Evaluation of Suicide in Nursing Students from The Perspective of Meaning of Life and Hope

Hemşirelik Öğrencilerinde İntiharın Yaşamda Anlam ve Umut Perspektifinde İncelenmesi

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ABSTRACT

Objective: This study was conducted to determine the effect of meaning in life and hope on suicide probability in nursing students.

Methods: A descriptive and correlational design was used. The sample of the study consisted of 266 nursing students from April 2020-June 2020. Data collected with "the Suicide Probability Scale", "The Meaning in Life Questionnaire", and "The Hope Scale".

Results: Students' suicide probability score is 73.6±19.5. Low levels of meaning in life (β=-0.216, *P*<.001), low levels of hope (β=-0.273, *P*<.001), inadequate social support (β=0.302, *P*<.001), low level of perceived academic success (β=-0.121, p=0.003) and previous suicidal ideation (β=0.352, *P*<.001), using psychiatric medication (β=0.123, *P*=.011) increased the probability of suicide.

Conclusion: This study revealed that the probability of suicide among nursing students is above the average and that meaning in life, hope and different variables affect the process. The results underline the necessity of evaluating the suicide risk in nursing students with a holistic approach and taking protective measures.

Keywords: Hope, life expectancy, nursing students, suicide, value of life

ÖZ

Amaç: Bu çalışma hemşirelik öğrencilerinde yaşamın anlamı ve umudun, intihar olasılığına etkisini belirlemek amacıyla yapıldı.

Yöntemler: Tanımlayıcı ve ilişkisel bir dizayn kullanıldı. Araştırmanın örneklemini Nisan 2020-Haziran 2020 tarihleri arasında 266 hemşirelik öğrencisi oluşturdu. Veriler İntihar Olasılığı Ölçeği, Yaşamdan Anlam Bulma ve Umut Ölçeği ile toplandı.

Bulgular: Öğrencilerin intihar olasılık puanı 73,6±19,5'tir. Yaşamda anlamının düşük olması (β=-0,216, *P*<,001), umudun düşük olması (β=-0,273, *P*<,001), sosyal desteğin yetersiz olması (β=0,302, *P*<,001), akademik başarı algısının düşük olması (β=-0,121, *P*=,003) ve daha önce intihar düşüncesinin varlığı (β=0,352, *P*<,001), psikiyatrik ilaç kullanımı (β=0,123, *P*=,011) intihar olasılığını artırdı.

Sonuç: Bu çalışma hemşirelik öğrencilerinde intihar olasılığının ortalamanın üzerinde olduğunu, yaşamdaki anlam, umut ve farklı değişkenlerin süreci etkilediğini ortaya koymuştur. Sonuçlar hemşirelik öğrencilerinde intihar riskinin bütünsel bir yaklaşımla değerlendirilmesi ve koruyucu önlemlerin alınması gerekliliğini vurgulamaktadır.

Anahtar Kelimeler: Umut, yaşam beklentisi, hemşirelik öğrencileri, intihar, yaşamın değeri

INTRODUCTION

The World Health Organization (WHO) data have shown that more than half of suicides take place before the age of 45, especially between the ages of 15-29 and that suicide is the 2nd leading cause of death among youth.[1] This situation, which threatens especially young adults globally, is an important public health problem.[1-4]

University students, who constitute an important part of the young population, struggle with various problems in many areas of their lives along with the education process. Emotional, academic, and economic problems, adaptation to university life, and anxiety about being unemployed are among the difficulties that university students may encounter.[5] There is a relationship between distress experienced by students and suicidal behavior.[3] According to studies conducted on the subject, the prevalence of suicidal ideation is high among university students[2], 24% of them have suicidal ideation, and 9% of them have committed suicide.[4]

The meaning of life varies from person to person, but having meaning in life is the most basic fact of an individual's survival.[6] According to a study conducted with university students, the perception of meaning in life has a direct determining effect on suicidal attitude and suicidal ideation[7] and plays a protective role on suicidal behavior.[8] Similarly, the protective effect of hope on suicide has been emphasized in another study in university students.[9] While individuals' ability to cope with their problems that they encounter in life and make sense of what they experience is spiritually protective[10], believing that their problem is inevitable and endless may damage the sense of meaning in life, lead to hopelessness, and thus suicide.[11] For this reason, finding meaning in life and hope are important phenomena that need to be studied in terms of suicide. Therefore, evaluating the effect of finding meaning in life and the level of hope on the suicide probability in university students, who are in the risk group for suicide, may play an important role in determining the developmental services to be provided for them.

