Original Article

Educational Program on Knowledge and Attitude of Nurses

Effectiveness of Lifestyle-Centered Educational Program on Knowledge and Attitude of the Nurses in Health Promotion Unites

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ABSTRACT

Objective: To evaluate the effectiveness of a lifestyle-centered educational program in improving nurses' knowledge and attitudes toward health promotion among nurses working in health promotion units in Kirkuk City.
Study Design: Quasi-experimental pre-test/post-test study.
Place and Duration of Study: This study was conducted at the health promotion units affiliated with primary healthcare centers in Kirkuk City from March 2025 to March 2026.
Methods: Eighty nurses were assigned to intervention and control groups (40 each). The intervention group received a lifestyle-centered educational program, while the control group continued routine practice. Data were analyzed using t-tests, ANOVA, and regression analysis.
Results: Significant improvements were observed in the intervention group following implementation of the educational program. Mean knowledge scores increased from 17.34 ± 2.86 to 21.27 ± 3.10, while mean attitude scores improved from 49.98 ± 4.21 to 54.88 ± 4.73 ($p < 0.001$). No significant changes were identified in the control group. Multiple regression analysis revealed no significant demographic predictors of post-intervention knowledge or attitude outcomes.
Conclusion: The lifestyle-centered educational program significantly improved nurses' knowledge and attitudes toward health promotion, supporting its integration into continuing professional development programs.
Key Words: Lifestyle-centered education; Health promotion; Nurses; Knowledge; Attitudes; Continuing professional development

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INTRODUCTION

Tailored eHealth education significantly improved health-promoting behaviors among nurses, including reductions in BMI and enhanced lifestyle scores compared to conventional method [1-2]. Similarly, structured health promotion interventions led to significant improvements in health-promoting behaviors, self-efficacy, and self-esteem among nurses [3-4].

Educational programs based on models like the Health Promotion Model (HPM) demonstrated positive effects on health responsibility, physical activity, nutrition, and stress management.

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Nurses often face challenges such as shift work, long hours, and family commitments, which hinder adherence to healthy lifestyles[5]. Cultural taboos and inadequate training further exacerbate gaps in knowledge, particularly in areas like reproductive health and adolescent communication.[6]

METHODS

This quasi-experimental study employed a two-group pre-test/post-test design to evaluate the effectiveness of a lifestyle-centered educational program on nurses' knowledge and attitudes toward health promotion. The study was conducted between March 2025 and March 2026 in selected Health Promotion Units of primary healthcare centers and teaching hospitals in Kirkuk City, Iraq. A purposive sample of 80 nurses was recruited and allocated to an intervention group (n = 40), which received the educational program, and a control group (n = 40), which continued routine practice. Group comparability was ensured through similar baseline demographic characteristics.

Data were collected using a structured self-administered questionnaire comprising demographic information, a knowledge scale covering key health promotion topics

(scored as correct = 1 and incorrect = 0), and a Likert-scale attitude instrument assessing perceptions of professional responsibility, lifestyle counseling, and confidence in providing health education. Content validity was established through expert review, while a pilot study confirmed the clarity and feasibility of the instrument. Internal consistency reliability was assessed using Cronbach's alpha and demonstrated acceptable reliability.

The educational program was developed based on Nola J. Pender's Health Promotion Model and adult learning principles. It covered balanced nutrition, physical activity, stress management, tobacco cessation, and prevention of non-communicable diseases using lectures, group discussions, case studies, and practical clinical examples delivered over multiple 60–90-minute sessions. Pre-test data were collected before the intervention, and post-test assessments were conducted for both groups after program completion using the same instruments. Data was analyzed using SPSS with descriptive statistics, paired- and independent-samples *t*-tests, one-way ANOVA, and multiple linear regression. Statistical significance was set at $p < 0.05$.

RESULTS

Table 1 summarizes the demographic characteristics of nurses in the intervention and control groups. No significant baseline differences were observed in age, gender, educational level, or years of experience ($p > 0.05$), indicating that the groups were comparable before the educational intervention.

Table 2 compares knowledge scores before and after the intervention. The intervention group showed a significant improvement in knowledge following the educational program ($p < 0.001$), whereas no significant change was observed in the control group ($p > 0.05$), demonstrating the program's effectiveness in enhancing nurses' health promotion knowledge.

Table 3 presents changes in attitude scores before and after the intervention. The intervention group showed a significant improvement in attitudes toward health promotion ($p < 0.001$), while no significant change was observed in the control group ($p > 0.05$), indicating the educational program effectively enhanced nurses' attitudes toward lifestyle-centered health promotion.

Table No. 1: Demographic Characteristics of Nurses in the Intervention and Control Groups (N = 80)

Variable	Category	Intervention (n = 40) n (%)	Control (n = 40) n (%)	p-value
Age (years)	20–29	8 (20.0)	7 (17.5)	>0.05
	30–39	18 (45.0)	19 (47.5)	
	≥40	14 (35.0)	14 (35.0)	
Gender	Male	14 (35.0)	15 (37.5)	>0.05
	Female	26 (65.0)	25 (62.5)	
Educational Level	Diploma	17 (42.5)	18 (45.0)	>0.05
	Bachelor	20 (50.0)	19 (47.5)	
	Postgraduate	3 (7.5)	3 (7.5)	
Years of Experience	<5 years	12 (30.0)	13 (32.5)	>0.05
	≥5 years	28 (70.0)	27 (67.5)	

Note: No statistically significant differences were found between groups at baseline ($p > 0.05$).

