

Correlates of Holistic Health Linked to Depression among Professional Students of India-Need for De-stigmatization

Parul Rishi^{1,*}, Abhinav Banthiya², Sneha Singh², Rahul²

¹Faculty of Human Resource Management, Indian Institute of Forest Management, Bhopal, India

²Indian Institute of Forest Management, Bhopal, India

*Corresponding author: drparulrishi@gmail.com

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Abstract Depression is a leading mental health issue taking a toll on the physical and psychological health of young students across the globe. Mental illness, stress and associated stigma is highly unaddressed within the Indian student population. Suicide, a consequence of the same, is the leading cause of death among Indians aged between 15 and 29. The study explored the degree of prevalence of symptoms of physical and psychological health, primarily linked to depression and stress, across students of different Indian states, gender, age groups, academic courses and year of study. An electronic survey including questions based on Beck Depression Inventory and other indicators of physical health and stress was used to capture data from 292 respondents pursuing professional courses in various educational institutions of India. Analysis showed that 28% of respondents reported symptoms of borderline to severe depression and 30% of respondents were also facing moderate physical health issues too. Physical appearance, loss of energy, tiredness and change in sleep pattern were some of the major physical health indicators significantly affecting psychological health, leading to pessimism, guilt, punishment feelings, suicidal thoughts and loss of interest. This contributes to increased physical stress and affects students' academic performance. Access to mental health services in India is found to be limited among student population. Besides, there is an associated stigma to approach mental health professionals, leading to unattended mental health issues causing adverse impact on physical and psychological health. A need for better psychological health services at the institutional level and efforts, on the part of social workers, to de-stigmatize mental health care, was recommended.

Keywords: depression, physical health, de-stigmatization, India

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1. Introduction

Humans are the part of a constant socio-cultural evolution. Modern civilization, technological complexity, shifting social values, changing relationships and family bonding are major factors driving change in pattern of health and disease in society. One of the central determinants to the quality of life is mental health [5]. Mental health issues affect a notably large population causing functional impairments, much more than many of the other physical disorders [16]. The latest estimates from WHO suggest more than 300 million people suffer from depression, an increase of more than 18% between 2005 and 2015 [35]. Depression is a serious illness affecting physical health, family and work practices causing decline in social, occupational and interpersonal dysfunction [37]. Depressed individuals tend to underperform in all the immediate spheres of their life including education, work, profession, marriage, health and social life, thereby

remaining deprived of many economic and social opportunities [36]. Not only does depression cause a wide range of emotional lows and sadness in immediate locus of life, it is also a major agent leading to the pathological suicide rate in India [16].

As per the reports describing the one-year campaign "Depression: Let's talk", launched by World Health Organization in October 2016, depression is the largest cause of disability worldwide. It claims depression to become the most common disorder overpowering cardiac disorders and diabetes by 2020 [8]. In the context of India, National Mental Health Survey 2015-16 has stated that nearly 15% Indian adults need active intervention for one or more mental health issues with depression featuring as one of the most common among them. Similar urgency is reflected in the statistics put by WHO for India, which says that one in twenty Indians suffers from depression [36]. Depression and associated stress can impact all ages, communities, races and nations, but youth are found to be most considerably affected as mentioned in literature [28].

A lot of money is invested by every nation on education. According to the report by Ministry of Statistics and Programme Implementation titled “Youth in India, 2017”, the total youth population in India has increased from 168 million in 1971 to 422 million in 2011 [6]. India is at third position in terms of the presence of higher learning institutions after the United States and China. According to the report of Ministry of Human Resource Development, the number of the Universities have increased manifold from 20 in 1950 to 677 in 2014 [24] and increased even further as of 2020. Students, the representative of youth in society, are considered as future of the nation. Their growth will ultimately enable India to find its rightful place in the community of nations [19]. Thus, stress and depression experienced by most important human capital of the nation becomes an alarming problem, demanding immediate action. Nevertheless, because of the lack of an adequate number of good colleges in India to accommodate the over expanding population of students, many move out of their homes and families and stay in boarding houses and hostels. Apart from loneliness, new environment, academic demands, peer pressure, financial strains, relationship with new friends can turn out to be common stressors for some of the students [10].