From this point of view, this study focused on suicide probability in nursing students, and some variables of students (sociodemographic, individual, and familial characteristics and suicide history), as well as the level of meaning in life and hope, which are thought to be related to the suicide phenomenon, were also examined in this context. Due to the limited number of studies directly examining the phenomenon of suicide in nursing students in the literature.[12,13]

AIM

This study was conducted to determine the effect of meaning in life and hope on suicide probability in nursing students.

In this context, the research hypothesis is as follows:
H_1: "Meaning in life and hope" affect suicide probability in nursing students.

METHODS

Study Design
This study was carried out with a descriptive and correlational design. Researchers have adhered to relevant "STROBE" the reporting method.

Study Sample
The study was conducted with nursing students of a university in Istanbul between April 2020 and June 2020. The population of the study consisted of a total of 386 nursing students in the university. The sample size was calculated in line with the study that was conducted by Hisli Şahin and Durak Batıgün[14] to determine the suicide risk in high school and university students. Accordingly, the minimum sample size was determined as 232 individuals based on the standard deviation of the Suicide Probability Scale (σ=12.25), a population size of 386, and a 95% confidence interval (t=1.96; d=1). The study was completed with 266 (n=266) participants. The inclusion criteria were as follows: (i) being aged >18 years; (ii) volunteering to participate in the study.

Data Collection Tools
The data of this study was collected using the online questionnaire. The questionnaire was sent to the e-mail address of the students. The system allowed students to fill out the form only once.

Personal Information Form: This form, which was developed by the researchers, consists of 23 items (sociodemographic, individual, and familial characteristics and suicide history).[11]

The Suicide Probability Scale (SPS): This scale was developed by Cull and Gill[15] to evaluate suicide probability, and Turkish validity study was conducted by Durak Batıgün and Hisli Şahin.[16] The four-point Likert-type scoring structure of the scale was converted into percentiles in the current form. Accordingly, the responses are evaluated as "0% appropriate, 30% appropriate, 70% appropriate, 100% appropriate". The scale has 36 items in total. The highest score that can be obtained from the scale is 144. A high

total score on the scale is interpreted as a high risk of suicide. Cronbach alpha value of the scale was found to be 0.95.

The Meaning in Life Questionnaire (MLQ): This scale was developed by Steger et al.[17] to evaluate meaning in life, and Turkish validity study was conducted by Demirbaş.[18] The MLQ has two independent sub-dimensions, namely "the presence of meaning" and "search for meaning" and consists of a total of 10 items. Scores on each sub dimension range between 5 and 35. High scores on the subscales are interpreted as finding meaning in life and searching for meaning. A high score on the scale is interpreted as a high level of finding meaning in life. The Cronbach's alpha value of the MLQ was found to be 0.88 for the presence of meaning in life subscale and 0 .93 for the search for meaning in life subscale.

The Hope Scale (HS): This scale was developed by Snyder et al.[19] to evaluate hope levels of individuals, and Turkish validity study was conducted by Akman and Korkut.[20] The scale has 12 items scored on a four-point Likert-type structure with options ranging from "strongly disagree to strongly agree". The scores that can be obtained from the scale range from 8 to 32. An increase in the scale score is interpreted as an increase in the level of hope. In the reliability study conducted with the test-retest method, the reliability values of the scale were found to be 0.85 at 3-week intervals, 0.73 at 8-week intervals and 0.76 at 10-week intervals.

Ethical Considerations

Ethical approval of the "Non-Interventional Clinical Research Ethics Committee" of Haliç University (Date: 20.03.2020 / No: 51), and the permission of the authors of the scales were obtained. In addition, the consent of all students was obtained before the study was initiated.

