

RESEARCH ARTICLE

INVESTIGATION OF HEALTHY LIFESTYLE BEHAVIORS OF SURGICAL NURSES: A DESCRIPTIVE-CROSS SECTIONAL STUDY

Nihal Celikturk Doruker,¹ Sinem Gecit,² Burcak Sahin Koze³

1.Lecturer, Research Ass., RN, MSc, PhD , Department of Surgical Nursing, Ege University Nursing Faculty, Izmir, Turkey

2.Lecturer, Research Ass., RN, MSc, PhD, Department of Surgical Nursing, Ege University Nursing Faculty, Izmir, Turkey

3. Lecturer, Research Ass., RN, MSc, PhD, Department of Surgical Nursing, Ege University Nursing Faculty, Izmir, Turkey

DOI: 10.5281/zenodo.14775891

Cite as: Doruker, N. C., Gecit, S. and Koze, B. S. (2024) 'INVESTIGATION OF HEALTHY LIFESTYLE BEHAVIORS OF SURGICAL NURSES: A DESCRIPTIVE-CROSS SECTIONAL STUDY', Perioperating Nursing (GORNA), 13(1), pp. 72–84. doi: 10.5281/zenodo.14775891.

Abstract

Introduction: Nurses, who are role models, are expected to adapt to healthy lifestyle behaviors. However, surgical nurses may have difficulty in adapting to healthy lifestyle behaviors due to stressful working environments as well as professional difficulties. The aim of this research is to investigate the healthy lifestyle behaviors of surgical nurses. **Methods:** The population of this descriptive and cross-sectional study consisted of all nurses working in the surgical clinics in our country. The sample consisted of 111 surgical nurses who could actively use the internet and voluntarily agreed to participate in the study. The data of the study were collected via Surveyey.com between March 2021 and March 2022 using the "Surgical Nurses' Sociodemographic and Descriptive Characteristics Form" and "Form for Surgical Nurses' Characteristics for Healthy Lifestyle Behaviors" prepared by the researchers in line with the literature. Descriptive statistics were used in the analysis of the data. **Results:** The mean age of the nurses participating in this study is 31.78±7.48 years (min:21, max:55) 80.22% of the surgical nurses are women, 42.3% of them work in general surgery units, 48.6% as clinical nurses and 69.4% in alternating shifts during the day and night. Furthermore, 39.6% of the surgical nurses currently smoke, 67.6% have a diet low in saturated and trans-fat, 45.5% do 150 minutes of moderate-intensity exercise a week and 56.8% use appropriate methods (breathing exercises, positive thinking, etc.) to avoid or get rid of stress. **Conclusion:** In this study, it was found that more than half of the surgical nurses followed some recommendations for a healthy diet, nearly half of them did moderate-intensity exercise at a sufficient level, and a little more than half of them used appropriate methods to avoid or get rid of stress.

Keywords: Surgical nursing, nursing, healthy lifestyle

Corresponding author: Lecturer, Research Ass., RN, MSc, PhD (**Corresponding author**), Department of Surgical Nursing, Ege University Nursing Faculty, Izmir, Turkey. E-mail: burcak.sahin.koze@ege.edu.tr

INTRODUCTION

A healthy lifestyle protects against cancer, stroke, diabetes, cardiovascular disease or many chronic conditions (1). Healthy lifestyle behaviors include avoiding smoking, healthy eating, weight control, appropriate and regular physical activity, and stress management (2,3). When healthy lifestyle behaviors are transformed into attitudes and behaviors, the individual's health can be maintained or health status can be improved (4). Nurses are required to know the significance of personal health, as health protection and improvement is the primary responsibility of nurses (5). At the same time, it should be noted that nurses can be role models in improving health (6). In this direction, nurses are expected to adapt to the healthy lifestyle behaviors necessary to protect and improve their own health (7). However, situations such as the stressful environment of surgical units and the need for a shift work system may make it more difficult for surgical nurses to acquire healthy lifestyle behaviors and maintain compliance (6,8). Surgical nurses adopting healthy lifestyle behaviors will provide advantage to themselves, patients and the institution (6).

