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Investigating the attitudes and current trends influencing Mental health in the undergraduate students of University of Delhi

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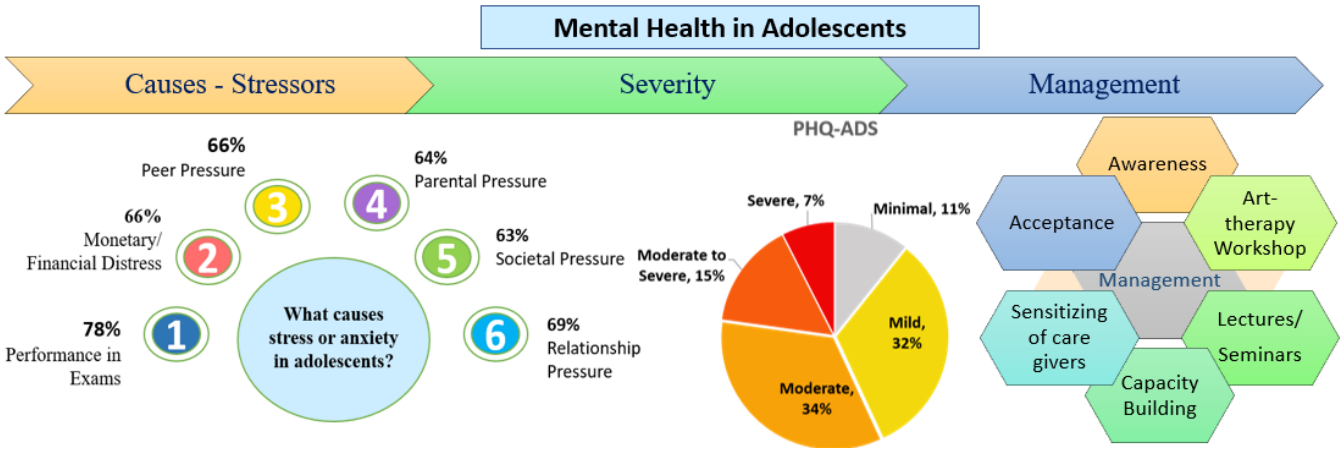
ABSTRACT



Adolescence is a stage of great turmoil characterized by the transition from being dependent on caregivers to being independent, autonomous young adults. This study aimed to investigate the status of mental health of undergraduate students and to analyse their understanding and attitude towards the importance of mental health. An online health survey was conducted to analyze various aspects of mental health like depression, anxiety, attention deficit hyperactivity disorder (ADHD), trauma, substance abuse, eating and sleep disorders. The responses were evaluated by descriptive statistics by excluding arbitrary correlation. Out of the 1014 students surveyed, more than 88.8% participants considered mental health to be as important as physical health. Performance in exams and relationship issues were identified as the main contributors to the increased level of stress or anxiety in the youth. Although 74.8% of the total respondents were concerned about the issues, only 36.9% had the information or knowledge to deal with them. The young adults clearly experience severe symptoms of mental health related issues, but the associated stigma and non-accepting attitude towards mental illness have been identified as deterrents in seeking help. These findings reinforce the importance of awareness/education about mental health in the masses.

Keywords: Mental health, Adolescents, Depression, Anxiety, Trauma, Substance abuse

INTRODUCTION

The advancement in technological growth in the current century has been exponential, resulting in continuous bombardment of information and tremendous globalization paving way for boundless possibilities. It has however been accompanied with significant distress, stressful routines and unhealthy competition in youth, leading to generation of self-doubt and discontentment.

Young adulthood is a phase of great turmoil and is characterized by transition from being dependent on caregivers to maturing as self-reliant, independent individuals. The growing years comprise physical, emotional and social changes, including exposure to financial problems, exposure to adversity, pressure of competing with peers, influence of media, identity crisis, abuse, or violence that can make the youth vulnerable to mental health

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problems.[1] Mental health determinants could include factors like exposure to adversity, pressure of competing with peers, influence of media and identity crisis. Some adolescents are at a greater risk of compromised mental health due to their vulnerability, stigma around mental health issues, discrimination or exclusion, or limited support from the family.

College going students go through a transition from a relatively protected environment at school and home to becoming independent in many ways which also involves the appropriate use of newly acquired freedom. This age group is confronted with several conflicts and challenges, the successful resolution of which shapes the personality of an individual. The students are sometimes overburdened with studies and extracurricular activities, constantly running between commitments and spending less time on their own well being and life. Young adults facing mental health problems are more prone to social exclusion, discrimination, educational difficulties, risk-taking behaviours and feel the stigma around seeking help.[2]

Statistics related to the mental health in young adults are more alarming than ever. For instance, prevalence of depression, dependance on substance and the suicide rates among the Indian youth are very high now as compared to previous decades. In the age bracket of 10-19 years, one in every seven individuals globally has been reported to experience a mental health disorder thus making up 13% of the total individuals in this age group worldwide.[3] Suicide is the fourth leading cause of death among 15–19-year-olds. The mental health issues can be categorized as depression, anxiety, eating disorders, attention deficit hyperactivity disorders and behavioral disorders.

DEPRESSION

Adolescent depression is a serious mental health concern culminating in persistent sadness, self-doubt and loss of interest in activities. Comprehension and diagnosis of depression is a challenging task, as the symptoms often overlap with other psychiatric disorders making it mandatory to rule out various other factors. The contribution of mental disorders to the overall burden of disease in India is reported to have almost doubled in the last few decades.[4] Some of the symptoms shared by people with Depression and anxiety are similar, one of which is rapid and unexpected changes in mood. Treatment options for Depression can include psychotherapy in the form of cognitive behavioral therapy and interpersonal therapy and/or pharmacotherapy (mainly fluoxetine), based on severity, associated risk factors and other factors.[5] Depressive symptoms are reported to be higher in students who have witnessed parental violence, abuse, severe punishments and less parental involvement in daily activities. [6]

ANXIETY

Anxiety during adolescence is typically characterized by social acceptance, conflicts about independence, peer pressure and relationship issues along with changes in the way the adolescent's body looks and feels.[7] The National Institute of Health has estimated that nearly 1 in 3 of the adolescents experience an anxiety disorder. Generalized Anxiety Disorder (GAD) is characterized by extreme, usually irrational anxiousness about routine situations such as work, studies, health, finances or relationships. The individuals experience apprehensive expectation and extreme worry about multiple events or activities.[8] The intensity, duration, or frequency of fretting or worrisome behavior is out of proportion with the actual magnitude of the event. The anxiety or panic attack usually prolongs for six months or more, is often uncontrolled, interfering with different areas of function like social interaction, behavior, studies and other responsibilities in college or home.[9] Various signs and symptoms often found to accompany this situation are restlessness, fatigue, irritability, sleeplessness, short attention spans and difficulty in concentrating followed by panting, sweating or dizziness.

