

Awareness of Depression Level and its Management Among Dental Students: A Questionnaire Survey

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ABSTRACT

Depression, stress and anxiety are one of the communities that resemble as indicators for mental health. Depression is considered as a common mental disorder characterised by a swing mood or depressed mood, loss of interest and appetite, sleep disturbances, fatigue or low energy, feelings of low self-esteem and poor concentration. Failure to address this unstable emotion will unfortunately results in serious consequences such as suicide. In addition, depression can make students vulnerable to find balance in their quality of life and negative self-esteem. The aim of this study is to evaluate the level of depression among the students and their coping strategies. This cross-sectional study was conducted from June 2019-March 2020 among dental students of Saveetha Dental College. Study questionnaire was conducted through a Google Form application. The Depression, Anxiety and Stress Scale 21 (DASS-21) inventory was used to measure the level of depression among students with addition of few questions related to coping strategies. This questionnaire consisted of 3 sections: demographic data, 7 questions from DASS (depression scale) and coping strategies. The collected data was validated, tabulated and analysed with Statistical Package for Social Sciences for Windows, version 23.0 (SPSS Inc., Chicago, IL, USA) and results were obtained. Descriptive statistics (frequency distribution and percentage) and inferential statistics (chi-square test) were done. The results showed that the majority of dental students were free from experiencing depression. Some male and female students were having mild (8.77% and 11.40%), moderate (7.02% and 5.26%), severe (3.51% and 6.14%) and extremely severe (1.75% and 4.39%) levels of depression. The most frequently mentioned coping method for relieving depression for male and female students was "emotional discharge" (9.65% and 22.81%), followed by "positive reappraisal" (11.4% and 6.14%). There was statistical significance between coping strategies of depression and gender (p value = 0.03). In the present study, emotional disturbance such as depression exists at a considerable rate among dental students.

KEY WORDS: ANXIETY; COPING STRATEGIES; DEPRESSION; STRESSORS; STUDENTS.

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INTRODUCTION

According to WHO definition, “Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”. Most people perceive health as being physically as fit as a fiddle and free from any health issues. However, they have forgotten about being mentally well as mental health is an irreplaceable aspect of health. Mental health includes emotions, psychological and social well-being. Many people suffer life threatening diseases such as cardiovascular diseases and hypertension due to poor mental health (Teh et al., 2015).

Depression, stress and anxiety are one of the communities that resemble as indicators for mental health. Depression is considered as a common mental disorder characterised by a swing mood or depressed mood, loss of interest and appetite, sleep disturbances, fatigue or low energy, feelings of low self-esteem and poor concentration. It is related to the disturbances of psychology, attitude and physical symptoms (Sravani et al., 2018). This disorder is currently leading to the cause of disability worldwide in which more than 300 million people suffer from depression globally. Failure to address this unstable emotion will unfortunately results in serious consequences such as suicide (Cukrowicz et al., 2011); (Farabaugh et al., 2012). In addition, depression can make students vulnerable to find balance in their quality of life and negative self-esteem. Over time, their decision-making ability, social interaction and emotional well-being will be disturbed (Sawhney, Kunen and Gupta, 2020).

University students are facing major transitions in their life with many new stressors. Most students are going through major life changing events at university which can impose negative mental health to them and they are burdened with stresses on which some may not be able to take up the loads (Crocker and Luhtanen, 2003); (Ceyhan, Ceyhan and Kurtyilmaz, 2009); (Lee et al., 2009). Dental students have shown considerable levels of depression during their training periods. They also are associated with interpersonal sensitivity and obsessive-compulsive disorders (Musser and Lloyd, 1985). The prevalence of depression in public and private medical universities ranged from 10.4% to 43.8% and 195 to 60%, respectively (Saravanan and Wilks, 2014). A study was conducted in India and found out the prevalence of current depression was 18.5%, ranging from mild to severe depression. Comorbidity of anxiety and depression reported as high as 87% and clinical depression observed was 12.1% (Sahoo and Khess, 2010). While in Hong Kong, an online survey showed 27% of the respondents suffer stress with moderate severity or above (Wong et al., 2006).

According to Synder, coping is a response focused to lessen any physical, emotional and psychological disturbances that are associated with stressful life events. People tend to develop a preference for coping strategies; (1) approach vs avoidance and (2) problem focused vs emotion focused (Snyder, Ford and Harris, 1987).

