

Impact Of Nurse-Led Interventions On Body Image And Health-Promoting Lifestyle Behaviors Among Young Adults: A Quasi-Experimental Study

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Abstract

Young adulthood, generally ranging ages 19 to 24, is a vital phase characterized by rapid physical, emotional, and social transformations. During this time, individuals often experience increased stress related to academic demands, social identities, and health-related activities. This study aimed to assess the efficacy of a nurse-led intervention on body image perception and health-promoting lifestyle behaviors in young adult females. A quasi-experimental design, comprising pre- and post-test evaluations, was conducted over four weeks at a college in Chennai, involving 60 participants aged 19 to 24 years. The sample was evenly divided between experimental and control groups. The experimental group underwent a nurse-led intervention that included organized education, dietary counselling, and physical activity sessions, whereas the control group received usual care. Data were gathered utilizing the Body Shape Questionnaire (BSQ-34) and the Health-Promoting Lifestyle Profile II (HPLP-II). The results indicated a notable enhancement in the experimental group: body image dissatisfaction diminished by 20.79%, while health-promoting behaviours escalated by 22.67%. Substantial associations were identified between improvements in outcomes and variables such as age, academic year, dietary habits, and sleep duration. The findings indicate that nurse-led programs may effectively enhance body satisfaction and promote healthy habits in young adults. Integrating such programs into educational environments may promote enduring physical and mental health advantages for this at-risk demographic.

Keywords: Body image, Nurse-led intervention, Health-promoting lifestyle, Young adults, Educational program

Background

Young adulthood, generally defined as the age range of 19 to 24 years, marks a significant shift characterized by autonomy, identity development, and psychosocial maturation. In this phase, individuals undergo substantial transformations in social positions, pursue educational and professional trajectories, and manage new interpersonal interactions. These alterations can impose significant stress

on young adults, rendering them susceptible to mental health issues, body image worries, and detrimental lifestyle habits [1].

Mental health disorders frequently manifest in young adulthood, with depression and anxiety being widespread. Research indicates that over 31.9% of adults aged 18–25 have anxiety-related symptoms, often associated with academic pressure, job insecurity, and social isolation [2]. Body image dissatisfaction constitutes a significant issue among young adults. This discontent stems from societal pressures, unrealistic beauty standards on social media, and peer comparisons, profoundly impacting both genders. Studies indicate that 11% to 72% of young women and 8% to 61% of young males experience body dissatisfaction, with young men often emphasizing muscularity and young women aspiring to thinness [3,4].

Negative body image perception is strongly linked to adverse mental health consequences, such as diminished self-esteem, depression, and eating disorders. Approximately 13.7% of individuals experiencing body dissatisfaction may develop disordered eating practices, including anorexia or bulimia [5]. These issues are exacerbated by lifestyle difficulties encountered in young adulthood. Sedentary behaviour, diets rich in processed foods, inadequate sleep quality, and insufficient physical activity are becoming increasingly prevalent in this demographic. Global health statistics indicate that merely 21% of young adults adhere to prescribed physical activity requirements, while less than 42.4% ingest the requisite servings of fruits and vegetables [6,7].

Health-promoting lifestyle behaviors (HPLBs), such as consistent exercise, balanced nutrition, stress management, and sufficient sleep are essential for maintaining physical and mental well-being in young adults. Nonetheless, the adoption of these habits is frequently obstructed by insufficient awareness, motivation, or access to health-related resources [8]. Therefore, specific interventions are crucial to promote healthier choices and mitigate the long-term risks of chronic diseases.

Nurses, as primary healthcare providers, are ideally positioned to implement comprehensive and patient-centered strategies that promote body image acceptance and encourage healthy lifestyle practices. Nurse-led educational interventions have shown promise in promoting health-related outcomes by enhancing self-efficacy, body satisfaction, and knowledge of healthy living [9]. These interventions may encompass individual counseling, group education, and behavior modification tactics, so providing young adults with the resources to manage stress and improve their overall well-being.

Despite mounting data supporting the efficacy of these programs, a research gap persists regarding the explicit evaluation of the simultaneous effects of nurse-led interventions on body image perception and health-promoting lifestyle choices in young adults. Rectifying this deficiency is essential for formulating evidence-based interventions to enhance health outcomes throughout this critical life phase. This study is to assess the efficacy of nurse-led treatments in improving body image perception and fostering health-promoting behaviors in young people.

