

The Effect of Hatha Yoga on Stress, Life Satisfaction and Quality of Life in Nursing Students

Hemşirelik Öğrencileri ile Yapılan Hatha Yoganın Stres, Yaşam Doyumu ve Yaşam Kalitesi Üzerine Etkisi

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ABSTRACT

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The ultimate goal of yoga is to achieve peace by providing unity in mind and spirit. Therefore, it offers important opportunities to improve stress management and quality of life. This quasi-experimental study with pretest-posttest control group design aims to examine the effects of eight weeks of Hatha yoga on stress, life satisfaction and quality of life in nursing students. A total of 40 nursing students, including 22 in the experimental group and 18 in the control group, participated in the study. The data were collected using a descriptive information form, the Depression Anxiety Stress Scales (DASS-21), the Satisfaction with Life Scale (SWLS), and the 12-Item Short Form Health Survey (SF-12). Fisher's exact test was used to compare the descriptive characteristics of those in the experimental and control groups, and the Wilcoxon signed-rank test to compare the pre- and post-test results. After Hatha yoga, the stress scores of nursing students in the experimental group decreased significantly ($p=0.001$), and their life satisfaction scores ($p=0.006$), physical dimension of quality-of-life scores ($p=0.014$), and mental dimension of quality-of-life scores ($p=0.012$) increased significantly. However, there was no significant difference for those in the control group during the same period ($p>0.050$). These results suggest that Hatha yoga is an effective method to improve stress management, life satisfaction and quality of life among nursing students. It is recommended to conduct further studies with larger samples, including follow-up measurements.

Anahtar Kelimeler: *yoga, stress, life satisfaction, quality of life, nursing student*

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ÖZ

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Yoganın nihai amacı zihin ve ruhta bütünlük sağlayarak, huzur elde etmektir. Bu yönüyle stres yönetimi ve yaşam kalitesini geliştirmede önemli fırsatlar sunar. Yarı deneysel, kontrol gruplu, ön test- son test müdahale çalışması olarak gerçekleştirilen bu araştırma ile hemşirelik öğrencileri ile yapılan 8 haftalık Hatha yoganın stres, yaşam doyumu ve yaşam kalitesi üzerine etkisinin incelenmesi amaçlanmıştır. Araştırmaya deney grubunda 22, kontrol grubunda 18 olmak üzere toplam 40 öğrenci hemşire katılmış, veriler Tanıtıcı Bilgi Formu, Depresyon Anksiyete Stres-21 Ölçeği Stres Boyutu, Yaşam Doyum Ölçeği ve SF-12 Yaşam Kalitesi Ölçeği ile toplanmıştır. Deney ve kontrol grubunun tanıtıcı özelliklerinin karşılaştırılmasında Fisher's Exact Test kullanılmış, ön test-son test karşılaştırması Wilcoxon Signed Ranks Test ile yapılmıştır. Deney grubunda Hatha yoga sonrasında son test ile ön test ölçümlerindeki değişim analiz edildiğinde öğrenci hemşirelerde stres puanlarının anlamlı düzeyde azaldığı ($p=0,001$), yaşam doyumlarının arttığı ($p=0,006$), yaşam kalitesi fiziksel boyut puanının arttığı ($p=0,014$) ve yaşam kalitesi mental boyut puanının arttığı ($p=0,012$) arttığı; kontrol grubunda ise aynı dönemde anlamlı farklılığın olmadığı görülmüştür ($p>0,050$). Bu sonuçlar doğrultusunda Hatha yoganın öğrenci hemşirelerin stres yönetiminde, yaşam doyumu ve yaşam kalitelerini geliştirmede etkili bir yöntem olduğu söylenebilir. Daha geniş örneklerle, takip izlemlerini de içeren çalışmaların yapılması önerilir.

Keywords: *yoga, stres, yaşam doyumu, yaşam kalitesi, hemşirelik öğrencisi*

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INTRODUCTION

Yoga is an ancient Indian practice designed to integrate both mind and body. Yoga can be done by everyone of all ages and renews energy. It is also a fun activity and a low-cost non-invasive treatment tool. Scientific evidence on the benefits of yoga for both healthy and sick individuals is increasing day by day; therefore, this practice, which has emerged from the eastern culture, is increasingly preferred people in the west (Kelley & Kelley, 2020; Worby, 2014). One national survey conducted in the United States (2017) has reported that one out of every seven people practice yoga, that the number of yoga practitioners increases by each passing year, and that the most common yoga style is Hatha yoga (NCCIH, 2022). Hatha yoga forms a basis for other types of yoga, aiming to bring a balance to one's physical, mental and spiritual life. In Hatha yoga done regularly, asanas strongly affect and activate all bodily systems. By meditation, Hatha yoga calms and focuses the mind, allowing to develop an inner understanding, awareness and self-acceptance (Govindaraj et al., 2016). By breathing exercises, yoga practitioners aim to control their breath, which is considered as the life energy in yoga. Thanks to these features, yoga is effective in several areas from stress management to quality of life (Seki Öz, 2021).