EATING DISORDERS

Eating disorder is an obsessive condition which involves persistent eating behaviour that causes a negative impact on health, emotions and functioning in important areas of life. Anorexia nervosa, bulimia nervosa and binge-eating disorder are the most widespread forms of eating disorders reported in adolescents.[10] Such disorders often originate in the growing years where adolescents could be obsessed about their weight, body shape and food, causing dangerous eating behaviors. These disorders can significantly impact the ability of an individual's body to get appropriate nutrition, often affecting the heart, digestive system, bones and other secondary diseases. Eating disorders are reflective of the capacity to cope with the issues related to identity and personal control.[11,12]

ATTENTION DEFICIT HYPERACTIVITY DISORDERS (ADHD)

ADHD is a prevalent neurodevelopmental disorder in young adults, usually initiating in childhood and often persisting till adulthood. ADHD is typically identified by shorter attention spans, uncontrollable impulsive behavior or hyperactivity.[13] Around 1 in 20 adolescents are reported to meet the clinical criteria for ADHD.[14,15] Such individuals have a tendency for developing stress, risk taking behaviors and are often emotionally immature.

SUICIDE AND SELF-HARM

Depression in adolescents is reported to be a leading factor for suicide, which is the second-to-third reason causing death in this age group, with most adolescent suicide victims detected to show a depressive disorder at death.[16] Multifaceted risk factors like harmful use of alcohol, childhood abuse, stigma against seeking help along with barriers to accessing care and acceptance could be involved. Suicide attempts are usually impulsive and could be associated with emotions like sadness, confusion, anger, lack of attention and hyperactivity.[17,18]

SUBSTANCE ABUSE

Many adolescents indulge in various risk-taking behaviors like use of substance or sexual risk-taking. Risk-taking behaviors can be a strategy to evade or deal with emotional difficulties and can have serious implications on an individual's mental and physical well-being. Among adolescents, alcohol is reported as the most commonly used substance, with as high as 64% of 18-year-olds taking to alcohol use for life, followed by marijuana (45%) and cigarette (31%).[19] Substance dependence is defined by continued

use of substances like alcohol or drugs and the inability to stop using them, despite it resulting in significant problems or distress. Dependence can be reflected by an enhanced tolerance or requirement of higher amounts of a substance to attain the desired effect or withdrawal symptoms on refraining from use and continued addiction despite awareness of the aftermath of the extent of substance use.[20] A multitude of factors have been found to influence adolescent drug abuse like impulsivity, rebelliousness, maltreatment or negative upbringing, neglect, insecurities, conduct disorders, depressive disorders and many others.[21,22]

TRAUMA

A traumatic event is defined as a dangerous, scary or violent event that results in physical or psychological harm or is a threat to an individual's life or his loved ones. Trauma, sometimes instead of being a single event may be ongoing abuse or neglect, like violence at home or neighborhood which leaves a strong after effect even after the event or assault has ended.[23] Traumatized individuals are vulnerable, and could be dealing with serious threats to critical brain functions like memory, problem solving or reasoning and cognition. Traumatic experiences often initiate strong emotions and physical reactions to the extent that sometimes events occurring during one's childhood could impact the development of a person throughout the rest of their life. Traumas are categorized as - event trauma and process trauma. An event trauma refers to a sudden, disturbing event within limited duration and space, for instance, a hurricane or a fire. Process trauma however involves continued exposure to a long-lasting stressor, like a war or physical abuse.[24,25]

Students displaying symptoms of depression, anxiety or trauma may experience barriers in several routine activities like academic performance, classroom behavior, and relationships.[21] Disruption of academic performance could be in the form of ineffective communication skills, lacking in organization of narration, inability to accept someone else's perspective, limited attention spans and lack of concentration on classroom tasks along with difficulty in self-regulation or emotional modulation.

Respecting the rights of the youth, preventing over-medicalization, and promoting non-pharmacological approaches are key to adolescents' mental wellbeing. WHO has developed various programs to assist governments to cater to the health needs of adolescents. For instance, The Helping Adolescents Thrive (HAT) initiative is a joint effort by WHO and UNICEF to strengthen policies and for uplifting the mental health of adolescents. Efforts are intended to ensure prevention of self-harm and other risk behaviors that have a serious negative impact on the mental and physical health of adolescents. There are several capacity building programs that endorse a multi-level approach with several delivery platforms like digital media, health care and educational institutions, and many strategies to reach out to the vulnerable youth.

MATERIALS AND METHODS

This study was performed using an online health survey,[26] in the month of March-June 2022) to analyse various aspects pertaining to the students of University of Delhi in the age bracket of 15-20 years. The questionnaire was divided into three main parts: Section A - dealt with information on socio-demographic parameters like gender, age, living at home with parents or near the place of study, away from the family. Section B- dealt with attitude towards mental health issues and help seeking. Section C- dealt with the various causes of and types of mental health issues in the youth. Participation in the survey was limited to one response per individual (ascertained by necessary logging in with the email ID) to avoid duplicated or exaggerated data. Snowball sampling was performed where the participants were requested to fill out the form and encouraged to assist in sharing the questionnaire with their contemporaries and friends in the University.

The Patient Health Questionnaire (PHQ-9) is a validated diagnostic screening instrument employed for detecting and monitoring severity of depression. It was developed by Kroenke *et. al.*,[27] and is considered a diagnostic measure for five prevalent forms of mental disorders, namely, depression, anxiety, somatoform, substance abuse, and eating disorder. It is a dual purpose scale which helps in diagnosis of depressive disorders along with grading depressive symptom severity. A modified PHQ scale was used to screen the severity of depression in the respondents and frequency of symptoms analyzed in the male and female respondents in this study. PHQ-9 has shown good psychometric properties.[27] The respondents were asked about the frequency of the symptoms experienced by them over the previous two weeks before the filling of form and the responses were collected on a five point scale: never, rarely, sometimes, often and always, scored as 0, 1, 2, 3 and 4 respectively. The PHQ-9 was scored as a continuous variable from 0 to 32 (higher scores representing severity of depression) or categorically using a diagnostic algorithm for depressive disorders. Scores above 10 were considered to be in the depressive area. The PHQ-9 scale is increasingly used as a continuous measure of depression severity, where scores of 5, 10, 15, and 20 represent thresholds values indicating the lower limits of mild, moderate, moderately severe, and severe depression. Scores below 10 usually do not occur in individuals with major depression whereas scores higher than 15 usually identify major depression.

