Effectiveness of Planned Teaching Programme on Knowledge Regarding the Secondary Growth and Developmental Changes in Early Adolescent Period (10-14yrs)

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Abstract

Background : The stage of adolescences is passing through the different level and period of growth, so it is very important and outstanding because the changes that occur during adolescence affect the family as well as the society[1]. The pubertal or physiological changes during this period include the adolescent's growth spurt, gonadal growth, growth of secondary sexual organs and characteristics, changes in body composition and growth of respiratory, circulatory and muscular systems[2]. **Objectives:** The objectives of the study have drawn to fulfill the research reflecting on the effectiveness of planned teaching programme regarding secondary growth and developmental changes in early adolescent period (10-14yrs) among students studying in the selected Govt. school of Haryana. **Material and method** : The study was conducted at Govt. Sr. Sec. School, Nuna Majra (Jhajjar) Haryana.100 students was selected for the study by using non-Probability convenient Sampling Technique. Knowledge of the children was assessed through the structured questionnaire and after that planned teaching programme was delivered to samples and after 7 days post test was conducted to the gained knowledge of children regarding secondary growth and developmental changes in early adolescent period. **Result** : The mean of pre-test skill score 9.88 and post-test skill score 24.63 having a significant difference with t- value for skill 30.90 at level of significant $p<0.05$. Post-test mean knowledge score was more than pre-test knowledge score with mean difference of 14.75. Paired t- test was performed to find the difference between pre-test and post-test knowledge score. Therefore, it was concluded that there was a significant difference in pre-test and post-test knowledge score to assess the effectiveness of planned teaching programme in terms of gain in knowledge score among children in early adolescent period (10-14yrs).

Key words: *Pubertal, Secondary Growth, Developmental, early Adolescent.*

Introduction

Every individual's timetable for puberty is influenced primarily by heredity, secondly environmental factors, like diet and exercise, also exert some influence. These factors also contribute to precocious puberty and delayed puberty. Puberty is the growth process with the appearance of both primary and secondary sexual characteristics and begins with a surge in hormone production, which in turn causes a number of physical changes. This the phases of life where a child develops secondary sex characteristics (for example, a deeper voice and larger adam's apple in boys, and development of breasts and more curved and prominent hips in girls) as his or her hormonal balance shifts strongly towards an adult state, which triggered by the pituitary gland, which secretes the surge of hormonal agents into the blood stream which initiating a chain reaction. The male and female gonads are subsequently activated, which puts

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them into a state of rapid growth and development; the triggered gonads now commence the mass production of the necessary chemicals[3]. The testes primarily release testosterone, and the ovaries predominantly dispense estrogens. The production of hormones increases gradually until sexual maturation is met. Some boys may develop gynecomastia because of an imbalance of sex hormones, tissue responsiveness or obesity. Puberty is the time period when a child's body starts changing into an adult's body. In girls, Breast enlargement, occasionally initially unilateral, is the first obvious sign of puberty and occurs between the 10 years and 11 years of age. In boys, testicular volume increases from 2.0ml to more than 4.0ml or testes length from 2.0cm to 3.2cm between the 12years and 13 years of age;1 year later penile and scrotal enlargement occur[4].

In males, facial hair normally appears in a specific order during puberty: The 1st facial hair appear tends to grow at the corners of the upper lip, typically between 14 to 16 years of age. Then it spreads to form a moustache to the entire upper lip, which is followed by the appearance of hair on the upper part of the cheeks, and the area under the lower lip[5]. They eventually spread to the sides and lower border of the chin, and the rest of the lower face to form a full beard. This is the most human biological processes, which is specific order may vary among some individuals. Facial hair is often presents in late adolescence, around ages 17 and 18, but may not appear until significantly later. There may some men do not develop full facial hair for 10 years after puberty. Facial hair will be continue to get coarser, darker and thicker for another 2–4 years after puberty. The major sign or landmark of puberty for males is the first ejaculation, which occurs around at age of 13 years. For females, it is menarche, the onset of menstruation, which occurs around the age between 12 and 13 years. The age of menarche can be influenced by heredity, but a girl's diet and lifestyle contribute as well[6].

Girls usually reach full physical maturation or development by ages 15–17 years , while boys, they usually complete puberty by ages 16–18years . Girls attained reproductive maturity about 4 years after the first physical changes of puberty appear. In contrast, boys accelerate more slowly but continue to grow for about 6 years after the first visible pubertal changes[7].

Objectives

- To assess the knowledge of secondary growth and developmental changes in early adolescent period (10-14yrs) among students.
- To develop and implement the planned teaching programme on the secondary growth and developmental changes in early adolescent period (10-14yrs) among students.
- To assess the effectiveness of planned teaching programme on the secondary growth and developmental changes in early adolescent period (10-14yrs) among students.
- To find out the association between post-test knowledge regarding the secondary growth and developmental changes in early adolescent period (10-14yrs) among students with selected demographic variables.