Stress is defined as the mental or emotional tension caused by adverse or challenging conditions (Baltaş & Baltaş, 2021). Breathing and meditation practices, which are the radically diverse aspects of yoga from physical exercise, especially contribute to cognitive development and spiritual healing, and help individuals manage their perceived stress and anger (Francis & Beemer, 2019). Yoga has effects on the sympathetic nervous system and vagal activity, changing the way of perceiving stressors in stress management (Sharma, 2014). One meta-analysis on the effect of yoga on stress has reported that yoga practices are associated with better regulation of both sympathetic nervous and hypothalamic-pituitary-adrenal systems, reducing perceived stress in stress management among populations including healthy and sick individuals (Pascoe et al., 2017).

Studies report that yoga improves stress management, life satisfaction and quality of life (Thimmapuram et al., 2022; Kinchen et al., 2020; Kelley & Kelley, 2020). Life satisfaction is the cognitive comparison between one's values and perceptions of life. The greater the harmony between one's wishes, life expectations and current life conditions, the higher their life satisfaction (Diener et al., 2003). "Niyama", one of the eight steps of yoga for strengthening positives in one's life, allows to have internal and external purification, be happy and contented with life's offerings, be aware of self-education and continue to work with self-sacrifice (Worby, 2014; Seki Öz, 2021). Thus, it is possible to increase one's adaptation to challenging life conditions by gaining the perspective of being aware and accepting life as it is. Quality of life is one of the important concepts affecting life satisfaction. Studies have shown that yoga improves all aspects

of quality of life and positively affects physical and mental health (Thimmapuram et al., 2022; Kelley & Kelley, 2020).

Considering the positive effects of yoga on stress management, it may offer several opportunities for nursing students. Studies have shown that nursing students have high levels of stress mainly because of academic activities and clinical practices (Pulido-Martos et al., 2012), and that perceived stress causes more psychological and physical symptoms in nursing students (Jimenez et al. , 2010). One qualitative study on the stress sources of nursing students have determined that they experience stress in four basic categories: clinical practice, theoretical education, social and personal life. In addition to experiencing stress related to the trainer, doctors, nurses, patients, interpersonal interaction and clinical practices, nursing students were observed to have problems with accommodation, university life, family attitude, lack of self-confidence, inability to control emotions, and time planning. Therefore, the authors recommended to organize training programs for nursing students for their individual empowerment (Altioğ & Üstün, 2013). Higher levels of stress and anxiety among nursing students compared to other students (Bartlett et al., 2016) may have reflections on their academic achievement, clinical practices and interpersonal interactions, therefore there is a need to explore alternative ways for nursing students to manage stress. There is no study about the effect of yoga on stress, life satisfaction or quality of life in nursing students in Türkiye. It will be possible to create alternative ways that nursing students can use in their professional lives by conducting studies for them to gain healthy living habits.

METHOD

Research Purpose

This study aimed to examine the effects of eight weeks of Hatha yoga on stress, life satisfaction and quality of life in nursing students.

Research Model and Hypotheses

This is a quasi-experimental study with nursing students pretest-posttest control group design. In this regard, the research hypotheses are as follows;

1. The stress scores of nursing students in the experimental group will decrease after the eight weeks of yoga.
2. The life satisfaction scores of nursing students in the experimental group will increase after the eight weeks of yoga.
3. The physical dimension of quality-of-life scores of nursing students in the experimental group will increase after the eight weeks of yoga.

4. The mental dimension of quality-of-life scores of nursing students in the experimental group will increase after the eight weeks of yoga.

Population and Sample

The population of the study consists of nursing students in Kırşehir Ahi Evran University Nursing Department. G-Power 3.1 Analysis program was used to calculate the sample size. Considering effect size of 0.06, 50% power and type I error probability of 0.05 Cohen (1988), the sample was found to consist of at least 34 participants, including 17 for each group. The study included a total of 40 participants. Study inclusion criteria were as follows: being a nursing student, having no physical disability to do yoga, and agreeing to participate in the study. Study exclusion criteria were as follows: having a health problem that prevents yoga, participating in another therapy group, and not attending in five or more yoga sessions.

