

Pre-experimental study to assess the effectiveness of planned teaching about knowledge regarding changes during puberty among the adolescent girls in urban school

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Abstract: Introduction: “A good teacher can inspire hope, ignite the imagination, and instill a love of learning.” -Brad Henry

The word Puberty is derived from the Latin word “Pubertas”, which means ‘age of manhood’. It refers to the physical rather than behavioral changes which occur when the individual becomes sexually mature and is capable of producing offspring’s. It is an important period of biological changes in which rapid growth occurs. Adolescence is defined as a phase of life characterized by rapid physical growth and development, physical, social and psychological changes and maturity, sexual maturity, experimentation, development of adult mental processes and a move from the earlier childhood socio-economic dependence towards relative independence. This is also the period of psychological transition from a child who has to live in a family to an adult who has to live in a society. Adolescents have very special and distinct needs, which can no longer be overlooked. In an adolescent, the development that takes place is generally uneven, in that physical maturity may well be achieved in advance of psychological or social maturity.

Research Approach: Quantative research approach, **Interventional approach** **Research Design:** One group pre-test post-test research design, **Setting:** Selected schools of the city. **Sampling Size:** 70 adolescent girls in selected rural school. **Sampling Technique:** Purposive sampling technique **Population:** adolescent girls **Conclusion:** Majority of subjects belonged 12-13 year age group (47.1 %) , most of them were primary education up to mother (47.1 %), majority of the subjects were joint family (54.3%), majority of the subjects sources of information (72.9%). Assessing the exiting knowledge of subject by pre- test. It show the subjects had deficient knowledge in all section. The planned teaching was implemented. The effectiveness of planned teaching was done by the post- test 31.80% to 75.42%. this show that planned teaching was effective in all the area of knowledge. The comparisons of pre-test and post-test knowledge level were done which shows there was significant increase in the knowledge score of subjects. The pre-test and post-test knowledge scores were compared with the selected demographic variables such as age, mothers education .type of family, previous information, score of information. Age, mother education in these demographic variables there were significant correlation was found.

Keyword: puberty ,Assess, Effectiveness

INTRODUCTION

Puberty is that time when the child turns sexual and the mind struggles to catch up. Until they are sexually mature, children are known as pubescent children. The pubescent period may be considered a pause of 2 or 3 years between childhood and adolescence. The term adolescent means 'to emerge' or 'achieve identity.' Adolescence is defined as a phase of life characterized by rapid physical growth and development, physical, social and psychological changes and maturity, sexual maturity, experimentation, development of adult mental processes and a move from the earlier childhood socio-economic dependence towards relative independence. This is also the period of psychological transition from a child who has to live in a family to an adult who has to live in a society. Adolescents have very special and distinct needs, which can no longer be overlooked. In an adolescent, the development that takes place is generally uneven, in that physical maturity may well be achieved in advance of psychological or social maturity.

NEED FOR STUDY

According to the World Health Organization (WHO), India is one of the countries in the world that has the highest prevalence of anemia. Adolescence is a period of intense growth, not only physically but also mentally and socially. 50% of adult weight and 20% of adult height are attained during this stage. This rapid growth makes them more vulnerable to anemia due to improper diet and lack of nutrients. Proper nutrition is the key to facilitate growth and development in adolescents. Dietary knowledge and access to resources are critical to improve health and nutrition in a sustainable way. Adolescence is the time to learn and adopt healthy habits to avoid many health and nutritional problems later in life. Adolescents have more easy access to health and nutrition information through schools, recreational activities, and mass media. Knowledge and healthy habits of female adolescents will have critical roles to play in maintaining future family health and nutrition. Iron-deficiency is the most common cause of anemia in the adolescent girls. They are 10 times more likely to suffer from anemia than boys. Adolescent girls, who belong to BPL, low income or middle income families, are at high risk of developing anemia. The onset of menstruation increases the monthly blood loss.⁷

From the above study, the researcher experienced the girls of puberty. So the researcher felt a need to educate the adolescents about the normal pubertal changes occurring during the

adolescence phase in order to help them to cope up with the various changes occurring and help to identify themselves as an individual. Hence planned teaching providing knowledge regarding puberty changes in adolescent girls.

