



ORIGINAL RESEARCH PAPER

Nursing

"A STUDY TO ASSESS THE EFFECTIVENESS OF FAMILY CENTERED NURTURANCE PACKAGE ON KNOWLEDGE AND LIFESTYLE PRACTICES REGARDING ADOLESCENT HEALTH AMONG GIRLS" - PILOT STUDY.

KEY WORDS: Family Centered Nurturance Package, Adolescent health, Adolescent girls, Knowledge and Life style practices.

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ABSTRACT

Background: Adolescence is a crucial developmental phase characterized by rapid physical, psychological and social changes that impact future health. Many adolescent girls have limited knowledge and inadequate lifestyle practices related to nutrition, hygiene, physical activity and reproductive health. Active family involvement is essential in guiding healthy behaviors and informed decision-making during this period. **Aim:** To assess the effectiveness of Family Centered Nurturance Package on knowledge and lifestyle practices regarding adolescent health among girls. **Method & Materials:** Quantitative research approach with Quasi experimental research design was used among 30 adolescent girls (13-17 years) at villages adopted by Omayal Achi Community Health Centre, Chennai. Nonprobability purposive sampling technique was used. Self-administered structured knowledge questionnaire and lifestyle practices checklist was used to collect the data. **Result:** The study findings revealed that 80% of the girls had inadequate level of knowledge during preintervention whereas in post intervention 66.67% of them had moderately adequate level of knowledge in study group and all of the girls had poor life style practices during preintervention whereas in post intervention 66.67% of them had good life style practices in study group. **Conclusion:** The study concluded that the Family Centered Nurturance Package was effective in significantly improving knowledge and lifestyle practices related to adolescent health among girls.

INTRODUCTION

Adolescence, derived from the Latin term *adolescere* meaning "to grow into maturity," emerged in the 15th century¹. The World Health Organization defines adolescents as individuals aged 10–19 years². It is a unique developmental stage that lays the foundation for lifelong health and well-being³. Adolescence represents a transition from childhood to adulthood characterized by profound physical, psychological, emotional, social and behavioral changes^{1,3}.

This period is marked by increasing independence and evolving self-identity¹. Globally, adolescents account for nearly one-sixth of the population, comprising about 1.2 billion individuals⁴. South-East Asia alone contributes nearly 350 million adolescents, while India has the largest cohort worldwide^{4,5}. India has approximately 243 million adolescents, including 12.2 crore aged 15–19 years⁶. In Tamil Nadu, nearly 1.24 crore adolescents fall within the 10–19 years age group⁷.

Adolescents today experience substantial stress due to academic pressure and competitive lifestyles⁸. Such stress often leads to unhealthy dietary habits, physical inactivity, and inadequate sleep^{8,9}. This phase provides a critical window for health promotion and adoption of healthy behaviors^{2,3}. Adolescent girls are particularly vulnerable in developing countries due to socio economic and nutritional disparities¹⁰.

Common health problems during adolescence include anemia, obesity and undernutrition¹¹. Anemia remains a major public health concern among adolescent girls, especially in South Asia¹². In India and Tamil Nadu, anemia affects 59% and 52.9% of adolescent girls respectively^{7,13}. Obesity among adolescents has increased globally due to lifestyle changes and reduced physical activity¹⁴. Underweight also remains prevalent, affecting nearly half of adolescent girls in India and Tamil Nadu¹³. Family

environment plays a crucial role in shaping adolescents' dietary and physical activity behaviors¹⁵. Hence, family-based intervention strategies are essential for promoting health among adolescent girls^{15,16}.

Statement Of The Problem

A quasi-experimental study to assess the effectiveness of Family Centered Nurturance Package (FCNP) on knowledge and life style practices regarding adolescent health among girls at selected setting.

OBJECTIVES

1. To assess and compare the pre and post intervention level of knowledge and lifestyle practices regarding adolescent health among girls in study and control group.
2. To assess the effectiveness of Family Centered Nurturance Package (FCNP) on knowledge and lifestyle practices regarding adolescent health among girls in study and control group.
3. To correlate the mean differed level of knowledge and life style practices score regarding adolescent health among girls in study and control group.
4. To associate the selected background variables with mean differed knowledge and life style practices score regarding adolescent health among girls in study and control group.

NULL HYPOTHESES

NH₁: There is no significant difference between the pre and post intervention level of knowledge and lifestyle practices regarding adolescent health among girls in study and control group.

