

ORIGINAL ARTICLE

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The relationship between health-related quality of life and prevalence of depressive symptoms among undergraduate nursing students in Turkey**Hasan Huseyin Cam¹, Fadime Ustuner Top²**¹ Kilis 7 Aralik University, Yusuf Serefoglu School of Health, Department of Nursing, Kilis, Turkey² Giresun University, Faculty of Health Sciences, Department of Nursing, Giresun, Turkey

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Abstract

Depression is a major mental health issue worldwide, and university students with heavy burdens of study are at a high risk for depression. The purpose of this study was to determine the prevalence of depressive symptoms among nursing students, and to explore the association between socio-demographic factors, health-related quality of life and depressive symptoms. This study adopted a cross-sectional design. A total of 345 nursing students from a Faculty of Health Sciences were assessed by the questionnaire consisted of demographic information, Beck Depression Inventory (BDI), a 12-item Short Form Health Survey. SPSS software, version 16, was used to analyze the data. Pearson Chi-Square, Fisher's Exact Test and Independent-Samples T-Test were used to compare different categorical variables. A total of 345 nursing students participated in the study (282 females and 63 males). Overall, 92 (26.7%) of the participants had depression of various grades based on the BDI diagnostic criteria using a cut point of more than 17. The depressive symptoms were statistically associated with gender and the parental attitudes. BDI score at the cut point of 17 was statistically associated with the Physical and Mental Health Composite Scores. This study seems to indicate an alarming rate of depressive symptoms. Female gender, non-democratic parental attitude have the highest association with depressive symptoms. The findings suggested that in order to prevent depression among undergraduate nursing students, school-and family based strategies should be developed and implemented.

Keywords: Depression, nursing, student, prevalence, quality of life**Introduction**

Depression is a common mental disorder, characterized by persistent sadness and a loss of interest in activities that you normally enjoy, accompanied by an inability to carry out daily activities, for at least two weeks [1]. In the Global Burden of Disease, it is estimated that depression will become the second most important cause of disease burden in the world by the year 2020 [2]. Globally, more than 300 million people of all ages suffer from depression [3]. Especially when long-lasting and with moderate or severe intensity, depression may become a serious health condition. It can cause the affected person to suffer greatly and function poorly at work, at school and in the family [1].

University students are a special group of people that are enduring a critical transitory period in which they are going from adolescence to adulthood and which can be one of the most stressful times in a person's life [4]. There are various factors that could contribute to depression on such cohort. University life marks a transitional period for students, during which some students move away from family home for the first time, lose the traditional adult supervision

and the traditional social support. In addition, some students might have to deal with financial difficulties for the first time in their lives [5]. Previous studies reported that depression in university students is noted around the world and the prevalence seems to be increasing [6-8]. The average age of onset is also on the decline, making depression a particularly salient problem area for university student populations [4].

It is important for the nursing students to assume role model function in their professional life, to evaluate the situation in terms of mental health, to determine the factors affecting these situations and to make interventions when necessary [9]. There are limited studies on depression regarding prevalence and correlates among undergraduate nursing students in Turkey. The purpose of this study is to determine the prevalence of depressive symptoms among nursing students, and to explore the association between socio-demographic factors, health-related quality of life and depressive symptoms.

Materials and Methods**Participants**

This is a descriptive, cross-sectional study conducted between April and May 2016. The population of this research consists of a total of 449 students (348 female, 101 male) enrolled in the Department of Nursing the Faculty of Health Sciences of a university located

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in the Black Sea Region in Turkey. In this study, 77% (345 people) of the population were reached, such as absenteeism and refusal to participate in the survey. Data collection was performed in the classroom where students met for school activities. The students received explanations about the study objectives, their right to decline participation and how to complete the forms. Written consent was obtained from the relevant institution for this study. All participants provided written consent.

Instruments

Data were collected through a researcher made socio-demographic characteristics questionnaire, Beck Depression Inventory (BDI) and a 12-item Short Form Health Survey (SF-12). Socio-demographic characteristics questionnaire includes variables such as age group, gender, residential status, family type, birth order, number of siblings, educational level of mother and father, parental attitudes, living circumstance and family economic situation. The Beck Depression Inventory (BDI) was used to determine depressive symptoms of the participants. It consists of 21 items that assess the intensity of depressive symptoms. Each statement in this inventory has a possible score range of 0 to 3, with the total score being 63 [10]. The validity and reliability of the Turkish version of the BDI was demonstrated by Hisli. The cutoff point of 17 has been used to identify the depressive syndrome in university students [11]. The SF-12 is a generic measure and does not target a specific age or disease group. It has been developed to provide a shorter, yet valid alternative to the SF-36, which has been seen by many health researchers as too long to administer to studies with large samples. The SF-12 is weighted and summed to provide easily interpretable scales for physical and mental health. Physical and Mental Health Composite Scores (PCS & MCS) are computed using the scores of twelve questions and range from 0 to 100, where a zero score

indicates the lowest level of health measured by the scales and 100 indicates the highest level of health [12]. Turkish validity study was done by Kocyigit et al. [13].

