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ORIGINAL PAPER

Nursing students' awareness of health-promoting lifestyle profile and sustainable development goals – a quasi-experimental study

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ABSTRACT

Introduction and aim. Health promotion is one of the common elements of sustainable development goals. The aim of this study was to identify the impact of "Healthy Life and Environment" course on nursing student's awareness of sustainable development and healthy life, and health-promoting lifestyle behaviours.

Material and methods. A pre-, and post-test control group quasi-experimental research design was used. One nursing department located in Nortwest Blacksea region, Turkey. A total of 160 nursing students pursuing bachelor nursing programs. Students from first and second years who enrolled in the "Healthy Life and Environment" course assigned to intervention group, those who did not attend the course assigned to control group.

Results. Female students had higher level of HPLP II and SDA than male. SDA had a weak correlation with HLA and a very week correlation with HPLP II at baseline. Intervention group had an improvement of .03 points in HPLP II, no change in HLA, and a slight improvement of .01 points in SDA, however these differences were not statistically important.

Conclusion. The results of our study highlighted that nursing curricula need to be modified to incorporate sustainable development methodology using student-centered learning.

Keywords. health promotion, nursing students, sustainable development goal

Introduction

Requirements of well-being is far more complex than focusing on diseases and organising the necessary care and treatment. Interaction with various intricate factors underlying the health problems and illnesses such as inadequate housing or poor air quality could cause health problems without the health care professionals being aware of it, despite their long-established and significant roles as health determinants.[1] The Sustainable Development Goals (SDGs), which were adopted by the United Nations in 2015, were defined as the overarching Global Goals to be achieved in the interrelationship between the social determinants of health and our environment, and address actions against climate that should be taken to contribute on individuals' health as well as global health.[2-5]

Improving individuals' well-being is at the centre of SDGs. A person's well-being is affected by various factors, for instance, physical and social environment, culture of the society in which his/her lives, and economic conditions.[6] An example of coronavirus disease is important in terms of evidencing that brought along social and economic problems as well as health issues.[7] Since individuals' well-being is not considered without all related determinants of health, achieving SDGs is an essential concept due to its general definition that meet the needs of the current generation without depleting the resources needed by the future generation.[8]

All the SDGs have one common components, which is health promotion due to its promoter and facilitator role in SDGs.[9,10] Today's health promotion

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programs generally include overall healthy lifestyle improvement, physical activity, and diet.[11] The concept of a healthy lifestyle comprises the last two components among them.[12,13] A healthy lifestyle allows a person to control all behaviours that could affect their health and to choose behaviours that fit their health status in regulating their daily activities. Healthy lifestyle behaviours, which are closely associated with diseases or mortality rates, is a part of a person's life helping her/him to stay healthy and improve her/his health status.[13]

The one of 17 the SDGs, which is "3. Good Health and Well-Being", focuses specifically on delivery healthy lives and promoting well-being for all at all ages.[3] This goal is core to the philosophy of Nightingale by not limited to caring for people during illness.[1] Although major progress was made in improving health, more efforts still are needed to reach better health conditions for all people in the World.[3] The health care professional, particularly nurses as a valued and trusted members of the health care team, play a critical role from providing care to reach wellness perspective to advocating for individuals' rights and contributing policy change.[2]

Environmental health, which is considered as one of the crucial drivers of individual well-being and global health, was first introduced in Nightingale's Environmental Theory (1863). Modern nursing have a global responsibility to apply her theory into current practice by optimizing the environment for individuals' wellness.[2] Nurses are a stronger position to be a role model in acquiring healthy lifestyle behaviours of society due to being healthcare professionals who closely and frequently serve people. Nurses assess society's healthy lifestyle behaviours using valid measurements and apply programs to improve their healthy lifestyle behaviours.[12] They also in position to be a health educator to explain society the potential risks of poor environmental quality.[14] Although expectation of being a role model for society, nurses themselves also have a high risk of unhealthy behaviours due to their stressful work environment and might contribute negatively to the environmental health through their actions without their knowledge.[2,15]

Contributions of nurses to healthy lifestyle of society and environmental health could be realized by integrating key issues and concepts of the philosophy of Nightingale into nursing education program. Courses including building and sustaining safety environment for individuals has been already included in the nursing curriculum.[4] Nurses are assumed to be knowledgeable regarding healthy lifestyle behaviours and improve environment for one's wellness based on their education.[2,15] Although building and sustaining safety environment for improving health and well-being in nursing curricula in Turkey and many other countries, evidence shows that nurses still need to have skills and competence in environmental sustainability as well as knowledge.[4,14]

Aim

Therefore, this study aimed to determine the effectiveness of the "Healthy Life and Environment" course on nursing students' awareness of sustainable development, healthy life, and health-promoting lifestyle behaviors.