Meanwhile Moss had identified three types of coping strategies. They are active behaviour, active cognitive and avoidance coping. It is evident that approach coping strategies have better positive impressions than avoidance coping strategies on depression (Billings and Moos, 1985).

Previously our department has published extensive research on various aspects of prosthetic dentistry ('Evaluation of Corrosive Behavior of Four Nickel-chromium Alloys in Artificial Saliva by Cyclic Polarization Test: An in vitro Study', 2017; Ganapathy, Kannan and Venugopalan, 2017; Jain, 2017a, 2017b; Ranganathan, Ganapathy and Jain, 2017; Ariga et al., 2018; Gupta, Ariga and Deogade, 2018; Anbu et al., 2019; Ashok and Ganapathy, 2019; Duraisamy et al., 2019; Varghese, Ramesh and Veeraiyan, 2019), this vast research experience has inspired us to research about the awareness of depression level and its management among dental students. The aim of this study is to evaluate the level of depression among the students and their coping strategies. There is a lack of existing studies on depression in university students in India that focus on the relationship between gender and coping strategies.

MATERIAL AND METHODS

Study design and setting: This cross-sectional study was conducted in Saveetha Dental College and Hospital, Saveetha university, Chennai, to assess dental anxiety of dental treatment among undergraduate students (final years and interns). The approval for this university setting study was obtained from the institutional review board.

Study subjects: A total of 114 students had participated in the study, among which 25 (21.93%) were final years and the remaining 89 (78.07%) were interns.

Table 1. Shows the severity of depression and its score.

Rating	Depression
Normal	0-9
Mild	10-13
Moderate	14-20
Severe	21-27
Extremely severely	28+

Questionnaire survey: Study questionnaire was conducted through a Google Form application. The Depression, Anxiety and Stress Scale 21 (DASS-21) inventory was used to measure the level of depression among students with addition of few questions related to coping strategies. This questionnaire consisted of 3 sections: demographic data, 7 questions from DASS (depression scale) and coping strategies. Each question from DASS was using a 4-point frequency scale to rate the extent to

which the respondents had experienced each symptom over the past week from “never” (1) to “most of the time” (4). The sum of the scores obtained was multiplied by 2 and then evaluated as per the severity rating index. The minimum score is zero and the maximum score is 42.

Statistical analysis: All the data collected were tabulated in MS Excel and incomplete data was eliminated. The data was validated and analysed with Statistical Package for Social Sciences for Windows, version 23.0 (SPSS Inc., Chicago, IL, USA) and results were obtained. Descriptive statistics in the means of frequency distribution and percentages were used.

Figure 1: Pie chart showing responses to the question, “I could not seem to experience any positive feeling at all”. 30.7% of the respondents rarely experienced no positive feeling at all. 23.68% of the respondents could not seem to experience positive feelings at most of the time.

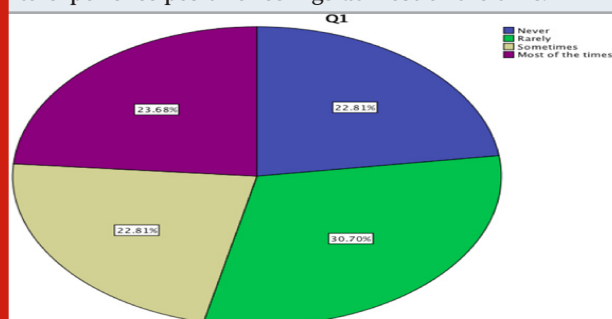
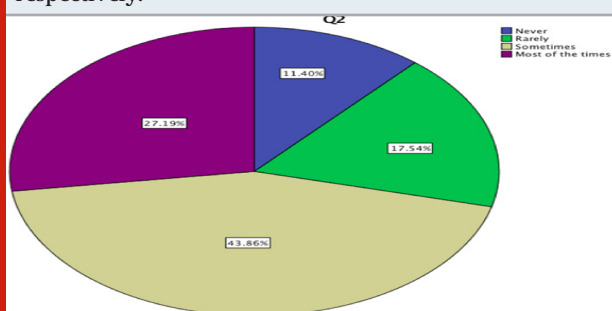


Figure 2 : Pie chart showing responses to the question, “I found it difficult to work up the initiative to do things”. 43.86% of the respondents seldomly found it is hard, 27.19% commonly found it difficult to have initiative to do things. 17.54% and 11.40% of the respondents rarely and never felt it is hard to work up initiative to do things, respectively.