Research Application:

After obtaining the necessary institutional permission and ethical approval for conducting the study, an e-mail was sent to nursing students by the researchers, informing them about the study and inviting them to participate in the study. Those who agreed to participate in the study responded via e-mail. Thus, a total of 48 students nurses who responded via email, met the study inclusion criteria and agreed to participate in the study were included in the study. A randomization was done to assign nursing students to experimental and control groups. For randomization, each student was given a number between 1-48 and the website <https://www.random.org/lists/?mode=advanced> was used for randomization. By this system, those numbered "3, 22, 39, 36, 24, 17, 12, 38, 28, 23, 6, 21, 16, 46, 44, 1, 26, 20, 40, 11, 8, 47, 13, 31" were assigned to experimental group; and those numbered "29, 42, 10, 18, 25, 32, 2, 27, 43, 19, 41, 14, 48, 30, 5, 33, 9, 37, 15, 35, 34, 45, 7, 4" assigned to control group. Blinding could not be achieved as the randomization was done by the researchers. Hatha yoga was applied to nursing students in the experimental group by the researcher, who was a yoga instructor, for eight weeks, three sessions a week, and each session lasted 60 minutes. Those in the control group received no intervention during the same period. Nursing students in the experimental group held sessions after 17:00 on Mondays, Wednesdays and Fridays for eight weeks; and those who did not attend five or more sessions were excluded from the analysis. The scales were applied to nursing students in the study groups just before the yoga sessions started and just after the end of the last yoga session. Two nursing students in the experimental group were excluded from the study because they did not attend more than five yoga sessions. In addition, six nursing students in the control group were excluded from the study as they did not participate in the post-test. Therefore, the study was completed with a total of 40 students. Table 1 presents the research application steps.

Table 1

Research application steps

An e-mail was sent to participants about the study and their feedback was received (April 20-30, 2022)	
Randomization of participants to the experimental and control groups (May 05, 2022) (n=48)	
Application of pre-tests to those in the experimental and control groups (May 09, 2022)	
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Experimental group (n=24)	Control group (n=24)
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Sixty (60) minutes of yoga sessions three (3) times a week for eight (8) weeks (May 09 – July 01, 2022)	
Each yoga session;	
➤ 5 minutes of breathing (pranayama) and warming up	No
➤ 40 minutes of postures (asanas)	intervention
➤ 5 minutes of breathing (pranayama)	
➤ 5 minutes of meditation	
➤ 5 minutes of corpse pose (shavasana)	
Application of post-tests to those in the experimental group (n=22) and those in the control group (n=18) (July 01, 2022) (n=40)	

The yoga sessions took place in a gym within the university, the hall was cleaned before the sessions, the yoga mat and blocks were provided to participants by the researchers, and the yoga mats were allowed to be used only by the same participant during the sessions. The application was lasted between May 20 and July 01, 2022.

Data Collection Tools

The data were collected using a descriptive information form, the Depression Anxiety Stress Scales Short Form, the Satisfaction with Life Scale, and the 12-Item Short Form Health Survey.

Descriptive Information Form: The form included eight questions to evaluate the sociodemographic data of nursing students, including age, gender, class, economic status, and physical activity status.

Depression Anxiety Stress Scales Short Form (DASS-21): The original scale was developed by Lovibond and Lovibond (1995) and the first version of the scale contained 42 items to measure depression, stress and anxiety. Afterwards, Henry and Crawford (2005) created a short form of the scale with 21 items, which was adapted into Turkish by Sarıçam (2018) using normal and clinical samples. This is a 4-point Likert type scale, scoring from “Never (0)” to “Always (3)”. In clinical samples, the scale allows to recognize individuals with and without a diagnosis of depression, anxiety and stress. This study used the subscale of stress on the DASS-21, including items 1, 6, 8, 11, 12, 14, and 18. Total DASS-21 score varies between 0 and 21. A higher score on the scale indicates a greater level of stress. The Cronbach's alpha coefficient for the

subscale of stress was found as 0.61 in the Turkish validity and reliability study and as .76 and .80 in the pre- and post-test phases of the present study, respectively.

Satisfaction with Life Scale (SWLS): The scale was developed by Diener et al. (1985) and adapted into Turkish by Köker (1991). It has 5 items in total, scoring from “I totally disagree (1)” to “I totally agree (5)”. Higher scores indicate greater life satisfaction. The Cronbach’s alpha coefficient of the scale was calculated as .80 in the Turkish validity and reliability study and as .82 and .80 in the pre- and post-test phases of the present study, respectively.

