions of illness in OCD patients and level of family accommodation in patient's families and to determine possible associations between these variables.

**METHODOLOGY**

Purposive sampling method was used for sample selection. The study sample was drawn from Dept. of Psychiatry, King George's Medical University. Ethical committee of KGMU has approved this study, it was a cross-sectional study of Obsessive Compulsive Disorder patients and their family members. Written informed consent was taken from all patients and their family members in the study. It included both old and newly registered patients diagnosed with Obsessive Compulsive disorder (as per DSM IV -TR) and the family members fulfilling the selection criteria were recruited in the study.

Operational definition of family member for the purpose of the study is taken from a previous study [6].

**Participants**

**OCD patients and family members:** We enrolled (N=45), patients Age between 18 to 60 years, Minimum education up to class Vth, Patients of OCD scored higher than 7 on YBOCS with and without comorbidity of Anxiety Disorders and Mood Disorder (Mild to moderate level of depression /anxiety), were not received any psychotherapeutic treatment (CBT and ERP) for OCD. Excludes patients with any other co-morbid psychiatric disorder, patients with a physical disability or condition requiring priority medical management and Use of substance except tobacco.

For each patient, we selected only one family members on the basis of the following criteria. Age between 18 to 60 years, living with the patient for at least 1 years, minimum education up to class Vth, Not having received any psychotherapeutic treatment for distress related to their relationship with the OCD relative. We excluded the family members scored higher than 2 on GHQ-12 [7]. Presence of obsessive compulsive disorder in the family except patient. Family member with a physical disability or condition requiring priority medical management and use of other substance except tobacco.

The family members and patients were interviewed with the Structured Clinical Interview for DSM-IV TR Axis I Disorders, MINI [8] in order to exclude the presence of any current mental disorders.58 patients met criteria for one or more psychiatric disorders and therefore they were excluded from the study. 45 OCD patients with their healthy family members were finally included in the study.
Clinical Measures

OCD patients and family members: A systematic face-to-face interview that consisted of structured and semi structured components was used to collect data from patients. All socio-demographic and illness characteristics were obtained through the administration of a semi structured interview covered with socio-demographic data: age, sex, marital status and years of education. Mini International Neuropsychiatric Interview (M.I.N.I.) v.6.0.0 [8] was used to rule out comorbid psychiatric disorders in patients (except Anxiety and Depression). Obsessive–compulsive symptoms: OCD symptoms were measured with the YBOCS [9]; for assessing the overall severity and then applied DYBOCS [10] to assess the severity of multiple dimensions in the patients. Family accommodation was measured using the FAS-SR [11] a 19-item clinician-rated measure that assesses the degree to which family members of patients with OCD have accommodated patient rituals over the preceding month. In addition, the following rating scales were included in the assessment of OCD patients: Hamilton Rating Scale for Anxiety [12] and 17-item Hamilton Rating Scale for Depression [13].

RESULTS

Table-1 Descriptive statistics of the clinical Characteristics of patients with obsessive compulsive disorders.

<table>
<thead>
<tr>
<th>Clinical variables</th>
<th>Percentage of Frequency</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obsessions</td>
<td>100</td>
<td>13.42</td>
<td>4.09</td>
</tr>
<tr>
<td>Compulsions</td>
<td>91.11</td>
<td>13.11</td>
<td>4.66</td>
</tr>
<tr>
<td>YBOCS Total</td>
<td>100</td>
<td>25.86</td>
<td>8.07</td>
</tr>
<tr>
<td>HAM-A</td>
<td>80.00</td>
<td>7.60</td>
<td>3.77</td>
</tr>
<tr>
<td>HAM-D</td>
<td>66.67</td>
<td>10.13</td>
<td>6.69</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DYBOCS</th>
<th>N=45 (%)</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contamination &amp; Cleaning</td>
<td>88.88</td>
<td>8.97</td>
<td>4.71</td>
</tr>
<tr>
<td>Hoarding &amp; Collecting</td>
<td>28.88</td>
<td>2.48</td>
<td>4.15</td>
</tr>
<tr>
<td>Symmetry, Ordering, Counting &amp; Arranging</td>
<td>62.22</td>
<td>4.93</td>
<td>4.51</td>
</tr>
<tr>
<td>Aggressive obsessions &amp; related compulsions</td>
<td>11.11</td>
<td>0.37</td>
<td>1.80</td>
</tr>
<tr>
<td>Sexual &amp; Religious obsessions &amp; compulsions</td>
<td>22.22</td>
<td>1.73</td>
<td>3.76</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>26.66</td>
<td>2.02</td>
<td>3.96</td>
</tr>
<tr>
<td>FAS-SR</td>
<td>N =45 (%)</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Family Accommodation scale</td>
<td>91.12</td>
<td>33.57</td>
<td>12.49</td>
</tr>
</tbody>
</table>

Mean score of Y-BOCS for obsession and compulsions were found 25.86 which indicates clinically significant severe level of OC symptoms. The mean scores (SD) on the FAS were 33.57± 12.49. Anxiety symptom was found present in around 80% patients and mean score of the HAM-A was 7.60. Symptoms of depression was presented in 66% patients mean score of HAM-D was found around 10.13. DYBOCS findings are suggestive that the indicative that around 89% patients were suffering with the dimension of cleaning and contamination and mean score of this dimension around 9. Second highly prevalent dimension in our sample was found Symmetry, Ordering, Counting & Arranging.

To explore the pattern of demographic variables in presented samples we entered current age, marital status, gender, family type and kinship with family. In which we find most of patient’s age between the 18-30, females (57%), married (53%) and belongs to joint (67%) family. We did not apply statistics on the clinical and demographic variables in the terms of examining the impact of OCD symptoms and comorbid. Age range of Patient’s and family members was decided between 18to 60 years. Mean score of patients age was found in the study sample was 30.60 years, Family member’s age mean score was found 49 years. We observed the patients on the bases of their kinship and we found most of the family members referred by patients were spouses and parents (71%). On the basis of kinship we found that most of the patients were came along with their husband (31.11%) and father (35.55%). Only 8.86% of family members were females.
Table 2: Sociodemographic and clinical characteristics of the family members and patients with OCD (N=45)

<table>
<thead>
<tr>
<th></th>
<th>OCD Patients Mean ± SD</th>
<th>Relatives of patients with OCD Mean ± SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (in years)</td>
<td>30.6 ± 7.58</td>
<td>49 ± 10.77</td>
</tr>
<tr>
<td>Age of onset (in months)</td>
<td>21 ± 8.74</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>57.78%</td>
<td>08.89%</td>
</tr>
<tr>
<td>Male</td>
<td>42.23%</td>
<td>91.12%</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unmarried</td>
<td>40.00%</td>
<td>02.22%</td>
</tr>
<tr>
<td>Married</td>
<td>53.33%</td>
<td>95.55%</td>
</tr>
<tr>
<td>Remarried</td>
<td>02.22%</td>
<td>02.22%</td>
</tr>
<tr>
<td>Widower, Divorcees</td>
<td>04.44%</td>
<td>00%</td>
</tr>
</tbody>
</table>

Patients and Family members

<table>
<thead>
<tr>
<th>Type of family</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joint</td>
<td>64.44</td>
</tr>
<tr>
<td>Nuclear</td>
<td>35.55</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Kinship</th>
<th>Male</th>
<th>%</th>
<th>Female</th>
<th>%</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parents</td>
<td>Father</td>
<td>35.55</td>
<td>Mother</td>
<td>2.22</td>
<td>37.78</td>
<td></td>
</tr>
<tr>
<td>Spouses</td>
<td>Husband</td>
<td>31.11</td>
<td>Wife</td>
<td>2.22</td>
<td>33.33</td>
<td></td>
</tr>
<tr>
<td>Offsprings</td>
<td>Son</td>
<td>15.56</td>
<td>Daughter</td>
<td>4.44</td>
<td>20.00</td>
<td></td>
</tr>
<tr>
<td>Siblings</td>
<td>Brother</td>
<td>8.89</td>
<td>Sister</td>
<td>00</td>
<td>08.89</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>91</td>
<td>Total</td>
<td>8.86</td>
<td>45</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

Table 3 presents there was a positive association between FAS scores and patient results for obsessions, compulsions, DYBOCS total scores. Family accommodation is positively correlated at significant level of 0.05 and 0.01 with YBOCS scores of obsessions (0.413), compulsion (0.607) and YBOCS total score (0.597) subscale of DYBOCS Contamination and cleaning (0.461), Symmetry, Ordering, Counting & Arranging (0.357) On the other hand last one subscale of Aggressive obsessions & related compulsion (-0.382) were found negatively correlated. Sexual and Religious (-0.075), and Miscellaneous (-0.240) were also found negatively correlated with FAS but not at the significant level.

Table 3 – Correlation between Family Accommodation and OCD

<table>
<thead>
<tr>
<th>Variable</th>
<th>r value</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contamination &amp; Cleaning</td>
<td>0.461</td>
<td>0.001*</td>
</tr>
<tr>
<td>Hoarding &amp; Collecting</td>
<td>0.120</td>
<td>0.4320</td>
</tr>
<tr>
<td>Compulsions</td>
<td>0.413</td>
<td>0.005*</td>
</tr>
<tr>
<td>Symmetry</td>
<td>0.357</td>
<td>0.01*</td>
</tr>
<tr>
<td>Aggressive OCD</td>
<td>0.382</td>
<td>0.01*</td>
</tr>
<tr>
<td>Sexual &amp; Religious obsessions</td>
<td>0.075</td>
<td>0.622</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>0.240</td>
<td>0.112</td>
</tr>
<tr>
<td>YBOCS Total</td>
<td>0.597</td>
<td>0.006*</td>
</tr>
</tbody>
</table>

*significant (Pearson’s correlation used in the statistics)
DISCUSSION

In this study, a sample of 45 adult patients with OCD and their family members was examined for the level of FA in family and its association with severity and dimensions of OCD. As expected, accommodating behaviours were highly prevalent among the family members studied: 97.45% stated that they provide accommodation to patients’ OCD behaviours. The accommodating behaviours most frequently presented on a daily basis. These results are similar to those of previous studies [14-15] and, again, confirm that very often family members engage in some form of accommodation of OCD symptoms. Family accommodation includes behaviours such as helping the patients by family member and feeling obliged to assist a patient with OCD, when he/she is performing a ritual or respecting the rigid rules that OCD imposes on the patient [16]. Family accommodation has been identified as a key maintaining factor of OCD [17-19]. OCD symptoms have a strong impact on the dynamics of family and caregivers [20]. In our study we found moderate correlation between severity of OCD and family accommodation, which suggests that as symptoms increase in severity, the family members are more likely to accommodate with the patients [21-22]. The dimensions of contamination & cleaning, are found to be mildly correlated with family accommodation which indicates as the severity of the dimensions increases, the family members are more likely to accommodate with the patients. These finding are supported by other studies [23]. The dimensions of Symmetry, Ordering, Counting & Arranging are found to be correlated but not at the significant level with family accommodation which indicates as the severity of the dimensions increases, the family members are more likely to accommodate with the patients [23]. As we found in the current study OCD-affected individuals often explicitly request or demand accommodation [3]. Therefore, it can be said that those symptoms which were explicit in nature as well as acceptable for family members, were found to be positively correlated with family accommodation [23]. Family accommodation inadvertently worsens OCD symptoms and is associated with increased disease severity, overall functioning impairment for the child or adult both [24]. In the current study a negative correlation is found between the dimension of Injury, violence, aggression, natural disaster related compulsions, aggressive obsessions & related compulsions and sexual/religious obsessions with family accommodation, which indicates that as severity of the dimensions increases, the family members do not accommodate with the patients. These symptoms are implicit symptoms, unacceptable and as well as negative in nature therefore family members do not accommodate with patients. It can be a reason of less or no accommodation found with respect to these dimensions [23].

CONCLUSION

The present study replicated the high prevalence of FA among family members of OCD patients. The results of the correlation with family accommodation indicated that patient’s OC symptom severity, as well as the presence of OC symptoms, such as washing or cleaning and symmetry, ordering and arranging in family members, increases the severity of illness or vice versa may possible.

Limitations and suggestions of the present study: The family members assessed were referred by patients, and may therefore have been the ones with the highest accommodation levels among all family members. Future research examining family factors associated with FA before and after the psychotherapeutic interventions are recommended.

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A Study of Depression among Caregivers of Individuals with Intellectual Disability – A cross sectional study

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ABSTRACT

Background and Objectives: Caregivers of children with intellectually disability experiences high level of emotional, financial and physical stress. The aim of this study is to assess the risk of depression among caregivers of individuals with intellectually disability.

Methods: A cross sectional study was done on caregivers of intellectually disabled individuals who has attended Psychiatry outpatient, Department of Government Medical College. 60 patients diagnosed with ID were included by systematic random sampling method. Objective data was collected in a special proforma. Patient health questionnaire (PHQ-9) was used to assess risk of depression among caregivers of Individuals with Intellectually Disabled. MS Excel sheet and SPSS were used for data entering and statistical analysis.

Results: On PHQ-9 scale, 71.7% of caregivers had depression out of which, 26.6% shows minimal symptoms of depression, 20% had mild depression, while 13.4% had moderately severe depression and 11.6% had major severe depression while 28.3% of caregivers had no depression. Depression was more common in females (36.6%) than males (35%).

Conclusion: The prevalence of depression among caregivers of Individual with intellectually disabled was higher in this study. The risk of depression was higher in female caregivers as compared to male caregivers.

Keywords: Depression, caregivers, intellectual disability, mental retardation.

(Paper received – 9th November 2018, Peer review completed – 29th November 2018)
(Accepted – 3rd December 2018)

INTRODUCTION

Intellectual disability is a disability that occurs before age 18. People with this disability experience significant limitations in two main areas: intellectual functioning and adaptive behaviour. These limitations are expressed in person’s conceptual, social and practical everyday living skills [1]. According to ICD-10, Intellectual disability can be classified into four classes on the basis of intelligent quotient (IQ) i.e. mild IQ 50-70, moderate IQ 35-50, severe IQ 20-35, profound IQ below 20. A number of people with intellectual disability are mildly affected, making the disability difficult to recognize without visual cues. In intellectual disability there is a significantly sub-average mental development from birth or early childhood. It is substantial limitations in age appropriate intellectual functioning and adaptive behaviour and it is a lifelong condition. These children are slow in reaching developmental milestones later than the normal children. Intellectual disability affects about 2–3% of people, 75–90% of the affected people have an intellectual
disability [2]. In intellectual disability there is marked impairment in communication, academic and social skills due to which the child is more dependent on care giver than normal child. The parents of children with intellectual disabilities experience chronic stress. It is also seen that having a child with intellectual disabilities affects not only the parents, but also siblings and the relationships among the family members [3]. Stress experienced by the caregivers of disabled child is influenced by several factors such as child’s age, gender, degree of disability and also social class, economic status and family coping strategies like acceptance of the child’s diagnosis and perception of stigma associated with the disorder [4]. Becoming a caregiver of disabled child introduces an additional role, and therefore will require some rearrangement of priorities, and redirection of energy [5]. Therefore, the caregiver should monitor changes in person’s mental condition, including becoming unhappy, depressed, confused, or otherwise not as healthy as they have been. In all this monitoring it is caregiver’s duty to inform to doctor if anything unusual happens [6]. Various studies across the globe have already focused on the relation between evidence of psychological distress in caregivers of disabled children [7-9]. A study done in Kenya on caregivers of children with intellectual disability shows that majority (79%) of caregivers were at risk of depression [10]. Freidrich et al studied the sample of 112 mothers of intellectual disabilities with developmental delay had noticed that depression among mothers had been increased from time one to two [11]. However, there is little data in developing countries like India on this topic [12]. Therefore, the aim of this study is to assess prevalence of depression in caregivers of ID children, to study clinical profile of ID, and the relation between demographic variables and depression in the caregivers of the intellectually disabled children.

**METHODOLOGY**

This cross-sectional study was conducted at department of psychiatry of Dr Shankarrao Chavan Government Medical college Nanded which is located in eastern Maharashtra. Caregivers of the persons with intellectually disabled attended out-patient department of psychiatry for either certification or treatment of behavioural problems who met inclusion criteria were screened. Patients of any age, diagnosed intellectually disabled according to DSM-5 and whose caregivers willing to sign an informed consent were included in study. The caregivers who participated in the study were explained the nature of study and were assured of confidentiality.

A sample of 60 patients were selected for the study. The enrolled participants were subjected to a socio-demographic details to collect data on gender, age, family income, type of family, religion, residence, education and occupation. Patients who included in this study were subjected to IQ assessments by clinical psychologist.

**Inclusion Criteria**

- Caregivers of more than 18 years of age who were willing to participate in the study
- Caregivers of intellectually disabled patients
- Confirmed diagnosis of ID according to DSM-5 criteria.
- Both male and female caregivers were included in the study

**Exclusion Criteria**

- Caregivers with preexisting psychiatric illness
- History of severe medical or surgical illness
- Caregivers who were not willing to participate

The caregivers were administered Patient Health Questionnaire (PHQ 9) [13]. PHQ 9 was used to determine depression status in caregivers. The PHQ 9 was designed for use in medical and clinical settings. PHQ9 uses a four-point Likert scale (0= not at all, 1= several days, 2= more than half the days, 3= nearly every day) to gauge responses to questions asking about the respondents emotional/mental health over the last 2 week period. It is suitable for use in screening for depression among parents of children with severe disabilities [14].
Scores on the PHQ 9 can range from 0-27; scores between 0 and 4 indicate no depression, 5-9 indicate minimal symptoms, 10-14 indicate mild depression, 15-19 indicate moderately severe depression, and score ≥20 indicate severe depression [13]. Reliability and validity studies of PHQ9 indicate that PHQ9 has sound psychometric properties it has high internal consistency. Study of two different patient populations and 6000 participations has shown Cronbach’s alpha of 0.86 and 0.89. Test-retest reliability of PHQ9 has high correlation at r=0.84, discriminant validity of PHQ9 was established by ROC analysis that produced an area under the curve of 0.95 when diagnosing depression [13]. It has high sensitivity and specificity [13]. Since Marathi version of the original Patient health questionnaire was not available, it was translated in Marathi language. The selection of questions was done from the translated version. It was translated in such a way that the meaning of translated question should be same as the meaning of the questions in English. The selected words for framing questions were very familiar to Marathi language. It was again translated back to English to compare the original. Translations were done by doctor who were bilingual. The data collected was tabulated in an excel spreadsheet and subjected to statistical analysis.