NH₂: There is no significant correlation between mean differed level of knowledge and lifestyle practices score regarding adolescent health among girls in study and control group.

NH₃: There is no significant association of selected

background variables with mean differed level of knowledge and lifestyle practices score regarding adolescent health among girls in study and control group.

MATERIALS AND METHODS

A quantitative approach with a quasi-experimental research design was adopted in this study. The independent variable was the Family Centered Nurturance Package and the dependent variables were knowledge and Life style practices. The study was conducted at the villages adopted by Omayal Achi Community Health Centre, Chennai. The sample size consisted of 30 adolescent girls who fulfilled the inclusion and exclusion criteria, with 15 each in the study and control groups, selected by using the non-probability purposive sampling technique. The samples were selected based on the following:

Inclusion criteria

Adolescent Girls Who

- are between 13-17 years of age.
- attained menarche
- are residing in adopted villages of OACHC.
- are having either menstrual irregularities / underweight/ overweight/mild and moderate anemia.
- have primary care taker (either mother or father) who directly involve in nurturing the physical, psychological and reproductive health of the adolescent girls.
- are able to understand and speak Tamil or English.

Exclusion Criteria

Adolescent Girls Who Are

- taking medical treatment for anemia.
- undergone the same or similar type of interventional program.
- who have physical, mental and sensory impairment.

Development And Description Of The Tool

The tool for the data collection had 3 sections:

Section A: Assessment Of Background Variables For Adolescent Girls

It consisted of

a) Demographic variables – Age (completed years), religion and educational status.

b) Family related variables – Family monthly income, residential area as per family card, type of family, number of family members, number of siblings and family history of non-communicable diseases.

c) Daily activities related variables – Diet pattern, habit of spending time on hobbies, habit of doing exercise and spending time with screen.

d) Menstrual variables – Age at menarche, regularity of menstrual cycle, duration, nature of bleeding and dysmenorrhea.

S. No.	Dimension	No. of questions
1.	General information	03
2.	Physical health (diet, physical activity, BMI, waist hip ratio & hemoglobin level)	18
3.	Psychological health (ways to manage stress)	02
4.	Reproductive health (menstrual health & hygiene)	02
Total		25

Section B: Structured Knowledge Questionnaire formulated by the investigator was used to assess the knowledge. It consisted of 25 questions with one correct answer each. It was categorized under the following components.

Scoring Key

Each item had an objective type and closed ended with a single correct answer and four distracters. Every correct answer was given a score of '1' mark and wrong answer was given '0' mark. The total score of the tool was 25. The raw score was converted to percentage to interpret the knowledge.

Interpretation

Score in Percentage	Level of knowledge
≥75%	Adequate knowledge
51-74%	Moderately adequate
≤ 50%	Inadequate knowledge

Section C: Assessment Of Life Style Practices

i) Dietary practices was assessed by using the checklist. The checklist consists of 15 items which includes 10 positive statement was scored never (0), rarely (1), sometimes (2), most of the time (3) and always (4) and 5 negative statement will be scored never (4), rarely (3), sometimes (2), most of the time (1) and always (0).

Maximum score is 60 and minimum score is 0.

ii) Physical activity (Exercises) was measured through physical activity checklist. The physical activity checklist consisted of 10 items which includes 6 positive statement was scored never (0), rarely (1), sometimes (2), most of the time (3) and always (4) and 4 negative statement was scored never (4), rarely (3), sometimes (2), most of the time (1) and always (0). Maximum score is 40 and minimum score is 0.

The total life style practice score was = 100.

Dietary practices (60) + Physical activity (40) = 100.

The raw score was converted to percentage to interpret the level of life style practices among girls. The practice score was interpreted as below:

Score (%)	Inference
76-100	Good
41-75	Moderate
≤ 40	Poor

Data Collection Procedure

The study was conducted for a period of 4 weeks. A total of 30 adolescent girls (15 samples each in the study and control group) were selected based on inclusion criteria using a non-probability purposive sampling technique. After obtaining formal permission and informed written consent, the investigator obtained demographic details from the study group samples, following which the preintervention level of knowledge and lifestyle practices was assessed using the above-mentioned tools. Following this, the intervention was given for 40-45 minutes. BMI-specific diet plans (underweight, normal, overweight) were prepared in consultation with a dietician and recommended based on each girl's BMI. Physical activity sessions included demonstration of exercises such as push-ups, lunges, squats, and abdominal crunches. Participants performed return demonstrations and practiced the exercises for 30 minutes daily, morning and evening. Reinforcement was given with the same package. The post intervention assessment of knowledge and lifestyle practices were assessed 3rd week after the intervention.