Methodology

Pre-experimental one group pre test and post test design, where only the experimental group is selected as the study subject. A pretest observation of the dependent variable (Knowledge) is made before implementation of the selected group. Planned teaching programme (PTP) regarding the secondary growth and developmental changes in early adolescent period (10-14yrs) is administered and finally a post test observation of dependent variables is carried out to assess the effectiveness of planned teaching programme (PTP) on the group.

Group	Pretest	Treatment	Post test
Experimental Group	01	X	02

Key: O_1 - Pre-Test, X- Planned teaching , O_2 - Post Test

Research setting : Govt. Sr. Sec. School, Nuna Majra (Jhajjar) Haryana.

Population of the study: the children who are studying in the Govt. Sr. Sec. School, Nuna Majra (Jhajjar) Haryana

Sample Size: The sample size for this present study was 100 students in early adolescent period (10-14yrs).

Samplngtechnique : Non-Probability convenient Sampling Technique was used in this study**.**

Inclusive criteria: Students in early adolescent period (10-14yrs) Who were under this age group, Who were studied in selected school, Who were present at time of study & Who were willing to participate. **Exclusive criteria** : Students in early adolescent period (10-14yrs) who were Sick at the time of data collection and were not able to cooperate during the time of data collection

Tools for data collection

The study has used primary data collection method. The data collection is done with the help of pre-structured and pre-tested questionnaire.

Section A: Selected demographic variables Age, Gender, Socio-economic status, Father's education, Mother's education, Occupation status of mother and father, Religion, Type of family, Residential area. **Section B:** Structured questionnaire to assess knowledge regarding polycystic ovary syndrome. **Section D:** Planned teaching programme on secondary growth and developmental changes in early adolescent period (10-14yrs).

Pilot Study

With formal permission from the school principal and content validity from the experts, the study was conducted at Govt. Sr. Sec. School, Kherri (Jhajjar) Haryana. By Non-Purposive convenient sampling technique, 20 samples of students in early adolescent period (10-14yrs) was selected. Pre-test was conducted to assess the knowledge regarding the secondary growth and developmental changes in early adolescent period (10-14yrs) among students with structured questionnaire tool. On the same day planned teaching programme was administered on secondary growth and developmental changes in early adolescent period (10-14yrs) to students. After 7 days post test was conducted. The data was analyzed using descriptive and inferential statistics. The study signified improvement in post-test results regarding secondary growth and developmental changes in early adolescent period (10-14yrs) in term of knowledge among students. This shows that the study was feasible and practicable.

Data Collection Procedure

The research will obtain the permission from the selected school. The purpose and need for the study will be explained to the students in early adolescent period (10-14yrs). A structured knowledge questionnaire to assess the knowledge of students regarding the secondary growth and development changes in early adolescent period will be distributed and requested to be filled by the respondents. Planned teaching programme will be provided for the respondents. After 7 days post test will be conducted.

Result & Discussion

The demographic profile of study participants is shown in Table 1. Result of pre test reveals that majority (52%) of students were having poor knowledge regarding the secondary growth and developmental changes in early adolescent period (10-14yrs) who are studying in the selected Govt. school of Haryana. The Post test result reveals that 27% of students had average and 73% of students had good knowledge score on secondary growth and developmental changes in s in early adolescent period (10-14yrs). Hence, it was concluded that majority of students in early adolescent period having good knowledge regarding secondary growth and developmental changes.

The comparison of pre test and post knowledge score reveals that the mean of pre test skill score 9.88 and post test skill score 24.63 having a significant difference with t- value for knowledge 30.90 at level of significant $p<0.05$.(Fig 1). In congurence with these findings **Surya meenakshy (2017).** who conducted a study to assess the effect of structured teaching programme on knowledge regarding puberty among pre-adolescent girls in a selected school at Varkala.The study shows that the mean of post test skill score (16.32) was significantly higher than the mean pre test test skill score (7.30).

Therefore, it was concluded that there was a significant difference in pre test and post test knowledge score to assess the effectiveness of planned teaching programme in terms of gain in knowledge score among students in early adolescent period (10-14yrs). Hence, there was the research hypothesis accepted.

The association was found significant at of 0.042 ($p<0.05$) between post test knowledge score regarding secondary growth and developmental changes in early period (10-14yrs) among students with selected demographic variables such as father and mother's education, etc.

Table 1: Percentage distribution with demographic variable of students in early adolescent period (10-14yrs) who are studying in selected govt. of Haryana.