PROBLEM STATEMENT

“Pre-experimental study to assess the effectiveness of planned teaching about knowledge regarding changes during puberty among the adolescent girls in urban school”.

OBJECTIVE OF THE STUDY

Primary Objective

To assess effectiveness of planned teaching about knowledge regarding changes during puberty among the adolescent girls in urban school.

Other Objectiv

- 1) To assess the existing knowledge regarding changes during puberty among the adolescent girls in urban school.
- 2) To determine the effectiveness of planned teaching about knowledge regarding changes during puberty among the adolescent girls in urban school.
- 3) To find the association between knowledge score regarding changes during puberty among the adolescent girls with their selected demographic variables.

OPERATIONAL DEFINITION

Assess

According to (oxford dictionary) meaning, the assess means evaluate or estimate the nature, ability or quality.

In this study, it refers to estimate the knowledge regarding changes in puberty among adolescent girls.

Effectiveness

According to (oxford dictionary) meaning, the effectiveness means the degree to which something to successful in producing a desired, success.

In this study, it refers to improvement in knowledge regarding changes in puberty among adolescent girls.

Planned Teaching

“Primary emphasized the provision of learning experiences to promote voluntary changes to individual health” (oxford dictionary)

In this study, the planned teaching refers to the systematically planned teaching designed to provide information on pubertal changes among adolescent girls.

Knowledge

According to Oxford dictionary meaning, the knowledge means the facts, information and skill acquired through experience or education, the theoretical or practical understanding of a subject.

In this study knowledge means information regarding changes in puberty among adolescent girls.

Puberty

According to Oxford dictionary meaning, the puberty means the period during which adolescents reach sexual maturity and become capable of reproduction.

In this study puberty means the girls who are at the puberty age reach sexual maturity and become capable of reproduction.

Adolescent

According to Oxford dictionary meaning, adolescent is (of a young person) in the process of developing from a child into an adult.

In this study the adolescent means the girls are at puberty age (10-19 years).

Assumption

1. Girls may have some knowledge regarding changes during puberty in adolescent girls.
2. Planned teaching may enhance the knowledge regarding changes during puberty in adolescent girls.

HYPOTHESIS

Primary Hypothesis

H₀:- There will be no significant difference between pre-test and post-test knowledge score regarding changes during puberty among the adolescent girls in urban school which is measured at $p < 0.05$ level of significance.

H₁:- There will be significant difference between pre-test and post-test knowledge score regarding changes during puberty among the adolescent girls in urban school which is measured at $p < 0.05$ level of significance.

Other Hypothesis

H₂:- There is association of knowledge regarding changes during puberty among the adolescent girls with their selected demographic variables such as age, education, type of family, previous knowledge, source of information.

LIMITATION

The study is limited to:-

- The planned teaching on puberty changes is helpful only for adolescent girls in urban school

CONCEPTUALFRAMEWORK:

The conceptual framework for this study was derived from General system theory, (Ludwig von Bertalanffy). According to general system theory a system is a set of units interacting with each other within a boundary that filters the kind and the rate of flow of inputs and outputs to and from the system.

General system theory is useful in breaking the whole processes in parts to ensure goal realization. The number of parts of the system is totally dependent on what is needed to accomplish the goal. Purpose, goal or aim is necessary for any system to function. The aim of the study is to improve the knowledge regarding changes during puberty among adolescent girls.

The investigator adopted general system theory as a basis for conceptual frame work, to find out these effectiveness and provision of planned teaching by accessing the adolescent girls

knowledge before and after planned teaching given. The four major concept of the phenomenon are described as follows.

Bertalanffy explained that the system has four major aspects.

- Input
- Throughput

REVIEW OF LITERATURE

An extensive review of literature was done through books, Govt. Publication/ reports/ Schemes/ internets and Journals and Journals classification.

In the present study review of literature is organized under the following heading.

1. Review Related To Knowledge On Pubertal Changes.
2. Review related to effectiveness of planned teaching as an educational strategy.

