



ORIGINAL RESEARCH PAPER

Education

EFFECT OF ACTIVITY BASED ADOLESCENCE EDUCATION ON BEHAVIOUR RELATED TO ADOLESCENT REPRODUCTIVE HEALTH OF STUDENTS AT SECONDARY LEVEL

KEY WORDS: Activity based method, Adolescence education, Adolescent reproductive health, Behaviour.

Nabin Thakur

Ph.D. Research Scholar, Dept. of Education, Regional Institute of Education, National Council of Educational Research and Training (NCERT), Bhubaneswar, Orissa, India.

Dr. Sabita Prava Patnaik

Retired Professor, Dept. of Education, Regional Institute of Education, National Council of Educational Research and Training (NCERT), Bhubaneswar, Orissa, India.

ABSTRACT

This study was undertaken to find out the effect of activity based adolescence education on behaviour of students related to adolescent reproductive health. Its effect on boys and girls as well as rural and urban students were also found out. Experimental method was used for the study in which Pretest-posttest equivalent group design was implemented. 204 students were the sample of the study out of which 102 were included in control and 102 were in experimental group. Pre-test was administered to both the groups followed by intervention of different kind of activities to experimental group. The control group was taught in conventional way. After the intervention, post-test was administered to both the groups. Pre-test and post-test scores were calculated and mean gain between pre and post-test scores were analysed. Result revealed that there was significant difference between mean gain scores of experimental and control group on behaviour of students related to adolescent reproductive health. No significant difference was found between boys and girls as well as rural and urban adolescents with regard to behaviour in adolescent reproductive health when taught through activity based teaching method.

INTRODUCTION

Adolescence is associated with the teenage years. The World Health Organization (WHO) defines adolescence as the second decade of life, between the ages of 10 and 19 years whereas youth refers to period between 15 and 24 years age group. Their phases of growth can be demarcated as early adolescence (10-13 years), middle adolescence (14-16 years) and late adolescence (17-19 years). Thorough understanding of adolescence in society depends on information from various perspectives, including psychology, biology, history, sociology, education, and anthropology. Within all these perspectives, adolescence is viewed as a transitional period between childhood and adulthood, whose cultural purpose is to prepare children for their future roles. But the role of health and its related behaviour by adolescent is limited due to poor knowledge and lack of awareness on adolescent reproductive health. Consequently, knowledge on reproductive and sexual health is the need of adolescents to change their behaviour related to reproductive health. During adolescence, the body undergoes significant developmental changes, especially from the commencement of puberty, the body goes on sexual maturation to form sexual identity. In addition, adolescents are more likely to engage in risk-taking behaviors than younger children or adults. These significant factors underline the importance of meeting the reproductive and sexual health needs of this age group to change their behaviour related to reproductive health.

For millions, the onset of adolescence brings not only changes to their bodies but also vulnerabilities to individual rights abuses, particularly in the arenas of sexuality, marriage and childbearing. Millions of girls are pressurized into unwanted sex or marriage, putting them at risk of unwanted pregnancies, unsafe abortions, drug abuse, sexually transmitted infections (STIs), sexually transmitted diseases (STDs) including HIV, and childbirth. Adolescent boys are at risk, as well. So far countless adolescents face barriers to reproductive health information and anxiety to widen their behaviour allied to reproductive health. These huge barriers and knowledge gap about adolescents on adolescent reproductive health needs to access through adolescence education programme, which is a process of building a strong foundation for sexual health through acquiring information and forming healthy behaviour, beliefs and values about identity, relationship and intimacy. This adolescence education programme not only focuses exclusively on reproduction but also considers all aspects of life which are related with sexuality and reproductive health related behaviour.

Kirby (2011) acknowledged that reproductive health behaviour i.e. adolescents' beliefs and actions regarding their health and well-