S.No.	Demographical variables	Frequency(f)	Percentage(%)
1.	Age in year		
	a) 10 year	18	18%
	b) 11 year	23	23%
	c) 12 year	23	23%
	d) 13 year	23	23%
	e) 14 year	13	13%
2.	GENDER		
	a) Male	50	50%
	b) Female	50	50%
3.	RELIGION		
	a) Hindu	100	100%
	b) Muslim	00	00%
	c) Sikh	00	00%
	d) Christian	00	00%
	e) Others	00	00%
4.	EDUCATIONAL STATUS OF FATHER		
	a) Illiterate	9	9%
	b) Primary education	63	63%
	c) Secondary education	19	19%
	d) Graduate and above	5	5%
	e) Any other	4	4%
5.	FATHER'S OCCUPATION		
	a) Labor	15	15%
	b) Private work	41	41%
	c) Govt. Servant	12	12%
	d) Self- Business	4	4%
	e) Any other	28	28%
6.	EDUCATIONAL STATUS OF MOTHER		
	a) Illiterate	36	36%
	b) Primary education	42	42%
	c) Secondary education	21	21%
	d) Graduate and above	01	01%
	e) Any other	00	00%

Cont... **Table 1: Percentage distribution with demographic variable of students in early adolescent period (10-14yrs) who are studying in selected govt. of Haryana.**

7.	MOTHER'S OCCUPATION		
	a) Labor	00	00%
	b) Private work	14	14%
	c) Govt. Servant	08	08%
	d) House-wife	78	78%
	e) Any other	00	00%
8.	TYPE OF FAMILY		
	a) Joint family	41	41%
	b) Nuclear family	43	43%
	c) Extended family	16	16%
9.	TOTAL FAMILY INCOME		
	a) >5000/-	12	12%
	b) 5000-10000/-	35	35%
	c) 10000-15000/-	17	17%
	d) 15000-20000/-	22	22%
	e) 20000-above	14	14%
10.	AREA OF LIVING		
	a) Rural	100	100%
	b) Urban	00	00%

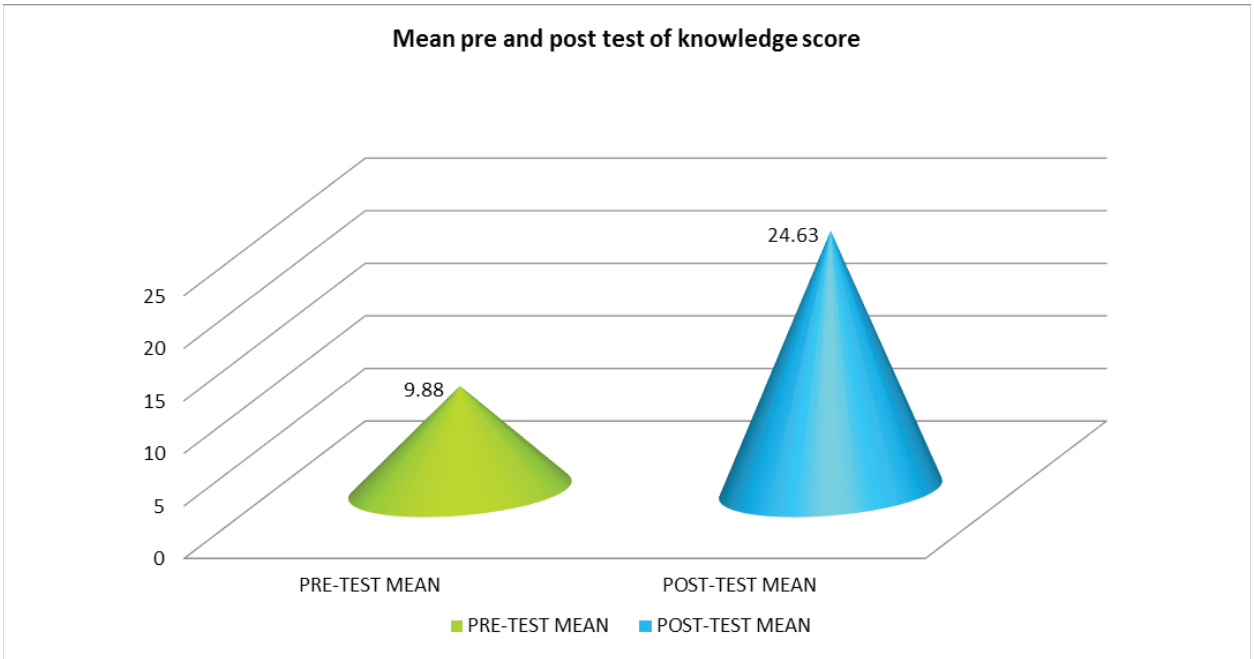

Fig:1

Conclusion

The study concluded that there was a significant difference in knowledge score before and after administered Planned teaching programme regarding the secondary growth and developmental changes in early adolescent period (10-14yrs) among students. The association of post test knowledge score with selected demographic variables such as mother's occupation was found statistically significant at of 0.042 p<(0.05) It was proven that Planned Teaching Programme was effective for students who are studying in selected Govt. school of Haryana regarding the secondary growth and developmental changes in early adolescent period (10-14yrs).

Recommendations:

1. Similar study can be undertaken on a large sample for making a more valid generalization.

2. Study can be conducted on different samples.

3. A comparative study can be conducted to assess effectiveness of Planned Teaching Programme with other instructional methods.

4. A correlation study can be conducted to analysis of knowledge of children regarding the secondary growth and developmental changes in early adolescent period (10-14yrs).

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