



## ORIGINAL ARTICLE

### A Study on Effectiveness of Training Program of School Teachers to Improve Knowledge and Skill on Common Health Problems of Students.

Madhumita Bhattacharyya\*, Sudeshna Roy\*\*, Rabindra Nath Sinha\*\*\*, Ramendra Narayan Chaudhuri\*\*\*\*

#### ABSTRACT

**Background and objectives:** Health education to students in class room settings can be delivered by their teachers. Training program for school teachers are required to raise their knowledge and skill to deal with common health problems of students. Trained teachers may act as health resources for students who need information. The present study was conducted to assess the effectiveness of School Teachers' Training Program on their knowledge on common health problems related to school children. **Methods:** A total of 250 school teachers of different schools in Chetla area of Kolkata were trained by School Health Department of Urban Health Center (UHC), Chetla of All India Institute of Hygiene and Public Health, Kolkata to improve the knowledge of teachers on different common health problems of children. It was a three days training programme. Teachers participated in the training in batches (40-45 per batch). Pre-designed and pre-tested structured questionnaire was used to assess pre and post training knowledge of the participants. Methods employed for

\*Assistant Professor(Equated), Department of Maternal & Child Health, All India Institute of Hygiene & Public Health, Kolkata

\*\* Ex- Post Graduate Trainee , All India Institute of Hygiene & Public Health, Kolkata

\*\*\*Professor, Department of Maternal & Child Health, All India Institute of Hygiene & Public Health, Kolkata

\*\*\*\*Director Professor & Head, Department of Maternal & Child Health, All India Institute of Hygiene & Public Health, Kolkata

Corresponding Author: Dr. Madhumita Bhattacharyya  
Email: madhumita57@yahoo.co.in

training included were lectures, role play, practical hands- on- training and clinic visits. Another structured checklist was used for evaluating effectiveness of each teaching-learning session with participants' feed-back. Knowledge of the teachers was scored with each correct answer being awarded one mark and zero mark for an incorrect answer/ no response. **Results:** The mean knowledge scores of pre and post training evaluation were 9.27( $\pm$ 1.21) and 17.4 ( $\pm$ 0.98) respectively, difference was found to be significant statistically ( $p=0.000$ ). **Conclusion:** Further research needed to elicit whether increase in knowledge of teachers can actually be transmitted to the students.

### ***Introduction***

School teachers play a vital role on the health knowledge, attitude and practice of students in matters related to health and disease. Training of school teachers on common childhood health problems including their prevention is an important measure to raise the health related knowledge and practice of students. Teachers require substantial knowledge and a variety of skills in order to deliver effective health education in the schools.<sup>1</sup>A study from United States of America reported that high school teachers who had the least experience of health education had the least supportive attitude, perceived the most barriers, and had the lowest efficacy and outcome expectations related to teaching about HIV prevention to school students.<sup>1</sup> Hence it is imperative to instill the teachers with the correct knowledge of health and wellbeing, which will get disseminated among the students. School teachers are expected to be role models so that students can emulate and adopt their behavior and attitude.<sup>2</sup>In Sweden, the majority of school pupils thought that school teachers were the best sources of information for sexually transmitted infections and sexuality.<sup>3</sup>In Australia, teachers and the clergy have been identified as "gatekeepers" who might serve as a first line of assistance for distressed young people.<sup>4</sup> Since current emphasis in health education is on prevention of serious illness through lifestyles that promote wholeness, teachers are well placed professionally to carry out health education at school.<sup>5,6</sup> Teachers' training is regarded as an essential tool for the effective implementation of comprehensive school health.<sup>7</sup> Thus, the present study was designed to assess the effectiveness of training program on the knowledge of school teachers on different aspects of health of children

### **Material and Methods:**

Three days training program for school teachers was conducted, in six batches, by School Health Department of Urban Health Center (UHC), Chetla of All India Institute of Hygiene and Public Health, Kolkata during 2010 -11 to improve the knowledge of teachers on different common health problems of children. Out of a total 40 schools in Chetla area of Kolkata 25 schools (Corporation school -20, Secondary – 2, H.S. -3) were selected. All teachers of those schools attended the training in batches (40-45 per training). Thus total 250 school teachers participated in the training program. A predesigned and pretested closed ended self administered questionnaire was used for the purpose of data collection. Information sought included socio-demographic profile of school teachers, their knowledge about determinants of health and disease of children, existing disease pattern and addictions prevalent among the children, adolescents health related problems, environmental pollution and its hazards. Information on knowledge on common injuries of school children, first-aid management, growth and development of the children, nutritional status of students etc. was also collected.