When the literature is examined, while the studies examining the healthy lifestyle behaviors of nurses are many (8-10), there is no study that examines the healthy lifestyle behaviors of surgical nurses only. It is important to examine healthy lifestyle behaviors for units since there are many factors in terms of the individual and work that affect healthy lifestyle behaviors.

In this direction, the aim of present study was to explore healthy lifestyle behaviors of surgical nurses. It is thought that the study will create awareness on this issue and contribute to the literature.

MATERIAL AND METHOD

Type of the research: This study was of descriptive and cross-sectional type.

Place and time of the research: This research was conducted over the internet via Surveyey.com between March 2021 and March 2022.

Population and sample of the research: The population of the study consists of nurses working in surgical clinics in our country.

The sample of the study, consisted of 111 surgical nurses working in surgical fields, could use the internet, and volunteered to participate in the study.

Data Collection Tools: Research data were collected by using the Data Collection Form prepared by the researchers in line with the literature. The data collection form consists of two parts: "Surgical Nurses' Sociodemographic and Descriptive Characteristics Form" and "Form for Surgical Nurses' Characteristics for Healthy Lifestyle Behaviors".

Surgical Nurses' Sociodemographic and Descriptive Characteristics Form: This form was created by scanning the literature in order to determine the sociodemographic and descriptive characteristics of surgical nurses (8,11,12). The form includes multiple-choice questions such as age, gender, educational background, marital status, unit of work and mostly the shift system.

Form for Surgical Nurses' Characteristics for Healthy Lifestyle Behaviors: This form was created by scanning the literature to determine the healthy lifestyle behaviors of surgical nurses (2,3,13-17). The form includes multiple-choice questions such as height, weight, cholesterol check in the last two years, cholesterol level, presence of chronic disease, family history of hypertension, high cholesterol, heart attack and stroke, vitamin D, zinc, magnesium, dietary supplement use, smoking and alcohol use, diet low in saturated and trans-fat, consumption of refined carbohydrates, sugar and processed foods, daily house and garden chores, fruit, vegetable and fish consumption, salt consumption

more than 5 g per day, low-fat or fatty milk and consuming products, moderate and vigorous intensity exercise, exercising during work breaks, doing muscle strengthening or flexibility exercises, using appropriate methods to avoid or get rid of stress.

Data Collection Process: In this study, the data were collected electronically with Surveyey.com system between March 2021 and March 2022 in order to reach surgical nurses across Turkey. An invitation letter including the purpose and link of the study was sent to the nurses included in the "Surgical Nursing" groups on social networking sites. In order to increase participation in the research, a reminder message was sent to the participants two weeks after the first invitation letter was sent. System setup and IP auditing done to allow one participant to fill out only one survey. Filling out the data collection form takes approximately 15-20 minutes. The data filled online were backed up daily by the researchers.

Evaluation of Data: The data obtained from the research were analyzed using the Statistical Package for the Social Sciences (SPSS) for Windows 26.0 package program. Descriptive statistics (mean, median, standard deviation, percentage, and frequency) were used in the analysis of descriptive data. A $p < 0.05$ value was considered statistically significant at the 95% confidence interval for all results.

Ethical Aspect of the Research: Before the research data were collected, permission was obtained from the Medical Research Ethics Committee of a university (Decision No: 21-2.1T/5, Decision date: 18.02.2021) and the hospital management. Necessary explanations about the purpose and application of the research are given in the introduction part of the data collection form. In line with this information, "I agree to participate in the study" and "I do not agree to participate in the study" options were provided at the bottom of the form. In this direction, the participants who accepted to participate in the study were able to proceed with filling out

the data collection form. The research was conducted in accordance with the Principles of the Declaration of Helsinki. Research and publication ethics were complied with in the study.

RESULTS

Sociodemographic and Descriptive Characteristics of Surgical Nurses

The mean age of the surgical nurses participating in the study was 31.78 ± 7.48 (min:21, max:55). While the average weight of the surgical nurses was 66.92 ± 14.64 (min:43, max:120) kg, the average height was 167.12 ± 8.20 (min:150, max:196) cm. Surgical nurses stated their physical health as an average of 6.50 ± 1.83 out of 10 (min:0, max:10) and their mental health as 5.46 ± 12.51 (min:0, max:10) out of 10.