At any given time, it is reported that 25% of the student population possesses symptoms of depression [2]. The transition from late adolescence and early adulthood is characterized by many life changing decisions related to an individual’s social and economic recognition and ownership [31]. This shift from a condition of full dependence over parents to a state of partial dependence is influenced by crucial career choices, academic challenges, future planning, parental monitoring, unaccustomed environment, new social relationships, changing diet and sleep patterns and intensive access to information and communication technology [16]; these turn out to be common stressors for students [32]. Psychological problems amongst students vary from a range of 2% to 50%. A random examination of well-being of the student community found that one out of every ten student suffers emotional conflicts, of degree high enough to seek professional health [19]. Students enduring this transitory period ‘from adolescence to adulthood’ often encounter indecisiveness [7]. Because of academic stress, mental health concerns among the students are increasing and negatively influencing their academic performance and achievements [27]. Appraisal of education as a challenge by students increases competency and capacity but appraisal of education as a threat can invite sense of helplessness and loss [19].

Despite the urgency of this grave issue, it is estimated that only 10% of students in India are receiving evidence - based mental health care interventions at time of need. This discrepancy is attributed to a significant lack of research on stigma and discrimination related to mental disorders, insufficient coverage of mental health services at institutional level, inappropriate delivery of mental care services, preference for biomedicine, non-allopathic medicinal help and traditional medicines over allopathic help [33]. The statistics pertaining to gap in receiving therapeutic interventions in other less developed countries is identical to that of India, occupying the range of 76%-85%.

Mental illness, stress and associated stigma is highly unaddressed within the Indian population. Suicide, a consequence of the same, is the leading cause of death among Indians aged between 15 and 29. In 2015, the suicide rate in India of 15.7/100,000 was above the regional average of 12.9 and the global average of 10.6. Inadequate infrastructure and human resource combined with lack of mental health perspective in public health leadership, is a major factor increasing the burden of depression incidence.

In the background of the above review, exploring the prevalence and correlates of depression among students of professional colleges across different geographical zones of India and establishing the need for de-stigmatization to promote timely and appropriate intervention, is pertinent to be studied for the cause of restoration of mental well-being of students.

2. Methodology

2.1. Sample

292 students (58.9% Males; 41.1 % Females) pursuing different graduate/post-graduate professional degree/diploma courses, representing 25 states in different geographical zones of India, filled an electronic survey to best describe their physical and mental state during the span of two weeks at the time of responding. The period of data collection was Pre-Covid-19 in late 2019.

Respondents were approached with personalized invites inclusive of the web link with the comprehensive electronic survey form through various social media and digital platforms like Facebook, LinkedIn, emails, and WhatsApp groups of students in different professional colleges across the country for data collection. Snowball sampling technique was employed for the study, requesting the invited people to further share the invites to other potential respondents. Periodic reminder messages containing the web link to electronic form were also responsibly sent, keeping into consideration the convenience of the receivers. The average age of the respondent students was 19 years and they were divided into four distinct age groups: less than 20 years, between 20-24 years, between 24-28 years and above 29 years. Accordingly, 64% and 29.5% of the sample was constituted by students undertaking their bachelor’s and master’s respectively whereas the remaining sample share of 2.7% and 3.8% was added up by those belonging to research scholars and others. A major portion of respondents (approximately 91.1%) were unmarried while 6.8% of them were married and the remaining 2.1% carried the separated or divorced civil status. Respondents were pursuing diverse range of professional courses with 33.2% in medical, 25.3% in management, 18.5% in engineering and 14.4% were undertaking other professional courses like design, law etc.

2.2. Tools

A comprehensive electronic survey entitled “*Know Your Mind and Body*” comprising of questions related to demographics, physical and psychological health

parameters (selected and adapted from the parameters of Beck's Depression Inventory, (1978) and indicators concerning readiness to use psychological health services at institutional level was created to collect data on 4 point Likert-type rating scale. Principle Component Analysis (PCA) was conducted to extract the communalities and factor loadings of 13 items of depression that ranged from 0.40 to 0.55 with Cronbach's alpha coefficient of 0.86. PCA for physical health 'including perceived stress', observed factor loadings between 0.38 to 0.53 with Cronbach's alpha coefficient of 0.77 which are above the statistically acceptable limits.