Statistical Analysis

Data manipulation and statistical analyses were done using SPSS software, version 16. P values < 0.05 were considered as statistically significant. Pearson Chi-Square, Fisher's Exact Test and Independent-Samples T-Test were used to evaluate the statistical association between levels of depression and the demographic variables. We used logistic regression to assess the relationship between depressive symptoms and potential risk factors (gender and parental attitudes). Binary Logistic Regression analysis for depressive symptoms was conducted adjusting for the variables, which showed a significant difference in Chi-square tests. The results are reported as odds ratios (OR) with 95% confidence interval (CI).

Results

Socio-demographic data of the participants

Table 1 revealed socio demographic characteristics of the study population. A total of 345 students (63 males and 282 females) participated in the study. The mean age of the students was 20.84 ± 1.75 years, with the following profile: ages ranged between 18 and 38 years, with a majority between 21 and over years (60.0%); females and males were 81.7% and 18.3%, respectively; a large number (75.1%) were from urban areas; %82.6 came from nuclear families; 33.6% were born as the first child; 37.1% have four or more siblings; 57.7% had a democratic family structure; maternal and paternal education secondary school and under with %80.6 and 60.9%, respectively; 13.9% lived with family members; 47.5% had lower family economic situation.

Table 1. Distribution of bivariate analysis results according to the presence of depression among nursing students

Variables	Categories	Non-depressed (BDI < 17)		Depressed (BDI ≥ 17)		Total		p
		n	%	n	%	n	%	
Age (20.84 ± 1.75)	≤ 20 years	102	73.9	36	26.1	138	40.0	**0.901
	≥ 21 years	151	72.9	56	27.1	207	60.0	
Gender	Female	200	70.9	82	29.1	282	81.7	*0.032
	Male	53	84.1	10	15.9	63	18.3	
Residential status	Rural	61	70.9	25	29.1	86	24.9	*0.561
	Urban	192	74.1	67	25.9	259	75.1	
Family type	Nuclear family	207	72.6	78	27.4	285	82.6	*0.521
	Other (large & torn)	46	76.7	14	23.3	60	17.4	
Birth order	1	80	69.0	36	31.0	116	33.6	**0.200
	≥ 2	173	75.5	56	24.5	229	66.4	
Number of siblings (Including himself)	≤ 2	73	77.7	21	22.3	94	27.2	*0.211
	3	93	75.6	30	24.4	123	35.7	
Educational level of mother	≥ 4	87	68.0	41	32.0	128	37.1	*0.443
	≤Secondary school	201	72.3	77	27.7	278	80.6	
Educational level of father	≥High school	52	77.6	15	22.4	67	19.4	**0.901
	≤Secondary school	153	72.9	57	27.1	210	60.9	
Parental attitudes	≥High school	100	74.1	35	25.9	135	39.1	**0.000
	Democratic	162	81.4	37	18.6	199	57.7	
Living circumstance	Non-democratic	91	62.3	55	37.7	146	42.3	*0.096
	Living with family	39	81.2	9	18.8	48	13.9	
Family economic situation	Living dorm	127	68.6	58	31.4	185	53.6	*0.381
	Other	87	77.7	25	22.3	112	32.5	
	Low	120	73.2	44	26.8	164	47.5	
	Middle	111	71.6	44	28.4	155	44.9	
	High	22	84.6	4	15.4	26	7.5	
	Total	253	73.3	92	26.7	345	100.0	

*Pearson Chi-Square **Fisher's Exact Test

Table 2. Odd ratios (95%CI) of depressive symptoms for socio-demographic characteristics in binary logistic regression models

Variable (N=345)	Categories	B	p	Odds ratio	95% CI	
					Lower	Upper
Gender	Female	0.796	0.034	2.216	1.061	4.626
	Male+	-	-	-	-	-
Parental attitudes	Democratic+	-	-	-	-	-
	Non-democratic	0.982	0.000	2.669	1.630	4.370
Constant		-2.153	0.000	0.116		

+ Reference group

Table 3. SF-12 scores of the students of the undergraduate nursing school according to the depressive symptoms