80.22% of surgical nurses were women, 50.5% are single, 58.6% are undergraduate graduates. 42.3% of these nurses work in general surgery units, 48.6% as clinical nurses and 69.4% in alternating shifts during the day and night. 25.2% of the surgical nurses stated that they had chronic diseases such as cancer, hypertension and coronary artery disease, 70.3% of them had a chronic disease in their family, and 45.0% of them did not remember their cholesterol level (Table 1).

Characteristics of Surgical Nurses for Healthy Lifestyle Behaviors

50.5% of the surgical nurses participating in the study stated that they have not had their cholesterol level checked in the last two years. 32.4% of these nurses use vitamin C, 32.4% vitamin D, 19.8% zinc, 16.2% magnesium and 25.2% dietary supplements. 39.6% of the surgical nurses stated that they currently smoke, 68.5% are exposed to cigarette smoke during the day, 20.7% stated that there are smokers in the closed areas where they work, and 31.5% stated that there are other people who smoke daily in their homes. 60.4% of surgical nurses do not drink alcohol, 67.6% prefer a

diet low in saturated and trans fats, and 61.3% limit their consumption of refined carbohydrates, sugar, and processed foods. While 33.3% of nurses consume 2-3 servings of fruit a day, 57.7% consume 2-3 servings of vegetables a day, 40.5% consume fish 1-2 times a week, 64.9% consume low-fat or non-fat milk and dairy products, 52.3% consume more than 5 g (1 teaspoon) of salt per day. 28.8% stated that they do regular physical exercise, 45.5% do 150 minutes of moderate-intensity exercise (brisk walking, slow cycling, active yoga, water aerobics, ballroom dancing, tennis with two people, mowing the lawn, brooming, etc.) per week, 9.0% exercise 75 minutes per week of vigorous intensity (long-distance walking race, jogging, fast cycling, heavy gardening such as digging and hoeing, swimming laps, single-player tennis), 9.0% exercise during work breaks, 27.9% do muscle strengthening or flexibility exercise and 56.8% use appropriate methods (breathing exercises, positive thinking, etc.) to prevent or get rid of stress. At the same time, 48.6% of surgical nurses stated that they usually sleep for about six hours at night (Table 2).

DISCUSSION

Nurses have important roles and responsibilities in gaining awareness of healthy living and positive behaviors/habits necessary for health. For this reason, it is important for surgical nurses to adapt to healthy lifestyle behaviors to be a role model for patients from pre-operative to post-operative period. In this study, healthy lifestyle behaviors of surgical nurses were examined. The majority of surgical nurses participating in the study are women. Nearly half of these nurses work in general surgery units and clinical nurse positions, and more than half work in shifts that change both day and night. Less than half of surgical nurses use vitamin C and vitamin D, and even fewer use zinc, magnesium, and dietary supplements.

Weight Control

Body mass index is an indicator of body fat based on height and weight for adult men and women (18). In this study, the mean body mass index of the surgical nurses was 23.87 ± 4.32 (min:16.40, max:41.52) dir. It can be said that the body mass index of the surgical nurses participating in the study was within normal limits and they had a healthy weight (18). The results of the study are very pleasing for the surgical nurses, who have a key role in being a role model in health-related issues in the society. However, in another study, the mean body mass index of nurses was 28.3 ± 6.8 (11) and in another study, the majority of nurses were found to be overweight and obese (19). Although this research finding is not similar to the literature, it can be said that surgical nurses are more at risk for weight management because night shifts often cause weight gain in addition to individual factors (8).

Achieving or maintaining a healthy weight requires a healthy diet, adequate physical activity, optimal sleep, and stress reduction (20). In a study, it was determined that a 12-week program including hospital-based exercise, healthy diet, yoga, water consumption and adequate sleep for nurses had a positive effect on the body mass index and waist circumference of the nurses (12). Accordingly, in this study, although the average weight of the surgical nurses was found to be at a normal level, due to the change in weight, it is recommended to increase awareness about weight control and healthy diet, to include nurses by creating programs for exercise and diet, and to prefer meals and snacks for healthy diet in institutions.