Ethical Considerations:

The study proposal and plan were granted formal ethical approval by the International Centre of Collaborative Research which is the official ethics review board of Omayal Achi College of Nursing, Chennai, India. Consent was obtained from the Obtained Ethical clearance from the International Centre for Collaborative Research (ICCR), Formal written permission from the Principal of Omayal Achi College of Nursing and from the Centre Incharge of Omayal Achi Community Health Centre, Arakkambakkam, Chennai.

Written informed consent was obtained from the participants after a clear explanation of the study purpose, type of data required, nature of commitment, participation, procedure and potential benefits and the right to withdraw from the study at any point in time was explained. Confidentiality and full privacy of personal details revealed by the samples were assured.

RESULTS

Distribution Of Background Variables Of Adolescent Girls

In the study group, 13(86.67%) of the adolescent girls were between 13-15 years of age, 12(80.00%) of them were Hindu, 10(66.67%) of them were studying high school education, 06(40.00%) had family monthly income between Rs. 5001-10000, 15(100.00%) were residing in a rural area, 11(73.33%) were from a nuclear family, 10(66.67%) had 4-5 members in their family, 09(60.00%) had one sibling, 09(60.00%) had family history of non communicable disease among that 01(06.67%) of the father had diabetes mellitus & 03(20.00%) of the mother had diabetes mellitus, 15(100.00%) of them were non-vegetarian among that they are taking 1-2 days /week, 15(100.00%) of them had no habit of doing exercise, 15(100.00%) of them spending screen time among that 09(60.00%) & 08(53.33%) of them watching mobile for 1-2 hrs/day, 14(93.33%) of the girls were attained menarche are aged between 10-14 yrs, 12(80.00%) had regular cycle, 08(53.33%) had 3-4 days/month, 11(73.33%) of them had normal menstrual cycle and 08(53.33%) of the girls had dysmenorrhea.

In the control group, 11(73.33%) of the adolescent girls were between 13-15 years of age, 15(100.00%) of them were Hindu, 09(60.00%) of them were studying high school education, 07(46.67%) had family monthly income between Rs. 5001-10000, 15(100.00%) were residing in a rural area, 13(86.67%) were from a nuclear family, 13(86.67%) had 4-5 members in their family, 13(86.67%) had one sibling, 10(66.67%) had no family history of non communicable disease, 15(100.00%) of them were non-vegetarian among that 13(86.67%) they are taking 1-2 days /week, 15(100.00%) of them had no habit of doing exercise, 15(100.00%) of them spending screen time among that 12(80.00%) & 06(40.00%) of them watching mobile for 1-2 hrs/day, 14(93.33%) of the girls were attained menarche are aged between 10-14 yrs, 12(80.00%) had regular cycle, 08(53.33%) had 3-4 days/month, 10(66.67%) of them had normal menstrual cycle and 12(80.00%) of the girls had dysmenorrhea.

Table 1: Pre And Post-intervention Level Of Knowledge Regarding Adolescent Health Among Girls In The Study And Control Group n=30

Group	Level Of Knowledge	Assessment			
		Pre intervention		Post intervention	
		n	%	n	%
Study	Adequate	00	00	05	40.00
	Moderately adequate	03	20.00	10	66.67
	Inadequate	12	80.00	00	33.33
Control	Adequate	00	00	00	00
	Moderately adequate	02	13.33	03	20.00
	Inadequate	13	86.67	12	80.00

The above table shows that, 80% of the girls had inadequate level of knowledge during preintervention whereas in post intervention 66.67% of them had moderately adequate level of knowledge in experimental group and there is no much difference between pre and post intervention in control group.

Table 2: Pre And Post-intervention Level Of Lifestyle Practices Regarding Adolescent Health Among Girls In The Study And Control Group n=30

Group	Level of life style practices	Assessment			
		Pre intervention		Post intervention	
		n	%	n	%
Study	Good	00	00	10	66.67
	Average	00	00	05	33.33
	Low	15	100	00	00
Control	Good	00	00	00	00
	Average	00	00	02	13.33
	Low	15	100	13	86.67

The above table 2 revealed that, all of the girls had poor life style practices during preintervention whereas in post intervention 66.67% of them had good life style practices in experimental group and there is no much difference between pre and post intervention in control group.