A modified Generalized Anxiety Disorder scale (GAD-7),[28] comprising five symptoms was used to measure worry and anxiety. Each symptom was scored on a five-point likert scale (0–4), with total scores ranging from 0 to 20. Higher scores reflect severity in anxiety. Scores above 10 are considered to fall in the clinical range.[28] The GAD-7 scale has demonstrated good reliability and construct validity.[29]

The data was analyzed for sampling errors by removing the variables which did not have a considerable sample size pertaining to unequal coverage among respondents from different genders, age or living independently away from home etc. Response bias was minimized by opting for a diversified set of questions while framing the questionnaire and processing errors were eliminated by a data cleaning step where each response was studied for inconsistencies. Descriptive statistics like measures of central tendencies, frequencies and proportions were used for response evaluation using SPSS software. Data wrangling, cleaning and visualization were performed using Microsoft Excel 2016 and SPSS.

Statistical Analysis

Descriptive statistical analysis was carried out for the data using the Statistical Package for Social Sciences (SPSS) version 23, adopting a confidence interval (CI) of > 95%. The results including means, frequencies and standard deviations (SD) are reported in descriptive statistics. Statistical differences between the various analyzed parameters were determined by Z test. Significant associations and correlations between univariate sociodemographic variables and awareness subscales were evaluated using Pearson's correlations and Pivot tables. Multivariate analysis was performed using Logistic Regression analysis (using ANOVA). The Logistic Model was statistically significant, X^2 (4) = 165.72, p-value < 0.0005. Pivot tables and charts were constructed to compare and summarize the data variables to explore the trends based on the data obtained. Pearson's correlation analysis was performed to understand the relationship between the various factors under consideration. Regression analysis was performed, where logistic regression models were built to understand the strength of relationship between the multiple variables in order to highlight the predictors in the model that are statistically significant, along with analyzation of the confidence levels.

Logistic regression was performed to ascertain the effects of PHQ and GAD attributes on the likelihood that participants have a concern about their mental health. The logistic model was statistically significant (p< 0.0005). The Hosmer-Lemeshow goodness of fit evaluates the null hypothesis that predictions made by the model fit perfectly with observed group memberships. A non-significant chi-square (p > 0.05) indicates that the data fits the model well. The model was able to classify 75.3% of the cases. 98.7% participants who had concerns about their mental health were also predicted by the model to have concerns about their mental health. The model has high sensitivity, high positive predictive value i.e. of all the cases predicted as having a concern about mental health, 75.7% were correctly predicted [100 x (748 / 240 + 748)]. The negative predictive value of the model is 61.5% i.e. of all cases predicted as not having concern about mental health, 61.5% were correctly predicted [100 x (16 / 16 + 10)].

A composite analysis of the Patient Health Questionnaire 8-item depression scale (PHQ-9) and 5-item Generalized Anxiety Disorder scale (GAD-7) called PHQ-ADS along with the two individual analysis, were employed to reflect the severity of depression in the youth population under study. Post hoc analysis was performed on the data set using the PHQ-ADS, modified PHQ-9 and GAD-7 scales. The mean, standard deviation, and internal reliability (Cronbach's alpha) was calculated for each of these scales. The standard error of measurement (SEM) was evaluated as the standard deviation of the baseline score for a particular value multiplied by the square root of one minus the Cronbach's alpha value.

Informed Consent: All the participants answering the survey voluntarily consented to participate in the study as anonymous respondents, where the information shared by them would be kept confidential and only be used and published for the purpose of scientific study.

Results and Discussion

Socio-Demographic Variables: The survey received 1014 responses from undergraduate students of colleges across University of Delhi including Hindu College, Daulat Ram College, Shivaji College, Hansraj College, Sri Venkateswara College, Kirori Mal College, Miranda House, Ramjas College to name a few.

The survey was undertaken by 530 (52.3%) females and 469 (46.3%) males and 15 (1.5%) participants who were non-binary or preferred not to disclose their gender. The first step towards resolving a problem is realization and acceptance of the fact that the problem exists. Mental health issues on some planes are associated with a stigma that doesn't let a person suffering from the issue accept it or share it with another person or seek help. Hence, it is important to analyze the attitude of the youth towards such issues and spread awareness to equip them to address it so that the society is more open to address such issues. Figure 1 reflects the attitude of the youth towards mental health. 89% of the respondents agree that mental health is as important as the physical health of a person. Each phase of life brings a unique set of challenges for an individual hence acting as a stressor for him/her. The top players contributing to stress or anxiety in adolescents include performance in exams (78%), relationship pressure (69%), peer pressure (66%), monetary and financial distress (66%), parental pressure (64%) and societal pressure (63%) (Figure 2). Most respondents facing these issues chose to disclose it to one or two selected trusted people (57%) preferably friends or other adults, owing to the fear of not being accepted or understood (Figure 3). The help seeking preferences in the youth have also been reported previously in other studies where the youth want to keep their problems to themselves or alternatively turn to peers or trusted adults for help. The opinion of the youth on

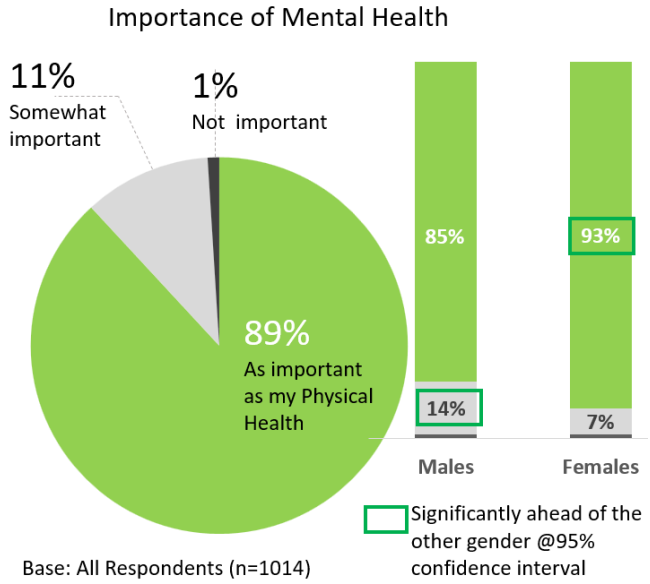


Figure 1: Importance of Mental health. This reflects the attitude of the youth towards perception of mental health issues with self or another person. The female respondents were observed to be significantly ahead of the males in considering mental health to be as important as physical health, which is reflective of them being more accepting and sensitive towards this issue.

how this issue should be dealt with includes sensitizing the parents or caregivers to talk to their children about the mental health issues and arranging for professional counselors in places of study/ school among the top choices (Figure 4).

The analysis of attitude towards mental health disorders is very important as it reflects the overall mindset of the society. The stigma associated with mental health problems makes it difficult for the victims to come up with their issues and seek help, also the people around them could be reluctant to provide support, hence worsening the situation. We found that most of the respondents (Figure 1) considered mental health to be as important as their physical health. The right attitude and acceptance towards mental health issues would provide a much better coping mechanism. It would also help the individuals facing these issues to easily disclose their problems and seek help.