12-Item Short Form Health Survey (SF-12): The SF-12 consists of 12 items and 8 subscales: physical functioning, physical role, bodily pain, general health, energy, social functioning, emotional role, and mental health. The items related to physical and emotional role were responded as “yes or no”, while the other items had Likert type scoring ranging from 3 to 6. Physical dimension covers general health, physical functioning, physical role and bodily pain sub-dimensions, while mental dimension covers social functioning, emotional role, mental health and energy sub-dimensions. Both physical and mental dimension scores range from 0 to 100, where a higher score indicates greater health. In the present study, the Cronbach’s alpha coefficient of the scale was calculated as .72 and .78 in the pre- and post-test phases, respectively.

Data Analysis

The data were analyzed using SPSS 25.0 statistical program. The Cronbach’s alpha coefficient was used to check the scale’s internal consistency. The data were presented using descriptive statistics. Fisher's Exact Test was used to compare nursing students in the experimental and control groups in terms of introductory characteristics. The Shapiro-Wilk test was used to evaluate whether the data had normal distribution. The Wilcoxon Signed-Rank Test to compare the pre- and post-test results as the data did not have normal distribution. The statistical significance level was considered $p < 0.05$.

Ethical Approval

Before they participated in the study, an e-mail containing detailed information about the study was sent to nursing students, and only those who agreed to participate in the study responded to the e-mail. For conducting the study, an institutional permission was obtained from the institution where the study was conducted, and an ethical approval was obtained from the Social and Human Sciences Scientific Research and Publication Ethics Committee of Kırşehir Ahi Evran University (decision no: 2021/7/15, dated: October 14 2021). The study was conducted in accordance with the Principles of Helsinki Declaration.

RESULTS

The mean age of the nursing student was 21.35±2.15 (18-29) years and the majority of them were 21 years old and above.

Table 2

Distribution of nursing students according to their introductory information

	Total		Experimental group		Control group		p
	n	%	n	%	n	%	
Age							
≤ 20	15	37.5	8	36.4	7	38.9	0.564
>21	25	62.5	14	63.6	11	61.1	
Sex							
Male	14	35	6	27	8	44.4	0.212
Female	26	65	16	73	10	55.6	
Grade							
1st grade	10	25	8	36.4	2	11.1	0.177
2nd grade	11	27.5	6	27.3	5	27.8	
3rd grade	19	47.5	8	36.4	11	61.1	
Economic Status							
Income<Expense	17	42.5	7	31.9	10	55.6	0.334
Income=Expense	18	45	12	54.5	6	33.3	
Income>Expense	5	12.5	3	13.6	2	11.1	
Place of residence							
Family house	22	55	14	63.6	8	44.4	0.186
Dormitory	18	45	8	36.4	10	55.6	
Presence of Chronic Disease							
Yes	3	7.5	2	9.1	1	5.6	0.577
No	37	92.5	20	90.9	17	94.4	
Regular Exercise Status							
Yes	4	10	2	9.1	2	11.1	0.697
No	36	90	20	90.9	16	88.9	
Total	40	100	22	100	18	100	

Fisher's Exact Test, $p < 0.05$

The majority of the nursing students were female (%65), 3rd graders (%47.5), had income equal to expenses (%45), lived with their families (%55), had no chronic diseases (%92.5), and did not exercise regularly (%90). There was no statistically significant difference between the descriptive characteristics of nursing students in the experimental and control groups ($p > 0.050$) (Table 2).

Table 3

Comparison of the DASS-21 Stress, SWLS, SF12-Physical Dimension and SF12-Mental Dimension pretest and posttest scores of nursing students in the experimental and control groups

	Experimental group (n=22)		Control group (n=18)		Test (Z) p2	Test (Z) p3
	X ± SD	Median (Min-Max)	X ± SD	Median (Min-Max)		
DASS-21 Stress Dimension						
Pretest	8.23±3.58	8 (1-15)	7.72±4.81	7.5 (0-16)	-.505	-.956
Posttest	5.91±3.19	6.5 (0-14)	7.61±5.10	7 (0-17)	.613	.339
Test value (Z)		-3.303		-0.238		
p1		0.001		0.812		
SWLS						
Pretest	13.64±3.94	13 (8-23)	13.17±4.16	12.5 (8-22)	-.684	-1.759
Posttest	15.59±3.62	16 (8-23)	13.39±4.57	12 (7-22)	.494	.079
Test value (Z)		-2.743		-0.486		
p1		0.006		0.627		
SF12-Physical Dimension						
Pretest	62.66±21.02	60.71 (28.57-92.85)	65.07±22.96	71.42 (14.28-100)	-.315	-1.164
Posttest	75.00±22.23	85.71 (28.57-114.28)	65.87±22.92	64.28 (21.42-100)	.753	.245
Test value (Z)		-2.466		-0.059		
p1		0.014		0.953		
SF12-Mental Dimension						
Pretest	47.72±20.18	44.44 (16.66-94.44)	35.49±25.85	30.55 (0.00-88.88)	-1.801	-3.200
Posttest	57.82±18.43	52.77 (27.77-100)	34.87±21.87	20.22 (11.11-88.88)	.072	.001
Test value (Z)		-2.516		-0.677		
p1		0.012		0.499		

