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Depression, Academic Self-efficacy, and Achievement among College Students

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ABSTRACT

Depression is one of the most common psychiatric diseases, which occur irrelevant of time and location, and impact all groups of the society. This study aimed to explore the relationship between depression and academic self-efficacy, and achievement among college students in the Kermanshah University of Medical Sciences (KUMS), in the west of Iran. This cross-sectional study was conducted among 373 students. Participants selected in random sampling and data were collected by using self-report questionnaire (Beck depression inventory test and academic self-efficacy scale). The data were analyzed by the SPSS-21 software using t-test and logistic regression at 95% significance level. According to the Beck depression inventory, 73.5, 13.4, 9.8, and 3.3% of the respondents suffered from normal, mild depression, moderate depression, and severe depression, respectively. Among the socio-demographic variables, age (students aged above 25 years) and sex (female students) were the most influential predictive determinants for depression. Academic achievement included significant correlation with the academic self-efficacy (r=0.216), inversely and significantly associated with the depression (r=−0.469). Eventually, academic self-efficacy and depression accounted for 24% of the variation in academic achievement (adjusted R squared=0.24, F=49.270, P<0.001). Considering the results of the present study, presumably, depression plays a negative role in the academic self-efficacy and achievement.

Introduction

Depression is a disorder that characterized by reduced energy and interest, feeling of guilt, concentration issues, lack of appetite, and thoughts related to death and suicide, and it is accompanied by the change in the level of activity, cognitive abilities, talking, sleep, appetite, and other biological rhythms; moreover, it adversely affects the job performance and social and interpersonal relationships. Depression is accompanied by the feeling of despair and sorrow, lack of any motivation and hope, reduced level of self-confidence, and pessimism [1]. It is one of the most common psychiatric diseases, which occur irrelevant of time and location, and impact all groups of the society. Considerably, studies have indicated that university years in an individual's life are a stressful period due to the several determinants, and unfortunately, the depression in students is reported to be high, ranging between 10 and 64% in these years; this may lead to suicide, addiction, low self-confidence, academic failure, and overall, disturbance in different occupational, familial, and social functions; thus, it directly and indirectly imposes significant costs on the society [2]. Due to the change in their residing place and sudden separation from their family, students are considered as being at depression risk and social planning is essential for them as the development of any disorder in their lives hinders their growth

and their talents [3-5]. Class attendance, participation in tests, doing assignments and projects, high costs of living, the expectations of the family and university, being away from family, and an uncertain future are the responsible determinants that make students susceptible to depression [4]. Alternatively, Bandura suggests that self-efficacy is a constructive power by which the cognitive, social, affective, and behavioral skills of individuals are effectively organized for achieving different objectives. He assumes that knowledge, skills, and previous achievements are not appropriate predictors of future performance and that the individual's belief on his abilities in doing things impacts his performance [6]. Self-efficacy specifies the way an individual reacts to the obstacles [7]. Academic self-efficacy refers to an individual's belief that they can successfully achieve a designated level on an academic task or attain a specific academic goal; research suggests that having high self-efficacy while attempting difficult tasks creates feelings of calmness or serenity, whereas low self-efficacy may result in a student perceiving a task as more difficult than it is, which in turn, may create anxiety, stress, and an inefficient approach to solve a particular problem or activity [8]. Considering the importance of the issue, the necessity to plan and develop mental health interventional solutions for students is apparent; however, the prerequisite for any planning includes knowledge of the present conditions [7]. Considering the aforementioned points, the present study explores the relationship between depression and academic self-efficacy, and achievement among KUMS student, in the west of Iran.

Material and Methods

This cross-sectional study was conducted among 373 students in KUMS, in the west of Iran. Considering the various collages as clusters, samples were chosen randomly based on the probability proportional to size of each cluster. Of the population of 373, 306 (82%) signed the consent form and voluntarily agreed to participate in the study, which has been approved by the Department of Public Health, Kermanshah University of Medical Sciences, Iran.