RESULTS

In this study, 60 intellectually disabled children and their care givers were included. Considering socio-demographic variables of intellectually disabled children, 51.7% were males and 48.3% females. Most of the children in this study belonged to the age group of 1-18 years (51.7%) and 71.1% were from nuclear family and 28.3% from joint family background. Seventy percent of the children were from rural area and 76.7% children were Hindu followed by 20% Muslim by religion. Sixteen percent children had mild ID, 41% moderate ID, 36% severe ID, 5% had profound ID. (Table 1)

Table 1: Association between Socio-demographic characteristic factors of patients and degree of disability of patients

<table>
<thead>
<tr>
<th>Social demographic characteristics</th>
<th>Degree of Disability</th>
<th>Total</th>
<th>χ² (p value)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mild n=10</td>
<td>Moderate n=25</td>
<td>Severe n=22</td>
</tr>
<tr>
<td>Gender</td>
<td>6 (10.0) (16.7)</td>
<td>12 (20.0) (41.7)</td>
<td>10 (16.7) (36.7)</td>
</tr>
<tr>
<td>Male</td>
<td>6 (10.0) (16.7)</td>
<td>12 (20.0) (41.7)</td>
<td>10 (16.7) (36.7)</td>
</tr>
<tr>
<td>Female</td>
<td>4 (6.7) (6.7)</td>
<td>13 (21.7) (21.7)</td>
<td>12 (20.0) (20.0)</td>
</tr>
<tr>
<td>Age</td>
<td>4 (6.7) (18.3)</td>
<td>11 (18.3) (18.3)</td>
<td>13 (21.7) (21.7)</td>
</tr>
<tr>
<td>&lt;18</td>
<td>4 (6.7) (18.3)</td>
<td>11 (18.3) (18.3)</td>
<td>13 (21.7) (21.7)</td>
</tr>
<tr>
<td>18-50</td>
<td>6 (10.0) (30.0)</td>
<td>13 (21.7) (21.7)</td>
<td>9 (15.0) (15.0)</td>
</tr>
<tr>
<td>&gt;50</td>
<td>0 (0.0) (0.0)</td>
<td>1 (10.0) (10.0)</td>
<td>0 (0.0) (0.0)</td>
</tr>
<tr>
<td>Family Income</td>
<td>5 (8.3) (8.3)</td>
<td>6 (10.0) (10.0)</td>
<td>1 (1.7) (1.7)</td>
</tr>
<tr>
<td>&lt;5000</td>
<td>4 (6.7) (26.7)</td>
<td>18 (30.0) (30.0)</td>
<td>2 (3.3) (3.3)</td>
</tr>
<tr>
<td>5000-20000</td>
<td>1 (1.7) (1.7)</td>
<td>1 (1.7) (1.7)</td>
<td>0 (0.0) (0.0)</td>
</tr>
<tr>
<td>20000-45000</td>
<td>0 (0.0) (0.0)</td>
<td>0 (0.0) (0.0)</td>
<td>0 (0.0) (0.0)</td>
</tr>
<tr>
<td>&gt;45000</td>
<td>0 (0.0) (0.0)</td>
<td>0 (0.0) (0.0)</td>
<td>0 (0.0) (0.0)</td>
</tr>
<tr>
<td>Type of Family</td>
<td>4 (6.7) (6.7)</td>
<td>7 (11.7) (11.7)</td>
<td>5 (8.3) (8.3)</td>
</tr>
<tr>
<td>Nuclear</td>
<td>6 (10.0) (10.0)</td>
<td>18 (30.0) (30.0)</td>
<td>17 (28.3) (28.3)</td>
</tr>
<tr>
<td>Religion</td>
<td>0 (0.0) (0.0)</td>
<td>1 (1.7) (1.7)</td>
<td>1 (1.7) (1.7)</td>
</tr>
<tr>
<td>Buddhist</td>
<td>0 (0.0) (0.0)</td>
<td>1 (1.7) (1.7)</td>
<td>1 (1.7) (1.7)</td>
</tr>
<tr>
<td>Hindu</td>
<td>8 (13.3) (13.3)</td>
<td>16 (26.7) (26.7)</td>
<td>20 (33.3) (33.3)</td>
</tr>
<tr>
<td>Muslim</td>
<td>2 (3.3) (3.3)</td>
<td>08 (13.3) (13.3)</td>
<td>1 (1.7) (1.7)</td>
</tr>
<tr>
<td>Residence</td>
<td>7 (11.7) (11.7)</td>
<td>16 (26.7) (26.7)</td>
<td>17 (28.3) (28.3)</td>
</tr>
<tr>
<td>Rural</td>
<td>3 (5.0) (5.0)</td>
<td>9 (15.0) (15.0)</td>
<td>1 (1.7) (1.7)</td>
</tr>
<tr>
<td>Urban</td>
<td>7 (11.7) (11.7)</td>
<td>16 (26.7) (26.7)</td>
<td>17 (28.3) (28.3)</td>
</tr>
</tbody>
</table>

In our study, most of the caregivers were males (53.3%) than females (46.7%). Seventy percent caregivers were in 26-50 years age group followed by twenty one percent from more than 50 years. Considering family background of caregivers, the majority of caregivers were from nuclear family (71.7%) background and the families whose earning capacities was in between 5000-20000/month were 60%, while 35% families had
less than 5000/ month income. Moreover, caregivers from rural background (70%) form the major group than urban background (30%). On religion basis, 76.7% of caregivers were Hindu by religion (Table 2).

<table>
<thead>
<tr>
<th>Socio-demographic characteristics</th>
<th>Degree of Depression</th>
<th>Total</th>
<th>( \chi^2 ) (p value)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No Depression</td>
<td>Minimal Symptoms</td>
<td>Mild</td>
</tr>
<tr>
<td>Gender</td>
<td>Male</td>
<td>11 (18.3)</td>
<td>8 (13.3)</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>6 (10)</td>
<td>8 (13.3)</td>
</tr>
<tr>
<td>Age</td>
<td>( \leq 25 )</td>
<td>1 (1.7)</td>
<td>2 (3.3)</td>
</tr>
<tr>
<td></td>
<td>26-50</td>
<td>15 (25.0)</td>
<td>9 (15.0)</td>
</tr>
<tr>
<td></td>
<td>&gt;50</td>
<td>1 (1.7)</td>
<td>5 (8.3)</td>
</tr>
<tr>
<td>Family Income</td>
<td>&lt;5000</td>
<td>5 (8.3)</td>
<td>6 (10.0)</td>
</tr>
<tr>
<td></td>
<td>5000-20000</td>
<td>11 (18.3)</td>
<td>9 (15.0)</td>
</tr>
<tr>
<td></td>
<td>20000-45000</td>
<td>0 (0.0)</td>
<td>1 (1.7)</td>
</tr>
<tr>
<td></td>
<td>&gt;45000</td>
<td>1 (1.7)</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>Type of Family</td>
<td>Joint</td>
<td>5 (8.3)</td>
<td>7 (11.7)</td>
</tr>
<tr>
<td></td>
<td>Nuclear</td>
<td>12 (20.0)</td>
<td>9 (15.0)</td>
</tr>
<tr>
<td>Religion</td>
<td>Buddhist</td>
<td>0 (0.0)</td>
<td>1 (1.7)</td>
</tr>
<tr>
<td></td>
<td>Hindu</td>
<td>15 (25.0)</td>
<td>12 (20.0)</td>
</tr>
<tr>
<td></td>
<td>Muslim</td>
<td>2 (3.3)</td>
<td>3 (5.0)</td>
</tr>
<tr>
<td>Residence</td>
<td>Rural</td>
<td>12 (20.0)</td>
<td>11 (18.3)</td>
</tr>
<tr>
<td></td>
<td>Urban</td>
<td>5 (8.3)</td>
<td>5 (8.3)</td>
</tr>
</tbody>
</table>

Majority of caregivers were illiterate (36.7%), while 20% educated up to primary level, 16.7% studied up to SSC level. By occupation, forty one percent of caregivers were labour, 25% were farmer. (Table 3) On PHQ-9 scale, 71.7% of caregivers had depression out of which, 26.6% shows minimal symptoms of depression, 20% had mild depression, while 13.4% had moderately severe depression and 11.6% had major severe depression while 28.3% of caregivers had no depression. Depression was more common in females (36.6%) than males (35%) in our study. Caregivers whose age in between 26-50 years experienced more depressive features (46.7%) than other age groups. Depression found more in caregivers whose family income in between 5000-20000/month (41.7%). Caregivers from nuclear families (51.7%) had more depression than joint families (20%).

A significant association was found between caregiver’s depression and degree of intellectual disability of their children (p value=0.044). The depression was highest among caregivers of children with moderate disability (41.7%) followed by severe disability (36.7%). (Table.4) A significant association was found between associated disability of ID Individuals and caregivers depression (p = 0.14).

**DISCUSSION**

The study was carried out in the out-patient Department of Psychiatry, Dr S.C. Govt. Medical College and hospital. Caregivers, who come to psychiatry department for certification or treatment for behavioural problems of their intellectually disabled child, were recruited after informed consent. In our study, 60 intellectually disabled children and their caregivers were included. Among intellectually disabled children majority were males. Sixteen percent children had mild ID, 41% moderate ID, 36% severe ID, 5% had profound ID. Most of the intellectually disabled children were deprived of schooling because of degree of disability they had.
Table 3: Association between education and occupation of caregivers and degree of depression

<table>
<thead>
<tr>
<th>Social demographic characteristics</th>
<th>Degree of Depression</th>
<th>Total</th>
<th>( \chi^2 ) (p value)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No Depression</td>
<td>Minimal Symptoms</td>
<td>Mild</td>
</tr>
<tr>
<td>Education of the Parent</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illiterate</td>
<td>4 (6.7)</td>
<td>7 (11.7)</td>
<td>3 (5.0)</td>
</tr>
<tr>
<td>Primary</td>
<td>3 (5.0)</td>
<td>3 (5.0)</td>
<td>2 (3.3)</td>
</tr>
<tr>
<td>Secondary</td>
<td>1 (1.7)</td>
<td>2 (3.3)</td>
<td>1 (1.7)</td>
</tr>
<tr>
<td>SSC</td>
<td>5 (8.3)</td>
<td>1 (1.7)</td>
<td>4 (6.7)</td>
</tr>
<tr>
<td>HSC</td>
<td>1 (1.7)</td>
<td>1 (1.7)</td>
<td>1 (1.7)</td>
</tr>
<tr>
<td>Graduate</td>
<td>3 (5.0)</td>
<td>2 (3.3)</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>Post Graduate</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>1 (1.7)</td>
</tr>
<tr>
<td>Occupation of Parent</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>House Wife</td>
<td>2 (3.3)</td>
<td>1 (1.7)</td>
<td>4 (6.7)</td>
</tr>
<tr>
<td>Driver</td>
<td>1 (1.7)</td>
<td>0 (0.0)</td>
<td>1 (1.7)</td>
</tr>
<tr>
<td>Farmer</td>
<td>6 (10.0)</td>
<td>4 (6.7)</td>
<td>1 (1.7)</td>
</tr>
<tr>
<td>Labour</td>
<td>4 (6.7)</td>
<td>10 (16.7)</td>
<td>4 (6.7)</td>
</tr>
<tr>
<td>Private Job</td>
<td>1 (1.7)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>Retired Teacher</td>
<td>1 (1.7)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>Saloon</td>
<td>0 (0.0)</td>
<td>1 (1.7)</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>Self employed</td>
<td>1 (1.7)</td>
<td>0 (0.0)</td>
<td>1 (1.7)</td>
</tr>
<tr>
<td>Shopkeeper</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>1 (1.7)</td>
</tr>
<tr>
<td>Tailor</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>Welder</td>
<td>1 (1.7)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
</tr>
</tbody>
</table>

Table 4: Association between Degree of Severity of ID and Depression

<table>
<thead>
<tr>
<th>PHQ-9 Score</th>
<th>Degree of Disability</th>
<th>Total</th>
<th>( \chi^2 ) (p value)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mild</td>
<td>Moderate</td>
<td>Severe</td>
</tr>
<tr>
<td>No Depression</td>
<td>3</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Minimal Symptoms</td>
<td>2</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Minor Depression, Mild</td>
<td>5</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Major Depression, Moderately Severe</td>
<td>0</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Major Depression, Severe</td>
<td>0</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>10</td>
<td>25</td>
<td>22</td>
</tr>
</tbody>
</table>

Most of the caregivers were unaware of the educational facilities available for their children and this could be another reason due to which these children are deprived of schooling. Hence every mental health professional should make them aware about facilities like special education in special schools.

In our study, 71.7% of caregivers of intellectually disabled children were at risk of depression as derived from PHQ9 score, this finding is consistent with other studies [10-11, 15-16]. In one study [16], 85% of the mothers of the mentally retarded suffer from depression. Moreover, Solomon study noted 72.1% of caregivers of were at risk of depression [17]. The depression seen in Indian studies is more than the studies done around the world15. Having a child with intellectual disability, a family faces many challenges such as psychological
distress, interactive family issues, disturbed schedules and additional expenses, which can create financial burden on family and there requires a reorientation and re-evaluation of family goals, responsibilities and relationships [18-20]. Those caregivers of ID children who were diagnosed as having depression they needed mental health services and support. Finding predicting factors of depression among caregivers of intellectually disabled child may help in identifying those caregivers who need special care by mental health professional to reduce their risk of psychological distress.

In our study sample, depression was more common in female caregivers (36.6%0) than male caregivers. This finding is in consistent with previous studies [10,20]. As in Indian culture the female have high social responsibilities and they are the primary care takers of their children. Within that context, in nuclear families, stress and care demands are expected to be strongest for females [20-21]. Accordingly, females are more vulnerable to the psychological distress associated with child’s behavioural problems [22]. Researchers have noticed [23] that 22% of female visited doctor concerning about their psychological problems are due to their children. From the observations and results it can be concluded that, there is direct correlation between degrees of disability in intellectually disabled child with level of depression in caregivers. The levels of depression were more in caregivers whose ID child had moderate to severe disability. This was statistically found significant. Similar findings have been shown in previous studies [20,24]. As the severity of disability in ID child increases, the child may face impairments in different areas of adaptive functioning like self-care, academic, home living, use of community resources etc. and within that context, the more special care requires from caregivers that leads to additional burden on caregivers which may result in psychological distress.

In our study, the maximum number of caregivers is from the age group of 26-50 years. This finding is in consistent with a study [24] in which they found maximum number of caregivers were from the age group of 36-50 years. In our study this age group had more risk of depression than other age group. This may be due to, the caregivers in younger age group could have more worries about their intellectually disabled child’s future and this may predispose them to depression. From observations it can be concluded that, caregivers from nuclear family background had higher levels of risk of depression as compared to caregivers from joint family background. In joint family there are other family members who can help to take care of ID child but in nuclear family the burden of care of ID child remain on alone which may attribute to psychological distress among caregivers from nuclear family background. Moreover, the risk of depression was higher among the illiterate and primarily educated caregivers from the study sample.

Limitations

- Small sample size
- This study is hospital based conducted in single locality, so that bias may have occurred in selection of sample population hence, it would be difficult to ascertain if the risk of depression of caregivers would be the same or different from other localities.

CONCLUSION

The prevalence of depression among caregivers of children with intellectually disabled was higher in this study. The risk of depression was higher in female caregivers as compared to male caregivers. Therefore, there is need to develop support system to prevent the risk of depression in the caregivers of intellectually disabled children.

REFERENCES


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Impact of Neuroticism on Alexithymia and Marital Satisfaction Among Married Men and Women

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²Assistant Professor, Department of Psychology, Smt. Maniben M.P. Shah Women’s College of Arts and Commerce, Mumbai.

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Email – khushs1994@gmail.com

ABSTRACT

Background and Objectives: The present study focused on three variables namely Neuroticism, Alexithymia and Marital Satisfaction. Neuroticism is a general tendency to experience negative affect, and people high in Neuroticism are prone to have irrational ideas, be less able to control their impulses, and to cope more poorly than others with stress. Alexithymia, on the other hand, is seen as a cluster of deficits in the experiencing, expression and regulation of emotions. Marital Satisfaction is often defined as the attitude an individual has toward his or her marital relationship. The aim of the present study was to study the impact of Neuroticism on Alexithymia and Marital Satisfaction among Married Men and Women. In addition, the study also explored the relationship between Alexithymia and Marital Satisfaction.

Methods: The study was conducted on fifty married heterosexual couples (50 Males, 50 Females) to examine the impact of Neuroticism on Alexithymia and Marital Satisfaction. A convenient, snowball sampling method was used to get responses from 100 participants. The three variables were studied using three tests, one for each variable. These consisted of Eysenck Personality Questionnaire-Revised, 20 item Toronto Alexithymia Scale (TAS-20) and Enrich Marital Satisfaction Scale.

Results: All the three statistical analyses were found to be significant and in line with the results. The results supported the hypotheses and thus implicated that Neuroticism does have an impact on Alexithymia and Marital Satisfaction among married couples.

Conclusion: Further studies in larger samples are need to establish and corroborate the findings of the study.

Keywords: Neuroticism, Alexithymia, Marital Satisfaction.

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(accepted – 24th January 2018)

INTRODUCTION

Three perspectives that have largely influenced the study of marriage have been discussed here in this paper viz.

Social Exchange Theory: This theory draws from Thibaut and Kelley's theory of interdependence [1] and it states that "relationships grow, develop, deteriorate, and dissolve as a consequence of an unfolding social-exchange process, which may be conceived as a bartering of rewards and costs both between the partners and between members of the partnership and others" [2]. According to this perspective, “marriages end when the attractions of the relationship are few, the barriers to leaving the relationship are weak, and the alternatives to the relationship are enticing”. Using these ideas, Lewis and Spanier [3] formed an exchange typology of marital relationships according to which marriages can be satisfied and stable, satisfied but unstable, unsatisfied but stable, or unsatisfied and unstable.
**Behavioural Theory:** The basic elements of this theory of marriage are rewards and costs. However, it focuses on interpersonal exchange of behaviours that are specific. Research has concentrated on behaviours that are exchanged during problem-solving discussions. It has been guided by the assumption that positive behaviours enhance evaluations of marriage whereas negative behaviours do harm to it [4-5]. This model suggests that cognitive responses have an impact on marriage by influencing subsequent interaction behaviours. Over time, the accumulation of experiences during and after interaction is thought to gradually influence spouses’ judgments of marital quality [6-7].

**Attachment Theory:** This theory of marriage is influenced by Bowlby’s [8] work on relationships between infants and their primary caregivers. Bowlby suggested that initial close relationships provides a framework to the child about how close relationships are like, which in turn determines an individual’s close relationships throughout life. Three major attachment styles emphasized by this theory are secure attachment (usually seen between mothers and infants, considered to be the ideal style), anxious-ambivalent attachment (inconsistently responsive parents whose children simultaneously crave and resent the caregiver) and anxious-avoidant attachment (irresponsive parents whose children avoid the caregiver without any separation distress).

**Marital Satisfaction and Alexithymia**
Given the importance of emotion in relationships [9] and emotional compatibility between couple partners [10], it seems plausible that alexithymia would be a contributing factor to the quality of couples’ relationships. Clinical reports have suggested that, when entering into a close relationship with someone who is highly alexithymic, those who are unfamiliar with the construct’s characteristics can initially be misled by observations of a highly functioning and successful individual who seems super-adjusted [11]. When partnered with such individuals, relationships often start well; however, interpersonal difficulties may arise when the couple’s interactions cannot move past superficial functioning and communication to a deeper and more emotionally meaningful connection, which may be particularly difficult for a partner who is more emotionally aware and expressive [12].

**Marital Satisfaction and Neuroticism**
In a review of literature on personality and marriage, it was concluded that Neuroticism was the trait most strongly associated with negative marital outcomes [13]. It has been demonstrated that high Neuroticism prior to marriage was strongly predictive of marital dissatisfaction and divorce over 45 years [14]. Two theoretical perspectives can explain this link. First, interpersonal models [13] suggest that those higher in Neuroticism should be less satisfied with their relationships because they tend to create negative life events through negative behaviour and emotional contagion. Second, intrapersonal models [14] suggest that those higher in Neuroticism are less satisfied with their relationships because they are less satisfied with their lives generally, possibly because they perceive life events more negatively.

**Marital Satisfaction, Neuroticism and Alexithymia: Interrelationships**
Since all the constructs discussed above has as their core the interplay of emotions, it becomes crucial to analyse the relationships they share. This is to say that, marital satisfaction, alexithymia and neuroticism, though in direct or indirect relationship, strong or weak magnitude, positive or negative light; share the complex interrelations woven by the most basic and most important construct that makes us undoubtedly human: emotions. The aim of the present study was to study the impact of Neuroticism on Alexithymia and Marital Satisfaction among Married Men and Women. The study was done in order to understand the role played by Neuroticism in determining Alexithymia and Marital Satisfaction among Married Men and Women and to study if there existed any relationship between Alexithymia and Marital Satisfaction among Married Men and Women.