p1; Comparisons of pre- and post-test measurements in the experimental or control group (Wilcoxon Signed-Rank Test), p2; Comparisons of pre-test measurements in the experimental and control groups (Mann Whitney U Test), p3; Comparisons of post-test measurements in the experimental and control groups (Mann Whitney U Test), $p < 0.05$

Table 3 compared the stress, life satisfaction and quality of life measurements of nursing students in the experimental and control groups before and after the yoga practice. After Hatha yoga, stress scores of those in the experimental group decreased significantly ($p1=0.001$), and their life satisfaction scores ($p1=0.006$), physical dimension of quality-of-life scores ($p1=0.014$), and mental dimension of quality-of-life scores ($p1=0.012$) increased significantly. However, there was no statistically significant difference for those in the control group during the same period ($p1 > 0.050$). In addition, a statistically significant difference was observed between the pre- ($p2$) and post-test ($p3$) SF12-Mental scores of nursing students in the experimental and control groups.

This is because the post-test SF12-Mental score increased among nursing students in the experimental group, but decreased among those in the control group ($p=0.001$).

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

Yoga improves physical and mental health. This study aimed to examine the effect of 8 weeks of Hatha yoga on stress, life satisfaction and quality of life among nursing students. The majority of nursing students were female, 3rd graders, had an income equal to expenses, lived with their families, had no chronic diseases, and did not exercise regularly. Nursing students in the experimental and control groups were similar in terms of age, gender, grade, economic status, place of residence, presence of chronic disease and exercise status ($p>0.050$).

After Hatha yoga, stress scores of those in the experimental group decreased significantly ($p=0.001$), however, there was no significant difference for those in the control group during the same period ($p>0.050$). One study of 16 weeks of yoga with 90 individuals who reported moderate to high stress found a significant decrease in stress, anxiety, and general health and a significant increase in well-being among participants (Maddux et al., 2018). Another study of a six-week yoga and meditation program with 17 university students determined a significant decrease in their stress and anxiety levels after the program (Lemay et al., 2019). One systematic review of 12 studies about the effect of different types of yoga on stress in healthy individuals suggests to do different types of yoga such as Hatha yoga, Bikram yoga, Kundalini yoga, Sudarshan Kriya yoga, Kripalu yoga, and Yin yoga for a period of 4 to 28 weeks, and has found that yoga can reduce stress in healthy populations and has positive effects on their well-being (Wang & Szabo, 2020). Yoga can reduce stress by affecting the way individuals perceive stressors (Francis & Beemer, 2019). By combining breathing and meditation, yoga asanas directly affect both nervous and musculoskeletal systems. Studies have shown that yoga regulates hypothalamic-pituitary-adrenal axis and sympathetic nervous system (Lin et al., 2015; Ross & Thomas, 2010). Through its potential mechanisms, yoga increases vagal activity and changes in brain wave activity (Nagendra et al., 2015). The results of the present study are compatible with those in the literature. In the study, nursing students in the experimental group had Hatha yoga sessions, including asanas of breathing and meditation, three times a week for eight weeks, affecting their nervous and musculoskeletal systems and contributing to their bodily balance and significantly affecting their stress levels.

Life satisfaction scores of those in the experimental group decreased significantly after Hatha yoga ($p=0.006$), however, there was no significant difference for those in the control group during the same period ($p>0.050$). One systematic review found that yoga significantly increased psychological well-being (Hendriks et al., 2017). One study about the effect of yoga on psychological well-being in nursing students found that an eight-week yoga program increased