3. Results and Analysis

Obtained data was analyzed using the statistical software platform of IBM SPSS. Data cleaning was performed to eliminate the discrepancies related to illogical values followed by data coding in an ordinal manner, to encapsulate degree of physical health, depression and psychological stress experienced by respondents. Physical and Psychological Health Score was generated separately for each individual. Based on quartile based (Q1 and Q3) cut offs, respondents were classified into four groups: 'nothing to worry', 'mild health issues', 'moderate health issues' and 'struggling with health' in the section of physical health and 'mild mood disturbances', 'borderline depression', 'moderate depression' and 'severe depression' for psychological health. Stress was taken analogous to health score in case of both physical and psychological health. In other terms, a higher psychological or physical health score also indicates higher psychological or physical stress. The prevalence of physical and psychological health (depression) indices is given in Table 1.

The univariate analysis of variance was conducted keeping gender and year in course as independent categorical variables and psychological health as continuous covariate variable to check their effects on

physical health, the continuous dependent variable. The test output shows that both gender and year in course (first year vs. others) were independently not significant enough in affecting the physical health of the students. But an interaction effect of the variable gender vs. years in course (Table 2) does have significant effect on the physical health of students. Apart from this, psychological health of the students is also found to have significant effect on their physical health ($F=204.69$, significant at .000 level). The R-square value of 0.438 depicts that 43.8% of the variance in Physical health can be explained by gender and year in course.

Heinen, Bullinger & Kocalevent (2017) also reported higher emotional stress in first year medical students, primarily due to sudden academic pressure, parting from family and peer pressure [14]. Similarly, Al Saadi, et.al. (2017) also reported psychological distress among medical students from Syria [30], substantiating the findings of this study.

Multiple correlation and regression was calculated to predict the psychological health (depression) using parameters/variables affecting the physical health. All physical health parameters were found to be positively and significantly correlated to psychological health (depression). The R square of 0.456 indicates that 45.6 % of the variance in the psychological health can be explained by the independent variables of physical health. The ANOVA table significance value of 0.000 reaffirms that this overall regression model is good fit for the data. The unstandardized coefficients values indicate that with every 1 unit increase in physical appearance, loss of energy, change in sleep pattern and tiredness, the mean psychological health score, and thereby psychological stress increases by 0.138, 0.205, 0.137 and 0.09 units respectively, which is significant. Since the higher scores indicate poorer health indices in both physical and psychological health, the hypothesis that physical health parameters cause deterioration in psychological health stands accepted.

Table 1. Physical and Psychological Health (Depression) Indices

Physical health	Prevalence Percentage	Psychological Health (Depression)	Prevalence Percentage
Nothing to worry	65%	Mild Mood Disturbances	73%
Mild Health issue	30%	Borderline Depression	17%
Moderate Health issue	04%	Moderate Depression	08%
Struggling with Health	01%	Severe Depression	03%

Table 2. Output obtained from Univariate Analysis of Variance

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	49.451 ^a	4	12.363	55.466	.000
Intercept	12.315	1	12.315	55.250	.000
Psychological Health	45.624	1	45.624	204.693	.000*
Gender	1.169E-005	1	1.169E-005	.000	.994
Years in course	.308	1	.308	1.383	.241
Gender & Years in course	1.338	1	1.338	6.003	.015*
Error	63.524	285	.223		
Total	318.833	290			
Corrected Total	112.975	289			

Table 3. Pearson correlation of Physical and Psychological health

Table 3(a) Pearson Correlation of Physical Health with parameters of Psychological Health		
S.No	Parameters of Psychological health (Depression)	Physical Health (Stress)
1	Sadness	.408**
2	Pessimism	.449**
3	Past Failure	.258**
4	Loss of Pleasure	.411**
5	Guilty Feelings	.440**
6	Punishment Feelings	.427**
7	Disappointment with self	.338**
8	Self-Criticism	.394**
9	Suicidal Thoughts	.348**
10	Irritability and agitation	.441**
11	Loss of Interest	.380**
12	Emotional Weakness	.447**
13	Indecisiveness	.357**