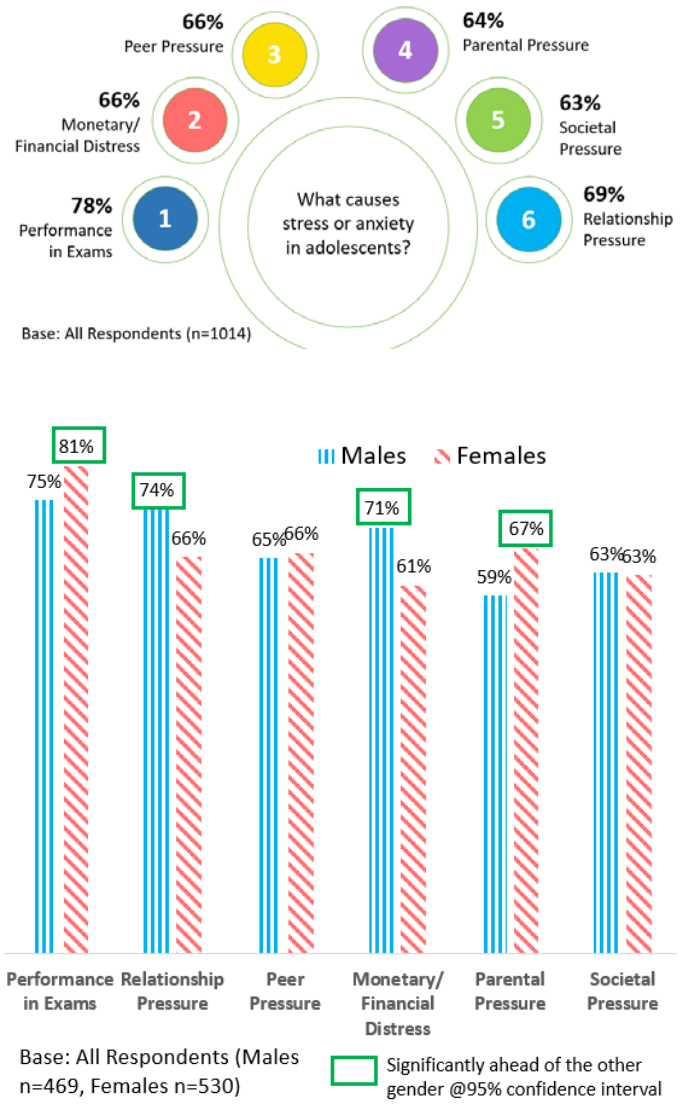


Figure 2: Factors causing stress or anxiety in the youth. These factors have been validated by the students as stressors, performance in the exams and relationship issues being the top contributors among these.

Multiple stressors could be affecting the state of mind of an adolescent and consequently result in a mental health disorder. The adolescents are often found to be be multitasking to strike a delicate balance between their personal and professional commitments. The main stressors affecting the mental state of the respondents in our study were performance in exams, relationship pressures, monetary distress, peer pressure, parental pressure followed by societal pressure (Figure 2). Out of these stressors, the female respondents were found to be more perturbed by performance in exams and parental pressure as compared to males. The male respondents, however, were found to be more perturbed by relationship pressure and monetary distress as compared to females. All other factors did not show a gender bias and were found to affect males and females equally.

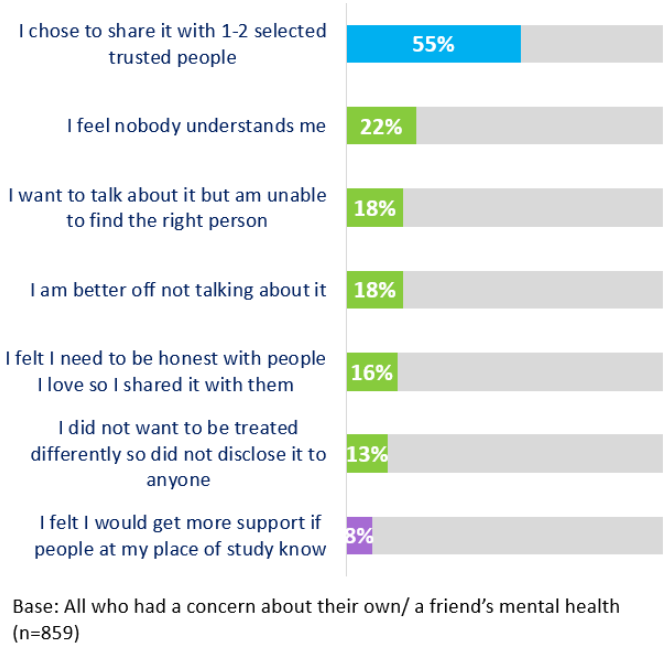


Figure 3: Dealing with the mental health stressors. More than half of the young adults suffering with mental health issues chose to share their problem with one or two selected trusted individuals. A significant number of respondents felt that nobody understands them (22%), wanted to talk about their problems but could not find the right person (18%) or chose not to talk about it (18%).

Once the young adults have identified a mental issue, it is important to analyze how they choose to deal with it (Figure 3). This not only reflects their own perception about these issues, but also shows how accommodating and accepting their social environment is. The data from our study indicated a positive attitude in most of the respondents where the victims were open to discussing their problems and seeking help from people in close quarters. A significant number of respondents facing these issues however, felt that nobody understood them or did not want to disclose their problems, probably due to the fear of being ostracized or looked down upon.

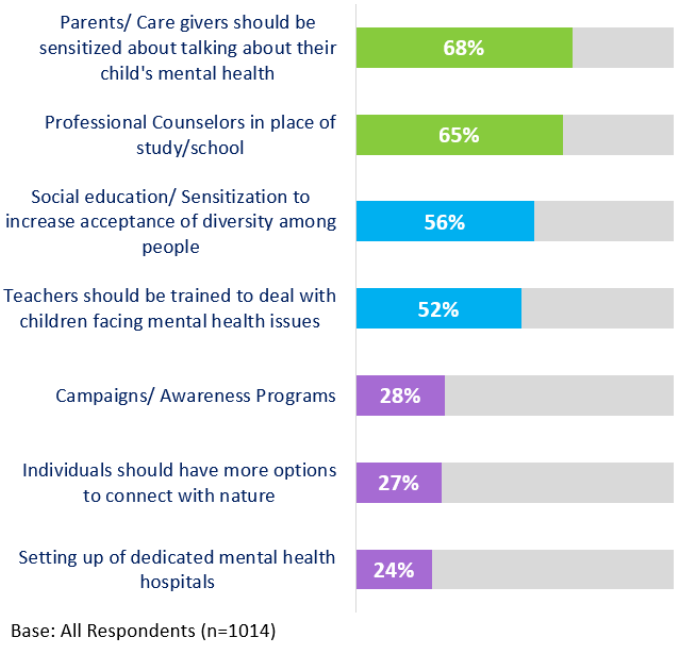


Figure 4: Steps for empowering with Mental health literacy. The youth identified sensitization of parents or care givers as the top parameter followed by professional counsellors appointed in their college/school as their most comfortable go to options when stressed.