their psychological well-being, and recommended to include yoga in nursing education (Mathad et al., 2017). In one study of 84 female students, Hatha yoga was applied to those in the experimental group and no intervention to those in the control group and found that spirituality increased, and negative effects decreased in the yoga group (Csala et al., 2020). A total of 77 participants were included in a prospective controlled study to examine the effect of a short-term yoga intervention on subjective well-being of healthy and sick individuals. The authors found a significant improvement in the subjective well-being of those in the experimental group over a 10-day period compared to those in the control group, and reported that yoga would make a significant contribution to creating a healthy lifestyle (Sharma et al., 2008). A systematic review about the subjective well-being of healthy individuals aged 15-24 has shown that meditative physical activity such as yoga and group-based or peer-supported sports and dance improves subjective well-being (Mansfield et al. 2018). The results of our study are compatible with those in the literature. Our study suggests that life satisfaction is related to one cognitive comparison between their values and perceptions of life, whereby a harmony between them determines life satisfaction. The greater the harmony, the greater the life satisfaction, therefore, an individual and environmental awareness provided by yoga affects life satisfaction positively by improving one's understanding of accepting life and oneself as they are, and allowing them to focus on being in the moment and adapting to what they have now.

Another result of the study is related to quality of life. Both physical ($p=0.014$), and mental dimensions of quality-of-life scores ($p=0.012$) of nursing students in the experimental group increased significantly after Hatha yoga sessions; however, there was no significant difference for those in the control group during the same period ($p>0.050$). One study about the effect of yoga on health-related quality of life and mental well-being has reported that approximately 150 minutes or more per week of yoga improves quality of life and mental well-being (Kelley & Kelley, 2020). Another study of a total of 3164 participants from 39 countries has reported that 100-day virtual yoga practice is an effective tool in improving all dimensions of quality of life (Thimmapuram et al., 2022). One study about the effects of yoga on quality of life and psychological distress found that yoga caused a significant improvement in all areas of quality of life and significantly increased the quality of psychological life by decreasing psychological distress (Ponte et al., 2019). Another study found that mental health and sleep quality improved and depression reduced in the Hatha yoga group after a 6-week Hatha yoga intervention, and shown that Hatha yoga had positive short-term effects on health-related outcomes (Papp et al., 2019). In one study about the effect of yoga intervention on stress, self-compassion, and quality of life in nursing students, those in the experimental group received one-hour yoga class every week for a period of 12 weeks and those in the control group received no intervention. However, the authors found no significant difference between the groups in terms of stress level or quality

of life after yoga sessions (Kinchen et al., 2020). In another study conducted in Turkey with a similar pattern, yoga-based exercises increased flexibility in healthy women, but did not change their quality of life, depression and physical activity level (Atılgan et al., 2015). As consistent with some of those in the literature, our study results suggest that yoga increases quality of life, while some others reported no significant effect of yoga on quality of life. This may be because of the research designs of these studies, and also due to the type and frequency of yoga used in them. A shortened duration of yoga sessions or doing them infrequently for a week reduces the benefits of yoga (de Manincor et al., 2015), therefore, having yoga sessions three times a week for 60 minutes, just as applied in our study, improves both physical and mental dimensions of quality of life.

This study has some limitations. The data were based on self-reports. This is a cross-sectional study with small sample size and no follow-up measurements. Therefore, the results of the present study cannot be generalized to the entire population.

This study determined that an eight-week Hatha yoga program was an effective practice in reducing stress levels and increasing life satisfaction and quality of life among nursing students. Therefore, yoga is considered an effective practice in improving stress management, life satisfaction and quality of life. Nursing students can be exposed to intense stress starting from their nursing education to working as a nurse in a stressful environment in their future professional lives, leading to a negative impact on their life satisfaction and quality of life. Therefore, yoga, which has positive effects in nursing students' academic life, can be a useful practice for nursing students to protect their physical and mental health in their future professional lives. It is recommended to conduct further studies with larger samples, including follow-up measures to show the lasting effects of yoga on stress, life satisfaction and quality of life.