Variables	Non-depressed (BDI < 17)	Depressed (BDI ≥ 17)	*p
SF-12 Composite Scores			
	Mean ± Standard Deviation	Mean ± Standard Deviation	
Physical Health Composite Scores	65.00 ± 12.60	50.27 ± 15.62	0.000
Mental Health Composite Scores	49.66 ± 12.27	33.16 ± 11.84	0.000

*Independent-Samples T-Test

Prevalence and correlates of depressive symptoms

As shown in table 1, the prevalence of depression symptoms in students was found to be 26.7% (BDI≥17). We found statistical significant associations between gender and parental attitudes with depression symptoms ($p<0.05$). Therefore, depression rates were higher among those who were females and in non-democratic families. Other variables including age group, residential status, family type, birth order, number of siblings, educational level of mother and father, living circumstance and family economic situation did not show a significant association with depression ($p>0.05$).

Table 2 shows the results of binary logistic regression models for depression, presented as odds ratios. On the basis of a binary logistic model, the possibility of having depressive symptoms was significantly higher in students who were female nursing students (OR: 2.21, 95% CI: 1.06–4.62), had a non-democratic family structure (OR: 2.66, 95% CI 1.63–4.37).

Health-related quality of life and depressive symptoms

The mean Physical and Mental Health Composite Scores of the students with depressive symptoms were found to be significantly lower than those without depressive symptoms ($p<0.05$) (Table 3).

Discussion

The study showed that the prevalence of depression among undergraduate nursing student was 26.7%. In the prevalence of depression in our study was less than in other studies, and as Basu et al. reported that depression were found in 33.3% of India nursing students and Cheung et al. reported depression were found in 35.8% of Hong Kong baccalaureate nursing students [14,15]. However, some other studies have reported a lower prevalence such as the studies done at Deveci et al. and Dinc Hur et al. reported depression were found in 18.3% and 25.0% respectively of Turkey undergraduate nursing students and Furegato et al. reported depression were found in 19.0% of Brazil bachelor's degree nursing students [9,16,17]. These differences originated from differences in the region, population, measurement tools, methods and appraisal standards.

In the present study, we found higher levels of depression among female students. Similar to our results, some previous studies showed that differences in depression were observed among male and female students [18-21]. However, the findings of some studies are contrary to our results and found that no differences in depression were observed among male and female students [4,5]. Earlier attempts to explain the approximately 2/1 ratio of depression in women compared with men took this difference in prevalence to be indicative of a biologically based sex difference in women's proneness or vulnerability to depression compared with men [2].

In our study, the depressive symptoms of students with a democratic parental attitude were significantly lower than those with non-democratic parental attitudes. Similar to our results, Harris and Molock in a study of African-American university students found that higher levels of family cohesion and family support were associated with lower levels of depression [22]. In another study, Xu et al. in a study on nursing students in China showed that a harmonious family environment (e.g. good relationship between parents and children and democratic parenting styles, decision-making power without interference of parents) might cultivate better personality traits of adolescents and young people [23].

Our study also found students that presented a higher intensity of depressive symptoms obtained scores significantly lower in the summary components (PCS & MCS) of the SF-12. Similar to our results, Souza et al. in nursing students in Brazil were found to have significantly lower physical and mental component scores than those who did not report depression [24]. Likewise, Cheung et al. in nursing students in Hong Kong reported that depression was found to be significantly associated physical and mental health. Students who perceived they having poor physical and mental health were 0.4 times and 27 times more likely to report depression than those with good self-perceived physical and mental health [15]. In another study, in Furegato et al.'s study in Brazil, reported that a positive correlation was observed between the students' self-evaluation of their physical and mental health and the presence of depression [17].

One of the limitations of this study is that it did not assess the other potential factors that may have a relationship with depression such as the academic performance, life style. These factors could also be potential confounders that might have masked the association between depression and gender. Given the small numbers of nursing students in the survey, no generalisations can be made about the application of the findings in this study to other groups of nursing students. And the last limitation is that, because of temporality problems in cross-sectional studies, direction of associations is challengeable and need other designs such as case-control studies.

Conclusion

In conclusion, we found that the prevalence of depression was widespread in nursing students, especially in female nursing students and non-democratic parents. In addition, the students observed symptoms of depression were found to impaired health-related quality of life. Our findings point to the importance of large-scale screening and psychiatric counseling in depression-prone students with female nursing students and non-democratic parental attitudes. Support programs such as stress management and hotlines for mental health consultation may be helpful for students to maintain or improve their mental and overall health. Further research on socio-demographic characteristics and the effect of depression on the academic performance is needed.

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