being is a change of deeds after being paid input of knowledge, awareness and attitude regarding reproductive health. This sexuality and reproductive health among the adolescents can be done by linking with different types of activities while implementing adolescence education. The National Curriculum Framework (2005) advocates that at the secondary stage, students should be engaged in learning science as a composite discipline through activity based teaching. Due to activities, adolescents will not only have scientific knowledge about reproductive health but also will have healthy behaviour towards various issues related to it. Madeni, Horiuchi, and Iida (2011) accredited that the reproductive health program changed adolescents' positive behavior about sexuality and decision-making potentiality. A range of comprehensive sexual health education, counseling, consistent birth control methods had the potential to prevent and control the adverse outcomes related to high-risk sexual behavior (Gao et al., 2012; Sommart, & Sota, 2013). Their study also exposed that the participants who had high-risk sexual behaviour, revealed significant improvement in behaviour followed after intervention among the adolescent learners. Similarly Inyang (2014) found that educational intervention programme through visual aids, videos, posters, pamphlets as well as debate competition related to the topic like HIV/AIDS, enhanced the knowledge and attitude which reflect on the behaviour of learners regarding adolescent reproductive health. On the other hand study goes with the finding of Haque et al. (2014) who revealed that after intervention programme such as role play and debate on rural and urban female adolescent showed significant improvement on reproductive health behaviour. Finding also revealed no significant difference between rural and urban girls related to reproductive health behaviour. Correspondingly, Diamond-Welch, Hetzel-Riggin, and Hemingway (2016) studied that the reproductive health program significantly improved adolescents' positive behavior about sexuality and decision-making capability after the intervention program for both girls and boys in urban areas. Subsequently a number of findings also revealed that the intervention programme through educative activities such as role play, mime, board games, puzzles, storytelling, group discussion, group work, peer education, using pictures, drama and reproductive health materials, counseling, lecture meetings, education carnivals, education camps, demonstration, case study, audio-visual teaching materials, mass media, sensitization workshop as well as internet based education, adolescents not only developed their reproductive health behaviour but also empowered to take care of their own health as well as protected themselves from possible health problems (Chandra-Mouli, Lane, & Wong, 2015; Dittus, 2016; Hatami, Kazemi, & Mehrabi, 2015; Yari et al., 2016). In several

experimental studies, researchers established that students of the experimental group had considerably enhanced behaviour towards adolescent reproductive health than their counterparts i.e. traditional group.

Hence, keeping in mind the above findings, in the present study well planned and purposeful activities were implemented in classroom to improve the behaviour of the students in relation to adolescent reproductive health.

STATEMENT OF THE PROBLEM

The present study was stated as "Effect of activity based adolescence education on behaviour related to adolescent reproductive health of students at secondary level".

OBJECTIVES OF THE STUDY

The objectives of the present study were to find out the effect of activity based adolescence education on behaviour of

1. students related to adolescent reproductive health.
2. boys and girls related to adolescent reproductive health.
3. urban and rural students related to adolescent reproductive health.

HYPOTHESES OF THE STUDY

The hypotheses of the present study were as follows-

1. There would be positive effect of activity based adolescence education on behaviour of students related to adolescent reproductive health.
2. The effect of activity based adolescence education on behaviour related to adolescent reproductive health of boys would be better than girls.
3. The effect of activity based adolescence education on behaviour related to adolescent reproductive health of urban students would be better than rural.

DELIMITATIONS OF THE STUDY

As resources and time were the major constraints, the study was restricted to 204 students of Class IX of two schools. The treatment period was for 35 to 45 minutes each day over one and half months. Thirty lessons were delivered during treatment period.

METHODOLOGY OF THE STUDY

Design

In this study independent variable was activity based adolescence education and dependent variable was behaviour related to adolescent reproductive health. True experimental design i.e. pretest-posttest equivalent group design was used for the present study.

Sample

The students of class IX of two schools one from urban and another from rural were the sample of the study. The students of these two schools were matched by pairing of their previous annual achievement test scores of Biology of class VIII. After matching, 55 pairs of students i.e. 110 were selected from Malda Railway High School and 47 pairs i.e. 94 were selected from Santa Debya High School. Finally, out of 204 students, 102 (55+47) were included in experimental and 102 (55+47) in control group. Both the groups had no previous experiences about activity based learning on adolescent reproductive health in their classes/schools.

Tool

The tool used for this study was Behavioural check list related to adolescent reproductive health. This tool was developed and standardized by the researcher based on tools of NPEP, NCERT (2010).