A group discussion, with a similar population of teachers in a public school in Kolkata, was conducted for questionnaire development. To assess the reliability of questions, Cronbach's coefficient alpha was calculated (Cronbach's coefficient alpha=0.69). The questionnaire was pretested in a different school and modified accordingly.

This questionnaire was used for pre-training (baseline) data collection from the participants followed by 3 days teacher's training program. Training methods included lectures, role play, practical hands- on- training and clinic visits. A structured checklist for evaluating effectiveness of teaching-learning sessions with participants' feed-back was also used to collect session wise information. Determinants of health and disease, common health problems of students, national health programmes related to wellbeing of student community, safe environment etc. were covered through interactive lecture followed by discussion. Sensitive issues like school absenteeism, learning difficulties, suicidal tendency, adolescent pregnancy and adolescent depression etc. were covered by 'Role Play'. After a brief session of interactive lecture on the topics, teachers were given similar real life situations and were asked to perform in groups of two for a practical

demonstration of their expected role. The performance of teachers was then evaluated using the checklist.

Clinic visits were conducted to demonstrate the signs and symptoms of common diseases like acute respiratory infections(ARI), scabies, dehydration following diarrhea so that the teachers themselves were able to identify signs and symptoms including the danger signs and refer the students to the nearby health care facility. Visit to Maternal and Child Health (MCH) Clinic, School health clinic, Nutrition clinic and Tuberculosis treatment centre of UHC, Chetla were undertaken to make them aware of the services provided .

'Hands-on' training was given on preparation of oral rehydration solution (ORS) and steps of hand washing. The clinic visits and hands on training were evaluated using the structured checklist.

## Results

A total of 250 teachers attended the training program of which 65% were females. Proportion of primary, secondary and H.S. school teachers were 25.2%, 55.2% and 19.6% respectively[Table 1] .

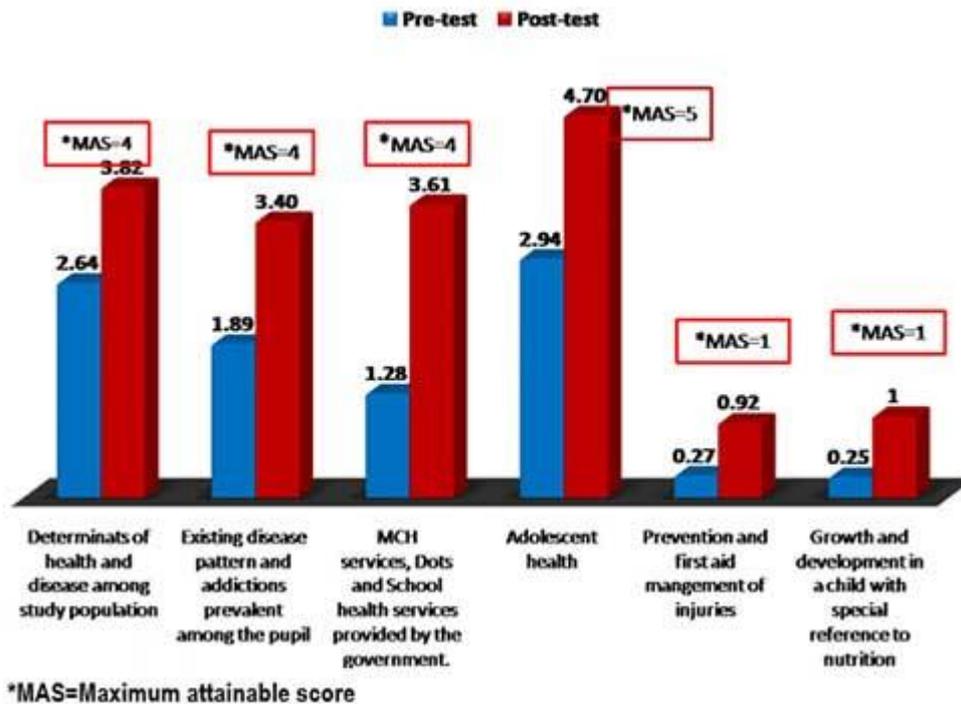
**Table 1: Distribution of school teachers according to gender and place of employment.**