RESULTS AND DISCUSSION

In the present study, 114 undergraduate dental students had completed questionnaires. This study group comprised 65 (57%) females and 49 (43%) males. Based on the year of undergraduate study, 25 (21.93%) were final years and the remaining 89 (78.07%) were interns. Assessment on depression level among dental students showed the majority of the respondents rarely (30.7%) experienced any positive feeling at all. [Figure 1]. However, when questioned on their difficulty

to work up the initiative to do things, 43.86% agreed that it was sometimes followed by 27.19% of the respondents have admitted that it was very common. [Figure 2]. 35.9% rarely believed that they had nothing to look forward to and conversely, 15.79% of them accepted that they did feel so most of the time. [Figure 3].

Figure 3: Pie chart showing responses to the question, “I felt that I had nothing to look forward to”. 35.09% of the respondents rarely felt of having nothing to look forward to and 19.30% never had such feelings

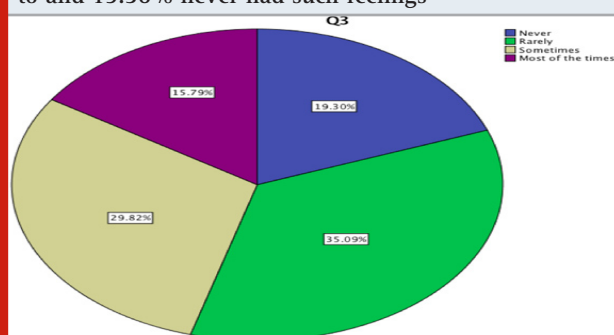


Figure 4: Pie chart showing responses to the question, “I felt downhearted and blue”. 41.23% of the respondents rarely felt dispirited and 34.21% sometimes felt gloomy and dejected.

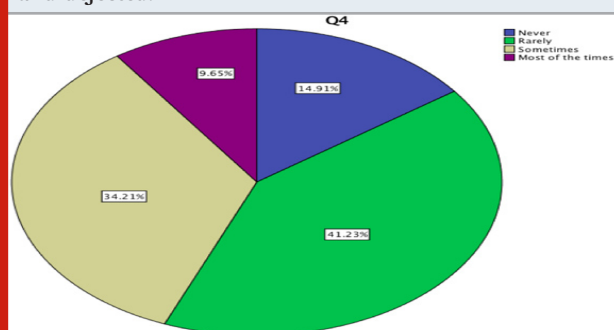
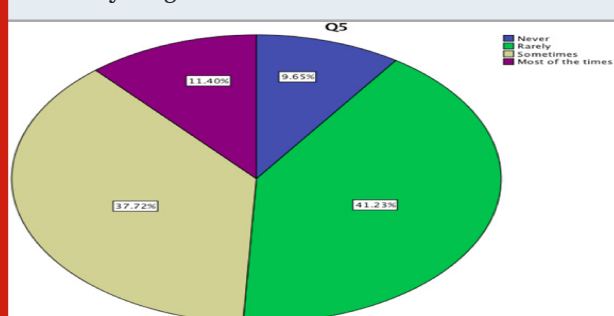


Figure 5 : Pie chart showing responses to the question, “I was unable to be enthusiastic about anything”. 41.23% of the respondents rarely felt halfhearted to do anything and 37.72% of them sometimes were unable to be enthusiastic about anything.



When inquiring about feelings of down-heartedness and blue, most of the respondents (41.23%) chose rarely and 14.91% had never encountered such an

experience. [Figure 4]. Assessment on being unable to become enthusiastic about anything gave the following results; 37.72% agreed that it was sometimes and 11.4% of respondents admitted that it was very frequent. [Figure 5]. 15.79% had never felt that they were not much as a person and 14.04% of them felt as such for most of their time. [Figure 6]. On the other hand, when questioned on their life if it was meaningless, 34.21% believed it for some time and 35.96% rarely thought about it. [Figure 7].