Healthy Diet

A healthy diet reduces the risk of cardiovascular diseases, cancer, obesity, diabetes, improves and protects mental health, provides energy, and increases work efficiency (21,22). According to the guidelines, for

a healthy diet, it is recommended to reduce the consumption of saturated or trans fats, not consume foods with refined carbohydrates and sugary drinks, consume 2-3 servings of fruit and vegetables a day, consume fish 1-2 times a week, consume less than 5 g (1 teaspoon) of salt per day (14,16). It is recommended to limit alcohol consumption to 1-2 glasses (10-20 g/day) per day (17).

In this study, it was determined that more than half of the surgical nurses limited their consumption of refined carbohydrates, sugar, and processed foods, preferred a diet low in saturated and trans fats, and consumed low-fat, skim milk or dairy products. It was determined that more than half of the surgical nurses consumed more than 2-3 servings of vegetables a day, while less than half of them consumed 2-3 servings of fruit a day and fish 1-2 times a week, and a little more than half of them consumed more than 5 g (1 teaspoon) of salt per day. It was determined that more than half of the surgical nurses did not consume alcohol. In one study, it was found that almost two-thirds of nurses do not consume five servings of fruit or vegetables a day, and almost half consume foods high in fat and sugar daily (23). In a study, it was determined that only some of the nurses consumed alcohol (9). It can be said that the majority of nurses do not comply with the recommendations for healthy diet. At this point, it is important to determine the barriers to healthy nutrition of nurses. In a qualitative study, nurses mentioned that they do not have enough time to prepare healthy meals due to long working hours and excessive tiredness from work. They also stated that food services in hospitals are not suitable for healthy diet (8). Although individual factors are among the barriers of nurses to healthy nutrition, it is seen that there may also be factors related to their job and the institution they work for. In this direction, it is recommended both to increase the adaptation to individual healthy diet and to develop the corporate culture.

Cholesterol is an important biomarker of cardiovascular diseases and a factor that can be changed by lifestyle changes (24). In this study, it was determined that half of the surgical nurses did not have their cholesterol levels checked. In a study, it is stated that knowing the cholesterol level has an effect, albeit small, on the reduction of dietary fat intake (25). At the same time, it is stated that the night shift has a negative effect on cholesterol (26), and considering that more than half of the surgical nurses work in both night and day shifts in this study, it can be said that the risk factors for high cholesterol in nurses increase. In this direction, it is recommended to the institutions to raise awareness about cholesterol levels and even to have their employees check their cholesterol level at least once a year and to direct them to healthy lifestyle behaviors when necessary.

Smoking

Smoking is a risk factor for many diseases from cardiovascular diseases such as dyslipidemia and thrombus formation to cancer (27,28). In this study, some of the surgical nurse's smoke. In a study, it was determined that only 4% of nurses smoked (9). However, in this study, more than half of the surgical nurses stated that they were exposed to cigarette smoke during the day, while some of them stated that there were people who smoked indoors in the workplace. In a study conducted on health professionals, it is stated that the smoking habit of nurses is better than other health professionals (29). This suggests that the risk of exposure to cigarette smoke may increase in the areas where nurses work. Considering the significant relationship between passive smoking and the risk of cardiovascular diseases and mortality (30), it can be said that surgical nurses may be exposed to the negative consequences of smoking due to both active and passive smoking. In this direction, it is recommended to raise awareness about smoking and its harms, to introduce existing services for smoking cessation, and it is thought that

health workers/nurses should be chosen as the target audience in anti-smoking campaigns so that they can take a more willing and active role in the fight against smoking. In order to prevent exposure to cigarette smoke, it is recommended to create special areas for smoking, to increase controls to prevent smoking in indoor areas, to give breaks for sufficient time to allow smoking in the open area or in certain areas, and to place smoke detectors in certain areas.

Physical Activity

Regular physical activity reduces the risk of many chronic diseases and premature death by 20-30% (31). According to the guidelines, it is recommended that adults do moderate-intensity exercise for 30 minutes, or 150 minutes a week, at least five days a week, and vigorous-intensity exercise for 15 minutes, or 75 minutes a week, five days a week (13,16).

