

Effectiveness of Structured Teaching Program on Knowledge of Adolescent Girls on Reproductive Health in a Selected High School, Mangalore

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ABSTRACT

Adolescence is a transitional period characterized by physical growth, sexual maturation, and psychological development. Maintaining good reproductive health is crucial for adolescent health. This study evaluates the effectiveness of a structured teaching program on reproductive health knowledge in Mangaluru high schools. The study used a quasi-experimental research design at Anjumon English Medium High School, Mukka, with 100 children in the intervention group. Data was collected using tools like demographic proforma, reproductive health questionnaire, and rating scale. The effectiveness of the intervention was assessed using Kendall's tau b Value, Paired t test, and Chi-square test. The study found that 33% of students in the intervention group were aged 14, 15, 16, and in 8th, 9th, and 10th Standard classes. The majority lived in hostels, were rural, and had a PUC education. The majority of students were private employees, with 77% having an annual income of 75,000-50,000. After the intervention, 94% of students gained good knowledge about reproductive health. The study also found a significant association between adolescent girls' age, class, and menstrual hygiene practices. The structured teaching program effectively promotes good reproductive health and menstrual hygiene, demonstrating that proper guidance, education, and health counseling can help students maintain good reproductive health.

Key words: Reproductive health; Adolescent; Menstrual hygiene; Sexual health

INTRODUCTION

Adolescence is the transition from childhood to adulthood, characterized by major biological changes such as physical growth, sexual maturation, and psychological development.¹⁻² It is a time for growth spurts and puberty changes, and is divided into three primary stages: early adolescence (10-13 years), middle adolescence (14-17 years), and late adolescence (18-19 years).³

Menstruation is the first menstrual cycle for girls, occurring between 10 and 16 years. The age depends on nutrition, environmental conditions, and socio-economic status. Health education on sanitary protection during menstruation is crucial. Puberty involves physical changes and development into an adult reproductive body.⁴ Secondary sexual characteristics develop in both males and females during this developmental

period, with females secreting high levels of oestrogen. India has a large adolescent population, with 47% being female.⁵ Adolescent Friendly Health Services (AFHS) are initiated by governmental, private, and non-governmental organizations to improve availability, accessibility, and utilization of health services for adolescents suffering from reproductive, sexual, nutritional, mental, and behavioral issues.⁶ Adolescent sexual reproductive health involves physical and emotional well-being, preventing unwanted pregnancy, unsafe abortions, STIs, and violence. Healthy traditions, community practices, and education are crucial for change, as today's adolescents become future mothers.⁷ Dr. Josephine Priya's study on assessing reproductive health awareness among adolescents emphasizes the need for individual and family interventions to improve reproductive health.⁸ Adolescent girls should be taught about nutrition, hygiene, and responsible behavior, while parents should take an active role in sexual education. Adolescents face health and social challenges like unwanted pregnancy, unsafe abortion, and sexually transmitted infections.⁹ Sexual health encompasses physical, emotional, intellectual, and social aspects, promoting personality, communication, and love. Young people are future societal resources and reproductive health is crucial. Investing in adolescent health benefits generations by fostering a healthy, wealthy nation.¹⁰

Objectives of the study

- To assess the pre-test knowledge of adolescent on reproductive health among students.
- To assess the post-test knowledge of adolescent on reproductive health among students.
- To evaluate the effectiveness of reproductive health awareness program on reproductive health of adolescents.
- To find the association of reproductive health knowledge of adolescents with selected

- demographic variables.

METHODOLOGY

- **Research Approach:** a quantitative research approach was used to assess effectiveness of structured teaching programme on knowledge of adolescent girls on reproductive health.
- **Research design:** pre-test post-test design
- **Research setting:** The present study was conducted in Anjuman English medium high school, Mukka,
- **Sample:** In the present study, the sample consists of 100 adolescent girls age group of 14, 15 and 16 year old.
- **Sample size:** The total sample size is 100.
- **Sampling technique:** Stratified simple sampling technique was used to collect data from the samples.

PLAN FOR DATA ANALYSIS

- Data analysis is a systematic organization and synthesis of the research data and testing of research hypothesis using data.
- The data obtained was planned to analyze by both descriptive and inferential statistics depending on the objectives and hypothesis of the study.
- The collected data was coded and transformed to master sheet for statistical analysis.
- Demographic data was analyzed by using frequency and percentage.
- Paired t test to find the effectiveness of the intervention within the group.
- Chi square test will be used to find out the association between reproductive health and menstrual hygienic practice with selected demographic variable.