Material and methods

Design and participants

All subjects gave their informed consent for inclusion before they participated in the study. The study was conducted in accordance with the Declaration of Helsinki, and the protocol was approved by the Ethics Committee of Bartin University (Reference number: 2021-SBB-0360).

This study used a pre-, and post-test control group quasi-experimental research design. The study was conducted in the Department of Nursing at a public university located in north-western Turkey during the fall semester of 2021/2022 academic year. Inclusion criteria were: (i) students from both first and second years who had not yet enrolled in the "Healthy Life and Environment" course, a second-year course which might affect the results, were excluded, (ii) students who provided informed consent. Any sampling method did not used due to all students from first and second years were recruited to the study. Students enrolled in the "Healthy Life and Environment" course assigned to intervention group, those who did not attend the course assigned to control group. We have reported findings according to the CONSORT 2010 Statement.[16]

Instruments

A survey form, Healthy Lifestyle Behaviour Scale II, Healthy Life Awareness Scale, and Development Awareness Scale were used for data collection. Data were collected two times, a 15-week interval when was at the beginning and end of the fall semester of 2021/2022 academic year.

Survey form

Survey form included questions related to nursing students' age, gender, income perception, tobacco and alcohol habits, and Body mass index (BMI). BMI was calculated by using the formula: BMI=(weight (kg)/height (m^2).[17]

Health-Promoting Lifestyle Profile II (HPLP II)

This scale was used to assess students' health-promoting lifestyle behaviours. The scale has 52 items and 6 subdimensions including health responsibility (3, 9, 15, 21, 27, 33, 39, 45, 51), physical activity (4, 10, 16, 22, 28, 34, 40, 46), nutrition (2, 8, 14, 20, 26, 32, 38, 44, 50), spiritual growth (6, 12, 18, 24, 30, 36, 42, 48, 52), interpersonal relations (1, 7, 13, 19, 25, 31, 37, 43, 49), and stress

management (5, 11, 17, 23, 29, 35, 41, 47). Each item is coded from 1 (Never) to 4 (Regularly). Total score of the scale ranges from 52 to 208. Cronbach Alpha coefficient of the scale was calculated as 0.92 for the Turkish population.[12] In this study, we calculated the Cronbach Alpha coefficient as 0.91.

Healthy Life Awareness Scale (HLA)

HLA was developed by Özer and Yılmaz. The scale consists of 15 items and 4 subdimensions including alteration (1, 9, 12, 19, 23), socialization (3, 10, 14, 22), responsibility (37, 38, 40), and nutrition (6, 18, 26). Each item is scored from 1 (strongly disagree) to 5 (strongly agree) and total score ranges from 15 to 75, which the highest score addresses high level awareness. Cronbach Alpha coefficient was 0.81 in the original study, we calculated it as 0.89 in this study.[13]

Sustainable Development Awareness Scale (SDA)

SDA was developed by Atmaca et al. This 5-point Likert-type scale consists of 37 items and 3 dimensions including economy (1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13), society (14, 15, 16, 17, 18, 19, 20, 21, 22), and environment (23, 24, 25, 27, 28, 29, 30, 31, 32, 33, 34,35, 36, 37). Each item is scored from 1 (strongly disagree) to 5 (strongly agree) except 1, 8, 10, 24, 31 and 35 items that are reverse coded. One item (26) is not scored due to it is a control item. Total score ranges from 39 to 180, which the highest score addresses high level awareness. Cronbach Alpha coefficient was .91 in the original study, we calculated it as 0.95 in this study.[8]

Procedure

"Healthy Life and Environment" course, which is an optional course taken in the second year (third semester) in nursing program, was the intervention in this study. The course, which is two hours a week, was delivered using traditional teaching methods such as lecturing, discussion, and brainstorming. Outcomes of the course were: (i) defining environmental pollution nationally and internationally, (ii) defining impact of environmental pollution on health, (iii) defining associations between environment and health, and (iv) defining roles and responsibilities of nurses in environmental health.[18] In total, 189 first- and second-year nursing students were assessed for eligibility, 57 of all enrolled "Healthy Life and Environment" course. The first-year nursing students and 38 second-year nursing students who did not attend "Healthy Life and Environment" course assigned as control group. After excluding students who declined to participate the study (n=29), 55 students assigned in intervention group, 105 in control group (Fig. 1). Students only were blinded in this quasi-experimental study. Data was collected via a paper-based form, and face-to-face interviews with students lasted for roughly 15–20 minutes.