1.Review Related To Knowledge On Pubertal Changes

A Descriptive cross-sectional study to carry out in Nepal, District Bhartnapur. The aim of this study to assess awareness and attitude towards pubertal changes among adolescents. A sample was selected 205 adolescents who were in between the age 13 years and 19 years. Purposive sampling technique was used to select 205 adolescents. Data was collected using semi-structured interview schedule questionnaire. Analysis was done using descriptive and inferential statistics with SPSS version 20. Test of significance was set at .05 level. The findings revealed that 16% adolescents had very good level of awareness, 47% had good level of awareness, 28% had average level of awareness and 9% had below average level of awareness regarding pubertal changes. However only 11% of the adolescents showed moderately favourable attitude, while 89% showed unfavourable attitude towards pubertal changes. There was significant difference in the level of awareness according to age and education Based on the findings of this study there is a need for attitude promoting awareness program regarding pubertal changes among adolescents to help them prevent from stress, anxiety, frustration and depression associated with pubertal changes.¹²

A Quasi experimental (non-equivalent comparison/control group pre-test post-test) design was adopted with 100 pre-adolescent boys (50 in each experimental and

comparison/control/control group) of age 12-14 years, selected by purposive sampling from two different rural government schools of Ambala District. During puberty growth is rapid and confusing, especially compared to the relatively earlier period of childhood. The purpose of this study was to compare the knowledge and attitude regarding pubertal changes among pre-adolescent boys before and after the pubertal preparedness programme (PPP) in experimental and comparison/control group or control group. The Knowledge and attitude of both groups were assessed using structured knowledge questionnaire (KR-20=0.77) and 5 point likert scale (Cronbach's alpha=0.76), respectively. On the same day of pre-test, pubertal Preparedness Programme (PPP) was administered only to the experimental group and on 12th day Frequently Asked Questions (FAQs) reinforcement session was held only for experimental group. After 28 days, post-test was taken to both groups. The computed t value of pre-test scores of knowledge and attitude of pre-adolescent boys were 1.96 vs. 1.75 respectively in experimental and comparison/control/control group which was found to be non-significant at 0.05 level of significance which shows that both group didn't differ significantly in their knowledge and attitude before the administration of PPP intervention. Findings of unpaired 't' value of post-test knowledge and attitude scores of pre-adolescent boys were 14.25 vs. 10.98 respectively in experimental and comparison/control/control group were found significant at 0.05 level of significance. Thus, knowledge and attitude of pre-adolescent boys were improved with PPP and FAQs session. Conclusion: PPP and FAQs (frequently asked questions) reinforcement session are effective in enhancing knowledge and developing favourable attitude among pre-adolescent boys.¹³

A cross-sectional study and was carried out in Block Beri, District, Jhajjar (Haryana). The aim of this study was to assess the extent of awareness regarding adolescent changes/problems among school going adolescents. A sample of 320 adolescent students of 9th-12th classes (80 from each school) were selected from four randomly chosen large Government senior secondary schools with strength of more than 250 students (two girls and two boys/co-ed senior secondary schools). Data were collected on predesigned, pre-tested and semi-structured schedules by conducting in-depth interviews of selected study adolescents by the investigator. Statistical Analysis Percentages, proportions, Chi-square test, Chi-square test with Yate's correction and t-test. Out of 320, 212 (66.3%) study adolescents were aware of at least one adolescent change(s) whereas, when probed and further asked to enumerate the changes taking place in them, 272/320 (85%) adolescents could narrate at least one such change. Out of those 272, 24 (8.82%) (95% CI 6.0-12.79) adolescents either did not

consider these changes as normal or they did not know whether the changes were normal or abnormal. Adolescents greatly lack correct information related to their bodies' physiological, psychological and sexual changes. There is an urgent need for regular adolescent friendly information, education and communication activities covering different aspects of adolescent knowledge needs/problems.¹⁴