Data Analysis

Continuous data were presented by "mean ±s tandard deviation (SD)" and "frequency values (n)", and "percentages (%)" were used for categorical data. The normality assumptions were tested with "the Shapiro-Wilk test". In the analysis of the data, "The independent t-test", "One-Way ANOVA" and the "Tukey HSD test" were used. "Pearson" and "Spearman" correlation tests were used to examine the relationship of the suicide probability with other parameters. Multiple linear regression analysis was performed to determine factors associated with participants' suicide probability. Statistical analysis was conducted on a software package and $P<.05$ was considered statistically significant.

RESULTS

The mean scores of participants were found as 73.6±19.5 on the total SPS, 42.54±10.25 on the total MLQ, and 25.1±4.1 on the total HS (Table 1).

Table 1. The Total Scores of Students on SPS, MLQ, and HS

Scales	X̄±SD	Min-Max	Cronbach's Alpha
Total SPS Score	73.6±19.5	39-128	0.94
Total MLQ Score	42.54±10.25	19-70	0.81
Total HS Score	25.1±4.1	10-32	0.79

X̄, Mean; SD, Standard deviation; Min-Max, Minimum-Maximum.

It was found that being male ($P<.001$), living with a friend ($P=.026$), separated parents ($P=.006$) or death of father or mother ($P=.007$), and smoking ($P=.006$) or alcohol use ($P<.001$), inadequate social support systems ($P<.001$), previous suicidal ideation ($P<.001$), committed suicide ($P=.007$), family member or acquaintance committing suicide ($P<.001$) and dying due to suicide ($P=.01$), received psychiatric support ($P<.001$), and a psychiatric diagnosis ($P=.01$) and used psychiatric drug ($P=.037$) increase the probability of suicide compared to other groups (Table 2).

It was found that there was a negative correlation between total SPS score and school year ($P=.002$, r=-0.191), academic achievement (r=-0.406, $P=.001$) and perceived level of coping with stress ($P<.001$, r=-0.258), and a positive correlation with the education level of the mother ($P=.028$, r=0.135) and father ($P=.001$, r=0.201). In addition, a negative correlation was found between the SPS-total score and the MLQ-total score ($P<.001$, r=-0.554) and the total HS score ($P<.001$, r=-0.618) (Table 3).

Factors associated with participants' SPS scores were analyzed with multivariate linear regression analysis. As a result of the analysis, it was found that inadequate social support system (β=0.302, $P<.001$), poor perceived academic achievement (β=-0.121, $P=.003$), previous suicidal ideation (β=0.352, $P<.001$), use of psychiatric drug recommended by an expert (β=0.123, $P=.011$), low MLQ score (β=-0.216, $P<.001$), and low HS score (β=-0.273, $P<.001$) increased the probability of suicide. In this model, related variables explained approximately 75% of the suicide probability (Table 4).

Table 2. The Mean Scores of Students on the Total SPS According to Independent Variables

Variables	SPS Score		
	n (%)	X̄±SD	Test and *P*
Gender			
Male	50 (18.8)	82.44±20.05	t=3.658
Female	216 (81.2)	71.5±18.83	**<0.001**
Marital status			
Single	259 (97.4)	73.31±19.69	t=1.641
Married	7 (2.6)	82.57±6.4	.101
Lives with			
Family	232 (87.2)	72.33±19.08	F=3.685
Friends	16 (6)	82.81±19.05	**.026**
Alone	18 (6.8)	81.11±22.39	
Significant difference		1-2	
Status of parents			
Together	216(81.2)	71.78±19.21	F=5.092
Separated	39 (14.7)	80.26±18.36	**.007**
Mother and/or father died	11 (4.1)	84.55±22.16	
Significant difference		1-2. 1-3	
Tobacco use			
Yes	70 (26.3)	79±18.47	t=-2.756
No	196 (73.7)	71.61±19.54	**.006**
Alcohol use			
Yes	41 (15.4)	86.68±18.26	t=-4.885
No	225 (84.6)	71.16±18.8	**<.001**
Existence of a disorder requiring regular medication			
Yes	22 (8.3)	79.36±24.7	t=-1.462
No	244 (91.7)	73.03±18.94	.145
Social support systems			
Adequate	182 (68.4)	66.04±14.58	t=-11.217
Inadequate	84 (31.6)	89.83±18.95	**<.001**
Having suicidal ideation			
Yes	65 (24.4)	91.02±20.28	t=-8.422
No	201 (75.6)	67.91±15.53	**<.001**
Having attempted suicide			
Yes	19 (7.1)	92.11±28.41	t=-3.019
No	247 (92.9)	72.13±17.95	**.007**
Presence of a family member/ acquaintance who committed suicide			
Yes	69 (25.9)	80.13±15.83	t=-3.720
No	197 (74.1)	71.25±20.17	**<.001**