Figure 6: Pie chart showing responses to the question, "I felt I was not worthy much as a person". 42.11% of the respondents sometimes felt unworthiness and 15.79% of the respondents never felt that they were not worthy.

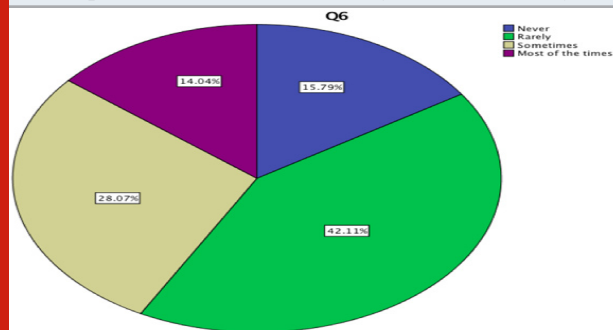
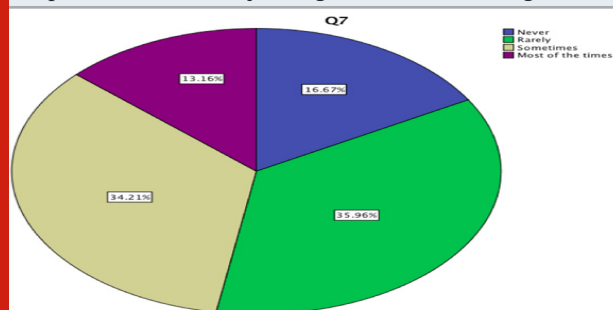


Figure 7: Pie chart showing responses to the question, "I felt life was meaningless". 34.21% of the respondents sometimes felt that life was meaningless and 13.16% of the respondents commonly thought life was meaningless.



The most frequently mentioned coping method for relieving depression for male and female students was "emotional discharge" (9.65% and 22.81%), followed by "positive reappraisal" (11.4% and 6.14%). Focus on problem-solving and seeking guidance and support were mentioned by some students as other coping methods. Only eleven female students mentioned using acceptance techniques to relieve depression. There was statistical significance between coping strategies of depression and gender (p value = 0.03). [Figure 8].

Depression is divided into 5 categories, which are normal, mild, moderate, severe and extremely severe. In depression of male population, 21.93% of the respondents were normal while 8.77%, 7.02%, 3.51% and 1.75% of the respondents have mild, moderate, severe and extremely severe depression respectively. Those female students

who are free from depression was 29.82%, mild level of stress consisted of 11.4%, followed by moderate level of stress (5.26%), severe level of stress (6.14%) and lastly extremely severe level of stress (4.39%). There was no statistical significant association between prevalence of depression and gender. [Figure 9].

Figure 8: Bar graph depicts the association between coping strategies and gender. X axis represents coping strategies and the Y axis represents number of respondents. Males (grey) and females (orange). Chi square test was done and association was found to be statistically significant between coping strategies and gender. Pearson's Chi-square value - 18.023 ; p = 0.03 (p < 0.05), hence statistically significant. Coping strategies such as emotional discharge, seeking guidance and acceptance was more prevalent among females than males. Males were more likely to focus on problem solving, practice positive reappraisal and use alternative rewards to overcome depression.

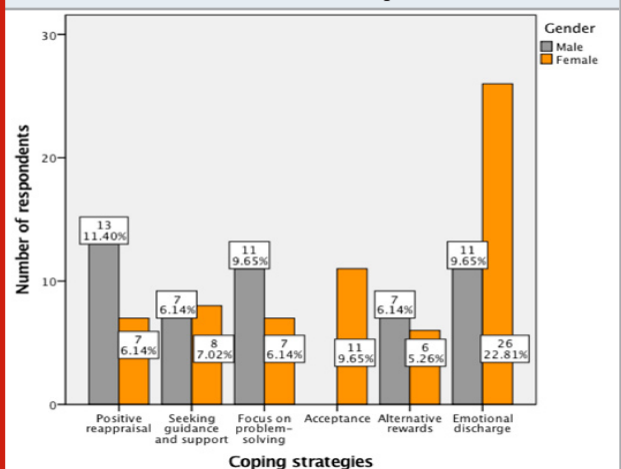
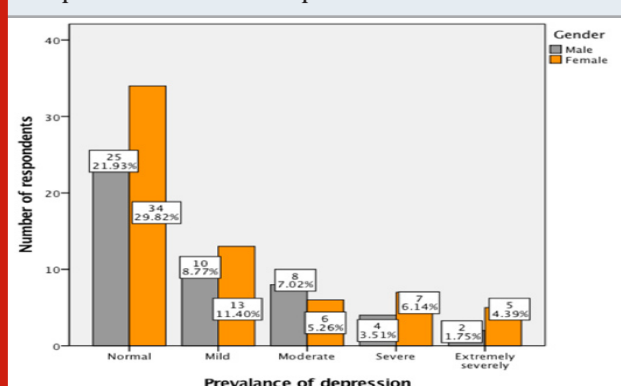