In this study, it was determined that nearly half of the surgical nurses had 150 minutes of moderate-intensity exercise (brisk walking, slow cycling, active yoga, water aerobics, ballroom dancing, tennis with two people, mowing the lawn, brooming, etc.) per week. However, only a few do regular physical exercise and muscle-strengthening or flexibility-building exercises. It was determined that very few of the surgical nurses' exercise at vigorous intensity (long-distance walking race, jogging, fast cycling, heavy garden work such as digging and hoeing, swimming tours, single tennis) exercise and at work breaks for 75 minutes a week. In a study of eight hundred and seventy-six nurses, it was found that almost half of them did not do enough physical activity according to public health recommendations (23). Despite the active nature of the nursing role, many nurses do not seem to do enough physical activity (10). In this direction, it is recommended that the obstacles for surgical nurses to perform adequate and regular physical activity are determined, awareness for physical activity is created, areas within the institution where physical activity can be done during breaks or

lunch breaks are created, the use of stairs instead of elevators is encouraged and talented nurse directors with good leadership, who provide adequate support (32) are employed.

Stress

In cases where the stress level of nurses increases and they are exposed to stress for a long time, their physical and psychological health deteriorates and the work efficiency decreases (33). In this study, it was determined that a little more than half of the surgical nurses used appropriate methods (breathing exercises, positive thinking, etc.) to avoid or get rid of stress. It can be emphasized that stress management is very important, especially considering the stressful work of surgical nurses (34). In a meta-analysis examining a total of twenty-nine studies on doctors and nurses (n=2708), it is emphasized that mindfulness and cognitive therapy-based interventions have a positive effect on stress (35). In this direction, it is recommended to determine the stress risk factors of surgical nurses, to provide training on stress management, and to apply stress prevention methods in small groups at appropriate hours on working days.

Limitation

The limited sample size in this study is a limitation.

CONCLUSION

Surgical nurses, who undertake important duties in surgical units, are expected to first know healthy lifestyle behaviors, then adapt them, make them a lifestyle, and keep their own health at a good level in order to provide effective perioperative care. In this study, it was determined that the majority of surgical nurses do not smoke, more than half of them follow some recommendations for healthy eating, nearly half of them do moderate-intensity exercise at a sufficient level, and a little more than half of them use appropriate methods to avoid or get rid of stress. Surgical nurses stated their

physical and mental health approximately as moderate. As a result of the findings of this study, we emphasize that the majority or even all of the surgical nurses should adapt to healthy lifestyle behaviors. As a result of the findings of this study, we emphasize that the compliance of surgical nurses towards healthy lifestyle behaviors should be increased. It is thought that this study will guide the studies examining the healthy lifestyle behaviors of surgical nurses and interventional studies on healthy lifestyle behaviors. At the same time, considering that institutions have responsibilities in terms of providing the necessary environment as well as individual responsibilities in the acquisition of healthy lifestyle behaviors, it is thought that this study will raise awareness for both nurses and institutions.

Acknowledgment: Authors would like to thank the nurses who contributed to this study for their interest, support and assistance in conducting our study.

Funding: No financial and/or support was received during this study.

Conflict of interest: Concerning this study, the authors and/or their family members do not have any potential conflict of interest in relation to scientific and medical committee membership or relationship with its members, consultancy, expertise, employment in any company, shareholding, or similar situations.