The turmoil and challenges faced by the youth makes them vulnerable and it was found that around 75% of the respondents have faced mental health issues at some point and another 10% were concerned about and supported their friends (Figure 5). However only 42% of these individuals had an understanding of the ways to deal with the problem. Most respondents confided in their

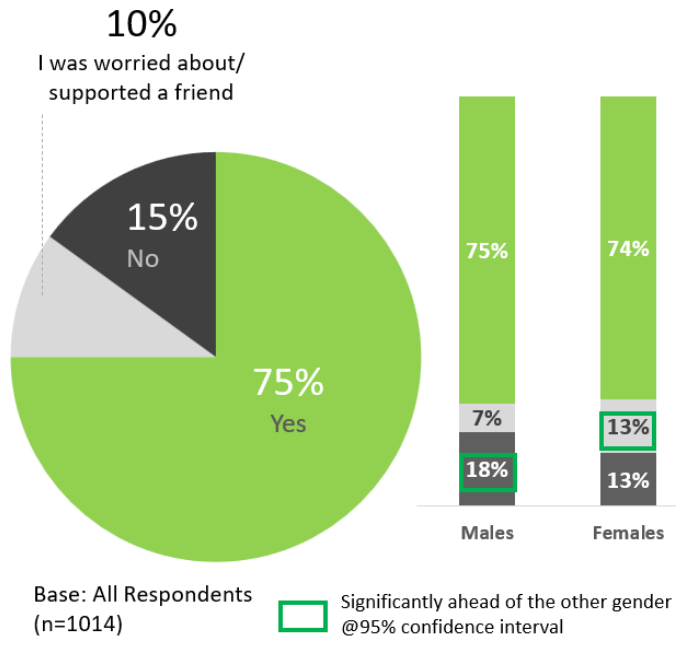


Figure 5: Percentage Respondent Population affected by mental health issues: As high as 75% of the respondents reported facing mental health issues and 10% had supported their friends. The distribution of male and female respondents facing these issues was found to be similar.

friends (58%) with regards to seeking help on this issue, while some also found support in their parents (26%) and professional counselors (16%). Around 20% of the respondents agreed that they wanted support but could not find any (Figure 7). In the context of awareness on the issue (Figure 6), media and social media platforms contributed the most (59%), after the person confided in his/her trusted individual (48%) or read about it (43%), followed by participation in awareness programs, webinars, or seminars.

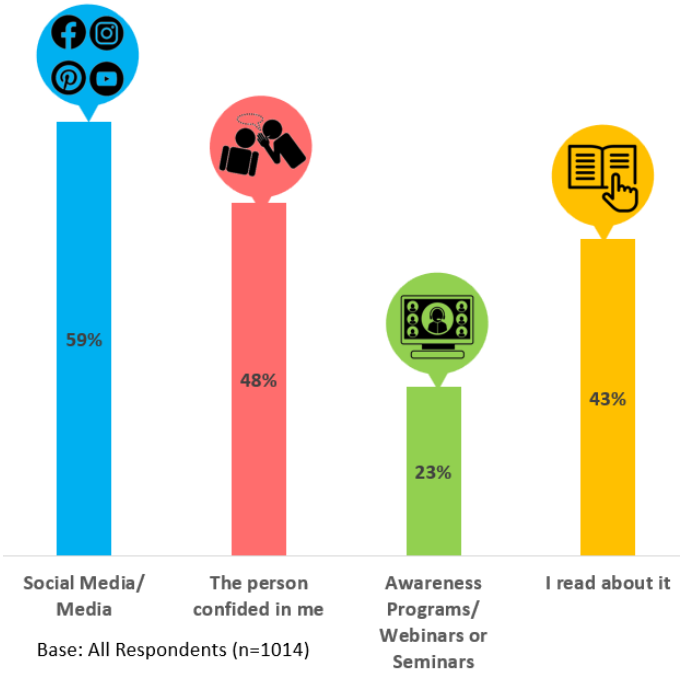


Figure 6: Sources for awareness on mental health issues. The youth identified social media as one of the biggest platforms for making them aware about mental health issues followed by the affected individuals in close circles confiding in them.

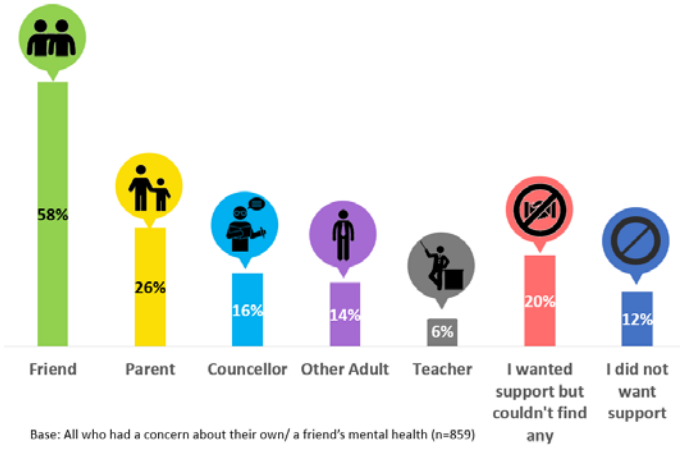


Figure 7: Seeking help: Respondents described the person who helped them/their friends with the mental health situation. Most of the respondents found resolution to these issues in their close friends (58%), followed by parents (26%).

The mean PHQ, GAD and PHQ-ADS scores represent moderate levels of depression and anxiety. All three scale scores presented good internal reliability, with Cronbach alpha in the range of 0.79-

0.83. Mean values (SD) PHQ-ADS, PHQ and GAD, along with item-total correlations are depicted in Figure 10. All item-total correlations were good, showing Cronbach's alpha value of 0.835. Correlations of the 13 PHQ-ADS items with one another reflect symptoms as 11% minimal (<10), 32% mild (11-25), 34% moderate (26-30), 15% moderate to severe (26-30) and 7% severe (31-44).

The prevalence of depression was significantly higher in the student respondents, with 83% students showing symptoms of depression if 10 is taken as the cut off. The PHQ scores showed graded distribution as 17% minimal (<10), 24% mild (10-14), 42% moderate (15-19), 13% moderate to severe (20-24) and 4% severe (25-32). The distribution of PHQ-9 scores is shown in Figure 8. The mean PHQ-9 score was 5.80±4.59. Total scores on the PHQ-9 did not significantly differ with respect to gender or demographic factors. Mean PHQ-9 scores were slightly higher in females (female 5.85±3.65 vs. male 5.76±5.25), but these results were not statistically significant. The mean score of the PHQ-9 correlated significantly with parameters like performance in exams, peer pressure, relationship troubles and financial or monetary distress (p=0.007).