Table 2. (Continued)

Variables	SPS Score		
	n (%)	X̄±SD	Test and *P*
Presence of a family member/ acquaintance who died due to suicide			
Yes	29 (10.9)	82.28±14.36	t=-2.579
No	237 (89.1)	72.49±19.8	**.010**
Receiving psychiatric support			
Yes	40 (15)	85.95±20.91	t=-4.518
No	226 (85)	71.36±18.44	**<.001**
Presence of a psychiatric diagnosis			
Yes	22 (8.3)	87.77±25.2	t=-2.818
No	244 (91.7)	72.27±18.44	**.010**
Status of psychiatric drug use			
Yes	15 (5.6)	83.73±24.6	t=-2.094
No	251 (94.4)	72.94±19.05	**.037**

F, One-Way ANOVA test; t, Independent t-test

Table 3. Evaluation of the Relationship Between the Total SPS Score and Independent Variables

Variables	Suicide Probability Scale (SPS)	
	r	P
Age	0.013	.830[1]
School year	-0.191	**.002[2]**
Family income	-0.102	.097[2]
Education level of mother	0.135	**.028[2]**
Education level of father	0.201	**.001[2]**
Perceived academic achievement	-0.406	**<.001[2]**
Perceived level of coping with stress	-0.258	**<.001[2]**
Meaning in Life Questionnaire (MLQ)	-0.554	**<.001[1]**
Hope Scale (HS)	-0.618	**<.001[1]**

[1]Pearson correlation test, [2]Spearman correlation test

Table 4. Suicide Probability and Factors Influencing It

Model	B	SE	β	t	Sig.	VIF	95% Confidence Interval	
			Suicide probability				Lower	Upper
Constant	126.111	6.638	-	18.997	**<.001**	-	113.034	139.187
Male gender	-1.435	1.976	-0.029	-0.726	.468	1.467	-5.328	2.458
School year	-0.841	0.649	-0.049	-1.296	.196	1.317	-2.118	0.437
Living with a friend	0.799	2.947	0.010	0.271	.786	1.208	-5.006	6.604
Living alone	3.082	2.86	0.040	1.078	.282	1.270	-2.552	8.715
Family income	0.484	1.398	0.013	0.346	.730	1.258	-2.27	3.237
Education level of mother	0.624	0.763	0.033	0.818	.414	1.542	-0.879	2.127
Education level of father	0.269	0.757	0.014	0.356	.722	1.53	-1.222	1.761
Separated parents	-1.529	2.196	-0.028	-0.696	.487	1.484	-5.854	2.796
Death of one or both of parents	3.096	3.445	0.032	0.899	.370	1.158	-3.689	9.882
Tobacco use	-0.453	1.817	-0.010	-0.25	.803	1.575	-4.033	3.126
Alcohol use	1.216	2.278	0.023	0.534	.594	1.665	-3.272	5.705
Inadequate social support system	12.642	1.786	0.302	7.078	**<.001**	1.696	9.123	16.16
Perceived academic success	-4	1.348	-0.121	-2.968	**.003**	1.539	-6.655	-1.345
Perceived level of coping with stress	-1.07	1.106	-0.038	-0.967	.334	1.459	-3.248	1.108
Suicidal ideation	15.949	1.816	0.352	8.780	**<.001**	1.499	12.371	19.527
Committing suicide	2.233	3.241	0.030	0.689	.491	1.714	-4.15	8.616
Presence of a family member committing suicide	-1.004	1.826	-0.023	-0.550	.583	1.576	-4.601	2.592
Presence of a family member who died due to suicide	1.688	2.478	0.027	0.681	.496	1.467	-3.192	6.569
Getting psychiatric support	4.394	2.513	0.081	1.749	.082	1.985	-0.556	9.344
Having a psychiatric diagnosis	3.987	4.063	0.056	0.981	.327	3.081	-4.016	11.989
Using psychiatric drug	10.371	4.041	0.123	2.566	**.011**	2.138	18.331	2.41
Meaning in Life Questionnaire (MLQ)	-0.41	0.076	-0.216	-5.378	**<.001**	1.499	-0.561	-0.26
Hope Scale (HS)	-1.29	0.201	-0.273	-6.412	**<.001**	1.695	-1.687	-0.894