A quasi-experimental study was conducted to Evaluating puberty health program effect on knowledge increase among female intermediate and high school students in Birjand, Iran. 325 female intermediate and high school students were selected through randomized cluster sampling during several stages. Then, researcher-made questionnaire including 20 questions, each having one point regarding puberty health, was distributed. After completion of the questionnaires were gathered. Following this, under a systemic educational plan all intermediate and high school selected students were given the same instruction by trained instructors. Instruction time for each meeting was estimated 1.5 hours. One month after the educational program and handing out the pamphlets in schools, the previous questionnaires were again distributed among the students to fill out. At the end, 302 students who had filled out the questionnaires before and after intervention were studied. Out of 302 students, 151 were intermediate and 151 high school students. Knowledge level among intermediate students was 5.03 ± 3.7 before intervention and was 10.8 ± 4.8 after intervention. Among high school students, the scores were 4.1 ± 2.3 and 8.7 ± 3.8 , respectively. There was a significant difference between pre and post intervention stages in both groups ($P < 0.001$). Furthermore, mean knowledge grade in all the students increased from 4.6 ± 3.1 before intervention to 9.7 ± 4.4 after intervention ($P < 0.001$). Performing educational programs during puberty has a crucial role in young girls' knowledge increase. Since young girls often do not share their problems with their parents and their peers during the period, instructional classes in schools provide a good opportunity for them to present their problems and finding solutions.¹⁵

A study was conducted to assess the Age at menarche and age of onset of pubertal characteristics in 6-14-year-old girls from the Province of L'Aquila (Abruzzo, Italy). The present study is part of a research project on growth models of children in an area of central-southern Italy. It analyzes the phases of pubertal breast development (BD) in 397 girls, pubic hair development (PHD) in 399 girls, and menarche in 583 girls from 6-14 years old. The status quo method was used to evaluate the age at menarche. Probit analysis was used to

analyze the data for all three variables. The onset of BD and PHD (Tanner stage 2) occurs at age 7 in 6.1% of girls. Passage to stage 3 of one or both secondary sexual characteristics occurs at age 10 in 8.5% of girls. Comparison with data from the United States shows higher percentages of American white girls in stage 2 (or greater) of both characteristics at any age. The mean (median) age of onset (Tanner stage 2) of BD or PHD or both of them is 9.96 years. The passage to stage 3 occurs at age 12.36 for BD (95% confidence interval: 1.36 years) and at age 12.10 for PHD (95% confidence interval: 0.51 years). The mean age at menarche is 12.55 years, in general agreement with other values found in Italy. Sexual maturation at any considered stage for both pubertal characteristics is generally in line with literature data concerning other Mediterranean and industrialized countries or countries in which the demographic transition is in an advanced phase. It does not show a significant earlier onset. The evidence emerging from the general project suggests that the secular trend is still in progress in this region of Italy.¹⁶

❖ RESEARCH METHODOLOGY:

Research Approach: quantitative research approach, Interventional approach **Research Design:** One group pre-test post-test research design, **Setting:** Selected schools of the city. **Sampling Size:** 70 adolescent girls in selected rural school. **Sampling Technique:** Purposive sampling technique **Population:** adolescent girls

DATA COLLECTION

Data collection process for main study began from 3 December 2019 to 9 December 2019.

Pre- experimental one group pre -test post- test research design was used to evaluate the knowledge of subject regarding puberty changes. 70 subjects were selected for the study using Non- probability convenient sampling technique In this study data was collected by using structured knowledge questionnaires, data was analyzed by using descriptive and inferential statistics on the basis of objective and hypothesis of the study. The investigator introduced herself and obtained consent from subject in selected rural school on day 1 planned teaching was given to subjects and 7th day post-test was administered to assess the effectiveness of planned teaching based on criterion measurement (Excellent, Very good , Good, Average and Poor).

SECTION A

This section dealt with percentage wise distribution subjects with regards to their demographic variables . A convenient sample of 70 subjects was drawn from the study population, who were from selected rural area. The data obtained to describe the sample characteristics including age, mother's education, type of family, knowledge regarding changes during puberty and source of information regarding changes during puberty respectively.