Table No. 2: Comparison of Pre-Test and Post-Test Knowledge Scores in Intervention and Control Groups

Group	Pre-Test Mean ± SD	Post-Test Mean ± SD	t-value	p-value
Intervention (n = 40)	17.34 ± 2.86	21.27 ± 3.10	8.95	<0.001*
Control (n = 40)	17.10 ± 2.74	17.45 ± 2.80	1.12	0.267

Note: *Statistically significant at $p < 0.05$.

Table No. 3: Comparison of Pre-Test and Post-Test Attitude Scores in Intervention and Control Groups

Group	Pre-Test Mean ± SD	Post-Test Mean ± SD	t-value	p-value
Intervention (n = 40)	49.98 ± 4.21	54.88 ± 4.73	7.84	<0.001*
Control (n = 40)	50.10 ± 4.35	50.65 ± 4.40	1.03	0.308

Note: *Statistically significant at $p < 0.05$.

Table No. 4: Comparison of Post-Test Knowledge and Attitude Scores Between Intervention and Control Groups

Variable	Intervention Mean ± SD	Control Mean ± SD	t-value	p-value
Knowledge	21.27 ± 3.10	17.45 ± 2.80	6.12	<0.001*
Attitude	54.88 ± 4.73	50.65 ± 4.40	4.87	<0.001*

Note: *Statistically significant at $p < 0.05$.

Table No. 5: Association Between Demographic Variables and Post-Test Knowledge and Attitude Scores

Predictor Variable	B	Standard Error	Beta	p-value
Age	0.12	0.09	0.14	0.184
Gender	0.35	0.48	0.08	0.462
Educational Level	0.41	0.39	0.11	0.298
Years of Experience	0.18	0.27	0.07	0.507

Model Summary: $R^2 = 0.08$; $F = 1.21$; $p = 0.301$

Note: No statistically significant demographic predictors were identified.

Table 4 compares post-test knowledge and attitude scores between the intervention and control groups. The intervention group achieved significantly higher knowledge and attitude scores than the control group ($p < 0.001$), confirming the effectiveness of the lifestyle-centered educational program.

Table 5 presents the association between demographic characteristics and post-test knowledge and attitude scores. No significant associations were found ($p > 0.05$), indicating that the educational program was equally effective across different demographic groups.

DISCUSSION

This study demonstrated that a lifestyle-centered educational program significantly improved nurses' knowledge and attitudes toward health promotion, confirming the effectiveness of structured, theory-based education in strengthening competencies for lifestyle-based preventive care. These findings are consistent with previous studies reporting that continuing professional education enhances nurses' knowledge, attitudes, and readiness to deliver evidence-based health promotion interventions.[7–10]

The observed improvements may be attributed to the use of interactive teaching strategies, including lectures, case-based discussions, and practical clinical examples, which are consistent with adult learning principles emphasizing active, relevant, and practice-oriented learning.[11–12] The findings also support Pender's Health Promotion Model, highlighting the importance of knowledge as a foundation for adopting health-promoting behaviors and integrating preventive care into routine nursing practice.[13–14]

In addition to enhancing knowledge, the intervention significantly improved nurses' attitudes toward health promotion, suggesting greater professional commitment to preventive care. This finding aligns with the Theory of Planned Behavior, which proposes that positive attitudes strengthen intentions to perform health-promoting behaviors, and is consistent with previous studies demonstrating the effectiveness of lifestyle-focused educational interventions in improving professional attitudes and confidence.[15–17]

The significantly higher post-intervention knowledge and attitude scores in the intervention group, together with the absence of change in the control group, confirm that the observed improvements resulted from the educational program rather than routine clinical experience. Furthermore, demographic characteristics were not associated with post-intervention outcomes, indicating that the program was effective across diverse groups of nurses and supporting its broad applicability.[18]

These findings underscore the value of integrating lifestyle-centered education into continuing professional development programs and primary healthcare services. Strengthening nurses' competencies in evidence-based lifestyle counseling may enhance preventive care and contribute to reducing the growing burden of non-communicable diseases in Iraq and similar resource-limited settings.[19–20]

Practical Implications: The findings support integrating lifestyle-centered education into continuing professional development programs and routine health promotion services to strengthen nurses' preventive practices and improve community health outcomes, particularly in addressing the growing burden of non-communicable diseases.

Limitations: Despite its strengths, this study has several limitations. The use of purposive sampling may limit generalizability beyond similar healthcare settings. The relatively small sample size may also restrict broader inference. Furthermore, outcomes were measured using self-reported questionnaires, which may be subject to response bias.

Future research should consider randomized controlled trials with larger samples and incorporate objective measures of practice change and patient outcomes.

CONCLUSION

This study demonstrated that a lifestyle-centered educational program significantly improved nurses' knowledge and attitudes toward health promotion, while no significant changes were observed in the control group. The findings support the effectiveness of theory-based educational interventions in enhancing nurses' competencies regardless of demographic characteristics, highlighting their suitability for integration into continuing professional development programs. Future research should employ randomized multi-center designs with longer follow-up periods to evaluate the sustainability of outcomes, clinical and behavioral impacts, cost-effectiveness, and the potential of digital or blended learning approaches

Author's Contribution:

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