R=0.861, R²=0.741, *P*<.001

DISCUSSION

This study, which examines the factors affecting the probability of suicide in nursing students; revealed that the level of meaning and hope in life is important in terms of suicide probability. However, due to the limited number of studies directly examining the suicide phenomenon in nursing students when the literature was examined, suicide-focused studies conducted with both nursing students and university students were included in this section.

Recent studies have dramatically shown the risk of suicide among young people.[21,22] According to a study conducted with nursing students in Brazil, it was determined that 53.3% of students had a suicide probability, and that 22.67% had committed suicide before.[13] It was found that the nursing students participating in this study had a high suicide probability in line with the literature. Similarly, in another study conducted with university students in Sweden, the risk of suicide was found to be high in female nursing students, while the risk of self-harm was found to be high in both male and female nursing students.[23] According to a study conducted in Norway, the prevalence of suicide attempts among students was underlined, and it was determined that there was a significant increase in students' suicidal thoughts from 2010 to 2018.[24] When evaluated in light of the literature, this result of our study underlines that suicide among all young people, especially nurse students, is a phenomenon that needs to be addressed on a global scale and that necessary measures should be taken. As the WHO stated in its 2019 emergency action plan, the implementation of national policies to prevent suicide, especially school/university-based prevention studies, is not a choice but a necessity.[1] It is possible to detect students at risk for suicide in the early period and evaluate and manage the process.

It is stated that the level of meaning in life and hope are predictors of suicide.[25] In this study, similar to the literature[7-9], it was determined that the probability of suicide increased as the level of meaning in life and hope in students participating in the study decreased and that these variables were also risk factors for the probability of suicide. In a study conducted with university students in China, it was stated that hopelessness was a major risk factor for suicidal behavior, and it was emphasized that students' meaning in life was a very important protective factor in terms of suicide.[26] Similarly, as a result of another study conducted with university students, it was stated

that both the search for meaning in life and the existence of meaning were important protective factors against suicidal behavior.[8] In this context, although the results of this study are in parallel with studies on the subject, it is possible to say that the decrease in meaning in life and hope in students participating in the study increases the probability of suicide. In line with these results, it can be said that, based on the idea that problems of students at risk of suicide are not permanent, it is necessary to address negative basic beliefs.[11] At this point, developmental services that can be provided to students about finding meaning in life come to the fore. It is thought that therapeutic interventions such as self-knowledge in finding meaning in life, helping to create a perception of what they want for themselves, setting clear and achievable goals within the scope of hope, developing different solutions, discovering their strengths, supporting their belief in themselves, and strengthening positive emotions will contribute.[11,27]

Within the scope of the study, variables related to sociodemographic, individual, and familial characteristics and suicide history, which are thought to affect the suicide probability of students, were examined. When suicide probability of students participating in the study was examined according to their sociodemographic characteristics, it was determined that the probability of suicide was higher in participants who were male, were in lower classes, and lived with their friends. Although the data in the literature on suicide among students in terms of gender are variable, there are data indicating that the probability of suicide is higher among male students.[28] There are studies showing that the rate of self-harm and suicidal ideation is higher in first-year students[29] and that the risk of suicide is higher in undergraduate students than in graduate students.[11] In parallel with the literature, it was determined that the probability of suicide decreased as the school year of students participating in the study increased. This result points out the importance of screening especially students who are new to university life in terms of suicide probability and supporting them psychosocially. The literature on the relationship between the place where students live and the probability of suicide is limited; however, in line with the results obtained from this study, it is necessary to more closely monitor/follow up male students who have just started university and live with their friends in terms of suicide probability.