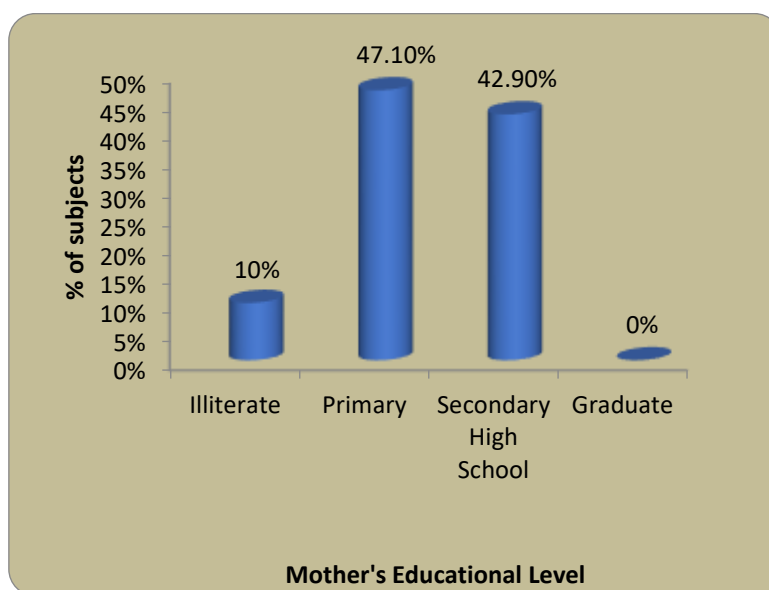


Figure 1: Distribution of subjects with regardsto their mother's education.

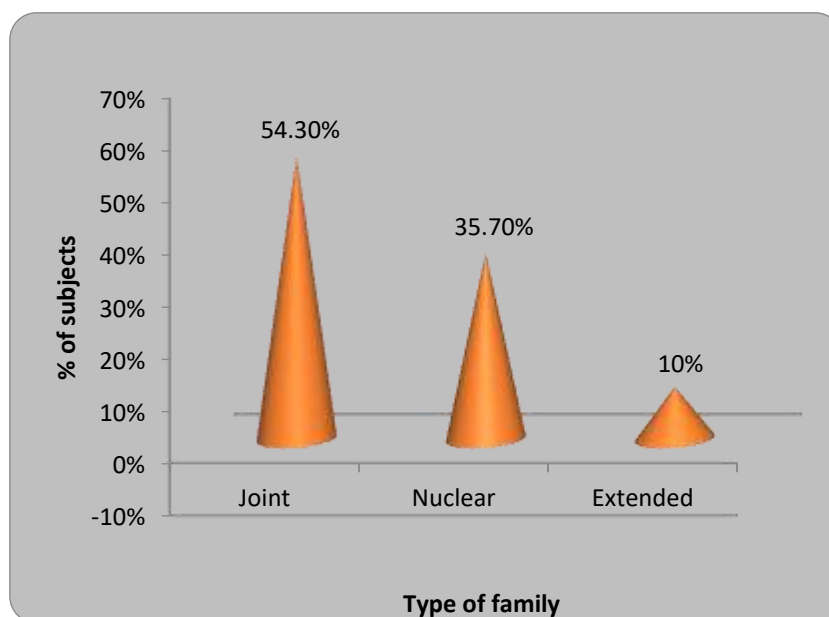


Figure 2: Distribution of subjects with regards to their type of family.

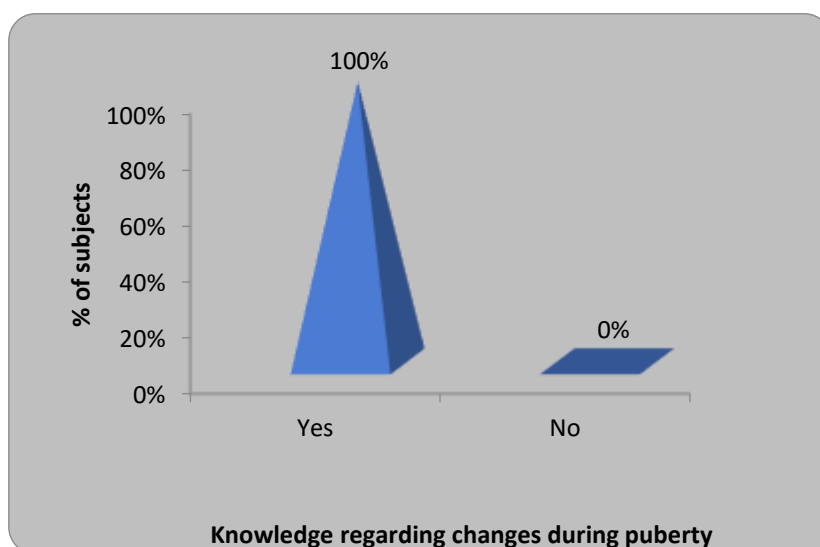


Figure 3: Distribution of subjects with regards to theirPrevious knowledge regarding changes during puberty.