**Hypotheses:**
H1: There is a difference in the level of Alexithymia between individuals with high Neuroticism and those with low Neuroticism.
H2: There is a difference in the level of Marital Satisfaction between individuals with high Neuroticism and those with low Neuroticism.

**METHODOLOGY**

**Participants:** Fifty heterosexual couples married for 5 years to 25 years were used as participants. The participants were recruited using snowball and convenient sampling.

**Controls:** A sample size of 100 participants required few controls to ensure the significance of data that was obtained. The sample was restricted to Mumbai city and included only those couples who were married for 5 to 25 years. Moreover, the sample excluded those couples who had undergone divorce or were remarried. Lastly, the sample was matched on their socio-economic background to maintain the comparison of data.

**Operation Definition of Variables:**

1. **Neuroticism:** It is defined as a general tendency to experience negative affect. Individuals with scores below 4 on EPQ-R (Neuroticism) would be considered as being low on the factor of Neuroticism, whereas those with a score above 7 on EPQ-R (Neuroticism) would be considered as having higher levels of Neuroticism.

2. **Alexithymia:** It refers to several difficulties that people face with respect to aspects of emotions i.e. identifying emotions, describing it as well as expressing it. It is measured using a 20 item Toronto Alexithymia Scale. Individuals with a score of 50 and below would be considered as Non-Alexithymics whereas those with a score of 61 and above would be considered as Alexithymics.

3. **Marital Satisfaction:** In this study, it refers to the mental state that reflects the perceived benefits and costs of a particular person, married people are either happy, and enjoying their marriages or they are not, here we refer to their level of satisfaction within their marriage as they view it. It is measured by means of a 15 item ENRICH Marital Satisfaction Scale which has been found to have good reliability and validity.

**Tools:**

Neuroticism, Alexithymia and Marital Satisfaction are broad constructs, each requiring special attention for a detailed review. Hence, three separate scales, one for each variable, will be used in this study. These three scales are as follows:

1. **Eysenck’s Personality Questionnaire Revised (EPQ-R)**
   To assess the couple’s Neuroticism levels, Eysenck Personality Questionnaire - Revised (EPQ-R) will be used. The 90-item Eysenck Personality Questionnaire (EPQ) is a self-report measure that operationalizes Eysenck's model of personality. The EPQ measures three traits of personality along with an additional lie scale. These are: Psychoticism (P), Extraversion (E), Neuroticism (N) and Lie Scale (L). Reliability ranges are 0.80 to 0.90 and validity of test is satisfactory. EPQ-R contains 90 items and covers all the four categories above mentioned. Scoring of EPQ-R can be done manually or with the help of stencils. A score of 1 is given for each correct response (correct responses according to scoring key). After calculation of raw scores of P, E, N, L, there is a conversion table to convert raw scores into Sten Scores. The score of 5-6 denotes average strength of the factor (P, E, N, L); scores above 6 i.e. from 7- 10 express gradually the greater strength of the factor and scores below 5, i.e. from 1-4 indicates gradual decrease of strength [16].

2. **Twenty Item Toronto Alexithymia Scale (TAS-20)**
   This scale contains 20 items, and the most widely used to gauge Alexithymia. It is a self-report test that utilizes a 5 point Likert scale [17]. Scores can range from 20 to 100 with the higher numbers representing a higher tendency for the Alexithymia construct [18]. The TAS-20 yields three factors in the most widely accepted format. It has an alpha coefficient greater or equal to 0. 70 which is a recommended standard for establishing internal reliability [19]. With regard to validity, the TAS-20 scale does appear to have discriminate validity. The total alexithymia score is the sum of responses to all 20 items, while the score for each subscale factor is the sum of the responses to that subscale. The TAS-20 uses cutoff scoring: equal to or less than 51 = non-alexithymia, equal to or greater than 61 = alexithymia. Scores of 52 to 60 = possible alexithymia. It is divided into 3 subscales: Difficulty Describing Feelings (DDF) 5 items (questions 2, 4, 7,
12, 17); Difficulty Identifying Feeling (DIF) subscale 7 items (questions 1, 3, 6, 11, 9, 13, 14); Externally-Oriented Thinking (EOT) subscale is used to measure the tendency of individuals to focus their attention externally 8 items (questions 5, 8, 10, 15, 16, 18, 19, 20)

3. **Enrich Marital Satisfaction Scale**
The EMS Scale is a 15-item scale comprising the Idealistic Distortion (5 items) and Marital Satisfaction scales (10 items). Each of the 10 Marital Satisfaction items represents one of the areas of the marital relationship assessed by the full-length ENRICH Inventory (e.g., communication or sexual relationship). Thus, the EMS Scale provides a 1-item sampling of the 10 dimensions of marital satisfaction found to be most important whose conclusions about the important domains of marital satisfaction provide an indication of the content validity of the EMS Scale. The 5 items from the Idealistic Distortion scale constitute a marital conventionalization scale. It is a modified version of the Edmonds Marital Conventionalization Scale [20]. It correlates highly with other scales that measure marital conventionalization and has an alpha coefficient of 0.92 and a 4-week test-retest reliability of 0.92. The score on this scale is used to correct the Marital Satisfaction scale score on the basis of the degree to which the respondent portrays the marriage in an impossibly positive way. The EMS Scale provides a score for each partner. This score is derived by first scoring the Marital Satisfaction and Idealistic Distortion scales, then correcting the Marital Satisfaction score downward on the basis of the person’s idealistic Distortion score [21].

**Research Design:**
The variables of this study i.e. Neuroticism, Alexithymia and Marital Satisfaction were studied in different combinations. Hence, this research consisted of a quasi-experimental and correlational design. A causal relationship was studied to see the impact of Neuroticism on Alexithymia and Marital Satisfaction among Married Couples. Moreover, it was also seen whether any relationship existed between Alexithymia and Marital Satisfaction.

**Procedure:**
Hundred participants were recruited for the study using snowball and convenient sampling. The participants consisted of fifty heterosexual married couples (50 Males, 50 Females). After the participants were recruited, they were informed about the study to be conducted and they were given a set of questionnaires to fill. Firstly, the participants were asked for their consent to participate in the study by giving them a consent form. After that, they were instructed to provide their demographic details and fill the questionnaires honestly since there was no right or wrong answers. They were assured about the confidentiality of their responses. Depending on the participant’s convenience, the questionnaires were either filled on the spot or they were given to them to take it at home and return it when they were done filling it. Queries were responded to via email and the data was collected. Those participants who had expressed a wish to know their results were contacted once the data analysis was over and were given their results.

**STATISTICAL ANALYSIS**

1. Two t-tests were conducted in this study. It was done in order to determine if the mean difference between the two groups was significant or not. After screening the participants on Neuroticism, one t-test was conducted to see whether significant difference existed between scores of Neuroticism and Alexithymia, and the other t-test took into consideration Neuroticism and Marital Satisfaction Scores.

2. Pearson’s Product Moment Correlation was conducted by taking into consideration Alexithymia and Marital Satisfaction and to see the pattern of relationship they shared with each other.

**RESULTS**

Indian Journal of Mental Health 2019;6(1)
Table 1 indicates the calculated means and standard deviations for Alexithymia and Marital Satisfaction for individuals with low and high scores on Neuroticism.

**Table 1 Calculated Means and Standard Deviations for the respective variables**

<table>
<thead>
<tr>
<th></th>
<th>Neuroticism</th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alexithymia</td>
<td>Low</td>
<td>45</td>
<td>44.02</td>
<td>9.79</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>55</td>
<td>56.67</td>
<td>10.49</td>
</tr>
<tr>
<td>Marital Satisfaction</td>
<td>Low</td>
<td>45</td>
<td>57.56</td>
<td>6.69</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>55</td>
<td>49.03</td>
<td>13.39</td>
</tr>
</tbody>
</table>

With respect to the above table, it can be seen that the mean Alexithymia scores for individuals who scored low on Neuroticism was 44.02 and for those who scored high on Neuroticism was 56.67. Standard Deviations for the same were found to be 9.79 and 10.49 respectively. In addition, the mean Marital Satisfaction scores for those with low Neuroticism was 57.56 and those with high Neuroticism was 49.03 and the Standard deviations for the same were 6.69 and 13.39 respectively.

**Table 2 Mean differences in Alexithymia and Marital Satisfaction between individuals with Low and High Neuroticism**

<table>
<thead>
<tr>
<th></th>
<th>t</th>
<th>df</th>
<th>Sig. (2 tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alexithymia</td>
<td>-6.182</td>
<td>98</td>
<td>.0001</td>
</tr>
<tr>
<td>Marital Satisfaction</td>
<td>3.895</td>
<td>98</td>
<td>.0001</td>
</tr>
</tbody>
</table>

In order to determine if there existed a significant difference between the means of the two groups each on Alexithymia and Marital Satisfaction, two independent samples t-test were conducted. As can be seen from table 2, the mean difference between the two groups on Alexithymia i.e. Alexithymia scores of individuals with low Neuroticism and high Neuroticism was found to be -6.18 which was significant at 0.01 level \( t(98) = -6.18, p < 0.01 \). Hence, a significant relationship existed between the two groups. Similarly, the mean difference between the two groups on Marital Satisfaction i.e. those with high and low Neuroticism was found to be 3.90 and it was also significant at 0.01 level of significance \( t(98) = 3.90, p < 0.01 \). Thus, there existed a significant difference between the means of the two groups.

**Table 3 Pearson’s Product Moment Correlation between Alexithymia and Marital Satisfaction Correlations**

<table>
<thead>
<tr>
<th></th>
<th>Alexithymia</th>
<th>MS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alexithymia</td>
<td>Pearson Correlation</td>
<td>1</td>
</tr>
<tr>
<td>Marital Satisfaction</td>
<td>Pearson Correlation</td>
<td>-.394**</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).**

The present study was also conducted to determine if there existed any relationship between Alexithymia and Marital Satisfaction. In order to determine this relationship, Pearson’s Product Moment Correlation was conducted between Alexithymia and Marital Satisfaction. As can be seen in
table 3, the Pearson’s r value obtained was -0.39 and it was found to be significant at 0.01 level of significance. (r = -0.39, p < 0.01). Thus, there existed a very strong negative relationship between the two variables.

**DISCUSSION**

The existing results are in line with the findings of other research conducted on the mentioned variables i.e. Neuroticism and Alexithymia. Some findings relevant to the present study are as follows. Rubino and others [22] reported a significantly higher level of Alexithymia in neurotic and delusional patients than in psychosomatic patients, and concluded that Alexithymia is not a non-neurotic personality dimension. Espina [23] investigated Alexithymia among parents of daughters with eating disorders (EDs) and related Alexithymia to personality and psychopathology characteristics. Parents of 73 women with ED and parents of 72 normal women were evaluated with the Toronto Alexithymia Scale (TAS-20), the Eysenck Personality Questionnaire, the Beck Depression Inventory and the Self-Rating Anxiety Scale. It was found that the parents of daughters with ED showed higher scores in the TAS-20 and its factors than the controls. TAS-20 scores of parents were associated with Neuroticism, Anxiety and Depression.

Hypothesis two stated that “There is a difference in the level of Marital Satisfaction between individuals with high Neuroticism and those with low Neuroticism”. A two-tailed t-test was conducted between the mean Marital Satisfaction scores of individuals who had higher levels of Neuroticism and those with low Neuroticism. Results revealed that the mean differences between these two groups were highly significant. In other words, the results supported the hypothesis indicating that Neuroticism also tends to have an impact on one’s level of satisfaction within a marriage.

Cramer [24] in a large scale, nationally representative 1984/5 Health and Lifestyle Survey of British adults, found that Neuroticism and Extraversion (as measured by the Eysenck Personality Inventory) were higher in the 200 women and 99 men who had separated or divorced than in the 1836 women and 1734 men who remained married. When such potentially confounding factors as the Lie scale score, age and social class were partialled out, Neuroticism and Extraversion remained greater in the women but not the men who had separated or divorced. Although not large, the findings provide further support that these personality factors may be involved in marital dissolution.

Karney and Bradbury [13] reported in their meta-analytic review that Neuroticism exerted consistent long-term effects on the Marital Satisfaction of wives and husbands. These results refer to so-called actor effects, that is, how the Neuroticism of the individual person affects his or her individual satisfaction with the relationship. In relationship research, however, the complementary perspective is of interest, too: How does a person’s personality affect the relationship satisfaction of his or her partner? Malouff and others [25] investigated these so-called partner effects in a meta-analysis and found that Neuroticism again showed an average correlation with the partner’s Relationship Satisfaction.

Caughlin, Huston, and Houts [26] investigated dysfunctional interpersonal behaviours such as negatively valenced communication (i.e. criticism, complaints, expression of anger) in a 13-year longitudinal study with newlywed couples, they found that initial neuroticism consistently predicted Marital Negativity, which in turn was associated with partner’s Marital Dissatisfaction. McNulty [27] argued that Neuroticism leads to negative relationship outcomes because neurotic people create negative interpersonal experiences through reciprocity effects of their own negative behaviours. In particular, he assumed that a person’s negative behaviours would lead to negative partner behaviours and that negative expectancies would lead to biased perceptions of interpersonal behaviours, which in turn would result in lower satisfaction in neurotic individuals. McNulty found partial support for his assumptions and drew conclusions about the importance of Neuroticism for biased cognitive processes.

Hanzal and Segrin [28] highlighted the impact that communication processes have at a dyadic level in marital relationships. They examined the role of Negative Affectivity and Conflict Styles on newlywed couples’ marital satisfaction. The vulnerability-stress-adaptation (VSA) model of marital development was used to explain relationships between enduring vulnerabilities, adaptive processes, and marital quality. Dyadic analyses and tests of mediation were performed on data from 194 couples in the first 5 years of their marriage. Results indicated that wives’ negative affectivity was significantly associated with their own lower
Marital Satisfaction and husbands' lower Marital Satisfaction. However, husbands' negative affectivity was only associated with their own lower Marital Satisfaction. For all spouses, negative affectivity was associated with a tendency to engage in more dysfunctional conflict styles. Tests of mediation indicate that positive problem solving, and to a lesser extent, conflict engagement, and withdrawal were able to partially explain the relationship between negative affectivity and marital quality.

In order to see whether any relationship existed between Alexithymia and Marital Satisfaction, the following research question was asked: “Is there any relationship between Alexithymia and Marital Satisfaction?” For this purpose, a Pearson's Product Moment Correlation was conducted between the two variables and the r value was found to be statistically significant indicating that the two variables shared a very strong negative relationship with each other. In other words, Alexithymia and Marital Satisfaction were inversely related to each other i.e. increase in one variable led to decrease in the other variable and vice versa. Some of the possible reasons for the above found relationship could be found in the theories and findings of earlier researches which are as follows.

Li and Fung [29] proposed the dynamic goal theory of Marital Satisfaction to integrate previous findings about Marital Satisfaction from a life span developmental perspective. The theory argues that people have multiple goals to achieve in their marriage. These marital goals can be classified into three categories: personal growth goals, companionship goals, and instrumental goals. The priority of the three types of marital goals is under dynamic changes across adulthood. The theorists believe that young couples emphasize the personal growth goals, middle-aged couples prioritize the instrumental goals, and old couples focus on the companionship goals. Whether the prioritized marital goals are achieved in marriage or not determines Marital Satisfaction. Tramilton [30] on the other hand, believes that marriage is a complex and complicated situation and that if done right, can lead to a rewarding lifetime of fulfillment, companionship and joy. He argues that there are six components that bring about Marital Satisfaction, one of which is affection. However, people with Alexithymia find it difficult to identify affection provided by their partners which prevents them from experiencing satisfaction and they also find it difficult to express affection to their partners which their partners from experiencing satisfaction in their relationship and thus not communicating affect can be a stumbling block for Marital Satisfaction.

McNeill [31] investigated Alexithymia in 170 community couples in association with their empathy provided, empathy received, emotional connection components (i.e., turn toward, turn away, turn against, positive emotional connection), and relationship dissatisfaction. Toronto Alexithymia Scale (TAS-20), Barrett-Lennard Relationship Inventory, and revised Marital Satisfaction Inventory were used. Findings indicated that husbands' and wives' own TAS-20 scores predicted all of their own outcome variables in the expected positive and negative directions. Relationally, husbands' and wives' TAS-20 scores predicted higher partner relationship dissatisfaction.

Yelsma and Marrow [32] investigated a sample of 66 married couples to examine the impact of difficulties with emotional expressiveness on Marital Satisfaction. The Toronto Alexithymia Scale and the Dyadic Adjustment Scale was used. Results from 2 piece-wise regression models indicated that both husbands' and wives' difficulties with emotional expressiveness impaired their own, as well as their spouses' Marital Satisfaction. These findings suggest when either husbands or wives have lower levels of emotional expressiveness than their partners, their Marital Satisfaction will be negatively influenced, irrespective of the gender.

A possible reason for the obtained finding could be cultural influence and socialization. In Indian culture, females are expected to be more expressive than males. Moreover, this very expectation is inculcated into the socialization process with such intensity that it becomes difficult for the individual to go against the societal norms. Hence, this could be a possible base to higher Alexithymia in males than in females. Moreover, this implied expectation, harsher for males, tends to create a personal conflict within them regarding the decision to express or not to express emotions, thus leading them to experience Neuroticism, and hence the finding that men with high Neuroticism tend to be more Alexithymic than women. Thus, gender seems to have a major influence on one’s Neuroticism and Alexithymia, which are both found to have an influence on Marital Satisfaction. Moreover, several other factors could influence this relationship like age, type of family, interaction and communication patterns, socioeconomic status, etc. These factors...
could be studied in different combinations to see the ways in which they could influence the interrelationship between these variables. Moreover, future research which would be conducted would be able to provide implications for how the relationship is shaped by cultural factors and the major underlying factors could in turn be utilized to tackle the problems arising out of the imbalance of these variables and its toll on Marital Satisfaction and lastly, it could be used in helping the couples increase their relationship satisfaction. Lastly, this thesis will add to the understanding of the impact of Neuroticism on Alexithymia and Marital Satisfaction and the relationship between these two dependent variables among married men and women. However, there are a few limitations to the current study and these should be taken into consideration.

**Limitations**

Neuroticism is a very important component of the big five personality constructs and studies have shown the impact of one variable on other big five constructs. However, in the current study, only Neuroticism was focused upon as an important variable impacting Alexithymia and Marital Satisfaction. Thus, further work can be done by taking into consideration the impact of other big five constructs on the dependent variables. In addition, even if it is assumed that the participants would have responded honestly to the test items, it is more likely that the responses would not be as honest on the scale of Marital Satisfaction. This can be seen from the participants' scores on Idealistic Distortion sub scale of ENRICH Marital Satisfaction Scale. The responses were distorted so as to present the Marital Satisfaction in a very positive light and hence the significance of the results pertaining to this remains a question. Moreover, Marital Satisfaction includes several components like intimacy, sexual satisfaction, compatibility, adjustment and so on. However, these components were not studied separately in the present study. Lastly, the construct of Alexithymia has three major components—difficulty in describing feelings, difficulty in identifying feelings and externally oriented thinking. These components were not taken separately and instead were studied as a whole. This could have limited the scope of the present study. Despite the above-mentioned limitations, the present study still provides implications and applications for the obtained findings.