References

1. Bailey RR, Phad A, McGrath R, Tabak R, Haire-Joshu, D. Peer reviewed: prevalence of 3 healthy lifestyle behaviors among us adults with and without history of stroke. *Prev Chronic Dis.* 2019;16. doi: 10.5888/pcd16.180409.
2. Pearson TA, Blair SN, Daniels SR, Eckel RH, Fair JM, Fortmann SP, et al. AHA guidelines for primary prevention of cardiovascular disease and stroke: 2002 update: consensus panel guide to comprehensive risk reduction for adult patients without coronary or other atherosclerotic vascular diseases. *Circulation.* 2002;106(3):388-391. doi: 10.1161/01.cir.0000020190.45892.75.
3. Stone NJ, Robinson JG, Lichtenstein AH, Bairey Merz CN, Blum CB, Eckel RH, et al. 2013 ACC/AHA guideline on the treatment of blood cholesterol to reduce atherosclerotic cardiovascular risk in adults: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. *J Am Coll Cardiol.* 2014;63(25 Part B):2889-2934. doi: 10.1016/j.jacc.2013.11.002.
4. Bostan N & Beser A. Factors affecting the healthy lifestyle behaviors of nurses. *Journal of Education and Research in Nursing//Hemsirelerin saglikli yasam bicimi davranislarini etkileyen faktorler.* 2017;14(1):38-45.
5. Chunta KS. Healthy lifestyle behaviors in sophomore nursing students: A descriptive correlational study. *Building Healthy Academic Communities Journal.* 2020;4(1):48-57.
6. Kurnat-Thoma E, El-Banna M, Oakcrum M, Tyrler J. Nurses' health promoting lifestyle behaviors in a community hospital. *Appl Nurs Res.* 2017;35:77-81.
7. Hensel D. Relationships among nurses' professional self-concept, health, and lifestyles. *Nursing Western J Nurs Res.* 2011;33(1):45-62.
8. Phiri LP, Draper CE, Lambert EV, Kolbe-Alexander TL. Nurses' lifestyle behaviours, health priorities and barriers to living a healthy lifestyle: a qualitative descriptive study. *BMC Nurs.* 2014;13(1):1-11.
9. Hurley S, Edwards J, Cupp J, Phillips M. Nurses' perceptions of self as role models of health. *West J Nurs Res.* 2018;40(8):1131-1147.
10. Owusu-Sekyere F. Assessing the effect of physical activity and exercise on nurses' well-being. *Nurs Stand.* 2020;35(4):45-50.
11. Nahm ES, Warren J, Zhu S, An M, Brown J. Nurses' self-care behaviors related to weight and stress. *Nurs Outlook.* 2012;60(5):e23-e31.
12. Speroni KG, Earley C, Seibert D, Kassem M, Shorter G, Ware CC, et al. Effect of Nurses Living Fit™ exercise and nutrition intervention on body mass index in nurses. *Journal Nurs Adm.* 2012;42(4):231-238.
13. Arnett DK, Blumenthal RS, Albert MA, Buroker AB, Goldberger ZD, Hahn EJ, et al. 2019 ACC/AHA guideline on the primary prevention of cardiovascular disease: a report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. *Circulation.* 2019;140(11):e596-e646.
14. Eckel RH, Jakicic JM, Ard JD, de Jesus JM, Miller NH, Hubbard VS, et al. 2013 AHA/ACC guideline on lifestyle management to reduce cardiovascular risk: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. *Circulation.* 2014;129(25_suppl_2):S76-S99.
15. Grabas MPK, Hansen SM, Torp-Pedersen C, Bøggild H, Ullits LR, Deding U, et al. Alcohol