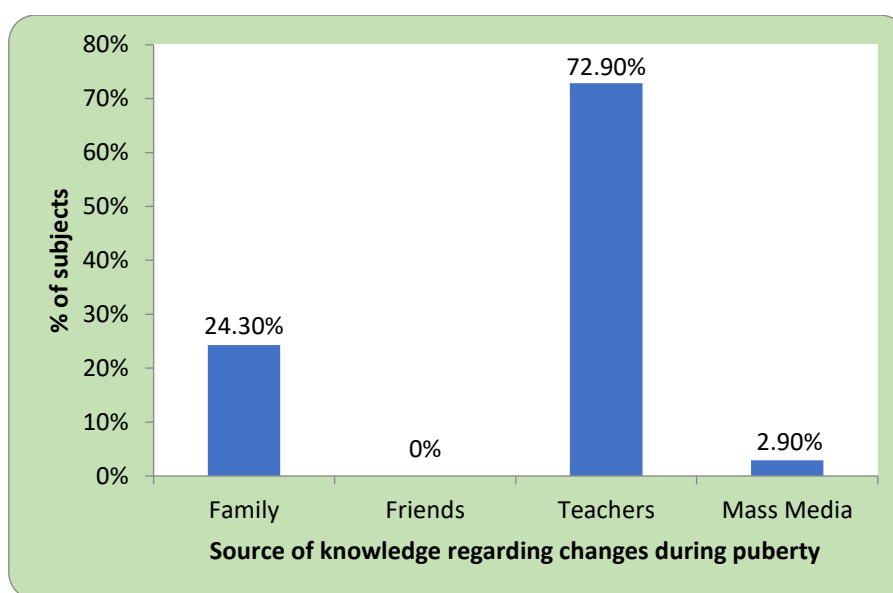


Figure 4: Distribution of subjects with regards to source of knowledge regarding changes during puberty

SECTION B

ASSESSMENT OF LEVEL OF KNOWLEDGE REGARDING CHANGES DURING PUBERTY AMONG SUBJECTS IN RURAL SCHOOL

This section dealt with the assessment of level of knowledge regarding changes during puberty among subjects in rural school. The level of knowledge score is divided under following heading of poor, average, good, very good and excellent.

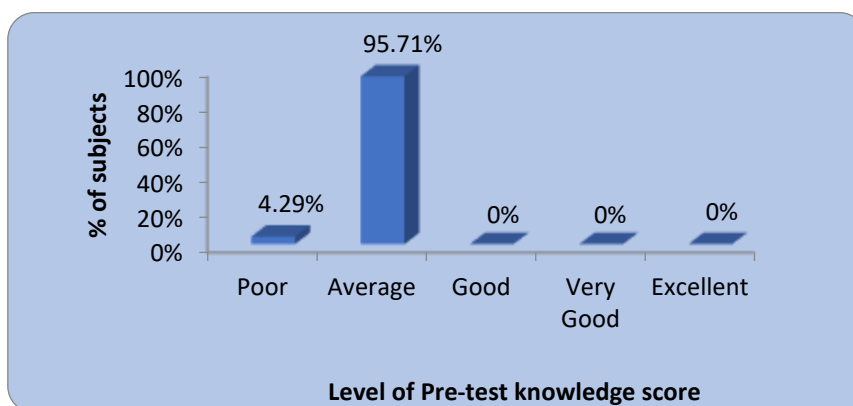


Figure 5: Assessment of level of pre-test knowledge score regarding changes during puberty among subjects in rural school.