RESULT

Section 1: Distribution of study participants based on demographic characteristics

The demographic data obtained from 100 students were analyzed by using descriptive statistics such as frequency and percentage.

The frequency and percentage of the demographic characteristics of the children are displayed in Table 1.

Table 1 Distribution of students in terms of frequency and percentage n = 100

| Sl. No | Demographic Variables | f(%) |
|-----------------|-------------------------|---------|
| 1. | Age in years | |
| | 14 | 33 (33) |
| | 15 | 33 (33) |
| | 16 | 34(34) |
| 2. | Present class of study | |
| | 8 th Std | 33(33) |
| | 9 th Std | 33(33) |
| 3. | Place of Living | |
| | House | 98(98) |
| | Hostel | 2(2) |
| 4. | Area of residency | |
| | Rural | 69 (69) |
| | Urban | 31 (31) |
| 5. | Education of father | |
| | Primary | 0 |
| | Higher primary | 0 |
| | PUC | 57 (57) |
| | Degree | 29(29) |
| 7. | No formal education | 14(14) |
| | Education of Mother | |
| | Primary | 0 |
| | Higher primary | 0 |
| | PUC | 51 (51) |
| 8. | Degree | 31 (31) |
| | No formal education | 18 (18) |
| | Occupation of father | |
| 9. | Self employed | 42 (99) |
| | Private employee | 50 (50) |
| | Government employee | 8 (8) |
| 9. | Occupation of Mother | |
| | House wife | 72 (72) |
| | Private employee | 23 (23) |
| 10. | (c) Government employee | 5 (5) |
| | Annual Income of family | |
| | > 1 Lakh | 17(17) |
| 75,000 – 50,000 | 77(77) | |
| < 1 Lakh | 6(6) | |

The data in Table 1 shows that, In the intervention group equal number of students (33%) were in the age group of 14, 15, 16 years and their class of study was 8th, 9th, 10th Standard. The highest number (98%) of students were living in hostel. Majority of students (69%) area of residency was rural. Majority of students education of father (57 %) and mother (51 %) was PUC. Highest number of students (50%) occupation of father were private employee whereas

mother (72%) were house wife. Majority of students (77%), their annual income of family was about 75,000- 50,000.

Section B: Effectiveness of the Structured teaching program on reproductive health of adolescent girls

To compare the pre and post test score of reproductive health of intervention group “Kendall’s tan b” test was computed. To test the statistically significant difference

between pre and post test score of effectiveness of the structured teaching program the following null hypothesis stated is

H₀₁: There will be no significant difference between the mean pre and post test score of knowledge of adolescent students on reproductive health.

Table 2: Comparison of pre and post test grading score of reproductive health of intervention Group. n = 100

| Group | Grading | Pre – test f (%) | Post – test f (%) | Kendall’s tau b Value | p Value |
|--------------------|---------|------------------|-------------------|-----------------------|----------|
| Intervention group | Good | 11(11) | 94 (94) | -0.78 | 0.001*** |
| | Average | 33(33) | 6(6) | | |
| | Poor | 56 (56) | 0 | | |

Test used – Kendalls tau b * Significant at (p < 0.05), *** Very Highly Significant

The Data in Table 2 shows that, in the intervention group pre-test showed that 33% of students were having average knowledge regarding reproductive health and after the intervention of planned teaching program, post test score of adolescent showed students gained good knowledge (94%).

Kendall’s tau b Value showed a highly significant difference (p < 0.05) in the intervention group.

Therefore null hypothesis (H₀₁) is rejected and research hypothesis (H₁) is accepted and concluded that there is a significant difference in post test score of reproductive health knowledge of the students in intervention group.

Section C: Effectiveness of the Structured teaching program on menstrual hygiene and practice

To compare the pre and post test score of menstrual hygiene of intervention group “Kendall’s tan b” test was computed. To test the statistically significant difference between pre and post test score of effectiveness of the structured teaching program the following null hypothesis stated is

H₀₂: There will be no significant difference between the mean pre and post test score of menstrual hygiene and practice in intervention group.