- consumption and mortality in patients undergoing coronary artery bypass graft (CABG)-a register-based cohort study. *BMC Cardiovasc Disord.* 2016;16(1):1-10.
16. Piepoli MF, Hoes AW, Agewall S, Albus C, Brotons C, Catapano AL. European Guidelines on cardiovascular disease prevention in clinical practice. 2016 European Guidelines on cardiovascular disease prevention in clinical practice: The Sixth Joint Task Force of the European Society of Cardiology and Other Societies on Cardiovascular Disease Prevention in Clinical Practice (constituted by representatives of 10 societies and by invited experts) Developed with the special contribution of the European Association for Cardiovascular Prevention & Rehabilitation (EACPR). *Eur Heart J.* 2016;37:2315-2381.
 17. Van Rooy L, Coopoo Y. Physical activity and lifestyle modification in the reduction of cardiovascular disease risk in coronary artery bypass graft patients. *AJPHEs.* 2017;23(2):336-353.
 18. National Heart, Lung, and Blood Institute. Are you at a healthy weight. 2013. Accessed date: March, 2023. Accessed link: <https://www.nhlbi.nih.gov/health/educational/healthdisp/pdf/tipsheets/Are-You-at-a-Healthy-Weight.pdf>
 19. Zapka JM, Lemon SC, Magner RP, Hale J. Lifestyle behaviours and weight among hospital-based nurses. *J Nurs Manag.* 2009;17(7):853-860.
 20. Centers for Disease Control and Prevention. Healthy weight, nutrition, and Physical Activity. 2022. Accessed date: April, 2023. Accessed link: <https://www.cdc.gov/healthyweight/index.html>
 21. Yu E, Rimm E, Qi L, Rexrode K, Albert CM, Sun Q, et al. Diet, lifestyle, biomarkers, genetic factors, and risk of cardiovascular disease in the nurses' health studies. *Am J Public Health.* 2016;106(9):1616-1623.
 22. Cheong ZY, Lopez V, Tam WSW. Barriers to healthy eating among nurses working in hospitals: A meta-synthesis. *J Adv Nurs.* 2022;78(2):314-331.
 23. Malik S, Blake H, Batt M. How healthy are our nurses? New and registered nurses compared. *B J Nurs.* 2011;20(8), 489-496.
 24. Loprinzi PD, Branscum A, Hanks J, Smit E. Healthy lifestyle characteristics and their joint association with cardiovascular disease biomarkers in US adults. *Mayo Clin Proc.* 2016;92(4):432-442.
 25. Robertson I, Phillips A, Mant D, Thorogood M, Fowler G, Fuller A, et al. Motivational effect of cholesterol measurement in general practice health checks. *Br J Gen Pract.* 1992;42(364):469-472.
 26. Johnson CY, Tanz LJ, Lawson CC, Schernhammer ES, Vetter C, Rich-Edwards JW. Night shift work and cardiovascular disease biomarkers in female nurses. *Ame J Ind Med.* 2020;63(3):240-248.
 27. Amiri P, Mohammadzadeh-Naziri K, Abbasi B, Cheraghi L, Jalali-Farahani S, Momenan AA, et al. Smoking habits and incidence of cardiovascular diseases in men and women: findings of a 12 year follow up among an urban Eastern-Mediterranean population. *BMC Public Health.* 2019;19(1):1-10.
 28. Jassem J. Tobacco smoking after diagnosis of cancer: clinical aspects. *Transl Lung Cancer Res.* 2019;8(Suppl 1):S50.
 29. Schneider A, Bak M, Mahoney C, Hoyle L, Kelly M, Atherton IM, et al. Health-related behaviours of nurses and other healthcare professionals: A cross-sectional study using the Scottish Health Survey. *J Adv Nur.* 2019;75(6):1239-1251.

30. Khoramdad M, Vahedian-azimi A, Karimi L, Rahimi-Bashar F, Amini H, Sahebkar A. Association between passive smoking and cardiovascular disease: A systematic review and meta-analysis. *IUBMB life*. 2020;72(4):677-686.
31. Warburton DE & Bredin SS. Reflections on physical activity and health: what should we recommend?. *Can J Cardiol*. 2016;32(4):495-504.
32. Cho H & Han K. Associations among nursing work environment and health-promoting behaviors of nurses and nursing performance quality: A multilevel modeling approach. *J Nurs Scholersh*. 2018;50(4):403-410.
33. Doody O & Lyons R. The effect of stress on health and its implications for nursing. *B J Nurs*. 2013;22(16):969-973.
34. Li X, Jiang T, Sun J, Shi L, Liu J. The relationship between occupational stress, job burnout and quality of life among surgical nurses in Xinjiang, China. *BMC Nurs*. 2021;20(1):1-11.
35. Melnyk BM, Kelly SA, Stephens J, Dhakal K, McGovern C, Tucker S, et al. Interventions to improve mental health, well-being, physical health, and lifestyle behaviors in physicians and nurses: a systematic review. *Am J Health Promot*. 2020;34(8):929-941.

ΠΑΡΑΡΤΗΜΑ
Table 1. Sociodemographic and descriptive characteristics of surgical nurses