When the familial characteristics of students in the study were evaluated in terms of suicide probability, it was found to be higher in students whose family income was lower than their expenses, whose parents separated or one/both of them died, and whose father or mother was university graduates. While there are studies in the literature showing

that economically challenged students are at risk for suicide[30,31], there is no data that evaluates the separation or death of parents in terms of students' suicide probability. Another remarkable finding of this study was that as the education level of parents increased, students' suicide probability increased, as well. It was observed that the literature generally focused on the effects of parenting attitudes and family environment characteristics on suicide, rather than the relationship between parents' education level and students' suicide probability.[32,33] However, as a result of a study conducted with adolescent students, it was stated that as the education level of parents increased, the stress in the family increased, but that the effect of this on suicidal ideation was not statistically significant.[34] Considering that the majority of the participants lived with their families and the living conditions in the region where the research was conducted were challenging, it can be thought that parents with a high level of education were more exposed to stressors due to intense working conditions and challenging lifestyle and that these conditions had a negative effect on the parent-child relationship and the phenomenon of suicide. In line with these results, considering the multiple etiology of suicide, it is necessary to question the family history of students with suicide probability and to carefully evaluate those with inadequate family support in terms of suicide.

It is important to evaluate the effect of individual characteristics of students, such as substance abuse, and loneliness, along with familial characteristics on the suicide phenomenon. When the suicide probability of students participating in the study was examined according to their individual characteristics, it was found that those who used tobacco or alcohol, perceived the social support system as inadequate, and had a low level of perceived academic success and coping with stress were more likely to commit suicide. At the same time, it was determined that inadequate social support and low perceived academic achievement were important risk factors for suicide. In parallel with the results of this study, it is emphasized in the literature that students who use tobacco, alcohol, or substances[35,36], have inadequate social support[36], think that they have difficulty in academic success[31,36] should be especially evaluated in terms of suicide probability. In addition, it has been reported that other stressors experienced by students in campus life have an effect on suicidal ideation, and feelings of helplessness may increase in those who cannot cope with stress in the face of difficulties, thereby increasing the probability of thinking and attempting suicide.[38] In this context, guiding students in coping with academic or environmental stressors, having them gain effective coping skills instead of ineffective ones

such as smoking and alcohol use, activating social support systems, and improving their mood can be considered among effective ways to reduce suicidal thoughts.[11]

One of the most important areas to be considered while studying the phenomenon of suicide is the data on the mental map of individuals. When the data on the suicide history of the students in the study were examined, it was found that the suicide probability was higher in students who had suicidal thoughts, had committed suicide before, had a family member or acquaintances committing suicide and/or died due to suicide, received psychiatric support, had a psychiatric diagnosis, and used psychiatric drugs. It was also found that having suicidal thoughts and using psychiatric drugs were risk factors for suicide. In parallel with our study findings, there are similar research findings indicating that students with a previous suicide history[29,35] and those with a psychiatric diagnosis[38] are at risk for suicide. In this context, it becomes clear that students who are thought to be at risk for suicide should be examined in detail in terms of the history of suicide, their family history of suicide attempts and completion and that students who have a psychiatric diagnosis and use psychiatric drug should be followed more closely.

Considering the multidimensional and complex structure of the suicide phenomenon, the importance of defining the risk factors related to the sociodemographic, individual, familial characteristics and suicide history of the students is clearly seen in this study. In this direction, it is thought that identifying the risk factors for suicide is important for the development of preventive mental health services that can be provided to students.

Limitations of the Study: The first limitation of this study is that a descriptive research design was used. This limits the power of the research to determine causality. Second, the study was conducted in only one university. Therefore, the results cannot be generalized. New studies with large samples and different designs are recommended to be conducted in different regions. For these reasons, the results should be carefully evaluated.

As a result of this study it was determined that the suicide probability of students in the study was above the average and that the decreasing level of meaning and hope in life increased the probability of suicide in students. In addition, the findings of the study showed that students inadequate social support system, low level of perceived academic success, previous suicidal ideation, using psychiatric drug increased the probability of suicide too. In line with the results of the study, the importance of supporting students in finding meaning in life and hope is clearly seen. In this context, developmental services that

can be provided for students about finding meaning in life and hope come to the fore. In addition, it is recommended that the risk factors described above should be evaluated with a holistic approach, preventive services against them should be put into operation, students at risk for suicide should be detected earlier, these individuals should be guided and directed to emergency psychiatric treatment, and that they should be supported comprehensively by contacting their social environment, especially their families.

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