Table 3: Comparison of pre and post test grading score of menstrual hygiene and practice of intervention Group. n = 100

| Group | Grading | Pre – test f (%) | Post – test f (%) | Kendall’s tau b Value | p Value |
|--------------------|-----------|------------------|-------------------|-----------------------|---------|
| Intervention group | Never | 0 | 0 | 0.067 | 0.332 |
| | Sometimes | 8(8) | 2 (2) | | |
| | Often | 74(74) | 79 (79) | | |
| | Always | 56 (56) | 19 (19) | | |

p < 0.05 level * Significance Test used – Kendalls tau b

The data in Table 2 shows that, majority 74% of adolescent girls in the pre-test and 79% of adolescent girls in post-test, they were often maintain good menstrual hygiene and practice.

Kendall’s tau b Value did not show significant difference (p < 0.05) in the intervention group.

Therefore null hypothesis (H₀₂) is accepted and research hypothesis (H₁) is rejected and concluded that there is no significant difference in post test score of menstrual

hygiene and practice of the students in intervention group.

To compare the mean pre-test and mean post test score of menstrual hygiene and practice of adolescent girls within the intervention group paired ‘t’ test was computed. To test the statistically significant difference between pre and post test score of effectiveness of the structured teaching program the following null hypothesis stated is

H₀₃: There will be no significant difference between the mean pre and post test score of menstrual hygiene and practice in intervention group.

Table 4: Comparison of pre and post test score of menstrual hygiene and practice of intervention group within the group. n = 100

| Group | Time | Mean ± SD | t Value | p Value |
|--------------------|-----------|--------------|---------|---------|
| Intervention group | Pretest | 26.27 ± 4.72 | -1.335 | 0.185 |
| | Post test | ± 4.10 | | |

p < 0.05 level * Significant

Test used – paired t test

The data in Table 4 shows that in the intervention group mean ± SD of menstrual hygiene and practice during pre test was 26.27 ± 4.72 and post test showed 26.94 ± 4.10 with t value of -1.335 and p value 0.185. Paired t test did not show any significant difference (p < 0.05) in the intervention group.

Therefore null hypothesis (H₀₃) is accepted and research hypothesis (H₁) is rejected and concluded that there is no significant

difference in post test score of menstrual hygiene and practice of the students in intervention group.

Section D: Association of reproductive health and menstrual hygienic practice with selected demographic variable

To find the association of reproductive health and menstrual hygienic practice with selected demographic variable chi square test was computed.

Table 5: Association of reproductive health and menstrual hygienic practice with selected demographic variable. n=100

| Sl. No | Demographic variables | Research variables | x ² Value | df | p value |
|--------|-----------------------|--------------------------------|----------------------|----|---------|
| 1 | Age | Reproductive health | 48.94 | 4 | 0.001* |
| | | Menstrual hygiene and practice | 10.67 | 4 | 0.03* |
| 2. | Class | Reproductive health | 48.94 | 4 | 0.001* |
| | | Menstrual hygiene and practice | 10.67 | 4 | 0.03* |
| 3 | Place of living | Reproductive health | 0.081 | 2 | 0.96 |
| | | Menstrual hygiene and practice | 0.29 | 2 | 0.86 |
| 4. | Area of residence | Reproductive health | 10.04 | 4 | 0.04 |
| | | Menstrual hygiene and practice | 0.63 | 2 | 0.73 |
| 5. | Education of father | Reproductive health | 17.66 | 4 | 0.001* |
| | | Menstrual hygiene and practice | 0.91 | 4 | 0.92 |
| 6. | Education of mother | Reproductive health | 18.51 | 4 | 0.001* |
| | | Menstrual hygiene and practice | 3.07 | 4 | 0.545 |
| 7. | Fathers' occupation | Reproductive health | 3.55 | 4 | 0.47 |
| | | Menstrual hygiene and practice | 12.64 | 4 | 0.013* |
| 8. | Mother occupation | Reproductive health | 10.89 | 4 | 0.28 |
| | | Menstrual hygiene and practice | 4.736 | 4 | 0.315 |
| 9. | Annual Income | Reproductive health | 0.808 | 4 | 0.93 |
| | | Menstrual hygiene and practice | 3.76 | 4 | 0.43 |

P < 0.05 level * Significant

Test used – Chi square test

To find the association of reproductive health and menstrual hygienic practice with selected demographic variable, chi square test was computed. To test the statistical significance the following null hypothesis is stated.

H₀₄: There will be no significant association in the pretest score of knowledge of adolescent students on reproductive health with the selected demographic variables.