Assessment Of Effectiveness Of Family Centered Nurturance Package On Knowledge And Life Style Practices Regarding Adolescent Health Among Girls

Table 3: Comparison Of Pre And Post Intervention Mean Knowledge And Life Style Practices Score Among Adolescent Girls Within The Study And Control Group n=30

Variable	Group	Pre intervention		Post intervention		Mean difference	Student Paired 't' test
		Mean	SD	Mean	SD		
Knowledge	Study	8.67	2.32	16.47	1.77	7.8	t=10.85 p=0.001*** (S)
	Control	8.47	3.76	8.8	3.55	0.33	t=1.43 p=0.17 (NS)
Life Style Practices	Study	20.93	2.66	79	2.85	58.07	t=62.55 p=0.001*** (S)
	Control	19.8	2.81	20.8	2.86	-1	t=1.91 p=0.06 (NS)

***p<0.001-Very highly significant, NS-Not Significant

The above table 3 signifies the comparison of mean knowledge and life style practices scores regarding family centered nurturance package. In the study group, the preintervention mean knowledge and life style practices score was 8.67, 20.93 which had increased to 16.47, 79.00 respectively in post intervention. The calculated t value for knowledge and life style practices was t=10.85 and 62.55 respectively, which revealed that there was a high statistically significant difference at p<0.001 level.

Table 4: Comparison Of Pre And Post Intervention Mean Knowledge And Life Style Practices Score Among Adolescent Girls Between Study And Control Group n=30

Variable	Assessment	Study Group		Control Group		Mean difference	Independent 't' test
		Mean	SD	Mean	SD		
Knowledge	Pre intervention	8.67	2.32	8.47	3.76	0.2	t=0.18 p=0.86 (NS)
	Post intervention	16.47	1.77	8.8	3.55	8.67	t=7.49 p=0.001*** (S)
Life Style Practices	Pre intervention	20.93	2.66	19.8	2.81	1.13	t=1.14 p=0.27 (NS)
	Post intervention	79	2.85	20.8	2.86	58.2	t=55.80* p=0.001*** (S)

***p<0.001-Very highly significant, NS-Not Significant

The above table 4 depicts that in the preintervention there

was no statistically significant difference in comparison of mean knowledge and life style practices score between the study and control group. In the post intervention, the mean difference score was 8.67 and 58.2 with t values of t=7.49 and t=55.80 for knowledge and life style practices respectively. These values showed that there was a high statistical significance at p=0.001. This shows that family centered nurturance package had significantly improved the knowledge and life style practices of adolescent health among girls in the study group.

Table 5: Correlation Between The Mean Differed Knowledge And Life Style Practices Score Among Adolescent Girls In The Study Group

Group	Variables	Mean differed score		'r' value	Interpretation
		Mean	SD		
Study	Knowledge	16.47	1.77	r=1 P=0.001** *(S)	Positive correlation
	Lifestyle practices	79	2.85		

***p<0.001- Very highly significant

The above table depicts the Correlation between the mean differed knowledge and life style practices score among adolescent girls in the study group, assessed using the Karl Pearson Correlation Coefficient. The calculated value was r=1 which revealed that there was a positive correlation between the mean differed level of knowledge with life style practices respectively.

Association Of Selected Background Variables With The Mean Differed Knowledge And Life Style Practices Score Among Girls In The Study Group.

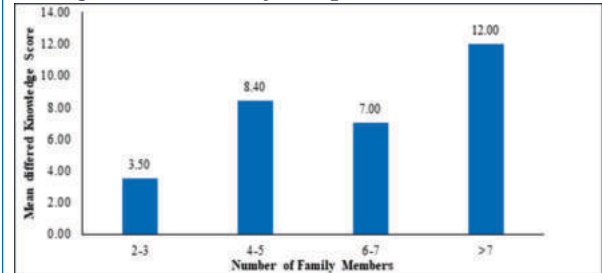


Figure 1: Association of selected background variables with the mean differed knowledge score among girls in the study group.

Figure 1 depicts that there was a significant association of background variable like number of family members in the study group with the mean differed knowledge. The mean differed knowledge score of girls was highest 12.00 among those had family members more than 7 in their family.