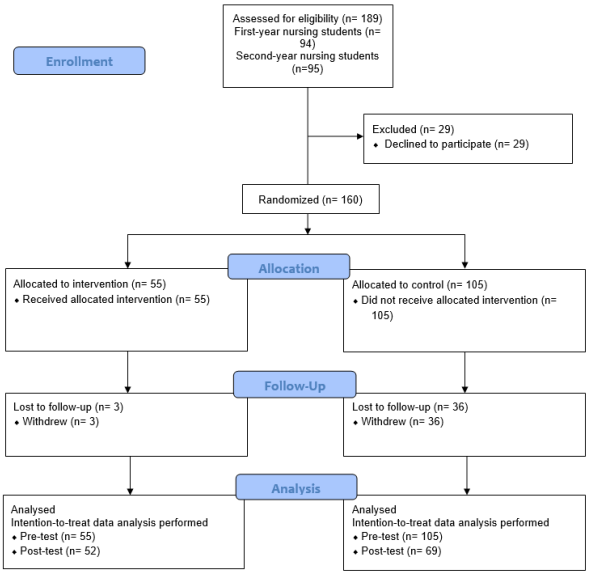

Fig. 1. CONSORT diagram of study procedure

Data analysis

A normal distribution of data was assessed by Shapiro-Wilk tests. Frequency distribution, mean, and standard deviation were used to report study participants' characteristics. Baseline characteristics of nursing students according to intervention and control groups were compared using a chi-squared test or Fisher Exact test that was interpreted in when one or more expected values are less than 5. Mann-Whitney U and Kruskal-Wallis test were used to determine differences between demographic characteristics for categorical variables, Health-Promoting Lifestyle Profile II, Healthy Life Awareness, and Sustainable Development Awareness. Wilcoxon signed-rank test and Mann-Whitney U were performed to determine the effectiveness of "Healthy Life and Environment" course on nursing students' health-promoting lifestyle, healthy life, and sustainable development awareness. Analyses of the effect of intervention were performed as intention-to- treat (ITT).[19] Data analysis was conducted using the IBM SPSS software version 25.0 (Armonk, NY, USA) considering $p < 0.05$ to be statistically significant.

Results

Sample characteristics

Baseline characteristics of nursing students was presented in Table 1. Majority nursing students (67.5%) were female, and the main age was 19.80±1.42. Half of the participants (50%) had income-expense-balanced and 64.2% of them were in the normal weight range. Almost all students did not use tobacco products (80.0%) or consume alcohol (79.7%).

Female students had higher level of health-promoting lifestyle profile (U=2115.500; p=0.012) and sustainable development awareness (U=2121.500; p=0.012) than

Table 1. Baseline characteristics of nursing students[a]

Characteristics	Overall (n=160)	Control (n=105)	Intervention (n=55)	X^2/ p value
Age, mean±SD*	19.80 (±1.42)	19.34 (±1.25)	20.09 (±1.30)	3.543/0.001
Gender				
Female	108 (67.5)	71 (67.6)	37 (67.3)	1.601/0.965
Male	52 (32.5)	34 (32.4)	18 (32.7)	
Income perception				
income>expenditure	21 (13.1)	12 (11.4)	9 (16.4)	0.807/0.668
income<expenditure	59 (36.9)	40 (38.1)	19 (34.5)	
income=expenditure	80 (50.0)	53 (50.5)	27 (49.1)	
Tobacco use				
Yes	32 (20.0)	21 (20.0)	11 (20.0)	0.000/1.000
No	128 (80.0)	84 (80.0)	44 (80.0)	
Alcohol consumption**				
Yes	15 (20.3)	14 (19.7)	1 (33.3)	0.330/0.499
No	59 (79.7)	57 (80.3)	2 (67.6)	
BMI**				
Underweight (less than 18.4)	22 (13.8)	14 (13.3)	8 (14.8)	1.434/0.715
Normal weight (18.5–24.9)	102 (64.2)	65 (61.9)	37 (68.5)	
Overweight (25–29.9)	21 (13.2)	15 (14.3)	6 (11.1)	
Obese (30–34.9)	14 (8.8)	11 (10.5)	3 (5.6)	