**REFERENCES**


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Original Research Article

Cognitive impairment in OCD patients – an exploratory study

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ABSTRACT

Background and Objectives: OCD is one of the most debilitating psychiatric conditions with complex etiopathological profile causing interference with a wide range of social and cognitive demands. Neuro-Psychological and neuro-imaging studies on OCD patients have implicated that the frontal cortex and subcortical structures are involved in this disorder and testing has revealed evidence of impairment in visuo-spatial abilities, non-verbal memory and executive function. To evaluate cognitive impairment in Obsessive Compulsive Disorder patients.

Methods: Thirty patients who presented to Psychiatry Department of Dayanand Medical College and Hospital, Ludhiana with diagnosis of OCD as per ICD-10 were taken up for the study. Cognitive impairment was assessed using PGI brain dysfunction battery designed for Indian population by Dwarka Pershad and Santosh K. Verma (3rd edition 2015). PGI brain dysfunction battery is a measure of cognitive impairment consisting of: Verbal Adult intelligence scale, Revised Bhatia short battery of performance tests of intelligence, PGI memory scale, Nahor Benson test, Bender Visuo-Motor Gestalt test. Those patients who had any major medical disorder or any other Psychiatry disorder on AXIS-I were excluded from the study.

Results: In the present study, dysfunction was noticed in areas of immediate recall, abstract thinking, arithmetical ability in verbal intelligence subscale and in visuo-motor coordination. These all areas are executive functions of frontal lobe. This shows that OCD patients are having difficulty in calculations due to interference of the obsessive symptoms, though their attention and concentration were found intact. Visuo-motor coordination problem may be due to compulsive tendency due to which overlap, perseveration and partial rotation were found dysfunctional.

Conclusion: Since OCD is highly distressing to the patient, the superadded cognitive dysfunctions such as memory impairment, abstract thinking, impairment in visuo-motor coordination further worsens the outcome of the illness. So, early identification of these dysfunctions would provide considerable benefit to the patients.

Keywords: Obsessive compulsive disorder, cognition, executive functioning.

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(Accepted – 24th November 2018)

INTRODUCTION

Obsessive Compulsive Disorder (OCD) is one of the most debilitating psychiatric conditions which complex etio-pathological profile cause interference with a wide range of social and cognitive demands [1]. OCD has emerged as fine most prominent mental disorders associated with greatest worldwide disability because of the increasing awareness regarding cognitive impairment in OCD. Brain regions implicated to be involved in pathogenesis of OCD are orbitofrontal cortex, anterior cingulated cortex, basal ganglion, thalamus and
some limbic structures [2]. There is a range of evidence that cortico-striatal thalamic cortical system (CSTC) is disrupted in OCD. CSTC plays a crucial role in the implicit learning of procedural strategies, and their subsequent automatic execution. Neuropsychological testing shows that there is impairment in visuo-spatial abilities [3], non-verbal memory [4] and executants functioning [5]. Poor decision making and mental flexibility [6]. Executive function deficits in OCD are linked to poor decision-making processes related to orbito-frontal cortex. Many studies have documented a correlation between OCD and spatial working memory particularly for difficult task. Most of the studies regarding cognitive functioning impairment are done in west and limited data is available in India so the present study was planned to find the different domains of cognition which are affected in OCD. The study was aimed at evaluating cognitive impairment in patients with OCD.

METHODOLOGY

A total of 50 patients who presented to Psychiatry Department of Dayanand Medical College and Hospital, Ludhiana with diagnosis of OCD as per ICD-10 were taken up for the study after obtaining the informed consent. Cognitive impairment was assessed using PGI brain dysfunction battery designed for Indian population by Dwarka Pershad and Santosh K. Verma (3rd edition 2015). PGI brain dysfunction battery is a measure of cognitive impairment consisting of: Verbal Adult intelligence scale, Revised Bhatia short battery of performance tests of intelligence, PGI memory scale, Nahor Benson test, Bender Visuo-Motor Gestalt test. Those patients who had any major medical disorder or any other Psychiatry disorder on AXIS-I were excluded from the study. Total time taken is approximately two hours.

Parameters taken for analysis:
1. socio-demographic data
2. cognitive functioning

RESULTS

Table 1 – Socio-demographic data

<table>
<thead>
<tr>
<th>AGE (years)</th>
<th>N-50</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 30</td>
<td>7</td>
<td>14%</td>
</tr>
<tr>
<td>31-40</td>
<td>27</td>
<td>54%</td>
</tr>
<tr>
<td>41-50</td>
<td>6</td>
<td>12%</td>
</tr>
<tr>
<td>&gt;51</td>
<td>10</td>
<td>20%</td>
</tr>
</tbody>
</table>

DISCUSSION

In socio demographic profile, most of the patients were in the age group between 31-40 (54%) and majority of them were educated up to matric (66%). In the present study the most common dysfunction was found in arithmetic ability parameter 70%. Such kind of patients shows more confusion and inability to calculate. It may be due to symptoms of OCD where patient is indecisive. This further lead to inability to meet responsibilities of their day to day life. Literature also supports this fact that OCD patients have impaired memory, poor recall and impairment in retrieving autobiographical memories [7-8]. Significant dysfunction was observed on visuo- motor co-ordination on Bender Visuo- motor coordination test and Nahor Benson Test (30% each) which reflects difficulty in performing motor activities comfortably in day to day activity.
Table 2 – Cognitive impairment in patients with OCD

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>Score</th>
<th>percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>REMOTE Memory</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>RECENT Memory</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>MENTAL Balance</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Attention and concentration</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Delayed Recall</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Immediate Recall</td>
<td>6</td>
<td>20%</td>
</tr>
<tr>
<td>Retention of SIMILAR pairs</td>
<td>6</td>
<td>20%</td>
</tr>
<tr>
<td>Retention of DISSIMLAR pairs</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Visual Retention</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Recognition</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>P/K X100</td>
<td>3</td>
<td>10%</td>
</tr>
<tr>
<td>PERFORMANCE Quotient</td>
<td>12</td>
<td>40%</td>
</tr>
<tr>
<td>T.Q on information</td>
<td>6</td>
<td>20%</td>
</tr>
<tr>
<td>T.Q on digit span</td>
<td>3</td>
<td>10%</td>
</tr>
<tr>
<td>T.Q on arithmetic</td>
<td>21</td>
<td>70%</td>
</tr>
<tr>
<td>T.Q on comprehension</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Performance Quotient – Verbal Quotient</td>
<td>6</td>
<td>20%</td>
</tr>
<tr>
<td>Nahor-Benson test</td>
<td>9</td>
<td>30%</td>
</tr>
<tr>
<td>Bender-Gestalt test</td>
<td>9</td>
<td>30%</td>
</tr>
</tbody>
</table>

This may be due to compulsive acts which the patient shows in their routine functioning. They were also showing significant difficulty in memory functioning in areas of immediate recall and retention of similar pairs (20% each). The literature also responds that significant Neuropsychological deficits in OCD consists primarily of executive deficits [9], involving frontal striatal system dysfunction [10], impairment in visuospatial abilities and non-verbal memory [11-12].

Literature also showed specific cognitive deficits on tasks of executive and visual motor functions which are similar to performance of patients with frontal lobe excision and sub cortical pathology suggesting that the underlying dysfunction of frontal striatal system [13].

The above findings emphasize the need of comprehensive guidelines including pharmacological psychosocial management and family therapy to cover the entire spectrum of dysfunction in OCD patients.

CONCLUSION

Since peak of responsibilities are at age range of 30-40 years and due to illness, the suffer is not able to meet their responsibilities leads to additional enhancement in anxiety and frustration with the treatment process leading to possibility of relapses, dissatisfaction with the treatment process, drop outs and resistance to treatment leading to further morbidity.

REFERENCES


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Prevalence of Depression in Patients with MDR TB

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ABSTRACT

Background and Objectives: Despite being preventable, treatable, and curable, tuberculosis (TB) remains a leading cause of mortality worldwide, with 95% of deaths occurring in low-income countries [1]. There is limited information on the joint effect of TB and depression on health status of general population. The aim of this study is to assess the prevalence of Depression in patients of MDR TB and to study the demographic constitution and related factors of the patients with MDR TB.

Methods: This study was cross sectional survey conducted to study the prevalence of Depression in patients of MDR TB referred for psychiatric evaluation. Data was collected over a period of 3 month (July 18 to September 18) and study setting was the outpatient Department of Psychiatry at Mahatma Gandhi Missions Medical College, Kamothe, Navi Mumbai.

Results: It was found that depression was found in 52% of the patients ranging from mild to moderate and severe depression using PHQ 9 questionnaire

Conclusion: Depressive and anxiety symptoms are common among PTB patients, especially those with MDR TB. Screening for depression and other psychiatric illness is essential for identifying patients who require further psychosocial assessment and support.

Keywords: Depression, MDR TB, screening, psychiatric evaluation.

INTRODUCTION

Despite being preventable, treatable, and curable, tuberculosis (TB) remains a leading cause of mortality worldwide, with 95% of deaths occurring in low-income countries [1]. There is limited information on the joint effect of TB and depression on health status of general population [2]. In individuals appropriately treated for multidrug-resistant tuberculosis, the success rate is only about 50% worldwide because of factors such as low drug effectiveness, lengthy and toxic regimens that are difficult to complete, and high rates of prevalent and acquired resistance to second-line drugs [3]. The psychosocial issues often complicate MDR-TB, because of the complex and long duration of treatment [4]. Depression is a common comorbid condition for patients with tuberculosis (TB), and is associated with higher morbidity and mortality, antibiotic drug resistance, and community transmission. Depressed individuals with TB are less likely to seek care promptly, if at all, and once in treatment are significantly less likely to take medications consistently and/or completely. These treatment irregularities can lead to drug resistance, morbidity and mortality. Therefore, depression may be an unrecognized driver of the TB and multidrug resistant TB (MDR-TB) epidemics. MDR-TB treatment is significantly more expensive, takes approximately four times as long to complete, and produces
acute physical and psychiatric side effects, which makes treatment adherence and completion a considerable challenge [5]. India has the second highest total number of estimated MDR TB cases (99,000) in 2008, after China (100,000 cases) (WHO, 2010b) [6]. The aim of this study was to assess the prevalence and nature of depression in patients with MDR-TB

METHODOLOGY

It was a cross sectional survey conducted to study the prevalence of Depression in patients of MDR TB referred for psychiatric evaluation. Data was collected over a period of 3 months (July 18 to September 18) and study setting was the outpatient Department of Psychiatry at Mahatma Gandhi Missions Medical College, Kamothe, Navi Mumbai. All MDR TB patients referred from department of Respiratory Medicine for Psychiatric evaluation to the Out Patient Department of Psychiatry at MGM Hospital, Kamothe, Navi Mumbai were eligible to participate in the study. Patients having severe psychiatric or medical illness, mental retardation or sensory impairments rendering them uncooperative for assessments and consent were excluded from the study. Informed consent of the patients were taken. Patients were administered a semi structured proforma to collect the demographic data, also these patients were administered, Public Health Questionnaire 9 to assess depression.

Public Health Questionnaire 9: The PHQ-9 is a component of the longer Patient Health Questionnaire which offers psychologists concise, self-administered tools for assessing depression. They incorporate DSM-IV depression criteria with other leading major depressive symptoms into a brief self-report instruments that are commonly used for screening and diagnosis, as well as selecting and monitoring treatment. PHQ-9 scores > 10 had a sensitivity of 88% and a specificity of 88% for Major Depressive Disorder. Internal consistency of the PHQ-9 has been shown to be high. A study involving two different patient populations produced Cronbach alphas of 0.86 and 0.89 [7]. Data was entered in Excel sheet and Data collected was analyzed for gender profile and demographic factors using SPSS version 23. Institutional Ethics clearance was obtained.

RESULTS

A total of 50 patients were assessed for psychiatric morbidities referred for psychiatric assessment from Department of Chest and TB, all of these patients were patients with a confirmed diagnosis of MDR TB and were going to be started or had been started on Capsule Cycloserine.

Out of 50 patients 29 (58%) were males and 21(42%) were females. 38 (76%) out of 50 patients were married and 10 (20%) were unmarried, one was a widow and 1 was a divorcee. Educational profile of the patients consisted of 40% were graduates, 18% had received secondary education, 18% were educated upto primary school, 14% of the patients were post graduates and 10% were illiterates. Family makeup of the patients consisted of 78% lived in Nuclear family, 14% lived in a joint family and 8% lived in extended nuclear family. Occupational profile of the patients consisted of 40% were skilled workers, 36% were unskilled workers, 16% were students and 10% were unemployed. According to Modified BG prasad classification for socioeconomic status, 38% of Patients were belonging to upper class, 32% were of upper middle class and 30% belonging to Lower middle class.

PHQ 9 Profile

In our study we found that depression was found in 26 (52%) of the patients ranging from mild to moderate and severe depression using PHQ 9 questionnaire. Out of this 52%, 24% patients had mild depression, 24% had moderate depression and 4% had moderately severe depression.

DISCUSSION

MDR TB is posing a serious threat to the health system of India with an ever-increasing number of newly diagnosed cases of TB and also an outbreak of sorts of these cases being diagnosed as a fresh case of MDR TB as well. Majority of these patients have to undergo a long treatment regimen and have to take up to 10 to 15 medications both through oral route and injectable forms. Current study was initiated as there was an MOU signed by the Government of Maharashtra to look into the psychiatric morbidities and also to provide
counselling for these patients to start the medications and also to improve treatment adherence and decrease drop out cases.

Researchers in their study of Burden and presentation of depression among newly diagnosed individuals with TB in primary care settings in Ethiopia found that the overall prevalence of probable depression was 54.0% which is higher than reported in a study that used the depression component of the hospital anxiety and depression scale in which the prevalence was 43.4% [8].

Kumar and others found psychiatric morbidities amongst 74% of the patients employing GHQ12 and also these patients benefited from psychiatric intervention and psychoeducation [9]. In our study we found that depression was found in 52 % of the patients ranging from mild to moderate and severe depression using PHQ 9 questionnaire.

In a study relating to depression in TB patients, researchers found the prevalence of TB more in males than females. Also, they found that prevalence was higher amongst low socioeconomic strata [10]. In our study we found that TB was present in 58% of males compared to 42% in females also in our study majority of patients belonged to upper class38%, upper middle class 32% and lower middle class 30% this difference may be due to urban setting of our centre and higher per capita income in the Indian cities.

In the study of 86 patients with TB done by Ana Paula Ceré dos Santos et al, the mean age was 44.6 years, 27 (31.4%) patients met the study criteria for depression and 69.8% of them were male [11]. In our study average age of patients was 36 years, 52% met the study criteria for depression with prevalence of depression more in males than in females.

**Limitation of the Study**

In our study we only studied one parameter i.e., Depression, more parameters could be included in the future study to have a complete profile of psychiatric morbidity amongst patients with TB.

Follow up studies could help in assessing effects of psychiatric medication in relation to drop out rates and treatment compliance.

**Strength of Study**

PHQ 9 has been widely used to study the prevalence of depression in the clinical setting as it is easy to use and a short questionnaire has good inter-test reliability and validity. Psychiatric co morbidities are high amongst TB patients.

**CONCLUSION**

Depressive and anxiety symptoms are common among PTB patients, especially those with MDR TB. Screening for depression and other psychiatric illness is essential for identifying patients who require further psychosocial assessment and support. Psychiatric assessment can help in increasing the treatment compliance of the patient and also in getting these patients over the difficult phase of treatment initially in which patients may experience sadness, hopelessness, helplessness and worthlessness. Treatment protocol for MDR TB includes capsule Cycloserine which is known to cause depression and psychosis which may lead to higher drop out amongst patients and also may add to significant mortality. Family member need to be counselled and psychoeducated as the usual treatment duration is long and testing at times. Good family support and awareness amongst the care givers also significantly reduces the risk of disease transmission and better prognosis for the patients.

**REFERENCES**


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Impact of Feminism on Narcissism and Tolerance for Disagreement among Females

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ABSTRACT

Background: The present study was aimed at discerning the impact of feminism on narcissism and tolerance for disagreement among females.

Methods: For the purpose, a sample of 40 females belonging to the age group of 18-25 years was taken. The participants were divided into two groups: (feminists and non-feminists) on the basis of their self-ratings on the construct of feminism. Each group was assessed for their narcissism and tolerance for disagreement, quantitatively with the help of Dark Triad of Personality (D3-Short; narcissism sub-scale) and Tolerance for Disagreement Scale.

Results: The results of the study indicated that there was a significant difference in the levels of narcissism and tolerance for disagreement, among feminists and non-feminist females. And it was observed that, feminist females elicited a higher level of narcissism with a mean of 2.92, as compared to non-feminist females with a mean of 2.31; and lower levels of tolerance for disagreement was found in feminist females with a mean of 39.00, as opposed to non-feminist females with a mean of 52.15.

Conclusion: There was a significant difference in the levels of narcissism and tolerance for disagreement, among feminist and non-feminist females.

Keywords: Feminism, females, narcissism, and tolerance for disagreement.

INTRODUCTION

Feminism

Feminism refers to a collection of ideologies which tend to share common goals, to establish, describe, and achieve equal economic, political, cultural, social and also personal rights for women. Therefore, this seeks to establish opportunities that are equal for women in both education and employment [1].

Narcissism

Narcissism is described as a “pervasive pattern of grandiosity, lack of empathy and need for admiration [2]. The diagnostic criteria comprise: self-importance; preoccupation with success, power, brilliance, and/or beauty; a belief that they are special; a strong sense of entitlement; the tendency to exploit others; arrogance [2]. Narcissistic individuals repeatedly try to seek and obtain signs of recognition to compensate for feelings of inadequacy and so they do not feel comfortable when accomplishments are not appreciated by others [2].

Narcissists seem undermine themselves in their interactions with others, but this may be because they do not possess the self-control that is crucial to allow positive interaction [3]. However, many believe that key to the alleviation of narcissism is simply to learn to love oneself [4]. In fact, as Campbell, Foster, and Finkle argue, self-love can actually come between and even destroy romantic relationships [5]. In reality, what the narcissist is looking for is not always a healthy form of love.

Narcissists tend to view themselves as more attractive and smarter, and all around better than others [6].
Jones and Paulhus stated that narcissistic behaviour was marked by manipulation and callousness, much like machiavellianism and psychopathy [7]. Intrapsychically, however, narcissism was defined by a clash between a grandiose identity and underlying insecurity. Narcissism is negatively correlated with empathy [8]. Narcissist personality disorder overlaps with psychopathy in that they share the same features of arrogance, a lack of empathy, and exploitation of others. The difference is that narcissists are more grandiose in their behaviour while psychopathic individuals may be more underhanded in their behaviour [2].

**Tolerance for disagreement**

The construct of Tolerance for Disagreement was recently formulated by Knutson, McCroskey, Knutson, and Hurt [9]. Based upon earlier work in the area of conflict resolution and management, this construct was advanced to explain why some individuals are prone to become involved in conflict situations while others are not. Using the definition of Disagreement as "a difference of opinion on substantive or procedural matters, “Conflict between people is a common feature of the human condition. When people interact and form relationships, disagreements inevitably emerge.” Disagreement is common, its result does not have to be destructive, it can be and frequently is constructive [10-11]. McCroskey and Wheeless employed the concept of “tolerance for disagreement” to help explain the threshold individuals have for dealing with interpersonal conflict. They maintained that conflict and disagreement is not the same thing. Disagreement can be thought of as simple difference of opinion [12].