The data in table 5 shows that there is a significant association between the age of adolescent girls and reproductive health

p=0.001, p=0.001. Class with reproductive health p=0.001 and Menstrual hygiene and practice p=0.03. Education of father and mother with reproductive health p=0.001, p=0.001. Fathers' occupation with menstrual hygienic practice p=0.013.

Therefore null hypothesis (H_{04}) is rejected and research hypothesis (H_4) is accepted and concluded that there is a significant association of post test score of menstrual hygiene and practice of the students in intervention group with demographic variables.

DISCUSSION

Section 1: Distribution of study participants based on demographic characteristics

In the present study, intervention group equal number of students (33%) were in the age group of 14, 15, 16 years and their class of study was 8th, 9th, 10th Standard. Majority of students (69%) area of residency was rural. Majority of students education of father (57 %) and mother (51 %) was PUC. Their annual income of family was about 75,000-50,000.

Section B: Effectiveness of the Structured teaching program on reproductive health of adolescent girls

The present study findings in the intervention group pre – test showed that 33% of students were having average knowledge regarding reproductive health and after the intervention of planned teaching program, post test score of adolescents showed students gained good knowledge (94%).

Section C: Effectiveness of the Structured teaching program on menstrual hygiene and practice

The present study findings showed that, majority 74% of adolescent girls in the pre test and 79% of adolescent girls in post test, they were often maintain good menstrual hygiene and practice.

Section D: Association of reproductive health and menstrual hygienic practice with selected demographic variable

In the present study significant association was found between the age of adolescent

girls with reproductive health p=0.001, p=0.001. Class with reproductive health p=0.001 and Menstrual hygiene and practice p=0.03. Education of father and mother with reproductive health p=0.001, p=0.001. Fathers' occupation with menstrual hygienic practice p=0.013.

CONCLUSION

The study found that adolescent girls had average knowledge (33%) about reproductive health before a structured teaching program. After the program, 94% of girls gained good knowledge. In the intervention group, 74% maintained good menstrual hygiene and practice. The study also found a significant association between age, class, education, and father's occupation with reproductive health. However, no significant difference was found in the intervention group.

Declaration by Authors

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REFERENCES

1. Allen B, Waterman H. Stages of Adolescence [Internet]. HealthyChildren.org. American Academy of Pediatrics; 2024. Available from: <https://www.healthychildren.org/English/ages-stages/teen/Pages/Stages-of-Adolescence.aspx>
2. Pakk (2007) parks textbook of preventive and social medicine 19th edition. M/S Banarsidas Bharath publisher's Jabalpur page no (798-806)
3. Basavanthappa BT, (2008) community health nursing (2nd edition) Karnataka, India, Jaypee Brothers, page no (9-17)
4. Lacroix AE, Gondal H, Shumway KR, Langaker MD. Physiology, Menarche StatPearls, FL, USA (2022) [PubMed] [Google Scholar]
5. Gemelli IFB, Farias EDS, Spritzer PM. Association of body composition and age at menarche in gets and adolescents in the Brazilian Legal Amazon. J Pediatr (Rio J).

- 96(2), 240-246 (2020) [PMC free article] [PubMed] [Google Scholar] Of interest describes the relationship between menarche and body shape
6. Adolescent Friendly Health Clinics (AFHCs) :: National Health Mission [Internet]. nhm.gov.in. Available from: <https://nhm.gov.in/index1.php?lang=1&level=3&sublinkid=1247&lid=421>
 7. Adolescent sexual and reproductive health [Internet]. www.unfpa.org. Available from: <https://www.unfpa.org/resources/adolescent-sexual-and-reproductive-health>
 8. Sobagaiah RT, Debata I. Assessment Of Reproductive Health Awareness Among Adolescent Girls In A City Of South India: An Interventional Study. *Epidemiology and Society Health Review (ESHR)*. 2022 Jan 31;4(1):21-8.
 9. Alimoradi Z, Kariman N, Simbar M, Ahmadi F Empowerment of Adolescent Girls for Sexual and Reproductive Health Care A Qualitative Study. *African Journal of Reproductive Health* 2017,21(4):80-92
 10. Blake, S., Boone, M., Yewew Kassa, A., & Sommer, M. (2018). Teaching Girls About Puberty and Menstrual Hygiene Management in Rural Ethiopia: Findings From a Pilot Evaluation. *Journal of Adolescent Research*, 33(5), 623-646. <https://doi.org/10.1177/0743558417701246>

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