Figure 9: Bar graph depicts the association between prevalence of depression and gender. X axis represents prevalence of depression and the Y axis represents the number of respondents. Males (grey) and females (orange). Chi square test was done and association was found to be statistically insignificant between coping strategies and gender. Pearson's Chi-square value - 1.947 ; p = 0.746 (p > 0.05), hence statistically insignificant. Female students were more prevalent of having all severity of depression, except moderate when compared to male students.



The results showed that the majority of dental students were free from experiencing depression. However, there are some students having moderate to extremely severe levels of depression, which is alarming in relation to the psychiatric morbidity among the students. This finding is in concurrence with one study done among Malaysian undergraduate students. 54.2% of them are normal and the level of depression from mild to extremely severe ranging from 3.5% to 15.1% (Teh et al., 2015). According to another similar study, the prevalence of depression was found to be 30.7% (Shamsuddin et al., 2013). To the best of our knowledge, depression among dental students could be explained by enormous factors which include sudden change of lifestyle, financial problem, thought of failing in examinations and having stress in clinical training. Additionally, social interactions with peer groups, hostel friends and patients could also contribute to depression.

In this study, females were highly associated with depression when compared to males. Concurrently, the occurrence of depression among female students in Saudi Arabia was high. This observation is consistent with the findings of previous studies on the prevalence of depression and stress among undergraduate students in India (Sravani et al., 2018) ; (Madhan, Rajpurohit and Gayathri, 2012) and other countries (Prinz et al., 2012) ; (Othman et al., 2013) ; (Takayama et al., 2011). Psychologically, females articulate more worries and emotions.

Several strategies for management of depression among dental students have been introduced and discussed in this study, among which majority of the respondents discharged their emotions and practiced positive reappraisal to overcome depression. Also, some college students in our study seek guidance and support from close friends or family members. This is in line with previous study that revealed a group of dental students were less likely to seek guidance (Sawhney, Kunen and Gupta, 2020). Other studies reported that high depressive symptoms generally avoid an active coping approach such as to seek guidance compared to those groups with low depressive symptoms. The reason is still unclear but it could be partially explained to fear of criticism, influence of culture and negative self esteem among themselves (Osborn and Egede, 2012).

There was statistical significance between coping strategies of depression and gender in present study. Female students were more likely than males to use avoidance coping methods such as discharge their emotions, acceptance and seek guidance and support. In contrast, males usually were more problem oriented and focused on problem-solving than females. This findings is consistent with previous studies that stated men mostly use their logical analyses and direct actions to solve their problems (Folkman and Lazarus, 1980 ; (Nolen-Hoeksema and Aldao, 2011). Studies have shown that men tend to be dealing with stressful situations to a greater extent, meanwhile women are more likely to

dwelled in emotions and avoid active coping strategies (Meléndez et al., 2012).

To pinpoint some limitations of current study, we had chosen lack of baseline information of mental status of the students. Also, this cross-sectional study has the disadvantage of not being unable to determine the incidence rate of depression and changes in psychological status over a period of time. The self-reported questionnaire also does allow us to rule out response bias in this study. Henceforth, there is a need for longitudinal study design of different community-based investigations or association with different universities at international level. More attention must be devoted to individuals with high depressive symptoms and their psychological well-being to improve the quality and quantity of the workforce in future.

CONCLUSION

Within the limitations of this study, emotional disturbance such as depression exists at a considerable rate among dental students. Respondents with abnormal depression score require clinical diagnosis to receive further treatment. Considering a number of college students having severe and extremely severe levels of depression, an early identification, education and intervention for psychological conditions must be initiated in dental schools with both students and faculty involvement.

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