[a] SD – standard deviation; * – t-test; ** – Fisher's exact test

Table 2. Health-promoting lifestyle, healthy life and sustainable development awareness according to baseline characteristics of nursing students

Characteristics	Health-Promoting Lifestyle Profile II (Mean Rank)	Healthy Life Awareness (Mean Rank)	Sustainable Development Awareness (Mean Rank)
Gender			
Female	86.91	85.18	86.86
Male	67.18	70.79	67.30
U/p	2115.500/0.012	2303.000/0.066	2121.500/0.012
Income perception			
income>expenditure	68.12	64.14	78.48
income<expenditure	85.38	85.65	86.59
income=expenditure	80.15	80.99	76.54
KW/p	2.159/0.340	3.357/0.187	1.646/0.439
Tobacco use			
Yes	47.33	62.42	73.30
No	88.79	85.02	82.30
U/p	986.500/<0.001	1469.500/0.014	1817.500/0.325
Alcohol consumption			
Yes	27.73	25.63	39.60
No	39.98	40.52	36.97
U/p	296.000/0.049	264.500/0.017	411.000/0.672
BMI			
Underweight (less than 18.4)	82.43	65.11	82.07
Normal weight (18.5–24.9)	79.25	82.64	77.84
Overweight (25–29.9)	69.83	68.05	70.38
Obese (30–34.9)	96.93	102.11	106.93
KW/ p value	3.005/0.391	7.279/0.064	5.975/0.113

[a] U – Mann-Whitney U; Z – Wilcoxon Signed Rank test

male. Moreover, participants who did not use tobacco or consume alcohol had had higher level of health-promoting lifestyle profile (U=986.500; p<0.001 and U=296.000; p=0.049, respectively) and sustainable development awareness (U=1469.500; p=0.014 and U=264.500; p=0.017, respectively) compared to users or consumers (Table 2). It is not presented in any table, total scores of Health-Promoting Lifestyle Profile, Healthy Life Awareness, and Sustainable Development Awareness with subdimensions were found not to show significant differences according to intervention and control groups.

Table 3. Differences for subscale of health-promoting lifestyle between the control and intervention groups (n=160)[a]

Measurement	Control Mean±SD (n=105)	Intervention Mean±SD (n=55)	U/p
Health-Promoting Lifestyle Profile II Total Score			
Pre-test	2.43±0.38	2.45±0.32	1682.000/0.489
Post-test	2.52±0.37	2.48±0.36	
Z/ P value	-2.341/.019	-0.310/.757	
Health responsibility			
Pre-test	2.25±0.48	2.29±0.50	1661.500/0.423
Post-test	2.38±0.50	2.36±0.59	
Z/p	-1.316/0.188	-0.328/0.743	
Physical activity			
Pre-test	2.18±0.52	2.12±0.46	1742.500/0.705
Post-test	2.30±0.58	2.20±0.53	
Z/p	-2.452/.014	-1.221/.222	
Nutrition			
Pre-test	2.15±0.46	2.23±0.40	1770.000/0.814
Post-test	2.68±0.47	2.22±0.46	
Z/p	-2.190/0.029	-0.141/0.888	
Spiritual growth			
Pre-test	2.84±0.51	2.87±0.52	1764.500/0.792
Post-test	2.89±0.47	2.89±0.44	
Z/p	-1.528/0.126	-0.155/0.877	
Interpersonal relations			
Pre-test	2.77±0.52	2.80±0.43	1792.500/0.906
Post-test	2.79±0.42	2.79±0.442	
Z/p	-0.818/0.413	-0.099/0.921	
Stress management			
Pre-test	2.40±0.48	2.40±0.37	1633.000/0.342
Post-test	2.51±0.47	2.42±0.45	
Z/p	-2.393/0.017	-0.107.915	

[a] U – Mann-Whitney U; Z – Wilcoxon Signed Rank test

Health-Promoting Lifestyle Profile

The average pre- and post-test health-promoting lifestyle profile scores for the intervention group were 2.45 (SD=0.32) and 2.48 (SD=0.36), respectively, indicating an improvement of .03 points. On the other hand, for the control group, these scores were 2.43 (SD=0.38) and 2.52 (SD=0.37), respectively, indicating an improvement of 0.09 points. Mann-Whitney U test showed there was not a statistically significant difference between groups

at post-test measurement (U=1682.000; p=0.489). Moreover, all subdimensions of Health-Promoting Lifestyle Profile II scale did not indicate any statistically significant between groups at post-test measurements (Table 3).