Questionnaire included from four sections:

Section 1: Investigating Demographic variables: This section included the following data: age (year), sex (male, female), school (medical, dentistry, pharmacology, health and nutrition, nursing and midwifery, paramedical), educational level (BSc, MD), marital status (single, married), and living in dormitory (yes, no).

Section 2: Beck Depression Inventory: The Beck depression inventory, designed by Beck, is a 21-item self-report inventory, and one of the essential widely used psychometric tests for measuring the severity of depression. In its present version, the Beck depression inventory is designed for individuals aged 13 and above, and comprises items relating to symptoms of depression [9].

Section 3: Academic Self-efficacy Scale: The academic self-efficacy scale is a 10-item psychometric questionnaire, which was originally developed by McIlroy et al. Academic self-efficacy was evaluated using a 10-item standard scale. Each item was measured on an ordinal 7-point Likert-type scale (1=strongly disagree, 7=strongly agree). For example: I am confident that I can achieve good results in the examination if I put the necessary efforts. The reliability coefficient for the academic self-efficacy scale in our study was 0.83, suggesting that the internal consistency was adequate [10].

Section 4: Academic Achievement Status: In our study, the academic achievement was evaluated by asking a single question regarding the average score of previous semester of students [0–20].

The data were analyzed by the SPSS software for windows (ver. 21.0) using t-test and logistic regression statistical tests at 95% significance level.

Results

The mean age of participants was 22.90 years [SD: 3.05], ranging from 18 to 29 years. About 32.7% (100/306) participants were male and 67.3% (206/306) were female. 11.8% participants (36/306) were married, and 88.2% (270/306)

were single. In addition, 47.1% (144/306) were living in a dormitory. Moreover, 58.5% (179/306) were BSc students and 41.5% (127/306) were MD, DDS, or pharmacology students. According to the Beck depression inventory, 73.5% (225/306), 13.4% (41/306), 9.8% (30/306), and 3.3% (10/306) of the respondents revealed normal state, mild depression, moderate depression, and severe depression, respectively (Fig.1).

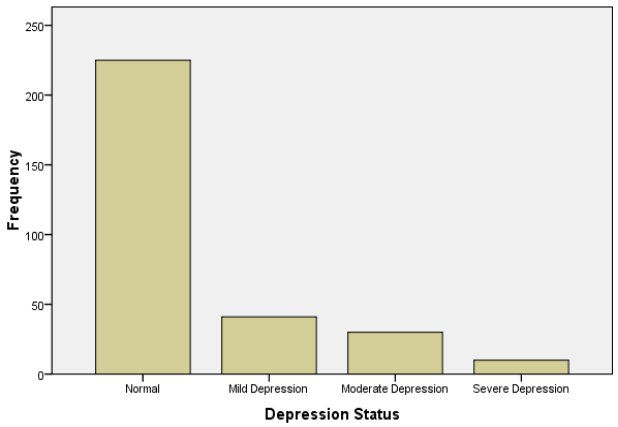

Figure 1. Status of Depression based on Beck Depression Inventory among participants

Logistic regression (backward stepwise method) building procedure was conducted, and eventually, the procedure was stopped on the fifth step and the best model was selected. Among the socio-demographic characteristics, age and sex were the most influential predictive determinants for depression (Table 1). Table 2 presents the bivariate associations among the predictor variables (academic self-efficacy, academic achievement, and depression), which were all statistically significant at $P = 0.01$.For example, the academic self-efficacy was associated with the academic achievement (r=0.216), and was inversely and significantly related to depression (r=−0.154). In addition, the academic achievement was inversely and significantly associated with depression (r=−0.469). Eventually, as can be seen in Table 3, the academic self-efficacy and depression were statistically significant for predicting the academic achievement, in which they accounted for 24% of the variation in academic achievement (adjusted R squared=0.24, F= 49.270,P<0.001).