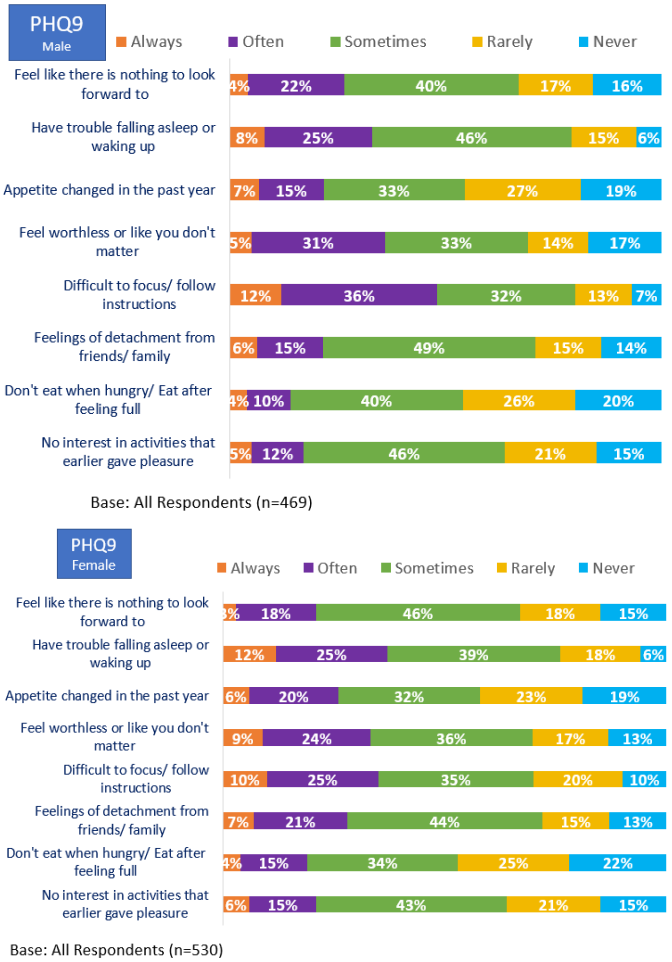


Figure 8: Modified PHQ-9 scale for analysis of severity of depression. A) PHQ-9 for Male respondents B) PHQ-9 for female respondents. Mean PHQ-9 scores were slightly higher in females, but these results were not statistically significant.

Generalized anxiety disorder is a chronic and highly prevalent disorder in the youth, with 52% of the respondents obtaining a GAD score above 10 reflecting high levels of anxiety in the student population under study. Out of the total respondents depicting anxiety disorder, 35% have early-onset to mild anxiety, 45% percent have moderate anxiety, and 7% percent have high to very high degree anxiety. As high as 67% of the respondents feel that they have nothing to look forward to, 52% experience numbness, tingling, chills and hot flashes when anxious. 70% of the respondents feel worthless. Extreme anxiety patterns were reflected in 68% of the respondents who find it difficult to calm down from worry or panic even after the event causing anxiety was over and as high as 73% finding it difficult to organize tasks or meet deadlines and are not able to concentrate in class. Between meeting deadlines and adjusting to new environments, the students today are faced with multiple challenges and at some point are not able to endure the pressures of excessive worrying, anxiety and hypervigilance that are specific to GAD.[30] Males were found to be at a greater risk than females (Figure 9), and the disorder is correlated with coping better with the various stressors faced by the young adults. GAD is frequently associated with comorbid depression and other anxiety and somatoform disorders.[27] It is also reported that panic attacks and fearful spells have predictive characteristics regarding the consequent psychopathology and would be helpful in an early identification of high-risk individuals.[31]

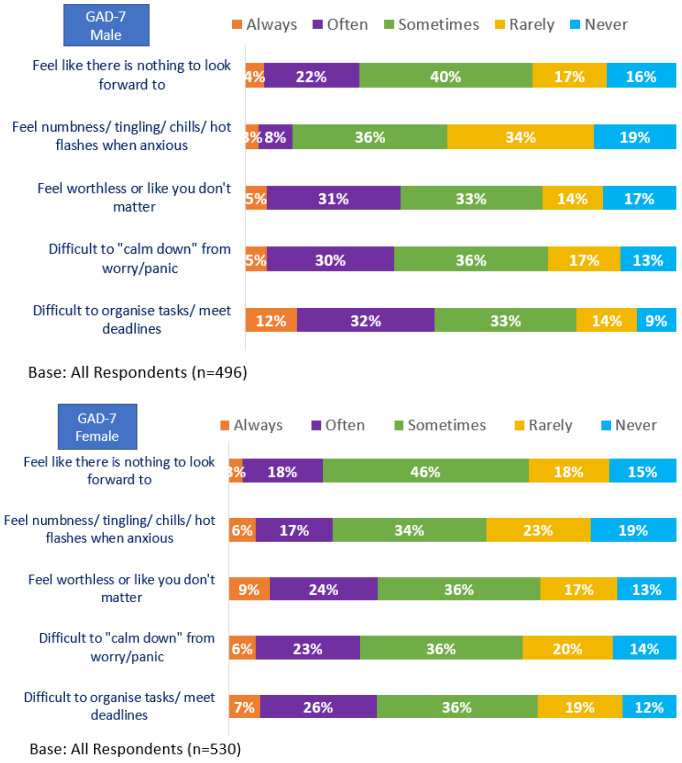
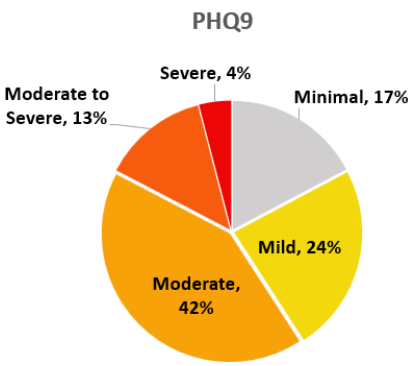
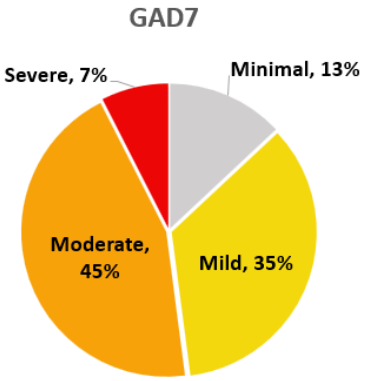


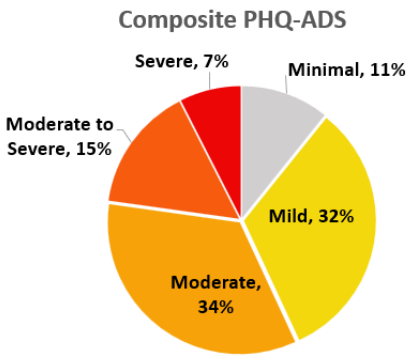
Figure 9: Modified GAD -7 scale depicting severity of anxiety symptoms in the youth. A) The GAD-7 scales for males and B) females show a similar trend in both the sexes. However, the males showed higher overall GAD scores as compared to females.