MaTERIALS AND METHODS

This study employed a quantitative research design to assess the impact of a nurse-led intervention on body image and health-promoting lifestyle behaviors among young adults. The study followed a quasi-experimental, non-randomized control group design with pre-test and post-test assessments. Participants were divided into an experimental group that received the intervention and a control group that received routine care. The study was conducted over a four-week period at Annai Violet College of Arts and Science, Ambattur, Chennai. The population included female young adults aged 19–24 years enrolled in undergraduate programs. A total of 60 participants were selected using a non-probability convenience sampling technique. The sample was equally distributed, with 30 participants in each group.

Eligibility criteria included female students aged 19–24 years, with a Body Mass Index (BMI) between 25 and 40, who were willing to participate and able to understand English or Tamil. Students with significant physical or mental health conditions or cognitive impairments were excluded.

The intervention consisted of structured education sessions, dietary guidance, and exercise routines. Educational content covered topics such as body image concepts, the psychological and social impact of

body dissatisfaction, and the adoption of healthy lifestyle practices. Participants were also guided through practical physical activities including walking, jogging, skipping, strength exercises, and core workouts.

Data were collected using three validated tools: a socio-demographic questionnaire, the Body Shape Questionnaire (BSQ-34), and the Health-Promoting Lifestyle Profile II (HPLP-II). The BSQ-34 assessed body image concerns using a 6-point Likert scale across 34 items. The HPLP-II evaluated six dimensions of lifestyle behaviors, nutrition, physical activity, health responsibility, stress management, spiritual growth, and interpersonal relations via a 4-point Likert scale with 52 items. The instruments demonstrated high internal consistency, with Cronbach's alpha values of 0.88 for BSQ-34 and 0.91 for HPLP-II.

The pre-test was conducted before the intervention, and the post-test was administered 21 days after the intervention. Data analysis was performed using SPSS version 22. Descriptive statistics (mean, standard deviation, frequencies, and percentages) were used for demographic data. Inferential statistics included the chi-square test to compare group characteristics, and Pearson correlation for relationship analysis. Significance was determined at $p \leq 0.05$. Ethical approval was obtained from the Institutional Ethics Committee of Madras Medical College. Informed consent was secured from all participants, with confidentiality and the right to withdraw ensured throughout the study.

Results

Demographic Characteristics

This study assesses the effect of nurse-led intervention on body image and Health-Promoting Lifestyle Behaviours Among Young Adults. Most participants were aged 20 to 22 years and enrolled in undergraduate programs. A majority had a monthly family income between ₹30,000 and ₹60,000, and more than 50% had a Body Mass Index (BMI) between 25 and 30. Participants in both groups predominantly lived with family, consumed a mixed diet, and reported moderate physical activity levels once a week or a few times a month. No statistically significant differences were observed between the experimental and control groups for any sociodemographic variable at baseline ($p > 0.05$), confirming group comparability.

Level of Outcomes

At baseline, 33.33% of the experimental group and 26.67% of the control group expressed significant worry with body image, whereas 90% and 86.67% in the respective groups demonstrated moderate levels of health-promoting lifestyle behaviors. No participants were designated as having outstanding outcomes in either category. Pre-test analyses revealed no statistically significant differences between the groups for body image ($\chi^2 = 0.32$, $p = 0.85$) or lifestyle behavior ($\chi^2 = 0.16$, $p = 0.68$).

Effectiveness of Nurse-Led Intervention

Following the intervention, the experimental group exhibited significant enhancements. More than half (56.67%) of participants expressed no concern regarding body image, whereas none in the control group did ($\chi^2 = 31.93$, $p = 0.001$). Moreover, 43.33% of the experimental group attained outstanding scores in lifestyle behavior, but none of the control participants did ($\chi^2 = 40.16$, $p = 0.001$).