Discussion

Depression is one of the main causes leading to inability in people in several countries and is the most common psychological disorder that is considered as a health problem in every society [1]. As seen from the results, the prevalence of depression was 26.5% in the present study. In accordance with this, the prevalence of depression in the Iranian students was reported to be 10.5–35%, which is higher than the prevalence of depression in the general population [11]. Herein, the results of the study by Jalilian et al. reported a higher prevalence of depression in the Iranian students. Their study on students at Hamadan University of Medical Sciences, using Beck depression inventory, indicated that in terms of depression, in general, 63, 18.7, 16.2, and 2.1%people revealed normal state, mild depression, average level of depression, and major depression, respectively [2]. These findings can be alarming for the health planners at universities and indicate the necessity of paying more attention to the behavioral interventions for mental health promotion in students. The results of the present study indicated that, among background variables, being female students and having a higher age, were predictors of depression. Considerably, studies have indicated that women are prone to depression than men [1]. The results of the present study confirm this finding, and the prevalence of depression was found to be higher in the female students, compared with the male students. Therefore, it is necessary to pay special attention to the female students while designing the mental health promotion interventions. Another finding of our study was the significant correlation between academic self-efficacy, academic achievement, and depression. Considerably, Kim reported that depression is related to weak self-efficacy beliefs [12]. Therefore, it should be emphasized that individuals with low self-efficacy avoid obstacles instead of facing them thus they will face repeated failures, and these failures result in the feelings of worthlessness and depression [13].

Table 1. Multiple logistic regression analysis of socio-demographic characteristics related to depression

Variables	Crude OR (95 % CI)	P value	Adjusted OR (95 % CI)	P value
Age				
18 -21 Years Old	1	-	1	-
22- 25 Years Old	0.838 (0.408 – 1.718)	0.629	0.879 (0.435 – 1.779)	0.721
26 - 29 Years Old	4.576 (2.366 – 8.851)	< 0.001	5.808 (3.060 – 11.023)	< 0.001
Number of Family				
Male	1	-	1	-
Female	3.429 (1.630 – 7.213)	0.001	4.733 (2.318 – 9.663)	< 0.001

Table 2. Correlation between academic self-efficacy, academic achievement, and depression

Component	Mean (SD)	Range	X1	X2	X3
X1. Academic self-efficacy	53.10 (7.40)	10 – 70	1		
X2. Depression	9.95 (6.70)	0 – 63	-0.154*	1	
X3. Academic achievement	15.98 (1.80)	0 - 20	0.216*	-0.469**	1

* Correlation Is Significant at The 0.01 Level (2-Tailed).

Table 3. Predictors of the academic self-efficacy, and depression variables on academic achievement

Variable	*B*	SE *B*	Beta	*T*	*P*-value
Academic self-efficacy	0.036	0.012	0.147	2.905	0.004
Depression	-0.120	0.014	-0.446	-8.813	< 0.001
SE=Standard Error					
Adjusted R squared=0.24, F= 48.157 & P < 0.001					

Perceived self-efficacy regarding previous successes is a stronger and more effective predictor for future successes [2]. In addition, several studies indicated the significant correlation between academic self-efficacy and mental disorder such as stress [14]. Considering the importance of self-efficacy in mental health promotion, university authorities (for example, deputy for cultural and students' affairs in universities) are recommended to conduct educational workshops for improving the self-efficacy in students. The present study has certain limitations including the collection of data through questionnaire. Herein, it should be emphasized that the studies using questionnaire for data collection assume that the respondents provide appropriate information; however some respondents may not complete the questionnaire sincerely. Data collection was based on self-reporting, which is usually prone to recall bias. This issue is crucial in finding problems related to mental health. It is recommended to use interview methods and clinical diagnosis for exploring the mental disorders and depression in students in future studies for a more accurate analysis.

Conclusion

Based on our finding, depression plays a negative role in the academic self-efficacy and achievement.

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