Table 3(b) Pearson Correlation of Psychological Health with parameters of Physical Health		
S.No	Parameters of Physical health (Stress)	Psychological Health(Depression)
1	Physical Appearance	.417**
2	Loss of Energy	.552**
3	Change in sleep pattern	.398**
4	Tiredness	.426**
5	Change in appetite	.392**
6	Change in weight	.211**

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

Table 4. Details of models obtained from multiple regression tests

Model	R	R Square	Adjusted R Square	F	Sig.
1	.673 ^a	.453	.427	18.714	.000 ^b
2	.675 ^c	.456	.444	39.516	.000 ^d

Model 1	Independent Variables	Unstandardized Coefficients		t	Sig.
		B	Std. Error		
Physical Health	(Constant)	2.074	.284	7.309	.000
	Sadness	.453	.290	1.563	.119
	Pessimism	.730	.287	2.549	.011*
	Past Failure	.052	.275	.189	.850
	Loss of Pleasure	.260	.259	1.004	.316
	Guilty Feelings	.688	.309	2.225	.027*
	Punishment Feelings	.624	.207	3.014	.003*
	Disappointment with self	-.376	.349	-1.077	.282
	Self-Criticism	.393	.264	1.485	.139
	Suicidal Thoughts	.952	.359	2.649	.009*
	Irritability and agitation	.549	.299	1.835	.058
	Loss of Interest	.810	.237	3.414	.001*
	Emotional Weakness	.302	.270	1.117	.265
Indecisiveness	.116	.244	.473	.636	

Model 2	Independent Variables	Unstandardized Coefficients		t	Sig.
		B	Std. Error		
Psychological Health (Depression)	(Constant)	.208	.031	6.605	.000
	Physical Appearance	.138	.028	4.979	.000*
	Loss of Energy	.205	.031	6.645	.000*
	Change in sleep pattern	.137	.031	4.404	.000*
	Tiredness	.090	.037	2.448	.015*
	Change in appetite	.023	.034	.649	.487
	Change in weight	.024	.020	1.251	.212

Model 1: Multiple regression model for Physical Health Score/Stress (Predictor variables: (Constant), Sadness, Indecisiveness, Punishment Feelings, Suicidal Thoughts, Past Failure, Loss of Interest, Self Criticism, Pessimism, Disappointment with self, Loss of Pleasure, Emotional Weakness, Guilty Feelings, Irritability and agitation

Model 2: Multiple regression model for Psychological Health Score/Stress (Predictor variables: (Constant), Change in weight, Change in sleep pattern, Physical Appearance, Loss of Energy, Tiredness, Change in appetite.

Similarly, another model of multiple correlation regression analysis, to predict the value of physical health using the independent variables of psychological health (depression), was also tested. It is evident from the correlation table (Table 3a and 3b) that all the independent parameters of psychological health (depression) are positively correlated to physical health. The R square of 0.453 indicates that 45.30% of the variance in the physical health can be explained by the independent parameters of psychological health (depression). The ANOVA table shows that the overall regression model is a good fit for the data. The coefficient table shows that pessimism, guilty feelings, punishment feelings, suicidal thoughts, loss of interest are primary parameters of psychological health found to be significant in predicting the physical health. The unstandardized coefficients values suggest that with every 1 unit increase in the pessimism, guilty feelings, punishment feelings, suicidal thoughts and loss of interest, the mean Physical Health score and thereby, physical stress increases by 0.730, 0.688, 0.624, 0.952 and 0.810 units respectively. Guilty feeling is found to be one of the most important clinical factors associated with depression, next being pessimism [15]. In another study, students who were physically more active and participated in physical activity regularly demonstrated a reduced rate of hopelessness and suicidal tendency than compared to those who are more inactive [21].

To substantiate the findings of this study, Psychological stressors associated with sustained academic work lead to fatigue/tiredness and sleep loss, subsequently resulting in perceptual and cognitive distortions [18]. Another study also reported a significant positive relationship between body image satisfaction and psychological well-being [11]. Similar results were found in one of a study where people with high 'appearance -based rejection sensitivity' were experimentally found to be more alone and rejected when asked to ponder about negative aspects of their appearance [26].