A number of studies have tried to investigate the impact of feminism on narcissism and tolerance for disagreement. Freud argues that for some ‘highly complicated biological reason’ women as they sexually mature slide back towards the narcissism of their infancy [13]. Coward advocated that women’s relationship to cultural ideals, and to their image, could be more accurately described as a relation of narcissistic damage [14]. Similarly, Bartky argues that although overtly ‘the fashion-beauty complex seeks to glorify the female body and to provide opportunities for narcissistic indulgence, depreciating the woman’s body and dealing a blow to her narcissism, is its covert goal [15]. Fiquet states that there is a strong and positive correlation between feminism and general tolerance, as well as tolerance of homosexuals, atheists and communists. Since, a number of studies have been focused around studying the effect of narcissism among women. However, there have been little or no research conducted to track down the relationship between narcissism and feminism. And, there have been only few studies conducted on tolerance among females. And, in these studies too, tolerance for disagreement has not generally been the focus. Thus, the focus of the present study is to know the effect of feminism on narcissism and on tolerance (particularly, tolerance for disagreement) among females [16].

**METHODOLOGY**

The present study was aimed at discerning the impact of feminism on narcissism and tolerance for disagreement among females.

**Participants**

A sample of 40 females belonging to the age group of 18-25 years was taken. The sample was further divided into two groups having 20 participants each on the basis whether or not they reported themselves as feminists or non-feminists, respectively.

**Instruments**

The following two quantitative tools were used:

**Narcissism scale:** The Short Dark Triad by Jones and Paulhus [17] was used to assess levels of narcissism in participants. This version had psychopathy, machiavellianism and narcissism sub-scales with a total of twenty seven items, broken down into 9 item subscales. The participants were supposed to respond using a five-point likert type scale ranging from 1 meaning Strongly Disagree to 5 meaning Strongly Agree. The participants were given instructions to score each statement depending on the degree to which they either agreed or disagreed with the statements presented. An example of an item on the narcissism sub-scale is: “I know that I am special because everyone keeps telling me so”. The items on the scale have been found to be
reliable and valid in the studies carried out by Jones and Paulhus. External validity was demonstrated by showing that the Short dark triad scales predicted corresponding informant-ratings. In a study using the scale, researchers found Cronbach’s alpha reliability coefficients was 0.71 for narcissism [18]. A study by Egan, Chan, and Shorter (2014) found all three constructs of this scale to be reliable at alpha 0.72 or 13 above [19].

**Tolerance for disagreement scale:** The Tolerance for Disagreement Scale was developed by Teven, Richmond and McCroskey to measure the degree to which an individual can tolerate other people disagreeing with what the individual believes to be true. The tolerance for disagreement conceptualization is similar to that of argumentativeness and has been developed through research in organizational and group communication contexts [20]. It is a self-report, 15 item scale questionnaire consisting of items, “It is more fun to be involved in a discussion where there is a lot of disagreement”. Participants are asked to select the option which best reflects the degree to which they agree that the item relates to them from a 5 point Likert scale ranging from 1 meaning strongly disagree to 5 indicating strongly agree. The tolerance for disagreement was found to have an alpha reliability of 0.86 [20].

**STATISTICAL ANALYSIS**

Data collected was scored and descriptive statistics were used to calculate the mean scores and standard deviation scores, along with t-test on the basis of feminism and non-feminism on the Narcissism scale and the Tolerance for disagreement scale.

**RESULTS**

Table 1 shows the mean and standard deviation scores, along with t-test for both the groups with respect to feminism on Narcissism scale and Tolerance for disagreement scale.

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>t</th>
<th>Significance</th>
<th>Cohen’s d</th>
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</thead>
<tbody>
<tr>
<td><strong>Narcissism</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feminist</td>
<td>20</td>
<td>2.92</td>
<td>7.36</td>
<td>0.0001*</td>
<td>1.26</td>
</tr>
<tr>
<td>Non-feminist</td>
<td>20</td>
<td>2.31</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Tolerance for disagreement</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feminist</td>
<td>20</td>
<td>39.00</td>
<td>3.96</td>
<td>0.0001*</td>
<td>2.33</td>
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<tr>
<td>Non-feminist</td>
<td>20</td>
<td>52.15</td>
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</table>

* p< 0.05

Looking at Table 1, it is indicated that there is a significant difference in the levels of narcissism of feminists and non-feminists females, (t (38)= 7.362, p<.01) and it is also observed that, feminist females elicit higher levels of narcissism with the mean of 2.92 as compared to non-feminist females with the mean of 2.31. The effect size is calculated with the help of Cohen’s d formula and it came out to be d=1.26, since, the value of the effect size of Cohen’s d is higher than 0.7, this is indicative of a high effect size, which in turn indicates that there is high practicality value of the given data.

**DISCUSSION**

According to Jones and Paulhus narcissistic behaviour consists of manipulation and callousness, more or less like machiavellianism and psychopathy. Intra psychically, however, narcissism was defined by a clash between a grandiose identity and underlying insecurity. Freud concluded that for some ‘highly complicated biological reason’ Women as they sexually mature slide back towards the narcissism of their infancy [13]. Thus, the present study is parallel to the findings of Freud, as strings of narcissism are observed in females.
However, the present study indicates that feminist females possess a higher level of narcissism, as compared to non-feminist females. According to Teven and others, tolerance for disagreement is the degree to which one acknowledges that differences of opinion exist within relationships, and thus require discussion. Fiquet states that there is a strong and positive correlation between feminism and general tolerance, as well as tolerance of homosexuals, atheists and communists. Consistent to Fiquet’s study, the present study tells us that, there is an impact of feminism on tolerance for disagreement; as, feminist females elicited a lower level of tolerance for disagreement as compared to non-feminist females.

CONCLUSION

Thus, from the present study, it can be concluded that there was a significant difference in the levels of narcissism and tolerance for disagreement, among feminist and non-feminist females. And, it was observed that, feminist females elicited a higher level of narcissism with a mean of 2.92, as compared to non-feminist females with a mean of 2.31; and lower levels of tolerance for disagreement was found in feminist females with a mean of 39.00, as opposed to non-feminist females with a mean of 52.15. But, in order for the results to be generalized to the larger population we need to take into consideration a larger sample size.

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Relationship between Emotional Maturity and Personality traits among Adolescents

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ABSTRACT

Background and Objectives: Adolescent is the most vital stage of development. Many physiological and psychological changes are taking place at this stage. Emotional and personality development play an important role in emotional independence and identity formation in adolescents. This study aims to find correlation between Emotional Maturity and Personality Traits among Adolescents.

Methods: Purposive sampling technique was used to collect sample of 300 students from 5 SSC board schools in western suburbs of Mumbai. Further, sixty students of 9th grade were selected from each school. Sixteen Personality Factor Test (16 PF) was used to analyze Personality traits and Emotional Maturity Scale was used to measure Emotional Maturity among adolescents.

Results: Results revealed that, in terms of personality traits adolescent respondents were found to be warm-hearted, affected by feelings, feel few obligations, conscientious, stubborn, socially bold, dependent, and suspicious. They were found to be practical, wrapped up in inner urgencies, experimenting, and self-conflicted, frustrated and group dependent. They were also found to be concrete thinkers, prudent, taciturn, and realistic.

Conclusion: On scale of emotional maturity most of adolescent respondents were found to be emotionally extremely unstable. There was positive correlation between total score for emotional maturity and personality traits dominance, privateness, warmth, sensitivity, abstractedness, and apprehension. Rest other traits reasoning, emotional stability, self-reliance and perfectionism, rule-consciousness, social boldness, vigilance, openness to change and tension had negative correlation with emotional maturity. These results can be recommended to schools to incorporate various programs to furnish adolescent’s emotional and personality developmental needs.

Keywords: Emotional maturity, personality traits, adolescents.

INTRODUCTION

In the developmental stages of human being, adolescence is one of the very important stages where an individual is no longer a child but is in the process of becoming an adult. Adolescence is the period of development corresponds roughly to the period between the ages of 10 and 19 years, which is consistent with the World Health Organization’s definition of adolescence. Yerpude mentioned that, In India, 21.4% of total population belongs to age group of 10-19 years i.e. 1/5th of total Indian population are adolescents [1]. Adolescence begins with the onset of physiologically normal puberty, and ends when an adult identity is formed. One of the major developmental tasks of adolescents consists of achieving emotional independence as well as forming an identity as an individual [2].
Adolescence is also known as the age of identity formation, where a person strives to establish his or her own identity in this society. Every person has some or the other characteristics which makes his or her personality. The combinations of attitudes, behaviour makes the personality of a person. Adolescent's personality traits have an impact of gender, genes, or even their environment. Larsen & Buss (2005) defined personality as the set of psychological traits and mechanisms within the individual that are organized and relatively enduring and that influence his or her interactions with, and adaptations to, the intra psychic, physical, and social environments [3].

With regards to personality traits, the diagnostic and statistical Manual of Mental Disorder of the American Psychiatric Association posited that, personality traits are enduring patterns of perceiving, relating to and thinking about the environment and about oneself that are exhibited in a wide range of personal and social context [4]. Whereas other researchers maintained that a personality trait is a consistent and long lasting tendency in an individual's behaviour and action.

Arora quoted Stenberg said that “all people are essentially born with the same set of traits and that individual difference can be ascribed to the extent to which they are in possession [5].” Personality traits can differ among individuals depending on the situation or the degree to which person reflects a particular behaviour. One another most important perspective of development for an adolescent is their emotional maturity. Adolescents strive for attaining emotional maturity. At this stage of emotional development, adolescent’s experiences much emotional turmoil sometimes adolescent become very happy or excited and at very next moment the same person will be sad about something. When an adolescent makes transition from childhood to adulthood, he or she strives to control their emotion, to become emotionally independent as it is one of the most important developmental tasks for them. An adolescent can only be called emotionally mature when he or she is able to regulate their emotion. And a person who is able to regulate emotions and express them in a controlled manner can be called as emotionally stable person.

It can be said that, emotional maturity among adolescent help them to make wiser choices which doesn’t create harm. Singh defined ‘Emotional maturity as not only the effective determinant of personality patterns but it also helps to control the growth of an adolescent’s development. A person who is able to keep his emotions under control, which is able to rock delay and to suffer without self-pity, might still be emotionally stunted and childish [6].

As emotional maturity and personality traits are the most important components of adolescent’s development, their interrelation was assessed by Kumar and others with the help of analysis of emotional maturity and personality factors [7]. The sample consists of 110 adolescents studying in class 11th and 12th taken from a private school. Further, the association of emotional maturity with personality dimensions of these adolescents was analysed. Emotional Maturity Scale was administered on the selected sample to assess emotional maturity and NEO-FFI (Form S), was used for measuring various personality dimensions of these adolescents. Result showed that neuroticism had a significant negative co-relation with emotional maturity, agreeableness and conscientiousness had significant positive co-relation with emotional maturity and traits openness and extraversion doesn’t show any significant relation with emotional maturity.

**Rationale**

Personality of adolescent is developed with a combination of person’s attitude, beliefs, emotions, behaviour etc. and a person’s emotions are not just feelings but a unique way to express their thoughts, which differs from person to person so as personality. With the changing self and environment of adolescence, they start feeling uncomfortable, emotionally upset and tensed which further showcase their personality. Adolescents different reaction in different situations differs according to their personality, which also shapes their social identity, as adolescents are at the stage of identity formation. So, there is need to assess personality traits and emotional maturity among them. If adolescent’s emotionality affects their behaviour which is an important constituent of their personality, there is a need to find relation between their personality traits and emotional maturity which can be helpful for them to control their reaction and to shape their personality. So, this study further tries to find correlation between two most important assets of development emotional maturity and personality traits.
METHODOLOGY

Hypothesis
H0: There is no statistical significant co-relation between personality traits and emotional maturity of adolescent.

Research design
Correlational design was used for this study.

Sample
Purposive sampling technique was used for sampling. Sample of 300 SSC board students were selected, from 5 schools in western suburb of Mumbai. From each school data of 60 students was collected. All these students belonged to 9th grade, from which 150 were boys and rest 150 were girls.

Tools
Sixteen Personality Factor Test – R. B. Cattell [8]
Emotional Maturity Scale (1990) – Dr. Yashvir Singh and Dr. Mahesh Bhargava [9]
If the score for emotional maturity scale is more, the adolescent is emotionally extremely unstable i.e. as the score on emotional maturity scale increases, the emotional maturity decreases.

Procedure for data collection
From every permitted school, students were provided with information about purpose of study and consent was taken from them before administering this test on them. Sixty students from each school were provided with appropriate instructions for answering the tool and data was collected.

STATISTICAL ANALYSIS

The quantitative analysis was done for collected data with the help of Statistical software, in which test such as frequency, mean, and co-relation were used. The data representation was done through tables and graphs and results were discussed further.

RESULTS AND DISCUSSION

Figure 1.1 Percentages of Personality Traits among Adolescents
According to the figure 1.1, traits apprehension (39.66%), warmth (38%), dominance (34%) and openness to change (33%) scored high as compared to other traits in adolescents. Social boldness (65.66%), tension (58%), rule-consciousness (52%), self-reliance (49.66%), emotional stability (46.33%), sensitivity (42.33%), vigilance (43.66%), Abstractedness (45.33%), perfectionism (45.66%) and privateness (38%), traits found to have average score for the adolescent respondents. Low scores were observed for reasoning (66.33%) and liveliness (54.33%) of the adolescent (1-4).

Adolescents were found to be warmer and easy going, as this stage, referred as age of rapid development. Developmental changes occur in the process of transition from childhood to adulthood, but still some traits of childhood like being sensitive and sympathetic can be usually seen in them. So, trait warmth in adolescents could be the result for these qualities among them. Trait of emotional stability in adolescents was scored less. They are emotionally volatile and not able to control their emotion at this age which makes them emotionally less stable. While for the trait of dominance, their emotional turmoil can sometimes make them aggressive and stubborn in some situations and they try to take control of the situation reflecting dominance. For trait openness to change adolescent respondents were critical, experimenting but less tolerant to traditional difficulties. Adolescents in this age are trying to know more about society but also being critical about some of the societal norms because it may cause hindrance in way to achieve independent identity, also they like to experiment with new things as they like to take risks and acceptable for the outcomes of those risks. Adolescents are generally reluctant for traditional thoughts, which hinder them in their decision making.

For the trait of social boldness adolescent were found to be venturesome, uninhibited and spontaneous which can be because adolescent like to involve more with peer, these group which is important socialization according to them, making them socially bold. Adolescents likely to involve more with peer groups than with their parents or other as it is a trait of this age and involve in risk taking behaviour. For trait of vigilance, adolescents were suspicious and self-opinionated, because of changes happening in their body adolescents often uncomfortable. When in this stage parent try to instruct them to act in certain way, it is hard for them behave according to them feeling obligation for rules and make them suspicious.

Abstractedness among adolescents revealed that adolescents were imaginative, wrapped up in inner urgencies, careless of practical matters. Adolescents are at most vulnerable stage of development; all the transitions happening at this stage can be reason for them to be wrapped up inner urgencies. Adolescents have characteristic of personal fable where they think that they are centre of attraction ignoring the practical aspect of day to day living. Adolescents are wrapped up with their own problems sometimes makes them careless of practical matters for which they are less concerned. For privacy, adolescent respondents were found to be shrewd, penetrating and sentimental because of traits they possess such as suspiciousness in them can make them shrewd, when they try to hide something. Sometimes their emotional state makes them sentimental and adolescents reacts differently to situation which is not deliberate but may hurt others unintentionally giving them trait of being penetrating.

For trait Apprehension, adolescent respondents were found to be more worrying, depressive and troubled. Adolescents wants to attain emotional, social independence and to form their own identity but all vulnerabilities and emotionality in them makes them worrying about future, depressed about their looks or appearance or sometimes troubled because of their risk-taking behaviour. Trait self-reliance among adolescents revealed them as they were group – dependent, prefered own decisions to become part of their fellow groups. Adolescents in this age like to be involved with their peers they prefer to have more friends making them more group dependent. While trying to become one of them adolescents like to takes their own decisions rather than other’s taking decisions for them.

Perfectionism in adolescent respondents were showed that adolescents were self-conflicted, follows own urges, and careless of protocol. Adolescents trying to get independent to take their own decision but uncertainty in them lead to conflicts. Rules posed on them were obligations for them so they may act careless for protocols to be followed. For trait Tension, adolescents were found to be in average category. This suggested that adolescents were generally worried about their future, body image etc. But their experimental nature helps them to accept the changes or consequences happen because of risk taken. This acceptance can be reason for adolescent to have the trait of being unfrustrated.
Rule-consciousness found to be in average category. An adolescent is in the process of transition from child to become an adult but during this process adolescent have to follow some of rules of being children. Many a times they follow rules to avoid the fear of being left out though ignorant many a times. Trait sensitivity among adolescent respondents was found to be tender-minded, dependent and sensitive. Adolescents might be affected easily by interaction with others. This also can be related with their tender mindedness and sensitivity for feeling of their own or even others and tends to give emotional reactions.

For the trait of reasoning adolescents were found to be concrete thinkers. According to developmental theories major brain development takes place till 5 years of age but even after that various part of brain such as pre frontal lobe or parietal lobes etc. are still developing in adolescence stage. According to cognitive development theory, adolescent able to reason from concrete things but abstract thinking is still developing in them across the maturity of their brain i.e. Adolescents can take decisions on concrete situation but hypotheductive thinking could be difficult for them. So, they could find it difficult to reason for abstract thoughts making them more concrete thinkers. Liveliness in adolescent respondents found to be less that they were sober, serious and taciturn, these adolescents are still developing their capacity for hypotheductive reasoning and as they want to establish their identity as socially-precise personnel they tend to behave in socially acceptable way.

![Levels of Emotional Maturity](image)

**Figure 2.1 Percentage of Level of Emotional Maturity among Adolescents**

The figure 1.2, illustrates the percentage of adolescents belong to different levels of emotional maturity. Only 4% of the samples were found to be extremely stable whereas 80.3% of samples were found to be extremely unstable. At this vulnerable stage of development, adolescents go through many changes which make them uncomfortable, and emotionally volatile. Adolescents are emotionally volatile. So, it can be seen that, they are overjoyed for something but can be sad at other moment. They can rarely take practical decisions and generally acts emotionally in most of situation which make them more emotionally unstable. These results can be supported with research done by Shafeeq and Thaqib on emotional maturity of secondary school students in relation to academic achievement found that most of secondary school students (i.e. 51%) were extremely unstable, only (13.25%) were extremely stable, (11%) were moderately stable and remaining (24.75%) were emotionally unstable [10].

As discussed in methodology, more the scores of emotional maturity, less is the emotional maturity. Results were interpreted accordingly. According to Table 3.1, for total score of emotional maturity, there was significant positive correlation with personality trait dominance (r = 0.11, p = 0.05) and privateness (r = 0.16, p = 0.00) and significant negative correlation with reasoning (r = -0.11, p = 0.05), emotional stability (r = -0.16, p = 0.01), self-reliance (r = -0.11, p = 0.05), and perfectionism (r = -0.14, p = 0.01). There was no significant correlation of emotional maturity with rest of the personality traits. When an adolescent is emotionally immature, they were found to be more dominant and more private as they can’t understand how to react appropriate for situation and what they can share with another person be it a friend or family member etc. But emotional maturity score was negatively related with emotional stability because according to this study most adolescents were found to be emotionally unstable which can be reason for the negative correlation. Emotional maturity led them to reason more, make them self-reliant and perfectionist, because the mature person was found to be self-sufficient, able to take their own decisions and try to fulfill their
responsibilities or develop those abilities for it. These adolescents were found to be warm hearted, practical and careful, self-assured and confident in their behaviour. This result can be supported by research done by Kumar, Sharma and Singh on Personality factors as correlates of Emotional Maturity among Adolescent which signifies that different traits have negative or positive correlation with emotional maturity. Traits such agreeableness and consciousness had significant positive correlation with emotional maturity. Neuroticism had negative correlation with emotional maturity.