Healthy Life Awareness

The average pre- and post-test healthy life awareness scores for the intervention group were 3.93 (SD=0.54) and 3.93 (SD=0.57), respectively, indicating no change. Alternatively, scores of control group were 3.84 (SD=0.63) and 3.33 (SD=0.55), respectively, indicating a drop off of 0.51 points. However, Mann-Whitney U test indicated there was not a statistically significant difference between groups (U=1575.500; p=0.489). Moreover, any four subdimensions of Healthy Life Awareness scale did not indicate any statistically significant at post-test measurements (Table 4).

Table 4. Differences for subscale of healthy life awareness between the control and intervention groups (n=160)[a]

Measurement	Control (n=105)	Intervention (n=55)	U/p
Healthy Life Awareness Total Score			
Pre-test	3.84±0.63	3.93±0.54	1575.500/0.212
Post-test	3.33±0.55	3.93±0.57	
Z/p	-0.466/0.641	-0.151/0.880	
Alteration			
Pre-test	4.04±0.68	4.07±0.63	1755.500/0.754
Post-test	4.03±0.53	4.07±0.62	
Z/p	-0.376/0.707	-0.034/0.973	
Socialization			
Pre-test	3.65±0.71	3.81±0.62	1622.500/0.309
Post-test	3.61±0.74	3.72±0.69	
Z/p	-0.234/0.815	-0.486/0.627	
Responsibility			
Pre-test	3.94±0.79	4.05±0.71	1635.500/0.335
Post-test	3.92±0.68	4.05±0.73	
Z/p	-0.474/0.636	-0.094/0.925	
Nutrition			
Pre-test	3.70±0.76	3.79±0.74	1602.000/0.256
Post-test	3.75±0.73	3.89±0.76	
Z/p	-0.748/0.455	-0.823/0.411	

[a] U – Mann-Whitney U; Z – Wilcoxon Signed Rank test

Sustainable Development Awareness

The average pre- and post-test sustainable development awareness scores for the intervention group were 4.11 (SD=0.59) and 4.12 (SD=0.60), respectively, indicating a slight improvement of .01 points. On the other hand, for the control group, these scores were 4.29 (SD=0.54) and 4.16 (SD=0.64), respectively, indicating a drop off 0.13 points. Mann-Whitney U test showed there was not a statistically significant difference at post-test measurement (U=1674.500; p=0.465). Moreover, all subdimensions of Sustainable Development Awareness scale did not show any statistically significant at post-test measurements (Table 5). Although it is not presented in a table, Spearman's rho correlation showed that SDA had a weak correlation with HLA (r= 0.298, p<0.001) and a very week correlation with HPLP II (r= 0.140, p<0.05) at baseline.

Table 5. Differences for subscale of sustainable development awareness between the control and intervention groups (n=160)[a]

Measurement	Control (n=105)	Intervention (n=55)	U/p
Sustainable Development Awareness Total Score			
Pre-test	4.29±0.54	4.11±0.59	1674.500/0.465
Post-test	4.16±0.64	4.12±0.60	
Z/p	-1.587/0.112	-0.034/0.973	
Economy			
Pre-test	4.15±0.57	3.97±0.58	1682.000/0.488
Post-test	4.04±0.63	4.00±0.56	
Z/p	-1.582/0.114	-0.323/0.746	
Society			
Pre-test	4.53±0.64	4.34±0.68	1788.500/0.887
Post-test	4.37±0.77	4.36±0.74	
Z/p	-1.615/0.106	-0.124/0.901	
Environment			
Pre-test	4.18±0.52	4.01±0.60	1676.500/0.470
Post-test	4.08±0.62	4.01±0.60	
Z/p	-1.082/0.279	-0.053/0.958	

[a] U – Mann-Whitney U; Z – Wilcoxon Signed Rank test

Discussion

The purpose of this study was to determine the effectiveness of "Healthy Life and Environment" course on nursing student's awareness of sustainable development, healthy life and health-promoting lifestyle behaviours by using a quasi-experimental research design. Our study findings demonstrated that certain characteristics of students including being female, not using tobacco or consuming alcohol positively effect on their health-promoting lifestyle behaviours. Contrary to our study's findings, other recent prior studies found no statistically significant differences between gender and a health-promoting lifestyle profile.[20-22] The present study showed a slight improvement of health-promoting lifestyle behaviours in intervention group despite not finding a statistically significant impact of the course on health-promoting lifestyle behaviours. Our study sample's overall health-promoting lifestyle score at baseline was greater than that of both the intervention and control groups, as reported in previous studies.[20,21,23,24] Having high score of nursing students at baseline in this study could be the reason for the slight increase of health-promoting lifestyle score in the intervention group.