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GENİŞLETİLMİŞ ÖZET

Giriş

Yoganın hem sağlıklı hem de hasta bireylere sağladığı faydalara yönelik bilimsel kanıtlar artmakta, doğu kültüründen çıkan bu uygulamanın batıda artarak tercih edildiği, yıllar ilerledikçe yoga yapanların sayısının arttığı, en çok tercih edilen yoga stiline ise Hatha yoga olduğu ifade edilmektedir (NCCIH, 2022). Hatha yoga diğer yoga türlerine temel oluşturmakla birlikte bedensel, zihinsel ve ruhsal yaşantıya bir denge getirmeyi amaçlamaktadır (Worby, 2014). Düzenli yapılan yoganın stres yönetiminden yaşam kalitesine kadar pek çok alanda etkili olduğu görülmektedir (Govindaraj et al., 2016). Yoganın stres yönetiminde stresörü algılama biçimini değiştirmesi kadar, sempatik sinir sistemi ve vagal aktivite üzerine etkileri olduğu bildirilmektedir (Pascoe et al., 2017). Yoganın sekiz basamağı içinde yer alan “Niyama” yani “olumlulukları güçlendirmek” basamağı ile içsel ve dışsal arınma, yaşamın sunduklarıyla mutlu olma ve yetinme, kendini eğitime ve özveriyle çalışmaya devam etme bilinci sağlanması ile de yaşam doyumu ve yaşam kalitesini de geliştirdiği görülmüştür (Worby, 2014; Seki Öz, 2021). Yoganın stres yönetimi, yaşam doyumu ve yaşam kalitesi üzerine olumlu etkileri düşünüldüğünde hemşirelik öğrencileri ve hemşireler için stres yönetiminde fırsatlar sunduğu söylenebilir. Yapılan çalışmalarda hemşirelik öğrencilerinin stres düzeylerinin yüksek olduğu, temel stres kaynaklarının ise akademik faaliyetleri ve klinik uygulamaları ile ilgili olduğu (Pulido-Martos, et al., 2012), ayrıca algılanan stresin daha fazla psikolojik ve fiziksel semptomlara yol açtığı (Jimenez, et al., 2010) görülmüştür. Özellikle geleceğin hemşireleri olan öğrenci hemşirelere, sağlıklı yaşam alışkanlıklarının kazandırılmasına yönelik çalışmaların yapılması ile ileride meslek yaşantılarında da kullanabilecekleri alternatif yolların oluşturulması mümkün olacaktır.

Yöntem

Bu araştırma ile 8 haftalık Hatha yoganın öğrenci hemşirelerin stres, yaşam doyumu ve yaşam kalitesi üzerine etkisinin incelenmesi amaçlanmıştır. Araştırma yarı deneysel, kontrol gruplu, ön test- son test müdahale çalışması türündedir. Araştırmanın evrenini Kırşehir Ahi Evran Üniversitesi Hemşirelik bölümü öğrencileri oluşturmaktadır. Etki büyüklüğü için Cohen (1988)'in Wilcoxon-Mann Whithney test grubu için önerdiği 0.06 orta etki büyüklüğü dikkate alınarak %50 güç ve tip I hata olasılığı 0.05 ile deney ve kontrol gruplarının her biri için 17, toplamda en az 34 katılımcı örneklem olarak

bulunmuştur. Araştırmaya katılma kriterlerini karşılayan öğrencilerin deney ve kontrol gruplarına atanması için randomizasyon yapılmıştır. Deney grubuna atanan katılımcılara araştırma müdahalesi olarak sekiz hafta boyunca, haftada üç seans ve her seans 60 dakika sürecek şekilde yoga eğitmeni olan araştırmacı tarafından Hatha yoga uygulanmıştır. Kontrol grubundaki katılımcılara aynı dönemde herhangi bir etki verilmemiştir. Araştırma grubuna ölçekler (Tanıtıcı Bilgi Formu, DAS-21 Ölçeği Stres Boyutu, Yaşam Doyum Ölçeği ve SF-12 Yaşam Kalitesi Ölçeği) yoga seansları başlamadan hemen önce ve son yoga seansının bitiminden hemen sonra uygulanmıştır. Araştırma 40 katılımcı ile tamamlanmıştır. Deney ve kontrol grubunun tanıtıcı özellikler açısından karşılaştırılmasında Fisher's Exact Test kullanılmıştır. Verilerin normal dağılıma uyup uymadığı Shapiro-Wilk testi ile değerlendirilmiş ve normal dağılıma uymadığı için ön test-son test karşılaştırmaları Wilcoxon Signed Ranks Test ile yapılmıştır. İstatistiksel anlamlılık düzeyi $p < 0,05$ olarak belirlenmiştir.

Bulgular

Deney ve kontrol grubuna katılan öğrencilerin tanıtıcı özellikleri değerlendirildiğinde, deney ve kontrol grubu arasında istatistiksel olarak fark yaratan anlamlı bir değişkenin bulunmadığı saptanmıştır ($p > 0,050$). Deney ve kontrol gruplarının yoga uygulaması öncesinde ve sonrasında stres, yaşam doyumu ve yaşam kalitesi ölçümleri karşılaştırılmış; deney grubunda yoga seansları sonrasında son test ile ön test ölçümlerindeki değişim analiz edildiğinde stres puanlarının anlamlı düzeyde azaldığı ($p = 0,001$), yaşam doyumlarının arttığı ($p = 0,006$), yaşam kalitesi fiziksel boyut puanının arttığı ($p = 0,014$) ve yaşam kalitesi mental boyut puanının arttığı ($p = 0,012$) arttığı saptanmıştır. Kontrol grubunda ise aynı dönemde yapılan ön test ve son test ölçümlerindeki değişim analiz edildiğinde kullanılan tüm ölçeklerde anlamlı bir fark olmadığı görülmüştür ($p > 0,050$).