Table 3.1, Co-relation between Personality Traits and Emotional Maturity

<table>
<thead>
<tr>
<th>Personality Traits</th>
<th>Co-relation Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (warmth)</td>
<td>0.05</td>
</tr>
<tr>
<td>B (Reasoning)</td>
<td>-0.11*</td>
</tr>
<tr>
<td>C (Emotional stability)</td>
<td>-0.16**</td>
</tr>
<tr>
<td>E (Dominance)</td>
<td>0.11*</td>
</tr>
<tr>
<td>F (Liveliness)</td>
<td>0.001</td>
</tr>
<tr>
<td>G (rule-consciousness)</td>
<td>-0.03</td>
</tr>
<tr>
<td>H (social boldness)</td>
<td>-0.19</td>
</tr>
<tr>
<td>I (Sensitivity)</td>
<td>0.002</td>
</tr>
<tr>
<td>L (Vigilance)</td>
<td>-0.05</td>
</tr>
<tr>
<td>M (Abstractedness)</td>
<td>0.04</td>
</tr>
<tr>
<td>N (Privateness)</td>
<td>0.16**</td>
</tr>
<tr>
<td>O (Apprehension)</td>
<td>0.08</td>
</tr>
<tr>
<td>Q1 (Openness to change)</td>
<td>-0.07</td>
</tr>
<tr>
<td>Q2 (Self-reliance)</td>
<td>-0.11*</td>
</tr>
<tr>
<td>Q3 (Perfectionism)</td>
<td>-0.14*</td>
</tr>
<tr>
<td>Q4 (Tension)</td>
<td>-0.03</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level * Correlation is significant at the 0.05 level

CONCLUSIONS

Adolescent respondents scored average on various personality traits, though scored more for traits warmth, dominance, and openness to change as compared to other personality traits. Whereas adolescents scored low for traits reasoning and liveliness. Most of the respondents were found to be emotionally extremely unstable. Reasoning, emotional stability, self-reliance and perfectionism increased with emotional maturity. Personality traits, dominance and privateness decreased with emotional maturity. This research can be done for other stages of adolescent to understand emotional maturity and personality traits among them. This research can be diversified by including other variables such as urban and rural, different age group etc. for better understanding of emotional and personality development among adolescents. Adolescents need to be educated for their better emotional development. It will also be helpful for their better personality development.

REFERENCES


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Conflict of Interest – Nil
Funding – Nil
An Exploratory Study on the Nature and Type of Relationship in Male and Female College Students and its effect on Locus of Control and Ways of Coping

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ABSTRACT

Background: This research aims to understand the correlation and gender differences that may exist among 18 to 20 years old college students on Locus of control and Ways of Coping.

Methods: An online form (Google form) was sent to 60 participants; 30 males and 30 females, in the city of Mumbai. The Ways of Coping Questionnaire and Levenson’s Multidimensional Locus of Control Inventory was administered to the study and control group. The data was statistically analyzed using Pearson’s correlation and other statistics.

Results: The correlation between Internal Locus of control and Distancing Way of Coping in males was found to be significant at 0.05 level and correlation between Powerful others Locus of control and Confrontive Coping Way of Coping as well as Powerful Others Locus of control and Escape avoidance Way of coping in females were found to be significant as 0.05 level.

Conclusion: The results could be applied to everyday life settings namely schools, family, College, counselling, mental health, and Professional settings. Larger studies in diverse settings are needed.

Keywords: Locus of control, Ways of coping, gender differences, locus of control.

INTRODUCTION

"Locus of control can be defined as the extent to which people have power over events in their lives”. The concept of Locus of control was developed by Julian Rotter. Locus means "place". "People with Internal locus of control believe that through their behaviour they can control the likelihood of receiving reinforces". "People with External locus of control don't see as much link between their behaviour and the likelihood of being rewarded” [1]. Hanna Levenson had a different take on the conceptualization of Locus of control. According to her, it is possible that a person may believe in both chance and in individual efforts. Levenson also stated that many people believe that powerful other people control their lives. Thus, she developed a scale to measure the internal and two external dimensions (chance and powerful others) of the locus of control concept [2].

Factors influencing Locus of control

• Family: Many internals have grown up with families modelling typical internal beliefs; these families emphasized effort, education, responsibility and thinking, and parents typically gave their children rewards they had promised them [3].
Socio-economic status: Externals are typically associated with lower socio-economic status. Many researches state that rich people tend to have an internal locus of control [4].

Political scenario: Societies experiencing social unrest increase the expectancy of being out-of-control; therefore, people in such societies become more external [5].

Age: Researches state internality may increase until middle age, decreasing thereafter [6].

Culture: Japanese people tend to be more external in locus-of-control orientation than people in the US [7].

Coping can be defined as “constantly changing cognitive and behavioural efforts to manage specific external or internal demands that are appraised as taxing or exceeding the resources of the person” [8]. Coping, can be at both levels, conscious or/and unconscious, to solve personal and interpersonal problems, in order to reduce or deal with the stress and conflict. Whether or not a person will experience stress, depends if the person appraises the situation/stimulus as threatening or challenging. After appraising a stimulus as threatening or challenging, the person will base his/her actions on what kinds of resources’ or options are available to him/her at that point in time. E.g. if a person is blocked by a robber, the person can either try to run away, or give in, or fight with the robber [8].

Locus of control to affect the appraisal process and influence the coping responses made. Internal Locus of Control individuals are less likely to report being threatened by a Stressor. Also, Internal Locus of Control (LC) individuals tend to have better coping skills than externals. Researches state, they tend to use more instrumental strategies and engage in less task-irrelevant self-preoccupation. Aspinwall and Taylor [9] believe that an internal LC leads people to adopt active coping strategies by contributing to a sense of self-confidence needed to confront problems directly.

A study done states that an external locus of control orientation was significantly related to higher stress scores and lower achievement orientation. Higher achievement orientation was positively related to the use of active coping styles. Male subjects were slightly but significantly more internally oriented in terms of locus of control than female subjects [10]. In another study, regression analyses indicated that optimism and locus of control were relatively independent Predictors of control appraisals and that control appraisals were generally better Predictors of coping than either locus of control or optimism [11].

Internal LC individuals are less likely to report being threatened by a Stressor and more accepting of Stressors deemed unchangeable [12]. Internal LC individuals tend to have better coping skills than externals. They tend to use more instrumental strategies and engage in less task-irrelevant self-preoccupation [12]. A study by Takaki and colleagues [13], focused on the gender differences with relation to internal locus of control and self-efficacy in haemodialysis patients and their compliance. This study showed that females that had high internal locus of control were less compliant in regards to their health and medical advices compared to the men that participated in this study. The internal facet of locus of control plays an important role in influencing the experiences in people’s lives, suggests Klein and Warnet [14]. This study aims to determine whether there exists a relationship between Locus of Control and Ways of coping among male and female college students.

**METHODOLOGY**

**Hypothesis:**

1) There will be a correlation between Internal Locus of Control and Distancing Way of Coping amongst females.

2) There will be a correlation between Powerful Others Locus of Control and Confrontive Coping Way of Coping amongst females.

3) There will be a correlation between Powerful Others Locus of Control and Escape Avoidance Way of Coping amongst females.

4) There will be a correlation between Internal Locus of Control and Distancing Way of Coping amongst males.

5) There will be a correlation between Powerful Others Locus of Control and Confrontive Coping Way of Coping amongst males.
6) There will be a correlation between Powerful Others Locus of Control and Escape Avoidance Way of Coping amongst males.

Variables
Since this was a correlation study, there is no Independent variable (IV) and Dependent variable (DV). Operational definitions of the variables are as follows:

**Ways of Coping Questionnaire** – Susan Folkman & Richard S. Lazarus [15]

**Ways Of Coping** – “the range of thoughts and acts that people use to deal with the internal and/or external demands of specific stressful encounters.”

**Confrontive Coping** – “describes aggressive efforts to alter the situation and suggests some degree of hostility and risk-taking.”

**Distancing** – “describes cognitive effort to detach oneself and to minimize the significance of the situation.”

**Self-Controlling** – “describes efforts to regulate one’s feelings and actions.”

**Seeking Social Support** – “describes efforts to seek informational support, tangible support and emotional support.”

**Accepting Responsibility** – “acknowledges one’s own role in the problem with a concomitant theme of trying to put things right.”

**Escape-Avoidance** – “describes wishful thinking and behavioural efforts to escape or avoid the problem. Items on this scale contrast with those on the Distancing scale, which suggest Detachment.”

**Planful Problem Solving** – “describes deliberate problem focused efforts to alter the situation, coupled with an analytical approach to solving problem.”

**Positive Reappraisal** – “describes efforts to create positive meaning by focusing on personal goals. It also has a religious dimension.”

**Levenson’s Multidimensional Locus of Control Inventory** – Hanna Levenson [16]

**Locus of control:** “It refers to where a person places the primary causation of events in his/her life; whether or not he/she feels that he/she is in control of their outcomes”

**Internal Locus of control** – “an individual’s belief that they control their own lives.”

**Powerful Others Locus of control** – “the individual believes in an ordered world controlled by powerful others—such as political leaders, parents or God”

**Chance Locus of control** – “the individual considers the world as unordered and chaotic”

Controls:
- Participants answering the scales belonged to the age group of 18-20 years (Males & Females)
- All were residents of Mumbai City.
- All participants were English literate.
- They all were college students.
- Randomly chosen sample.

Sample:
- 60 participants, 30 males and 30 females
- Age group- 18 to 20 years old.
- College going students from different streams.
- Residents of Mumbai city.

Apparatus and Material:
The Scales used are as follows:

**Ways of Coping Questionnaire** – Susan Folkman & Richard S. Lazarus [15]. It contains 66 items. WAYS can assess and identify thoughts and actions that individual uses to cope with the stressful encounters of everyday life. Its 8 subscales are: Confronting coping, distancing, self-controlling, seeking social support, accepting responsibility, escape avoidance, planned problem solving and positive appraisal. Psychometric
properties (e.g.-validity and reliability) have been established by over 25 years of research across a wide array of populations and methodologies. The reliability was in the range of 0.06 to 0.08 for all the eight subscales which is moderate to high correlation [17-18]. In the clinical setting, the WAYS can help clients develop practical coping skills by evaluating their coping process (including strengths and weaknesses) and offer alternative coping mechanisms. It has the following subscales - Confrontive Coping, Distancing, Self-Controlling, Seeking Social Support, Accepting Responsibility, Escape-Avoidance, Planful Problem Solving and Positive Reappraisal.

**Levenson’s Multidimensional Locus of Control Inventory** - The Levenson scale uses a Likert type rating system. The scale asks the participant to interpret their own specific experience. It has less ambiguous wording. There is extremely low social desirability bias in the Levenson scale. Internal consistency reliability was satisfactory; alpha above 0.70. This scale was validated by its creator, who found that participants who rated high on the C scale shared traits that could not be distinguished by the I or P scales, thus confirming the usefulness of the multidimensional approach. The subscales are Internal, Chance, Powerful Others [19].

**Design:** A repeated measures design was used, as each participant responded to each of the questionnaire (i.e. Ways of Coping & Multidimensional Locus of Control) respectively.

**Procedure:** An online Google form was distributed to 30 males and 30 females respectively in the age group of 18 to 20 years; keeping in mind the controls of the study. Participants were assured of the confidentiality regarding their responses. The data was recorded and further statistical analysis was done using Microsoft Excel Program. Various theoretical perspectives were used to explain the results of the study.

**RESULTS AND DISCUSSION**

The present research examines the correlation and gender differences that may exist among 18 to 20 years old college students on Locus of control and Ways of Coping. The Correlation coefficient was calculated using the Pearson Product Moment and the Formula for which was

\[
r = \frac{N\sum xy - (\sum x)(\sum y)}{\sqrt{[N\sum x^2 - (\sum x)^2][N\sum y^2 - (\sum y)^2]}}
\]

Descriptive statistic refers to summarizing and describing the data collected from sample. (Table 1). Inferential Statistics help us to draw conclusions from the data i.e. whether conclusions the obtained data is due to chance or true correlation. Correlation statistical technique was used to understand the degree and relation between two variables. It shows the magnitude and direction between the two variables. Correlation Coefficient is the numerical index that expresses the relationship; it tells us the extent to which the two variables are correlated. A positive correlation means as one variable changes, there is corresponding change in the other variable in the same direction. Whereas in a negative correlation, the two variables are inversely related i.e. as one variable changes, there is a corresponding change in other variable in the opposite direction. Degree of freedom refers to the number of observations that are allowed to vary after statistics have been calculated. Level of significance refers to the extent to which the researcher is willing to attribute the result within chance and correlation.

There will be a correlation between Internal Locus of Control and Distancing Way of Coping amongst females. The Correlation (r) obtained was 0.19, indicating a positive low correlation. However, with reference to statistical table of correlation the data was found to be not significant which indicates that the obtained correlation was more due to chance and less due to true correlation. As understood from the cognitive perspective, females may believe that events happening in their life are in their control, may distance themselves from the distressful situation, as they are more likely to believe that they do have a choice to distance themselves.
Table 1: Summary of descriptive statistics of Females

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sum</th>
<th>Mean</th>
<th>Range</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal LOC</td>
<td>1057</td>
<td>35.23</td>
<td>26</td>
<td>6.36</td>
</tr>
<tr>
<td>Powerful Others LOC</td>
<td>570</td>
<td>19.00</td>
<td>37</td>
<td>9.02</td>
</tr>
<tr>
<td>Chance LOC</td>
<td>699</td>
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<td>33</td>
<td>8.79</td>
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<tr>
<td>Confrontive Coping</td>
<td>245</td>
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<td>12</td>
<td>3.06</td>
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<tr>
<td>Distancing</td>
<td>251</td>
<td>8.37</td>
<td>16</td>
<td>3.45</td>
</tr>
<tr>
<td>Self Controlling</td>
<td>353</td>
<td>11.77</td>
<td>10</td>
<td>3.26</td>
</tr>
<tr>
<td>Seeking Social Support</td>
<td>264</td>
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</tr>
<tr>
<td>Accepting Responsibility</td>
<td>198</td>
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<td>10</td>
<td>2.46</td>
</tr>
<tr>
<td>Escape Avoidance</td>
<td>333</td>
<td>11.10</td>
<td>19</td>
<td>4.93</td>
</tr>
<tr>
<td>Planful Problem Solving</td>
<td>292</td>
<td>9.73</td>
<td>14</td>
<td>3.68</td>
</tr>
<tr>
<td>Positive Reappraisal</td>
<td>366</td>
<td>12.20</td>
<td>18</td>
<td>4.47</td>
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</table>

Table 2: Summary of descriptive statistics of Males

<table>
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<th>Sum</th>
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<th>Range</th>
<th>SD</th>
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</thead>
<tbody>
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<td>Internal LOC</td>
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<td>37.3</td>
<td>24</td>
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<tr>
<td>Powerful Others LOC</td>
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<td>19.4</td>
<td>35</td>
<td>9.62</td>
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<tr>
<td>Chance LOC</td>
<td>725</td>
<td>24.17</td>
<td>32</td>
<td>9.24</td>
</tr>
<tr>
<td>Confrontive Coping</td>
<td>308</td>
<td>10.27</td>
<td>13</td>
<td>3.32</td>
</tr>
<tr>
<td>Distancing</td>
<td>315</td>
<td>10.5</td>
<td>14</td>
<td>3.66</td>
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<td>Self Controlling</td>
<td>387</td>
<td>12.9</td>
<td>14</td>
<td>3.51</td>
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<td>Seeking Social Support</td>
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<td>10.43</td>
<td>18</td>
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<tr>
<td>Accepting Responsibility</td>
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<td>8</td>
<td>2.02</td>
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<td>Escape Avoidance</td>
<td>385</td>
<td>12.83</td>
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<td>4.36</td>
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<td>11.3</td>
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<td>3.71</td>
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<td>Positive Reappraisal</td>
<td>420</td>
<td>14</td>
<td>15</td>
<td>3.99</td>
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</table>

Table 3: Summary of descriptive statistics of Locus of control and Ways of Coping

<table>
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<tr>
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<th>Mean</th>
<th>Range</th>
<th>SD</th>
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</thead>
<tbody>
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<td>36.27</td>
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<td>5.83</td>
</tr>
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<td>19.2</td>
<td>37</td>
<td>9.25</td>
</tr>
<tr>
<td>Chance LOC</td>
<td>1424</td>
<td>23.73</td>
<td>35</td>
<td>8.95</td>
</tr>
<tr>
<td>Confrontive Coping</td>
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<td>9.22</td>
<td>14</td>
<td>3.34</td>
</tr>
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<td>Distancing</td>
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<td>12.33</td>
<td>14</td>
<td>3.40</td>
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<tr>
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<td>18</td>
<td>4.44</td>
</tr>
<tr>
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<td>7.15</td>
<td>11</td>
<td>2.30</td>
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<td>4.70</td>
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<td>10.52</td>
<td>15</td>
<td>3.74</td>
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<tr>
<td>Positive Reappraisal</td>
<td>786</td>
<td>13.1</td>
<td>18</td>
<td>4.30</td>
</tr>
</tbody>
</table>

According to the evolutionary perspective, one of the typical ways humans deal with distressing situation is distancing which is a form of withdrawal; as a way to enhance and protect oneself from perceived dangerous stimuli. From a socio-cultural context, in India women generally occupy a secondary status and hence may feel not powerful enough to fight the overwhelming (eustress, or generally distress) stimuli.
Table 4: Summary of Correlation data

<table>
<thead>
<tr>
<th>R</th>
<th>N = 30 males, 30 Females. df = 28</th>
<th>n = 60 df = 58</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Males p &lt;</td>
<td>Females p &lt;</td>
</tr>
<tr>
<td></td>
<td>Controls p &lt;</td>
<td>n = 60 df = 58</td>
</tr>
<tr>
<td>Internal LOC &amp; Confrontive Coping</td>
<td>-0.02 NS</td>
<td>0.11 NS</td>
</tr>
<tr>
<td>Internal LOC &amp; Distancing</td>
<td>-0.38 p &lt; 0.05</td>
<td>0.19 NS</td>
</tr>
<tr>
<td>Internal LOC &amp; Self controlling</td>
<td>-0.24 NS</td>
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<td>Internal LOC &amp; Seeking Social Support</td>
<td>0.06 NS</td>
<td>0.33 NS</td>
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<td>-0.21 NS</td>
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<td>-0.04 NS</td>
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<td>Internal LOC &amp; Planful Problem Solving</td>
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<td>Internal LOC &amp; Positive Reappraisal</td>
<td>-0.07 NS</td>
<td>0.28 NS</td>
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<td>Powerful Others LOC &amp; Confrontive Coping</td>
<td>0.18 NS</td>
<td>0.39 p &lt; 0.05</td>
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<tr>
<td>Powerful Others LOC &amp; Distancing</td>
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<td>0.14 NS</td>
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<td>Powerful Others LOC &amp; Self controlling</td>
<td>0.28 NS</td>
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<td>0.30 NS</td>
</tr>
<tr>
<td>Powerful Others LOC &amp; Escape avoidance</td>
<td>0.23 NS</td>
<td>0.40 p &lt; 0.05</td>
</tr>
<tr>
<td>Powerful Others LOC &amp; Planful Problem Solving</td>
<td>-0.04 NS</td>
<td>0.04 NS</td>
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<tr>
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<td>0.07 NS</td>
<td>0.32 NS</td>
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<td>0.21 NS</td>
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<tr>
<td>Chance LOC &amp; Distancing</td>
<td>0.13 NS</td>
<td>0.20 NS</td>
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<tr>
<td>Chance LOC &amp; Positive Reappraisal</td>
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</tbody>
</table>
Looking from behaviouristic perspective, her distancing rewards her feeling of less threatened which in turn would maintain the behaviour that she has the power to at least distance. There will be a correlation between Powerful Others Locus of Control and Confrontive Coping Way of Coping amongst females. The Correlation (r) obtained was 0.39, indicating a positive moderate correlation. With reference to statistical table of correlation the data was found to be significant at 0.05 level, which means that the obtained data was more due to true correlation and less due to chance.