Sociodemographic and Descriptive Characteristics	Number (n)	Percentage (%)
Gender		
Female	89	80.2
Male	22	19.8
Marital Status		
Married	55	49.5
Single	56	50.5
Educational Status		
High School	24	21.6
Undergraduate	65	58.6
Graduate (Master's degree or doctorate)	22	19.8
Unit Worked In		
General Surgery	47	42.3
Cardiac surgery	12	10.8
Organ transplant	10	9.0
Plastic surgery	7	6.3
Brain and neurosurgery	7	6.3
Gynecology and surgery	7	6.3
Orthopedics and traumatology	5	4.5
Urology	5	4.5
Other (thoracic surgery, pediatric surgery, ear nose and throat and eye diseases)	11	9.9
Title		
Clinical nurse	54	48.6
Operating room nurse	21	18.9
Intensive care nurse	19	17.1
Supervisor nurse or head nurse	9	8.1
Other (Educational nurse, polyclinic nurse, etc.)	8	7.2
Work order		
Night and day	77	69.4
Only day	29	26.1
Only night	5	4.5
Presence of Chronic Disease		
Yes (cancer, hypertension, coronary artery disease)	28	25.2
No	83	74.8
Presence of chronic disease in the family		
Yes	78	70.3
No	27	24.3
I do not know	6	5.4
Cholesterol level		
I do not remember	50	45.0
<200mg/dl	39	35.1
200-239 mg/dl	20	18.0
240 mg/dl and over üzeri	2	1.8
Total	111	100

Table 2. Characteristics of surgical nurses for healthy lifestyle behaviors

Characteristics for Healthy Lifestyle Behaviors	Number (n)	Percentage (%)
The status of having cholesterol level checked in the last 2 years		
Yes		
No	55	49.5
	56	50.5
Status of Vitamin D use		
Yes	36	32.4
No	75	67.6
Status of Zinc use		
Yes	22	19.8
No	89	80.2
Status of Vitamin C use		
Yes	32	28.8
No	79	71.2
Status of Magnesium use		
Yes	18	16.2
No	93	83.8
Status of dietary supplement use		
Yes	28	25.2
No	83	74.8
Status of smoking		
I never smoked	55	49.5
I used to smoke	12	10.8
I currently smoke	44	39.6
Status of Exposure to cigarette smoke during the day		
Yes	76	68.5
No	35	31.5
Presence of individuals who smoke in indoor working areas		
Yes		
No	23	20.7
I do not know	80	72.1
	8	7.2
Frequency of smoking in the home		
Daily	35	31.5
Weekly	3	2.7
Monthly	1	0.9
No one smokes	71	64.0
I do not know	1	0.9
Status of Alcohol consumption		
I do not consume	67	60.4
Between 1-14 glasses per week	42	37.8
15-21 glasses per week	1	0.9
More than 21 glasses per week	1	0.9
Status of preferring a diet low in saturated and trans fats		
Yes		
No	75	67.6
	36	32.4

Status of restriction of refined carbohydrates, sugar and processed foods		
Yes	68	61.3
No	43	38.7
Status of consumption of 2-3 servings of fruit per day		
Yes	37	33.3
No	74	66.7
Status of consumption of 2-3 servings of vegetables per day		
Yes	64	57.7
No	47	42.3
Status of consumption of fish 1-2 times a week		
Yes	45	40.5
No	66	59.5
Status of consumption of more than 5 g (1 teaspoon) of salt per day		
Yes	58	52.3
No	53	47.7
Status of consumption of low-fat or skim milk and dairy products		
Yes	72	64.9
No	39	35.1
Status of doing daily housework or gardening		
Yes	92	82.9
No	19	17.1
Status of doing regular physical exercise		
Yes	32	28.8
No	79	71.2
Status of doing 150 minutes of moderate-intensity exercise (brisk walking, slow cycling, active yoga, water aerobics, ballroom dancing, tennis with two people, lawn mowing, brooming, etc.)		
Yes	50	45
No	61	55
Status of 75 minutes of vigorous-intensity exercise per week (long-distance walking, jogging, brisk cycling, heavy gardening such as digging and hoeing, swimming laps, single-player tennis)		
Yes	10	9.0
No	101	91.0
Status of exercising during work breaks		
Yes	10	9.0
No	101	91.0
Status of doing muscle strengthening or flexibility building exercises		
Yes	31	27.9
No	80	72.1
Status of using appropriate methods (breathing exercises, positive thinking, etc.) to avoid or get rid of stress		
Yes	63	56.8
No	48	43.2
Sleep hours at night		
Less than 4 hours	6	5.4
4 hours	5	4.5
5 hours	14	12.6
6 hours	54	48.6
7 hours and more	32	28.8
Total	111	100