Tartışma ve Sonuç

Bu çalışma ile hemşirelik öğrencileri ile gerçekleşen 8 haftalık Hatha yoganın stres düzeylerini azaltmada, yaşam doyumu ve yaşam kalitesini yükseltmede etkili bir uygulama olduğu saptanmıştır. Stres için yapılan incelemede; bir çalışmada orta-yüksek stres bildiren 90 birey ile 16 haftalık yoga sonrasında stres, kaygı ve genel sağlık anketi boyutlarında önemli düşüşler olduğu ve katılımcıların refahında önemli artış olduğu bulunmuştur (Maddux et al., 2018). Başka bir çalışmada 17 üniversite öğrencisine final

sınavlarından önce altı haftalık bir yoga ve meditasyon programı uygulanmış ve program tamamladıktan sonra öğrencilerin stres ve kaygı düzeylerinde önemli bir azalma ortaya çıkmıştır (Lemay, et al., 2019). Sağlıklı popülasyonda farklı yoga türlerinin stres üzerindeki etkisini inceleyen sistematik bir derlemeye 12 çalışma alınmış, Hatha yoga, Bikram yoga, Kundalini yoga, Sudarshan Kriya yoga, Kripalu yoga, Yin yoga gibi yoga türlerinin 4 haftadan 28 haftaya kadar bir sürede uygulandığını ve yoganın sağlıklı popülasyonlarda stresin azaltılması üzerinde olumlu etkileri olduğunu ortaya koymuştur. (Wang & Szabo, 2020). Yaşam doyumu için yapılan incelemede; yapılan sistematik bir derlemede, yoganın herhangi bir etki verilmeyen kontrol grubuna kıyasla psikolojik iyi oluşta önemli bir artışa katkıda bulunduğu görülmüştür (Hendriks, et al.,2017). Hemşirelik öğrencilerinde yoganın psikolojik iyi oluşa etkisini inceleyen bir çalışmada ise 8 haftalık yoganın öğrencilerin psikolojik iyi oluşlarını artırdığı görülmüş ve yoganın hemşirelik eğitimine dahil edilmesi önerilmiştir (Mathad, et al.,2017). 84 kız öğrenci ile yapılan bir çalışmada ise deney grubuna Hatha yoga uygulanmış ve sonuçlar kontrol grubu ile karşılaştırıldığında, yoga grubunda maneviyatın arttığını ve olumsuz etkilerin azaldığı görülmüştür (Csala, et al., 2020). Yaşam kalitesi için yapılan literatür incelemesinde ise yoganın yaşam kalitesi ve psikolojik sıkıntı üzerindeki etkilerini inceleyen bir çalışmada deney grubunda yaşam kalitesinin tüm alanlarında önemli bir iyileşme olduğu ve psikolojik sıkıntının azaldığı bildirilmiş, doğrusal regresyon analizi sonucunda yoganın psikolojik yaşam kalitesini önemli ölçüde artırdığı gösterilmiştir (Ponte et al.,2019). Bir başka çalışmada ise 6 haftalık Hatha yoga müdahalesinden sonra Hatha yoga grubunda depresyon açısından iyileştirilmiş zihinsel sağlık ve iyileştirilmiş uyku saptanarak, Hatha yoganın öğrencilerin sağlıkla ilgili sonuçları üzerinde kısa vadeli olumlu etkileri olduğu gösterilmiştir (Papp, et al.,2019). Bu bilgiler ışığında yoganın stres, yaşam doyumu ve yaşam kalitesini iyileştirmede etkili bir uygulama olduğu söylenebilir. Öğrenci hemşirelerin eğitim sürecinden başlayarak yoğun bir strese maruz kalması, ileriki meslek yaşamlarında stresli bir ortamda çalışması, iş yoğunluğunun ve çalışma düzeninin hemşirelerin yaşam doyumu ve yaşam kalitesi üzerinde olumsuz etkiye sahip olabilmesi mümkündür. Bu nedenlerle öğrencilik sürecinde olumlu etkilere sahip yoganın ileriki meslek yaşamlarında da fiziksel ve ruhsal sağlıklarını korumaları için faydalı bir uygulama olacağı söylenebilir. Daha geniş örneklerle, etkinin kalıcılığına yönelik izlem ölçümlerini de içeren çalışmaların yapılması önerilir.