The last section of the electronic survey explored the awareness about availability of mental health services at institutional level and readiness to use them along with assessing the stigma associated with mental health related issues. As per guidelines for educational institutions in India, it is desirable for every institution to have readily available mental health services/counseling cell at institutional level. However, findings indicate that 36.6% of respondents were unaware of any such psychological counseling cell functioning in their institute, 40.4% reported that no such active counseling cell is available at their institution. 86.3% admitted of not having taken any professional psychiatric help, even for once and 64.7% were dubious about seeking any future professional psychological support, even if the need arises. 37.7% of the respondents considered visiting mental health practitioner a stigma. The above figures reinforce that the stigma related to mental disorders act as a major barrier to utilization of mental health services, causing delay in timely care and diagnosis and many times, resulting in suicides when mental burden goes beyond the limit to handle without any support.

Stigma related to mental health issues contributes to reservations in seeking counseling support and emphasizes the need to adopt strategies to destigmatize the multidimensional problem of stigma [23]. Hence, attitudinal barriers are more crucial to handle than structural barriers in regard to seeking and continuing

mental health services [1]. Contact-based and education-based interventions are recommended to challenge mental health stigma among college students [17]. Live social contact interventions has also been found to be more effective in impacting the attitudes, in comparison to didactic educational training methods [33].

4. Discussion

India is on third position as far as number of institutions of higher learning in a country is concerned, however, a very limited number of higher-education institutions in India have facilities to provide sustained mental health services. With high population, cut-throat competition, constant academic pressure coupled with increasing expectations, it is hardly surprising that depression and suicide rates of individuals in the age group 15-29 are one of the highest in India.

The students who are unable to cope up with this prevailing vicious cycle, get anxious and distressed, with fragile mental state and no or limited mental health support, students are prone to succumb at any point of time.¹ In a study, high incidences of depression, anxiety and academic stress was reported among Indian students [3]. Another study explored the factors associated with symptoms of depression and anxiety among medical students in Bahrain. Academic pressure and establishing peer group identity were key factors contributing to depression [22]. Depression is also a significant predictor of lower academic performance and higher probability of dropping out, particularly among students who also have proneness for an anxiety disorder [12]. Findings of this study established the existence of physical and psychological health issues including depression and stress among Indian professional students and reflected the poor availability/ limited readiness to use mental health services in educational institutions which might be one of the leading cause of in-campus distress/suicides among young professional students, especially those in first year of courses.

In India, there is no law to mandate the regular availability of trained counsellors at higher education institutions, barring few states like Madhya Pradesh and Goa. The Mental Healthcare Act (2017) also does not specify any guidelines for educational institutions to follow with reference to mental healthcare. Improving psychological health among students through addition of a wellbeing curriculum in institutions' academic structure is desirable along with inclusive peer and faculty-led mental health support efforts [25]. A more humane and considerate academic environment is desirable keeping in mind the varied stress tolerance levels and mental states of professional students. Without that, the rigour of academic courses will take students nowhere.

5. Conclusion

To conclude, psychological health of the students was found to have significant effect on their physical health,

¹ <https://www.youthkiawaaz.com/2019/11/mental-wellness-of-indian-university-students/>

deteriorating it further. Students in first year of professional course were found to be more adversely affected than others as far as stress and psychological health/depression is concerned. Physical appearance, Loss of energy, Change in sleep pattern and tiredness were the major physical health factors, significantly causing depression and increase in psychological stress. Pessimism, guilt, punishment feelings, suicidal thoughts and loss of interest were significant factors contributing to increase physical stress and consequent ill health. Stigma related to mental disorders still acts as a major barrier to utilization of mental health care services in higher education institutions of India. It is recommended that Indian higher education institutions provide mental health support by creating awareness about mental health issues and removing the stigma around it, so that students have the readiness to seek help without any hesitation, while ensuring complete anonymity. Besides, conducting mental health workshops, through expert psychologists and psychiatrists, especially for first-year students on issues like anxiety, anger and stress management explaining the need to de-stress on a regular basis is also recommended.

Ethical Statement

The manuscript has been prepared in compliance with ethical standards of behavioral research maintaining confidentiality of data as per practices of Indian Institute of Forest Management Bhopal, India and there is no conflict of interest to declare.

Data Availability Statement

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

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