This may be due to:

- From socio-cultural point of view, Since India has a collectivistic culture, there is a tendency amongst Indians to attribute responsibility to others and hence engage in confrontive way of coping. As a result, we might engage in blame games rather than proactive behaviour. And along with this, in Indian context, since women may not engage in an active role, as a result of which, she is more likely to follow orders, hence as a consequence the responsibility lies with the powerful other and the expected outcome may not match the real outcome. And therefore women, in a subtle way, engage in confronting by bring it to the notice of powerful other.

- According to the behaviourist perspective, In the recent past, Indians seem to idealize and imitate the western culture which engages in active and open confrontation (assertiveness practiced) ways of coping in dealing with perceived powerful others in that situation. Hence, with improved human rights laws, women may actively engage in confrontive way of coping.

There will be a correlation between Powerful Others Locus of Control and Escape Avoidance Way of Coping amongst females. The Correlation (r) obtained was 0.40, indicating a positive moderate correlation. With reference to statistical table of correlation the data was found to be significant at 0.05 level, which means that the obtained data was more due to true correlation and less due to chance.

This may be due to:

- According to the cognitive perspective, women may choose to escape the stressful situation, as they feel the power lays in the hands of powerful others and responsibility lies with them.

- From the socio-cultural viewpoint, In Indian context woman are likely to be considered subordinate to men, thus they may be expected to not question the powerful other and the easiest and effective way to deal with this may be escaping in form of denial, wishful thinking or physically.

There will be a correlation between Internal Locus of Control and Distancing Way of Coping amongst males. The Correlation (r) obtained was -0.38, indicating a negative moderate correlation. With reference to statistical table of correlation the data was found to be significant at 0.05 level, which means that the obtained data was more due to true correlation and less due to chance.

This may be due to:

- Being high on internal, they may feel powerful enough to deal with the situation in a "manly" way. Hence, cognitively as well as physically they would deal with the challenging situation in a direct way.

- From the socio-cultural perspective, in India, men may be considered as the problem solvers as well as heading the family, thus they may feel powerful enough and hence the responsibility falls on them and they may also initiate taking responsibility on themselves, therefore they face life's reality directly.

- Along with this, Males occupy a primary or privileged position and status in society and therefore expected to fulfil the role of being a 'powerful' man.

There will be a correlation between Powerful Others Locus of Control and Confrontive Coping Way of Coping amongst males. The Correlation (r) obtained was 0.18, indicating a positive low correlation. However, with reference to statistical table of correlation the data was found to be not significant which indicates that the obtained correlation was more due to chance and less due to true correlation.

This may be due to:

- Looking from a socio-cultural viewpoint, as Indians we have adopted a collectivistic culture; we attribute the responsibilities to others and engage in confrontive way of coping. As a result, we may keep blaming others.

- Along with this, in Indian Society men may occupy a primary or a privileged position and status and hence they may feel powerful enough to confront others responsible for the stimuli.
There will be a correlation between Powerful Others Locus of Control and Escape Avoidance Way of Coping amongst males. The Correlation (r) obtained was 0.23, indicating a positive low correlation. However, with reference to statistical table of correlation the data was found to be not significant which indicates that the obtained correlation was more due to chance and less due to true correlation.

- According to the socio-cultural perspective as India has a collectivistic culture, there is a tendency among Indians to contribute responsibility to others and probably find escaping as the easiest and effective strategy at that point of time.
- From the evolutionary perspective, one of the typical ways humans deal with problems is by withdrawing, a form of distancing; as a way to enhance and protect oneself from perceived dangerous stimuli.

**Future Scope of the study**
- Larger sample size.
- Other statistical analysis e.g. Regression analysis, ANOVA, t-test, non-parameters can be used to understand the nature of the variable better.
- Other comparisons like age group differences, socio-cultural differences, religious differences, various faculties, inter-generational differences, longevity, sibling differences and demographic variables can be done.
- Face to face distributions of questionnaires, Interviews can be done as an additional data collection mode
- Relationship with several other variables namely Decision making, Self esteem, Cognitive appraisal, attachment styles etc can be done.
- Within each gender, intra comparison can be done with three types of locus of control and with eight subscales for ways of coping (e.g. in males internal and confrontive coping compared with powerful others and confrontive coping with chance and confrontive coping. Similarly, for females.)

**CONCLUSION**

The results indicated that the correlation between Internal Locus of control and Distancing Way of Coping in males was found to be significant at 0.05 level and correlation between Powerful others Locus of control and Confrontive Coping Way of Coping as well as Powerful Others Locus of control and Escape avoidance Way of coping in females were found to be significant as 0.05 level. Whereas the remaining variable combinations were found to be not significant at any of the accepted levels in psychology.

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Why mental health professionals should read the newspaper

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The media’s ability especially via newspapers to shape public perception of mental illness has been well documented. Newspapers are influential in transmitting key information and ideas, including social commentary. This is true for print editions as well as online editions. India is said to have the second largest newspaper market in the world with 16,993 newspapers registered with the Registrar of Newspapers for India as on 31st March, 2017 [1]. Data from the World Association of Newspapers and News Publishers reveal that India's paid newspaper circulation grew 32% between 2013 and 2015 [2]. Hindi-language newspapers have by far the widest circulation with over of 314 million copies sold per day, but there are also publications produced in each of the 22 scheduled Indian languages and in several other languages spoken through the country [3]. After the falling broadband prices, fast internet speed and budget Smartphone boom in India, more and more people are consuming online news as well. A Comscore Inc. report in 2013 says Indian news and information websites drew an additional 9.4 million readers in August when compared with a year ago, a 34% increase [4].

Newspapers have a wider reach, cultural penetration and consequently, their role in reporting on mental illness is seen as one of the main conduits through which the public, especially those without personal exposure to mental illness, learn and come into contact with issues surrounding mental health. Thereby they play an influential role in shaping people’s knowledge, attitudes and behaviour towards mental illness. At the same time, reading a newspaper might also collateral offer distinct advantages to a mental health professional namely a psychiatrist, psychologist and the psychiatric social worker.

A purely bio scientific model of illness offers only a circumferential viewpoint of human beings. Doctors often need a deeper understanding of their patients that takes account of their emotional, cultural and existential aspects. The stories about mental illness published can offer such a perspective and help mental health professionals see the world from another person’s telescopic viewpoint. This is especially applicable to real life accounts of illness and suffering, chronicles that a common man can relate to. Psychiatric patients often present in de-contextualised states. Imagine a patient presenting with a history of chronic alcohol dependence, significant withdrawal symptoms yet harbouring an indifferent motivation to abstain. In another scenario a young adolescent who has been behaving strangely is brought by anxious relatives, he believes in black magic that people are out to kill him, refusing to let the social worker into the house and the relatives believe spiritual factors are at play rather than biological. Imagine if you could now cite the example of a politician or a movie star in the news recently who passed away due to cirrhosis to press upon the need for de-addiction to the patient in the first scenario. Would it be of value in the second scenario to allude to the example of the 11 members of the Bhatia family who were found hanging in their Delhi residence presumably under the web of a delusional family member and a resulting suicide pact [5]. How about the homicides of a family of four in Kerala in August 2018 where the perpetrator was convinced that the family had stolen his powers of black magic [6]. Would these examples be one they could relate to? Would it help in educating the caregivers of the dire consequences that could follow if he
does not receive clinical help soon and to explain the biological model of illness causation? Would it help them conceptualize the illness better and make them more amenable to the treatment offered?

Similarly, a patient’s vernacular, mental health vocabulary and illness behaviour can often be influenced by recent news events and the recognition of the same can help us become more sensitive to the nuances and subtexts of a patient’s communication. The wide spectrum of articles in the papers can help us understand diverse ethnic, religious and political groups in the circumference of our psychiatry practice. The health beliefs held by members of minority ethnic and religious communities have been proven to influence mental illness especially as determinants of help seeking behaviours and treatment strategies [7-8]. Further on, a few articles in the newspaper can sensationalize certain events [9-10], even depicting individuals with mental disorders as being aggressive and dangerous, reinforcing the stigmatisation and lack of acceptance of those with psychiatric diagnoses and increasing social distances [11-13]. Newspapers can help mental health professionals become aware of the context of such references from the patients, and the knowledge of these accounts can equip us to help the patient generate an alternative hypothesis for the concerned real-life accounts, avoid stereotyping, correct the inaccuracies, the skewed myths and de-stigmatize the concept then and there. A newspaper can thus serve as a medium for us to generate an antithesis commensurate to the patient’s thesis. In the process some stories might just even tug the necessary strings to galvanize the compassionate and humanistic instincts of doctors. The cross-sectional distress of a patient can evoke an affective and automatic response of empathy, a process referred to as “experience sharing” [14-15]. A contrasting source of empathy is one which involves consciously reflecting on another person’s experiences referred to as “perspective taking”, like for example journalistic stories generating empathetic responses from readers [16-17].

Newspaper stories that emphasise real life experiences of coping with adverse circumstances and a mastery of crisis have been found to decrease the suicide rates in individuals with increased vulnerability to suicide in the general population. This protective effect has been termed the ‘Papageno effect’ [18] in honour of the lead character in Mozart’s opera ‘The Magic Flute’. In the play when Papageno fears that he has lost his love, Papagena, he prepares to kill himself. But then at the last minute three boys save him by reminding him of alternatives other than dying. Would it be of value to cite the examples of an exemplar industrialist, a movie star or a cricketer, who in newspaper interviews have confessed to have overcome a mental health crisis and suicidal ideations in the past to now achieve laurels ? [19]. Could such a careful assortment of positive messages dampen a select individual’s suicidal ideation or change personal beliefs of coping skills?

Another facet is how the fountainhead role of robust unified reporting of mental health articles can influence mental health policy and legislation, let’s take for example how the concurrent nationwide reports on the suicides linked to the blue whale game resulted in significant sensitization, multiple mental health related workshops were conducted in schools, a ban was imposed and it also sparked research into the psychobiological determinants of online gaming [20]. The Netflix TV show ‘13 reasons why’ was one of the most popular global hits of 2017, the show glamorized adolescent suicide and drew opinionated articles in some of the most prominent newspapers in India [21]. One of them even went on to report the surge of phone calls mental health facilities were receiving from concerned parents and teenagers as word spread regarding the circumstances of suicide of the lead character in the series [22]. This could well have been the case in several other centres in the country and an awareness of the various dimensions of the issue would definitely have helped professionals better cope with queries from concerned parents. Another growing trend is that of healthcare journalism and the covering of research articles published in journals and/or presented at national conferences by well circulated newspapers, helping mental health professionals from different parts of the country become cognizant about the contemporary waves in scientific research.

For mental health professionals involved in mental health policy making, in district mental health programmes or mental health review boards, a local newspaper could be a vital channel that helps them incorporate contextual factors, cultural and religious paradigms, community responses and the social
barriers enveloping mental illness while formulating policy changes and implementing locally tailored solutions. The newspaper also plays a role in keeping us abreast of the latest legal changes and their implications. The new mental health care act has received a polarized reception since being unanimously passed by the parliament in March 2017. While some politicians and civil activist groups have praised the new installment; numerous psychiatrists, disability and human rights activists have voiced their concerns regarding the act through several prominent national and regional newspapers. These divided opinions can be a compelling variable in influencing public opinion and their perception of expected standards of care during treatment for a mental health illness [23]. Following this script via the newspaper can serve as a gateway for professionals to understand the relevance of the often contradictory yet coexisting standpoints of different groups, the nuances of the well-informed patient’s queries in the clinic and also the challenges that could lie ahead in the implementation of the act. Another recent example would be the initiation of decriminalization of Section 377-related to homosexuality, which was covered widely and in minute detail by newspapers, incorporating the personal, religious, political and judicial aspects, elucidating the various mental health issues which prevail in the LGBT community, a significant amount of which are secondary to psychosocial aspects-stigma and poor support systems [24-25]. This coverage helps sensitise us to the recent trends, thereby ensuring political and medico legal correctness, assisting in moulding oneself to the current times while dealing with sensitive issues related to patients in daily clinical practice.

One of the tasks facing the clinician is to find a story into which the patient’s abnormal / worrying behaviour can be fitted. We often ask a patient “What’s the story? “Or “How did it all begin?” The objective is to reassemble a narrative chain out of an apparently disconnected series of events, encouraging the patient to become the author of their own story—to consider what has happened to them and how they came to be here today This concept of learning through stories is a concept we are conditioned from as early as our time in school and a newspaper is a rich agglomeration of diverse stories, conveying implicit observations and explicit facts about one’s immediate environment. Similes, metaphors and analogies among others in newspaper sections such as editorials, commentaries, viewpoints, panorama etc – can be essential tools in this narrative process; providing the therapist with a means of communicating potentially complex psychological concepts to clients in a form they can more easily relate to. The right use of these tools might help patients put their illness in a context which helps give meaning to their apparently meaningless pain. They are much more than just a ‘figure of speech’; they are representative of a fundamental way in which we understand the world, and particularly, our own inner experiences. They govern the principle of ‘Lexicon’, wherein such grammatical rules help to merge words into logical sentences, using which abstract concepts can be conveyed effectively and made more tangible. An added benefit would be vocabulary acquisition and that these language attributes along with the construct of semantics, pragmatics and syntax in the articles might help improve our communication skills also, skills that are an integral part of psychiatric interviewing [26].

Newspaper as a resource is accessible to everyone but it is not one that everyone uses. Time is a precious resource for a health professional and the long hours spent in an often stressful environment might be the limiting factor in the utilization of this resource. However, over the last decade News conglomerates have dramatically revamped how we stay informed with the latest news. All the major newspapers of India have started their E-papers and news websites. Online news is transcendent, employs video, audio, and graphic elements in innovative ways. News content will be delivered to readers based on their expectations and not as a pre-determined “package”; users increasingly find them based on their preferences, interests and preferred delivery modes. Google News app is known for delivering most relevant news in the news feed by using Artificial intelligence techniques. The “For you” tab shows top headlines and news developments again with a personalized news list based on personal activity on Google platforms. Flipboard, In short and BBC news are some other popular online news apps that one can personalize to give one a crisp round-up of national as well as international news bulletins. Newspaper audiobooks have also come around which can be utilized while commuting to work. These applications can be easily downloaded, are simple to use and can be read on the go suiting even a busy health professional [27-29]. For others, apart from these online sources medical college libraries often subscribe to regional, national and international
newspaper prints. It might just be a welcome break from our digital screens too. It needn’t be that one has to read every word of every page and considering the menu driven torrent of sections in a newspaper, there must be at least one among these 12-15 sections that relates and identifies with the ambience of one’s psychiatry practice, columns that stick out to you, articles that can even be savoured rather than gulped, commentaries that can be read and re-read, insights that can weigh up to experiences and maybe in due course fatigue might no longer remain a limiting factor; paradoxically the habit of reading the paper might itself now serve as a restorative tonic for the fatigue. Imagine if you could discuss these readings at work with your peers, just processing the synthesised information and examining the essence of the thoughts behind these pieces before sharing it will provide a unique outlook and then the ensuing discussion might further generate an analysis of diverse data points. Imagine further on if someday there could be newspaper clubs for mental health professionals to help stretch its potential and maximize the learning benefits. It could serve as a lancet to the society and a way to tip our hats as professionals to the complexity of human problems at the centre of the community.

Psychiatry today is bestowed with a Persian bazaar of books and a lightning rod of research ideas, psychiatry is consistently inventing and reinventing itself and the only constant is the fabric of change. The drugs we use, the algorithms and practice guidelines we affirm to, the promise of evidence based medicine, the digitalization that we constantly chase might all become insufficient in 25 years from now, we will encounter problems we have not yet imagined, problems that do not have a precedent, problems that outclass algorithms, problems that require critical thinking, adaptability and for doctors to think like patients. This might require doctors to see things from a patient’s vantage point for example to read the same things a patient reads, to hear the stories that patients hear and to imbibe their perceptions of mental illness. There is a growing acknowledgement of the importance of the humanities in psychiatry, and perhaps this is part of a wider trend that recognises the empirical gaps of a purely biotechnological approach to patient care. It simply won’t do to find the patient having multiple relapses to alcohol use, a poor motivation to quit and then to start the latest anti craving agent or to diagnose schizophrenia and start the latest anti-psychotic. We need to pay close attention to the patient’s story and the context in which he appears as well, an approach that will enable us to respond empathetically to his own unique experiential landscape. Sir William Osler once said “It is much more important to know what sort of a patient has a disease than what sort of a disease a patient has”. Since Oslerian times we have developed cutting edge tools to help us in understanding the disease better-genomics, imagining, wireless health, biomarkers; artificial intelligence; but we have made very few strides in developing tools that will help us in understanding the patient behind the disease better. Tools like the newspaper might be an underutilized appliance in this process and could help us cultivate an emotional resonance to patient care, an exercise in empathy, stimulating critical thinking, a reflective moral imagination and a cultural competence. It is important to know the DSM, ICD the Kaplan and Saddock and the Rutter’s but if you want to stay ahead of the curve you might just have to know the newspaper too.

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Prefrontal Cortex and Personality

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The frontal lobe is the first part of the brain to start developing and the last to stop developing in humans, according to phylogeny and ontogeny. It contains the control systems for the implementation of behaviours in relation to external and internal cues. These behaviours were previously collectively known as temporal functions and are now known as the executive functions. Apart from the executive functions, the frontal lobe is also primarily responsible for the processing of the working memory, abstract thinking, problem solving, attention and also plays an important role in the personality. An understanding of the functioning of the frontal lobe is crucial to understanding a vast majority of cognitive and non-cognitive behaviours that shape our personality.

Patients with frontal lobe lesions often do not display obvious disorders in their everyday behaviour and in fact tend to perform relatively well on most intelligence tests and memory tasks. The prefrontal cortex is contralateral and ipsilateral, thus a unilateral damage to the frontal lobe produce relatively mild deficits. Leonardo Bianchi (1922) [1], found that a bilateral damage in monkeys affected their goal driven behaviour. Although they responded and interacted with stimulus, there seemed to be a lack of understanding of the purpose of their actions. The case of Phineas Gage is a historical landmark in studying the prefrontal cortex. After a freak accident, the construction worker had a rod penetrate his skull that damaged his prefrontal cortex, bringing about a major change in his personality - displaying acts of extreme profanity, lack of planning and uncontrolled impulsivity. The difficulty to attempt to study the centralization of non-cognitive functions such as emotions and affect lies in the fact that these functions are difficult to measure quantifiably and the study of prefrontal lesions, although sheds some light on these functions, is also often times unreliable due to the irregularities of the lesion areas [1].

When studying the relation between the prefrontal cortex and the personality, it is important to understand how each of the sub regions of the prefrontal cortex play a role in various aspects of our personality: fMRI studies have shown an activation in the Orbito-prefrontal cortex in relation to extraversion - a trait associated with the ability to experience positive emotions in relation to rewards or expected rewards. Reduced volume of the medial prefrontal cortex (involved in processing, representing, and integrating social and affective information), has been found to be associated with Neuroticism. in the context of neuroimaging studies, empathy (an aspect of trait Agreeableness) has repeatedly been found to be associated with activity in the medial prefrontal cortex (mPFC).