PHQ9 Score	%
Minimal	<10
Mild	10-14
Moderate	15-19
Moderate to Severe	20-24
Severe	25-32



GAD7 Score	%
Minimal	<5
Mild	5-9
Moderate	10-14
Severe	15-20



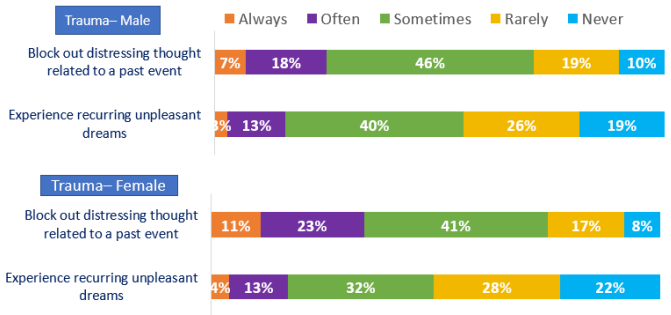
Combined Score	%
Minimal	≤10
Mild	11-20
Moderate	21-25
Moderate to Severe	26-30
Severe	31-44

Base: All Respondents (n=1014)

Scale Score Mean, SD		Cronbach's Alpha		Std. error of Measurement	
PHQ-9	15.01 (5.5)	PHQ-9	0.791	PHQ-9	0.174
GAD-7	9.4 (3.9)	GAD-7	0.743	GAD-7	0.122
Combined	20.6 (7.4)	Combined	0.835	Combined	0.232

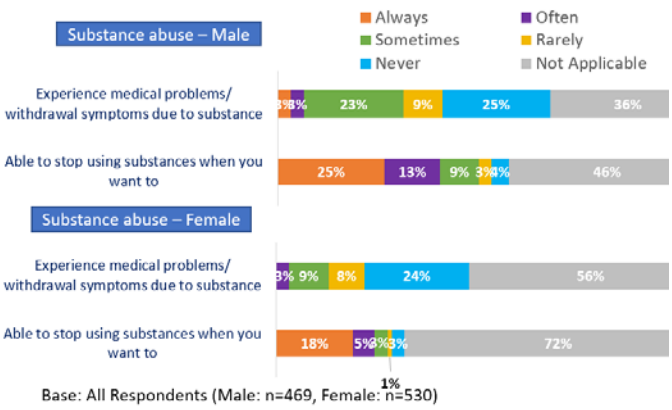
Figure 10: Composite PHQ-ADS Scale showing cumulative scoring of PHQ and GAD parameters. The scores reflect severity of symptoms, hence higher the score of an individual on the individual and/or composite scales, greater is the severity of anxiety and depression. A) Severity of symptoms depicted on a modified PHQ-9 scale. B) Severity of symptoms depicted on a modified GAD-7 scale. C) Composite PHQ-ADS scale displaying severity of symptoms.

The composite PHQ-ADS Scale is a cumulative scoring of the PHQ and GAD parameters and is important as the symptoms of the two scales usually coexist in an individual. 88% of the respondents show a score above the 10-point cut off, reflecting severe anxiety and symptoms of depression among the youth. The composite scale is an important analytical tool as the symptoms associated with the various types of mental health disorders often show comorbid representations in an individual.



Base: All Respondents (Male: n=469, Female: n=530)

Figure 11: Presence of trauma symptoms in the males (A) and females (B). The females were seen to be able to block out distressing thoughts related to a past event better than the males. The male respondents reported higher incidence of experiencing recurring unpleasant dreams (56%) as compared to the females (49%).



Base: All Respondents (Male: n=469, Female: n=530)

Figure 12: Prevalence of Substance abuse and addiction in the males (A) and females (B). The incidence of withdrawal symptoms due to substance use was reported to be significantly higher in the males (29%) as opposed to the females (12%). A higher percentage of male respondents (12%) were also found to be addicted to substance use as compared to females (7%), since they were not able to stop substance use at will.

52% of the student respondents reported recurring unpleasant dreams during the past one year. As high as 70% of the respondents found it difficult to block out distressing thoughts related to a past event. The females were seen to be able to block out distressing thoughts related to a past event better than the males (Figure 11). A higher percentage of males reported experience of recurring unpleasant dreams (56%) as compared to the females (49%). Dependence upon substance is reflective of an addictive behavior

Logistic Regression Model: To ascertain the effects of PHQ-9 and GAD-7 attributes on mental health.

Block 1: Method = Enter

The model explained 22.3% (Nagelkerke R^2) of the variance in having concern about mental health

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	165.717	13	.000
	Block	165.717	13	.000
	Model	165.717	13	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	980.159[a]	.151	.223

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

The Hosmer – Lemeshow goodness of fit test evaluates the null hypothesis that predictions made by the model fit perfectly with observed group memberships. A non-significant chi-square (p>.05) indicates that the data fit the model well.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	4.560	8	.803

The model was able to correctly classify 75.3% of the cases.

98.7% participants who had concerns about their mental health were also predicted by the model to have concerns about their mental health → **The model has high Sensitivity**

Of all cases precited as having a concern about mental health, 75.7% were correctly predicted [100 X (748 ÷ (240+748))] → The model has high **positive predictive value**

The **negative predictive value** of the model is 61.5%, i.e. of all cases predicted as not having a concern about mental health, 61.5% were correctly predicted [100 X (16 ÷ (16+10))]

Classification Table[a]

			Predicted		
			Concern for Own Mental Health		Percentage Correct
	Observed		.00	1.00	
Step 1	Concern for Own Mental Health	.00	16	240	6.3
		1.00	10	748	98.7
	Overall Percentage				75.3

a. The cut value is .500

Feeling worthless (p=.001), difficulty in soothing oneself (p=.001), unpleasant dreams (p=.005), difficulty in organizing tasks (p=.012), having nothing to look forward to (p=.019) added most significantly to the model/ prediction

Eating disorder (p=.894) did not contribute significantly to the model

Those who were feeling worthless or had difficulty in soothing themselves or had unpleasant dreams were 2 times more likely (Exp(B) ~2) to exhibit/ acknowledge a concern about their mental health than those who did not

However, appetite change and losing interest in previously interesting activities were associated with a reduction in concern about mental health.