The average body image score in the experimental group decreased from 122.50 ± 19.53 to 80.10 ± 13.11 ($t = 42.40$, $p < 0.001$), reflecting a 34.1% decrease. Conversely, the control group exhibited merely a 1.24% decrease ($t = 1.88$, $p = 0.07$). The lifestyle behavior scores in the experimental group rose from 112.00 ± 5.50 to 159.17 ± 9.65 ($t = 24.53$, $p = 0.001$), whereas the control group exhibited a negligible increase of 1.03%, from 113.73 ± 5.58 to 115.87 ± 8.73 ($t = 1.65$, $p = 0.12$) [Table 1 & 2].

Table 1: Effectiveness of nurse-led interventions on body image score

Group	Assessments	Body image score			
		Maximum score	Mean Body image score	Percentage of Body image score	Percentage of Body image reduction score
Experiment	Pretest	204	122.50	60.05%	20.79%
	Posttest	204	80.10	39.26%	
Control	Pretest	204	125.10	61.32%	1.24%

	Posttest	204	122.57	60.08%	
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Table: 2. Effectiveness of nurse-led interventions on health promoting lifestyle behaviour score

Group	Assessments	Lifestyle behaviour gain score			
		Maximum score	Mean lifestyle behaviour score	Percentage of lifestyle behaviour score	Percentage of lifestyle behaviour score gain score
Experiment	Pretest	208	112.00	53.85%	22.67%
	Posttest	208	159.17	76.52%	
Control	Pretest	208	113.73	54.68%	1.03%
	Posttest	208	115.87	55.71%	

Associations Between Variables

Significant associations were observed in the experimental group between post-test body image outcomes and variables such as age ($\chi^2 = 8.67$, $p = 0.05$), academic year ($\chi^2 = 4.45$, $p = 0.05$), and junk food consumption ($\chi^2 = 14.38$, $p = 0.01$). Similarly, lifestyle behaviour outcomes were significantly associated with academic year ($\chi^2 = 4.45$, $p = 0.05$), fruit and vegetable intake ($\chi^2 = 11.76$, $p = 0.05$), and sleep duration ($\chi^2 = 8.28$, $p = 0.05$). No significant associations were found among the control group.

DISCUSSION

This study evaluated the effect of a nurse-led intervention on enhancing body image perception and health-promoting lifestyle behaviors in young adult females.

At baseline, both groups demonstrated moderate levels of concern over body image and lifestyle behaviors. These findings align with previous research among young adults indicating elevated levels of body image dissatisfaction and diminished participation in physical activity and healthy dietary practices. Samari E et al. found that 25.4% of university students exhibited a negative body image. At the same time, Hock et al. reported that over 50% of the young people examined in six nations expressed dissatisfaction with their body shape [10,11].

Following the intervention, individuals in the experimental group showed a 20.79% decrease in body image dissatisfaction and a 22.67% increase in health-promoting behaviors. These results align with the findings of Solhi et al., who documented substantial lifestyle improvements following an educational intervention based on behavior change models [12]. Khajavi et al. also noted enhancements in health responsibility and stress management among medical students who participated in web-based instruction [13]. Suhag K et al. observed similar findings, noting enhanced body image satisfaction and a reduced risk of eating disorders after a systematic psychoeducational program [14]. Similarly, Elumalai et al. reported significant improvements in knowledge and resilience among teenagers following community-based empowerment programs [15].

Significant associations were identified between intervention outcomes and age, educational attainment, dietary practices, and sleep duration. The findings are supported by Mou TJ et al. and Baby Ilavarasi Chakkaravarthi et al. et al., who established a strong association between demographic and behavioral factors and health outcomes in youth [16,17]. Al Yazeedi et al. found college students and young individuals as more susceptible to lifestyle changes due to targeted instruction and external pressures [18]. These findings collectively affirm the efficacy of nurse-led educational programs in enhancing holistic wellbeing among young people. Future initiatives may gain from incorporating digital distribution techniques and extended follow-up to improve reach and sustainability.

CONCLUSION

This study concluded that nurse-led interventions significantly improved body image perception and health-promoting lifestyle behaviours among young adult females. Participants in the experimental group

showed measurable gains in self-esteem, healthy habits, and reduced body dissatisfaction. The structured education, combined with dietary and physical activity guidance, proved effective in promoting positive change. These findings highlight the importance of integrating nurse-led wellness programs into educational settings to support the holistic health needs of young adults during this formative life stage.

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