Treatment

Before treatment, behavioural check list related to adolescent reproductive health was administered on both the experimental and control group as pre-test. The experimental group was exposed to the activity based classroom environment related to the

five topics of adolescent reproductive health. In one and half months treatment period, 30 lessons were delivered through various kinds of activities. It included working in groups, hands-on-experience, group discussions, cooperative learning, exhibition, poster making, debate, quiz, role play, question box and report making. During 35-45 minutes of class, the researcher acted as a facilitator by helping and encouraging the students for intense observation, meaningful interaction, clarification of doubts, facilitation of discussion and finally consolidation and summarization. Towards the end of the class, the responses of each activity were pooled and the main points were written on the black board for the benefit of the students. Whereas the control group was taught the same topics by conventional method of teaching.

After the transaction of 30 lessons, for a period of one and half months, the behavioural check list related to adolescent reproductive health was again administered on both the groups as the post test.

ANALYSIS AND INTERPRETATION

In order to test the objectives and hypotheses, scores were calculated by using statistical techniques i.e. mean (M), standard deviation (SD) and t values.

Effect of activity based adolescence education on behaviour of students related to adolescent reproductive health.

To test the effect of activity based adolescence education on behaviour of students related to adolescent reproductive health, the gain scores i.e. the difference between the pre-test and post-test scores of experimental and control group were calculated.

Table 1 Mean, standard deviation and t values of gain scores of behaviour of students related to adolescent reproductive health of experimental and control group.

Topics	Experimental (N = 102)		Control (N = 102)		t value
	Mean	SD	Mean	SD	
Process of growing up	2.12	1.11	0.54	1.16	9.33**
Growth and Development	1.23	0.61	0.19	0.71	12.27**
Socio-cultural development and Gender roles	2.44	1.23	0.21	1.12	13.36**
Drug abuse	1.38	0.88	0.25	0.71	10.65**
AIDS/HIV/STD	2.60	1.45	-0.10	0.96	14.39**
Total	9.76	2.17	1.09	1.44	30.97**

**significant at 0.01 level

Table 1 shows that the mean gain scores of experimental group are higher than the mean gain scores of the control group for given five topics. The obtained t values of the five topics are as 9.33, 12.27, 13.36, 10.65, 14.39 respectively and total value is 30.97. For all the topics and total, obtained t values are greater than the table t value of 2.60 for 202 degrees of freedom at 0.01 level of significance. Hence, the hypothesis is accepted. This indicates that there is significant difference between mean gain scores of experimental and control group on behavior related to adolescent reproductive health. This was because of high level of involvement of students, personal support of teacher and use of a variety of interesting and novel learning activities. It is thus concluded that activity based teaching strategy helped in improving behaviour of students related to adolescent reproductive health.

Effect of activity based adolescence education on behaviour of boys and girls related to adolescent reproductive health.

To test the effect of activity based adolescence education on behaviour of boys and girls related to adolescent reproductive health, the gain scores i.e. the difference between pre-test and post-test scores of experimental group were calculated.

Table 2 Mean, standard deviation and t values of gain scores of behaviour related to adolescent reproductive health of boys and girls of experimental group.

Topics	Experimental Group				t value
	Boys (N = 56)		Girls (N = 46)		
	Mean	SD	Mean	SD	
Process of growing up	1.98	1.07	2.28	1.15	1.37
Growth and Development	1.11	0.53	1.37	0.68	1.19
Socio-cultural development and Gender roles	2.46	1.17	2.41	1.31	0.21
Drug abuse	1.57	0.83	1.15	0.89	1.45
AIDS/HIV/STD	2.82	1.43	2.33	1.45	1.73
Total	9.95	2.29	9.54	2.02	0.93

It may be observed from the Table 2 that the mean gain scores of boys for the topics Socio-cultural development and Gender roles, Drug abuse, AIDS/HIV/STD, and total are slightly higher than the girls. Whereas the mean gain scores of girls for the topics Process of growing up, and Growth and Development are faintly superior to the boys. The above said differences in mean gain scores between boys and girls are negligible. The obtained t values of the five topics and total are as 1.37, 1.19, 0.21, 1.45, 1.73 and 0.93 respectively which are less than the table t value of 1.98 for 100 degrees of freedom at 0.05 level of significance. Hence, the hypothesis is rejected. Thus, there is no significant difference between boys and girls with regard to behaviour related to adolescent reproductive health. It could be concluded that as equal importance had been given to boys and girls during transaction of all the content through activities, it might have helped them to break the barriers of hesitation for discussion about the topics related to reproductive health. As a consequence, adolescents' boys and girls equally improved their behaviour towards adolescent reproductive health.