Variables in the Equation

		B	S.E.	Wald	df	Sig.
Step 1[a]	Nothing To Look Forward To(1)	.643	.275	5.475	1	.019
	Numbness Tingling(1)	.484	.270	3.201	1	.074
	Trouble Falling Asleep(1)	.207	.191	1.170	1	.279
	Appetite Change(1)	-.221	.207	1.147	1	.284
	Feel Worthless(1)	.748	.220	11.562	1	.001
	Difficult to Soothe(1)	.730	.211	11.966	1	.001
	Difficult to Organize Task(1)	.502	.199	6.357	1	.012
	Unpleasent Dreams(1)	.849	.301	7.963	1	.005
	Difficult To Pay Attention(1)	.361	.196	3.382	1	.066
	Block Distressing Thought(1)	.283	.190	2.216	1	.137
	Detachment(1)	.358	.229	2.454	1	.117
	Eating Disorder(1)	-.033	.250	.018	1	.894
	Little Interest in Activities Previously Pleasurable(1)	-.236	.231	1.044	1	.307
	Constant	.048	.119	.162	1	.687

Variables in the Equation

			95% C.I.for EXP(B)	
		Exp(B)	Lower	Upper
Step 1[a]	Nothing To Look Forward To(1)	1.903	1.110	3.262
	Numbness Tingling(1)	1.622	.955	2.756
	Trouble Falling Asleep(1)	1.230	.845	1.790
	Appetite Change(1)	.802	.535	1.202
	Feel Worthless(1)	2.113	1.373	3.251
	Difficult to Soothe(1)	2.075	1.372	3.139
	Difficult to Organize Task(1)	1.652	1.118	2.440
	Unpleasent Dreams(1)	2.338	1.296	4.218
	Difficult To Pay Attention(1)	1.434	.977	2.106
	Block Distressing Thought(1)	1.327	.914	1.926
	Detachment(1)	1.431	.914	2.240
	Eating Disorder(1)	.967	.592	1.579
	Little Interest in Activities Previously Pleasurable(1)	.790	.503	1.241
	Constant	1.049		

Figure 13: Logistic Regression Model. A logistic regression was performed to ascertain the effects of PHQ-9 and GAD-7 attributes on the likelihood that the participants have a concern about their mental health. The model has high sensitivity, with a positive predictive value of 75.7%. The model is statistically significant X^2 (4) = 165.72, p< 0.0005.

indicating depression, and we found that as high as 53% of the respondents used substance in some form during the past one year. Severe dependence is shown by 20% of the respondents who agreed to have experienced medical problems or withdrawal symptoms due to substance abuse. 11% of the respondents fall in the category of extreme addiction as they are not able to stop using substances at will. The sex disaggregation of this data showed that severe

dependence and extreme addiction was significantly higher in the males as compared to females (Figure 12).

As a part of mental health awareness initiative, we at Hindu College, University of Delhi, are in contact with students on social media platforms like Facebook and Instagram. We use these platforms to spread awareness and sensitize the students on issues of mental health. We had also conducted an 'Art therapy workshop" for the students of the Zoology department, Hindu College on 31st August 2022. The workshop was designed by a therapist trained in art therapy, and the participants are trained to use art as a medium to speak their minds and calm them down while combining art with meditation for a psychotherapeutic experience. We plan to make such therapy sessions available for a bigger audience in the future. Many organizations like the American art therapy association conduct online workshops for engaging the mind, body and spirit in a manner that is distinctly superior to verbal articulation alone. We also recommend such workshops to our students for an enriching experience and so that they are equipped to take control of the challenges posed to them.

The episodes of various forms of mental health disorders like anxiety, panic attacks, depression, trauma etc. affects student learning, behaviour and overall growth, both in the academic and home environment. Good mental health is important for an all-round development along with building strong relationships and resilience, and strong health relationships in turn promote good mental health. Good mental health translates into good physical health and vice versa. Physical health also directly influences mental health; thus adolescents should be encouraged to maintain a healthy routine, eat well, sleep well and indulge in regular exercise in fresh open spaces. Getting to talk and venting out feelings always helps, so parents, teachers and caregivers should always initiate open friendly conversations with their children. Conversing or discussing problems with a professional counsellor at place of study can also provide new perspective and motivation.

The overlapping symptoms and peculiarities make identification of the type of mental health disorder a challenge and it requires an effective diagnosis as there could well be comorbidity of disorders in one individual. Parents or primary care providers are usually the first line of contact for adolescents, playing a central role in its identification and management. Management strategies include prevention plan, early diagnosis and treatment involving implementation of straightforward, practical and cost-effective strategies. Treatment strategies for mental health disorders can include both psychotherapy, pharmacotherapy, or a combination of psychotherapy and pharmacotherapy. Cognitive behavioural therapy,[32] is a form of psychotherapy which is used as a line of treatment for various types of mental health associated disorders like anxiety, depression, eating disorders, ADHD, panic etc. It is a form of therapy that involves changing thought patterns consequently altering moods and behaviours. It provides the victim with a coping mechanism by managing stressors in a constructive manner. An intensive diagnostic assessment is required for the evaluation of psychopathology, diagnosis, premorbid personality, severity, suicidal intentions and comorbidities.[33]

Conclusion

This study would be instrumental in improving the recognition rate of major depression and facilitate treatment. The first step towards resolution of a problem is realization of the issue and then according to the nature or severity taking necessary action. It is high time we accept the prevalence of depression, anxiety, or related symptoms, be it for ourselves or our close circles. It is only humane to lend a helping hand or positive affirmation to a person in need. We encourage anxiety or depression sufferers to seek professional help. Only through proper help can issues with depression and anxiety disorder be overcome. The longer the struggle with depression or anxiety disorder, the more entrenched and complex it is to resolve.

The need of the hour is to allow space and opportunity to adolescents to explore and make their own informed choices regarding their career and future. They should know how to make a choice, and if they fail, they should be empowered to focus on overall growth rather than being a part of the rat race. The management strategies aim to enhance resilience in the youth by building their self-awareness, cognitive flexibilities, socio-emotional learning to be able to deal in a better way with the upcoming stressors and challenges in a healthier and effective manner.

Significance of the Study

Analysis of the attitude of the youth towards mental health issues and how sensitive they are towards their peers is reflective of societal empathy. Real time data from a representative population empowers health care providers, policymakers and educators to help shape initiatives effective in reducing stigma and eliminating barriers for individuals reaching out to seek help for mental illness. This study aims to identify the stressors causing various mental health issues in the youth along with the severity of depression and anxiety and the coping mechanism they use to overcome the same. Understanding the unique needs and challenges faced by the youth and spreading awareness about acceptance of mental health issues for self or other individuals would help people open up about such problems and ultimately will result in more acceptable solutions to these problems.

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Statement of Conflict of Interests

The manuscript is approved by all the authors. We declare that there is no conflict of interests.

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