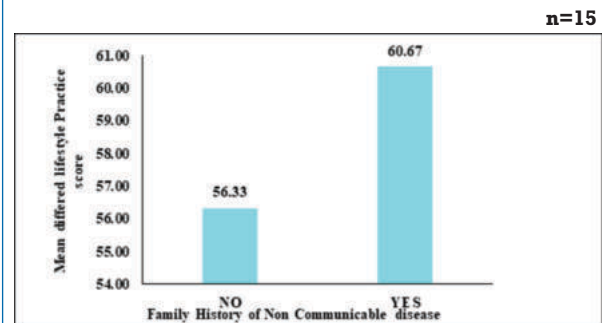


Figure 2: Association Of Selected Background Variables With The Mean Differed Life Style Practices Score Among Girls In The Study Group.

Figure 2 depicts that there was a significant association of background variable like family history of non

communicable disease in the study group with the mean differed life style practices. The mean differed life style practices score of girls was highest 60.67 among those had history of non communicable disease in their family.

DISCUSSION

Adolescence is a critical period of growth and development marked by rapid physical, psychological, and social changes. Adolescent girls are particularly vulnerable to health-related challenges due to limited awareness, sociocultural constraints and inadequate access to health information. Insufficient knowledge regarding adolescent health issues can negatively influence lifestyle behaviors and long-term health outcomes. Improving health knowledge during this formative stage is essential for fostering healthy practices and preventing future morbidity. Educational interventions play a vital role in addressing knowledge gaps and empowering adolescent girls to make informed health decisions. Therefore, the present study was undertaken to assess the effectiveness of family centered nurturance package on knowledge and life style practices regarding adolescent health among girls and to compare the outcomes between study and control groups.

The comparison of mean differed levels of knowledge and life style practices within the study and control groups was calculated using the paired t-test. The findings revealed that in the study group, the calculated value t=10.85 for knowledge and 62.55 for life style practices revealed that there was a highly statistically significant difference at p<0.001 level for both variables. There was no statistically significant difference between pre and post intervention level of knowledge and life style practices in the control group.

The study conducted by **Pinki Devi (2021)** demonstrated that the structured intervention was effective in significantly improving the knowledge level of adolescent girls. While only 1.33% of the participants had an adequate level of knowledge during the pretest, this proportion increased markedly to 25.33% in the posttest within the experimental group. The substantial improvement observed after the intervention indicates that planned educational programs play a crucial role in enhancing awareness and understanding among adolescent girls. These findings emphasize the importance of implementing systematic, targeted educational interventions to promote better knowledge and support positive health outcomes in this vulnerable population.

The comparison of knowledge and life style practices between the study and control groups was calculated using the student-independent t-test showed that no statistically significant difference was found in the pre intervention, whereas in the post intervention the calculated t value 7.49 and 55.80 for knowledge and life style practices was statistically very highly significant at p=0.001. This shows that family centered nurturance package had significantly improved the knowledge and life style practices of adolescent health among girls in the study group.

The study done by **Jha SS, Dobe M, Taklikar C, Lahiri A. (2023)** found that Adequate dietary practices increased from 28% (pretest) to 64% (posttest) Regular physical activity improved from 22% to 58%. Structured school-based interventions significantly improved lifestyle practices among adolescent girls in post test.

The Correlation between the mean differed knowledge and life style practices score among adolescent girls in the study group, assessed using the Karl Pearson Correlation Coefficient. The calculated value was r=1 which revealed that there was a positive correlation between the mean differed level of knowledge with life style practices respectively. No statistical relationship was identified between the variables in the control group.

There was a significant association of background variable like number of family members in the study group with the mean differed knowledge. The mean differed knowledge score of girls was highest 12.00 among those had family members more than 7 in their family. There was a significant association of background variable like family history of non communicable disease in the study group with the mean differed life style practices. The mean differed life style practices score of girls was highest 60.67 among those had history of non communicable disease in their family. There is no association of selected background variables with the mean differed knowledge and lifestyle practices score regarding adolescent health among girls in the control group.

CONCLUSION

The study findings concluded that there was a significant difference in the level of knowledge and life style practices in the study group after administration of the Family Centered Nurturance Package. Thus, the study findings revealed that this intervention was effective in improving the level of knowledge and life style practices among girls. It can also be used by nurses to support adolescent girls in promoting optimal health adaptation and favourable health outcomes during adolescence.

Source Of Support: None

Conflict Of Interest: None

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