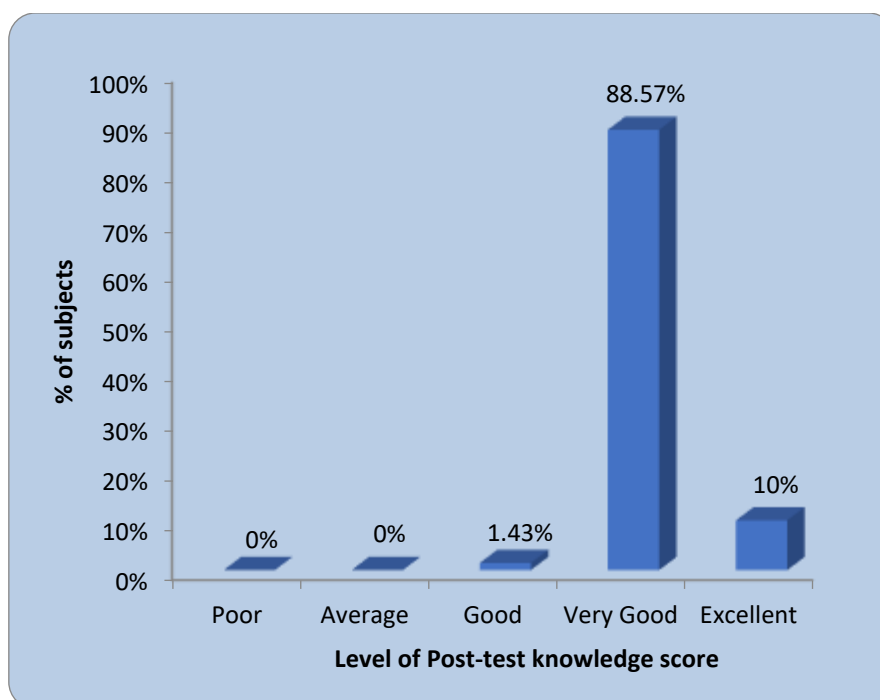


Figure 6: Assessment with post-test knowledge score regarding changes during puberty among subjects in rural school.

SECTION C

EVALUATION OF EFFECTIVENESS OF PLANNED TEACHING ON KNOWLEDGE REGARDING CHANGES DURING PUBERTY AMONG SUBJECTS IN RURAL SCHOOL

This section dealt with the effectiveness of planned teaching on knowledge regarding changes

during puberty among subjects in rural school. The hypothesis is tested statistically with distribution of posttest and posttest mean and standard deviation and mean percentage knowledge score. The levels of knowledge during the posttest and post-test are compared to prove the effectiveness of Planned Teaching . Significance of difference at 5% level of significance is tested with student's paired 't' test and tabulated 't' value is compared with calculated 't' value. Also the calculated 'p' values are compared with acceptable 'p' value i.e. 0.05.

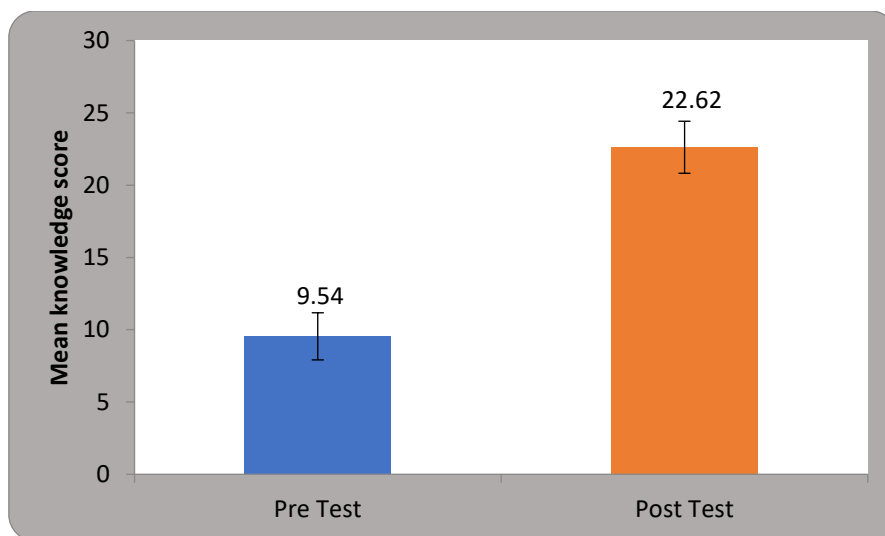


Figure 7: Significance of difference between knowledge score in pre-test and post-test of subjects.

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