In addition to the high-level of health-promoting lifestyle score, our sample had a high score of healthy life awareness, which is consistent with a recent study;

however, we did not find any impact of the intervention on students' healthy life awareness.[25] Supporting healthy lifestyle awareness and behaviours of students by the nursing curriculum is suggested in the literature to prevent unhealthy behaviours such as sedentary lifestyle patterns among students and to make lifestyle changes that might affect their health and wellbeing.[26] Our sample both intervention and control group had higher level healthy life awareness. Contrary to common belief that young people have unhealthy habits despite awareness of healthy lifestyle's effect on their health, only small number of our study sample used tobacco (20%) or consumed alcohol (20.3%).[27] Experiencing higher levels of stress by nursing students compared to students in other health science could consist of a part of the reason for unhealthy behaviours like smoke or consuming alcohol.[28]

The awareness of sustainable development was higher among female students in the present study, which is consisted with the results of a recent study.[29] Although our findings did not show an impact of the course tested on nursing student's awareness of sustainable development, there was a slight improvement of sustainable development awareness in intervention group and a drop-off in control group. The third of the SDGs directly target at individuals' good health and promoting their well-being for all at all ages.[3] Healthy lifestyle is one of the most important indicators of SDGs on a global aspect and an effort is needed for supporting awareness of healthy lifestyle.[30,31] This study findings illustrated that SDGs had association with healthy life awareness and health-promoting lifestyle profile. Moreover, tobacco users and alcohol consumers had low levels of awareness of sustainable development. Overall, our study findings confirmed that nurse educators need to be able to deliver information by using new teaching methods and upskilling their existing skill such as encourage students to be a part of a research.[14] Nurse educators are responsible for students' acquiring qualifications to be a role models in society with their healthy lifestyle and being a nurse having global perspective to achieve SDGs.[5] This result is necessary for integrating student-centered learning and sustainable development methodologies into nursing curricula.[14]

Study limitations

There are several limitations of the current study. First, health behaviours of nursing students were measured using a self-report instrument and we collected limited data about unhealthy behaviours of students including tobacco using, alcohol consuming, and BMI. Second, selection bias limits the generalizability of the results. This study did not apply any sapling method due to the study conducted in a single nursing college with a small sample. However, the study included a control group, and all students were blinded to manage this limitation and reduce bias. Lastly, it is possible that students in the control group improved their awareness during the assessment and they could communicate with students in the intervention group in dormitories or schools, and so this factor might have modified their awareness regarding SDGs, healthy life, and health-promoting lifestyle.

Conclusion

This study found that taking a course on "Healthy Life and Environment" did not increase nursing student's awareness of sustainable development and healthy life, and health-promoting lifestyle behaviours, but awareness of healthy life and health-promoting lifestyle behaviours had association with SDGs. Moreover, the present study defined certain sample characteristics including being female, not using tobacco or consume alcohol that impacted students' health-promoting lifestyle profile and only being female affected awareness of SDGs. The results of our study highlighted the need to adapt sustainable development methodology using student-centered learning into nursing curricula to increase the qualification of nursing students to be role models in society and nurses have global perspectives to achieve SDGs as well as the need for nurse educators' upskilling. Further, "Healthy Life and Environment" courses using innovative teaching strategies such as student-centered learning approaches are recommended to expand nursing students' awareness of sustainable development and healthy life, and health-promoting lifestyle behaviors and tested utilising randomized controlled trials method.

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Author contributions

Conceptualization, İ.D. and F.D.B.; Methodology, İ.D.; Software, F.D.B.; Validation, İ.D.; Formal Analysis, İ.D.; Investigation, F.D.B; Resources, İ.D. and F.D.B.; Data Curation, F.D.B; Writing – Original Draft Preparation, İ.D. and F.D.B.; Writing – Review & Editing, İ.D. and F.D.B.; Visualization, İ.D.; Supervision, İ.D.; Project Administration, İ.D.; Funding Acquisition, İ.D. and F.D.B.

Conflicts of interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Data availability

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

Ethics approval

All subjects gave their informed consent for inclusion before they participated in the study. The study was conducted in accordance with the Declaration of Helsinki, and the protocol was approved by the Ethics Committee of Bartin University (Reference number: 2021-SBB-0360).

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