Current neuroscientific models of personality suggest that the frontal cortex, and asymmetries in the frontal cortex, play an important role in the neurobiological foundation of broad dispositional traits. A study examined the neurological correlates of the frontal lobe and personality traits in chimpanzees [2]. They found that Chimpanzees rated as higher on Openness and Extraversion had greater bilateral grey matter volumes in the anterior cingulate cortex. Further, chimpanzee rated as higher on Dominance had larger grey volumes in the left anterior cingulate cortex and right Prefrontal Cortex (PFC). They also found that leftward versus rightward asymmetry in the frontal cortex was related to approach-avoidant temperaments in the primates. The Dominance trait and reactivity/impulsivity was associated with greater rightward asymmetries in the medial prefrontal cortex.

Animal studies serve as basis for understanding human neuropsychology as well. Animal models of chronic neuropathic pain suggest that subtle changes in the prefrontal cortex, such as altered basal dendrite length, leads to altered decision-making abilities. Researchers conducted a study using fMRI found that chronic neuropathic pain was associated with subtle anatomical changes in the medial prefrontal cortex,
anterior cingulate cortex and mediodorsal thalamus [3]. There was increased neural integrity in the medial prefrontal cortex for neuropathic pain patients, which was correlated to the personality temperament of novelty seeking.

Goal directed behaviour is primarily a function of the prefrontal cortex. The study by Bianchi, showed that when there were lesions in the prefrontal cortex, the monkeys showed difficulty in goal-oriented behaviour. This difficulty could also be the result of a deficit in the working memory. In the past, two types of studies have examined the task-oriented behaviour and working memory, these are: the delayed response tasks and the Wisconsin Card Sorting task. Goldman-Rakic (1992) used the delayed response task to study working memory in relation to the prefrontal lobe and found that those with prefrontal lobe lesions had difficulty on the task, thus affecting their working memory. Errors in this task imply that people with frontal lobe lesions tend to perseverate, that is, they tend to return to the same location. The Wisconsin Card sorting task explores the issue of perseveration. In the task involves two catches: first, the participant must explore the rules of sorting by themselves on the basis of the feedback provided by the experimenter in terms of correct or incorrect; second, the experimenter can change the rule of sorting without informing the participant. Thus, the task requires that the participant not only identify the correct rule for sorting but also should be flexible enough to discard a previously reinforced notion regarding a rule and discover a new rule to accomplish the task. Those with frontal lobe lesions perseverate [4]. This ability to be flexible to identify and implement new task goals is important in goal-oriented behaviour.

In a recent study, they studied the effect of stress on 48 healthy volunteers who were challenged with a standardised stress-induction protocol (the Trier Social Stress Test) or underwent a standardised control situation [5]. Subsequently, they were exposed to a task-switching procedure with two tasks alternating in random order. Participants of the stress group displayed increased salivary activity immediately after stress exposure as well as elevations of salivary cortisol even after 10 min of discontinuing the stress condition, showing the typical stress-related activity increases in the sympathetic nervous system and the HPA axis. Stressed individuals persistently showed larger performance differences between task switches and task repetitions than control group. This effect was evident when tested 5–20 min as well as 25–40 min following treatment cessation. These results show that acute psychosocial stress can negatively affect of flexible task-goal implementation, which is essential for voluntary goal-directed behaviour.

Damage to the prefrontal cortex at an early age could also affect social and moral behaviour by creating difficulties in the comprehension of rules, impaired decision making and planning and insensitivity to the consequences of decisions. Researchers studied the long-term consequences of early prefrontal cortex lesions occurring before 16 months [6]. They studied two adults who had severely impaired social behaviour despite normal basic cognitive abilities, and showed insensitivity to future consequences of decisions, defective autonomic responses to punishment contingencies and failure to respond to behavioural interventions. What set them apart from adult-onset patients was that they even had defective social and moral reasoning, suggesting that the acquisition of complex social conventions and moral rules had been impaired. These behaviours, which were part of a syndrome caused by early prefrontal damage, were similar to psychopathic behaviour.

The ventromedial and anterior cingulate sectors of the prefrontal cortex play a role in social and affective decision making, which are affected in psychopathy. Researchers [7] found reduced gray matter volume in the lateral prefrontal cortex and orbitofrontal cortex in unsuccessful psychopaths, but not in successful psychopaths, as compared to non-psychopaths. They used cortical pattern matching to examine regional cortical thickness in a group of 27 psychopathic adult males to a group of 32 non-psychopathic males, and found that the psychopathic group had reduced cortical thickness in right lateral PFC, and to a lesser extent, in the right ventromedial prefrontal cortex and rostral anterior cingulate cortex (ACC) [8].

Scientists studied 29 patients with Borderline Personality Disorder (BPD), who showed active signs of self-harm. They studied the activation of the prefrontal cortex prior to beginning Dialectical Behaviour Therapy (DBT) and seven months after the treatment [8]. They found that those patients who had reduced their frequency of self-harm during the treatment phase, showed lower levels of neural activity in the bilateral
dorsolateral prefrontal cortex before the treatment and greater activity in the region after the treatment phase. This suggests that increased activity in the right dorsolateral prefrontal cortex is related to impulse control which is associated to reduced self-harm in BPD patients who are treated with DBT.

CONCLUSION

Based on past research and current research, it can be seen that the prefrontal cortex and its subregions play an important role in the development of the personality. The studies on patients with personality disorders tend to shed more light on the areas affecting personality, which are, the dorsolateral prefrontal cortex, the medial prefrontal cortex and the anterior cingulate cortex. The studies on healthy participants, sheds light on the impact of neural connectivity in these regions, on the everyday behaviour of an individual. These researches show how daily stress could also have an effect on the prefrontal cortex. In conclusion, the frontal cortex can be considered an important part of the brain for the development of the personality since it entails development of behaviours that shape of personality, including decision making, impulse control, goal-oriented behaviour, understanding of social constructs and rules and understanding of consequences of actions.

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Case Report

Chloroquine Induced Psychosis in an adult patient with Amoebic Liver Abscess: a case report

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ABSTRACT

Chloroquine is used for chemoprophylaxis and treatment of malaria and other off-label indications like extra-intestinal amoebiasis, mostly in developing countries. In the literature chloroquine induced psychosis is mostly reported in children and when prescribed for malaria. Scarce data exists in the area of chloroquine induced psychosis in an adult population and when used for indications other than malaria. We report a 32 years old adult without any past and family history of any psychiatric disorder who developed psychosis after taking chloroquine prescribed for amoebic liver abscess. Chloroquine is commonly prescribed in developing countries and psychiatrists as well as other clinicians should be aware of this debilitating adverse effect of chloroquine.

Key words: chloroquine, psychosis, adult.

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INTRODUCTION

Chloroquine, a 4-aminoquinoline, synthesised in the 1930s by German scientist, who named it resochinis used for chemoprophylaxis and treatment of malaria, rheumatoid arthritis and lupus erythematosus [1]. Examples of off-labelled indications for chloroquine analogues use include dermatomyositis, sarcoidosis, polymorphous light eruption, disseminated granuloma annulare, porfiria cutanea tarda and extra-intestinal amoebiasis [2]. Chloroquine is a preferred drug especially in developing countries where Malaria is endemic due to multiple factors like absence of serious adverse events, presence of antithrombic and antilipidemic efficacy in addition to anti-inflammatory efficacy, being cheap and well tolerated compared to the other drugs, and a fast onset of action [3].

Side effects of chloroquine include gastrointestinal disturbances, headaches, skin reactions, hypotension, convulsions, extra-pyramidal symptoms, visual disturbances, depigmentation and loss of hair, and more rarely bone marrow suppression or hypersensitivity reactions such as urticaria and angioedema. As compared to other anti-malarial drugs the Neuro-Psychiatric side effects of Chloroquine are rare. They include headache, neuropathy, vertigo, depression, psychosis and mania, neuromuscular system-related symptoms such as myopathy, loss of sensation and atrophy in the proximal muscles. Although the incidence of serious neuropsychiatric adverse events has not been definitely established, they have been reported to occur at a rate of approximately 1:136005. It is thought that these adverse events result from idiosyncratic drug reactions [4-5].

Neuropsychiatric adverse events reported in the literature are generally those associated with the use of chloroquine in malaria and mostly in children. However, there is scarcity in literature in the area highlighting...
the neuropsychiatric side effects of chloroquine when used in the treatment of amoebic liver abscess, for which chloroquine is commonly used in developing countries. With this case report, we aim to discuss a psychotic disorder due to chloroquine use in an adult male patient who was being treated for amoebic liver abscess and also to attract the clinicians’ attention in this area by highlighting the side effects of chloroquine in this context.

CASE REPORT

We present a case of a Mr A, who is 32 years old gentleman with no significant past medical or Psychiatric history. He was admitted in general surgery ward of our tertiary care teaching hospital where he was diagnosed with amoebic liver abscess and underwent management in the form of percutaneous aspiration of pus and received intravenous antibiotics during his stay in the ward. He was discharged on chloroquine phosphate 600 mg in divided doses. After discharge the initial 4 days were uneventful. Since the fifth day Mr A started feeling that there is some supernatural power in his room and became extremely fearful and plead for constant company of family members. Following day started having irrelevant talk, muttering, aggression and suspiciousness and had a firm belief that some supernatural force is going to harm him. He was brought to our Psychiatry OPD by parents and was admitted as there was a risk of harm to others or self. In the ward patient became extremely aggressive and ran out and smashed random bikes. He was physically restrained as there was risk of harm to others and was later chemical restraint was applied. On mental status examination Mr A was unkempt, not cooperative for a detailed examination, rapport could not be established. He had a fearful mood and perplexed affect. He reported of delusion of persecution against unknown force or people. He also reported of auditory hallucinations where he could hear multiple voices which he was not able to comprehend. He also reported illusions and visual imagery related to a devil’s shadow. Serial mental status examinations and a detailed examination on the third day of admission revealed that, his higher mental functions like attention, language, orientation and memory were within normal limits. His insight was grade 2 and his personal and social judgement was impaired. No significant abnormality was detected on general and systemic examination.

There was history of alcohol intake for last 4 years. But the dependence pattern could not be established and his last drink was more than one month prior to admission. Thus, the mental and behavioural disorders secondary to alcohol was excluded as a differential diagnosis. Other differential diagnosis considered were delirium secondary to hepatic complications and Central nervous system organic lesions leading to acute behavioural changes. Liver function tests though deranged were showing downward trend as compared to previous results. Ultrasonography of the abdomen showed hepatic abscess but size was significantly reduced as compared to previous scan during in-patient care in surgery ward. A surgery and medicine consultation were sought for same where both departments advised no further care from their side. Mr A had intact higher mental functions. Thus, delirium due to hepatic causes was ruled out. A computed tomography of the brain showed no abnormality. Other blood investigations like Complete blood count, serum electrolytes, blood sugar levels, renal function test were within normal limits. Tests for Hepatitis B and C were negative. A structured clinical interview was carried out the next day when the patient was cooperative. A diagnosis of Organic delusional (schizophrenia-like) disorder according to International classification of diseases -10 (ICD-10) criteria for classification of mental and behavioural disorders was considered. His score on Brief Psychiatric rating scale (BPRS, 18 item) was 67 on admission. Chloroquine was discontinued and Olanzapine 10 mg in divided doses was chosen for treatment in view of good efficacy as antipsychotic in case of drug induced psychosis according to previous case reports [6], better agitation control, sedative property and free availability at our centre. On the 3rd day of treatment Mr A’s agitation was under control and by 5th day he was emotionally stable with no delusions and hallucination and there was significant decrease in the anxiety with BPRS Score of 25 on 5th day. His olanzapine was discontinued after 2 weeks after complete resolution of symptoms and patient did not have any psychiatric symptoms after 1 month of follow up.
DISCUSSION

Whenever a patient presents with abrupt onset psychotic symptoms and agitation, along with schizophrenia and acute psychosis, a diagnosis of organic psychosis due to prescription medications should be considered. Multiple case reports in the past have showed that prescription medication such as glucocorticoids and other steroids, anticholinergic drugs, L-Dopa, digitalis, disulfiram, quinolones, selegiline, isoniazid, Methylphenidate, topiramate, reserpine, isotretinoin, metronidazole and clonidine can induce psychosis [7-8]. The first case of chloroquine induced psychosis was reported by Burrell and since then number of case reports and case series has been published in this area [9-10] but majority of the cases are reported in paediatric population and in cases of malaria and very few cases have been reported where chloroquine is used in adult population and for an indication other than malaria. The exact mechanism of chloroquine induced psychosis is not known but the role of different neurotransmitter systems, i.e., polyamines excess, dopamine excess, Muscarinic cholinergic imbalance and prostaglandin E antagonism have been postulated [11-12]. Another mechanism considered for the explanation of neuropsychiatric adverse events is the drug’s probability of decreasing the cortical flow of information by inhibiting P glycoprotein [13]. Chloroquine induced Psychosis is dose independent and may appear approximately within 2 hours or 40 days. In their review, Mohan and others reported chloroquine induced psychiatric adverse events in at least 10 cases where symptoms appeared between the third and 10th day after starting chloroquine use and disappeared within 1-2 weeks following discontinuation of drug. Bhatia used chloroquine and evaluated six cases that developed psychiatric adverse events. They reported that adverse events appeared between the 2nd and 7th day after the onset of treatment independently of the dose. In our case, psychotic appeared on the 5th day after the chloroquine use and that the symptoms improved significantly approximately within 2 weeks and did not recur subsequently. This can be explained on the basis of the absorption, metabolism, and excretion features of chloroquine and is consistent with the previous literature [4,14].

In the management of chloroquine induced psychosis best strategy is to discontinue chloroquine and symptoms may subside within 2 days without any further intervention. Previously antipsychotics like chlorpromazine and olanzapine have been tried with good results. We used olanzapine mainly for agitation control and as we work in a low resource government setting, we had to prescribe the antipsychotic which is available for no cost to the patients which is olanzapine at our centre [15]. This case highlights the fact that asking for medication history is a crucial part of psychiatry history taking as this can be easily missed and patient and caregivers don’t report unless asked specifically for it. Also wrongly diagnosing the patient with Schizophrenia or Acute Psychosis can be devastating for the patient and the caregivers which can lead to prolonged and unnecessary treatment. Clinicians in the Non Psychiatric settings should be aware of this adverse effect of chloroquine and it should be used cautiously or if possible avoided in patients having history of severe psychiatric illness.

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Case Report

Psychogenic Belching: A Case Report

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ABSTRACT

Persistent psychogenic belching is a condition where supragastric belching occurs repeatedly in relation to a psychological stressor. Treatment involves trials of multiple medications with identification and/or elimination of the stressor. We present herewith the case of a female patient with persistent psychogenic belching that responded well to a combination of medications.

Key words: psychogenic belching, belching, supragastric belching, gastric.

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INTRODUCTION

Belching is defined as the act of expelling air from the stomach through the mouth and it is a physiological act that occurs occasionally in everyone and usually not related to a disease or gastrointestinal pathology [1]. Persistent and uncontrollable belching is benign in origin, but can be distressing in its psychosocial consequences. There have been two types of belches identified viz. the gastric belch and the supragastric belch [2]. Gastric belching is the escape of swallowed intragastric air that enters the esophagus and may happen 25 to 30 times per day and is completely physiological [3]. In supragastric belches, the air does not originate from the stomach but is ingested immediately before it is expelled again. This behaviour is not reflexive and is the result of human behaviour and is voluntary [4]. There have been case reports where the patient may belch up to 20 times a minute. A high prevalence of anxiety disorders and major depression has been described in relation to persistent belching and these symptoms increase due to an ongoing stressor [5]. Excessive belching also has been described in patients with obsessive compulsive disorder [6] and bulimia nervosa [7]. Many patients stop belching during speaking and it has been shown that distraction also reduces the frequency of belching whereas putting attention to their belching behaviour usually results in an increase in belching frequency. Supragastric belching is never observed during sleep [8]. Many patients with persistent belching have been diagnosed as conversion disorder and have been treated with a combination of antidepressants, benzodiazepines along with behaviour therapy and hypnosis [8]. We report herewith a case of persistent psychogenic belching in a female patient that responded to a combination of multiple medications.

CASE REPORT

A 26 years old Hindu divorced female having studied till the 10th standard presented to the psychiatry outpatient department with chief complaints of continuous belching since 15 days prior to presentation. She was apparently alright till 15 days back, when she started belching initially 3-4 times a day and gradually increasing to multiple times a day. She was very distressed, as the belching affected her day to day activities.
She had belching even while sleeping and had difficulty initiating sleep due to the belching. The belching would however disappear during sleep. She visited a gastroenterologist, who performed an endoscopy that revealed no abnormality. She would have repeated arguments with her mother and had a divorce 3 years ago due to interpersonal stressors with her husband. She had no current psychiatric history suggestive of depression, anxiety, repetitive thoughts and psychotic features. There was also no family history suggestive of psychiatric disorders. Her premorbid personality revealed that she was extrovert, would love to spend time with family, she was responsible at work and was a happy go lucky person. There were no significant psychiatric findings on mental status examination. We diagnosed her as having persistent psychogenic belching with a differential diagnosis of conversion disorder. She was started on Amitryptiline 25mg at night, Baclofen 30mg once a day, Haloperidol 0.25mg thrice a day, Rabeprazole 20mg once a day and Levosulpride 75mg once a day.

She came back in 7 days with marked improvement in her belching symptoms. Within 3 days of her follow up, she started belching again. She was advised admission for the same but refused as we wanted to keep her under observation and also have a consultation liaison with gastroenterology and ENT. The dose of Amitryptiline was increased to 50mg per day and Baclofen to 60mg per day. She was also started on Clonazepam 0.25mg thrice a day as she complained of anxiety symptoms. Due to minimal improvement in a week of making these changes, Baclofen was withdrawn and she was started on Escitalopram 5mg twice a day. A gastroenterology reference was made and they suggested withdrawing Haloperidol and adding Chlorpromazine 100mg in four divided doses which was implemented. The patient was administered an interview under low dose Lorazepam and she revealed feeling depressed as memories of her marriage with her mother in law torturing her for dowry and physical abuse by her husband haunted her. She also had the desire to get remarried and have children and a family of her own. The patient was started on counselling sessions using cognitive therapy for certain thoughts that kept halting her progress. She improved 80% in her symptoms with the combination of medications and counselling and is currently following up with us.

**DISCUSSION**

The case we have discussed brings out various issues in the management of persisting psychogenic belching. The patient was started on a combination of medications considering the distress and various previous case reports that had suggested many of the medications to be effective. The patient showed minimal improvement and finally responded to combination of medical and psychotherapeutic interventions. She was responded to a combination of Escitalopram (that probably managed her depressive features), Clonazepam (that managed her anxiety), Amitryptiline (in view of somatoform symptoms) and Chlorpromazine (in view of belching). Thus, psychogenic may need a polypharmacy approach to gain improvement and also need interventions for the identification and management of stressors that are causing the belching. There is a need for appropriate psychotherapeutic interventions like supportive psychotherapy and cognitive therapy to help these patients manage stress and distressing thoughts [9]. A consultation liaison approach to eliminate organic causes in these cases is prudent before considering a pure psychological and psychosocial etiology [10]. Clinicians must be aware that persistent psychogenic belching though rare needs a team based approach in its management and elimination of patient distress is the key to success.

**REFERENCES**


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