Effect of activity based adolescence education on behaviour of urban and rural students related to adolescent reproductive health.

In order to find out the effect of activity based adolescence education on behaviour of urban and rural students related to adolescent reproductive health, gain scores i.e. the difference between pre and post-test scores of experimental groups were calculated.

Table 3 Mean, standard deviation and t values of gain scores of behaviour related to adolescent reproductive health of urban and rural adolescents of experimental group.

Topics	Experimental Group				t value
	Urban (N = 55)		Rural (N = 47)		
	Mean	SD	Mean	SD	
Process of growing up	2.15	1.24	2.09	0.95	0.27
Growth and Development	1.27	0.62	1.17	0.60	0.84
Socio-cultural development and Gender roles	2.51	1.26	2.36	1.21	0.60
Drug abuse	1.16	0.98	1.64	0.67	2.81**
AIDS/HIV/STD	2.76	1.57	2.40	1.28	1.25
Total	9.85	2.36	9.66	1.95	0.45

** Significant at 0.01 level

As seen in Table 3, the mean gain scores of rural adolescents' students for the topic Drug abuse is higher than the urban and the obtained t value shows 2.81 which is higher than the table t value of 2.63 for 100 degrees of freedom at 0.01 level of significance. Therefore, it shows that there is a significant difference between urban and rural adolescents students related to behaviour on the topics like Drug abuse. It might be due to the rationale thinking of rural adolescents through the different kinds of activities carried out by the researcher such as role play, quiz, and question box that might have developed their awareness and attitude to show

positive behaviour towards drug abuse. Whereas mean gain scores of urban adolescents students for the topics Process of growing up, Growth and Development, Socio-cultural development and Gender roles, and AIDS/HIV/STD as well as total are moderately higher than the rural. Relatively obtained t values to the rest four topics and total are as 0.27, 0.84, 0.60, 1.25 and 0.45 respectively which are less than the table t value of 1.98 for 100 degrees of freedom at 0.05 level of significance. Therefore, there is no significant difference between urban and rural adolescents students related to behaviour on adolescent reproductive health. Hence, the hypothesis is rejected. This result could be attributed to equal participation of all urban and rural students' in most of the activities like group discussions, cooperative learning, exhibition, debate, quiz, role play, question box and report making which might have improved teamwork, cooperation and coordination with their mates.

MAJOR FINDINGS

- There was significant difference between mean gain scores of experimental and control group in behavior related to adolescent reproductive health. It showed that there was positive effect of activity based adolescence education on behaviour of students related to adolescent reproductive health.
- No significant difference was found in behaviour between boys and girls related to adolescent reproductive health after intervention through activity based teaching strategies in the class. This specified that the effect of activity based adolescence education in behaviour related to adolescent reproductive health of boys was not diverse with girls.
- There was no significant difference between urban and rural students in behaviour except for the topic 'Drug abuse' related to adolescent reproductive health. It had been also observed that the effect of activity based adolescence education in behaviour related to adolescent reproductive health of urban students did not show disparity with rural students.

EDUCATIONAL IMPLICATIONS

- The activity based teaching strategy was found to be more effective and admirable than traditional method of teaching in prompting the attainment of behaviour related to adolescent reproductive health. Hence, in constructivist classrooms, the activities such as exhibition, poster making, conducting debates, role plays can also be included while dealing with reproductive health related topics.
- During pre-service training the teacher trainees could be empowered to plan, implement various activities for topics related to reproductive health and improve the teaching learning process which ultimately could boost students' awareness, attitude and bring meaningful changes in their behaviour related to reproductive health.
- The activity based teaching includes novelty and variety of activities. This strategy can be helpful to draw the attention of students for making learning joyful. Therefore, school administration can encourage and promote the teachers to use activity based learning in the classrooms so that topics related to reproductive health could be more interesting to the students leading to better understanding of the concepts.

CONCLUSIONS

Activity based teaching learning strategies was well acknowledged in the field of Life Science to develop higher order thinking skills among the students. This interactive teaching and learning strategy helped the students to enhance their knowledge bank leading to development of their behaviour related to adolescent reproductive health. Activity based teaching was a solution which allowed students to create time and space to increase understanding of the topics, improve interpersonal and intrapersonal behaviour, develop willingness to participate in group and peer activities. It improved ability to relate the topics to real life examples as well as to analyze their personal deeds.

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