Variables	No(%)
<b>A. Gender</b>	
<b>Male</b>	87(34.8)
<b>Female</b>	163(65.2)
<b>B. Place of employment</b>	
• Primary school (up to class v)	63(25.2)
• Secondary school (up to class x)	138(55.2)
• Higher secondary school (up to class xii)	49(19.6)

The meanknowledge score of pre-test and post-test was 9.27(±1.21) and 17.45 (±0.98) respectively. Pre and post training scores in each of the components of

training and the overall scores taken together showed a significant difference. (p=0.000) [Figure 1]

Figure 1: Mean scores of pre and post training among the trainees. (N=250)



The participants' feedback after the training was noted in a 5 point scale of very good, good, average, poor and very poor. They were also requested to provide suggestions for improving the quality of the program. None of the participants rated any element of the training as poor or very poor. Majority (77.6%) of the participants liked the quality of presentation of the resource persons, while 34.8% commented that the classroom ambience (lighting/ disturbance/air conditioner machine/noise) was "average" and there was a scope of improvement [Table 2]. Important suggestions for improvement were inclusion of sex education, acquired immune deficiency syndrome awareness and dietary advice in more detail in subsequent training programs.

Table 2: Teachers' feedback on the training program. (N=250)

Items	Very Good	Good	Average
Quality of presentation of faculty	194(77.6)	33(13.2)	23(9.2)
Class room participation and interaction encouraged	138(55.2)	50(20)	62(24.8)

<b>Adequacy of time provided for discussion</b>	100(40)	133(53.2)	17(6.8)
<b>Knowledge of faculty in relation to training subject covered by them</b>	134(53.6)	100(40)	16(6.4)
<b>Time and attention provided to topics covered</b>	188(75.2)	45(18)	17(6.8)
<b>Adequacy of course content in relationship with training objective</b>	163(65.2)	62(24.8)	25(10%)
<b>Rating of faculty</b>	125(50)	117(46.8)	8(3.2)
<b>Field based practical experience</b>	150(60)	67(26.8)	33(13.2)
<b>Classroom ambience</b>	138(55.2)	25(10)	87(34.8)
<b>Usefulness and quality of handout/Training material</b>	128(51.2)	59(23.6)	63(25.2)
<b>Audiovisual aids</b>	117(46.8)	83(33.2)	50(20)

### **Discussion:**

The present study has revealed that school teachers' training program was effective in imparting knowledge related to different diseases among school children. Hands on training was most appreciated by the participants . Such successful transfer of knowledge was also observed in United States of America where a training program of teachers called Move-To-Improve (MTI) was conducted for promoting physical activity. It was seen that teachers trained in MTI led their students to significantly more physical activity compared to teachers who were not trained.<sup>8</sup> Similarly, Panunzio et al<sup>9</sup> concluded that a school-based nutrition education program for primary school teachers had a significant impact on children's fruit and vegetable intake. These study results emphasize that schoolteachers' training has strong influence on their students.

Since teacher-student relationship is long term, teachers can be used as a tool for health promotion among children. A study by Sharma et al<sup>11</sup> from Vijaynagar, Bangalore showed significant increase in knowledge on epilepsy in children among school teachers after a structural teaching program. Kirchner et al<sup>12</sup> had pointed out that teachers seemed to spend significant time trying to understand and deal with sensitive behavioral issues of students in the classroom and are in need of training in these areas. In the present study, participatory activities during "Role play" sessions dealing with issues requiring counseling skills of teachers in case of school absenteeism, suicidal tendency, learning difficulties, adolescent

pregnancy and adolescent depression etc. sensitized the teachers to deal with the situations.

Based on the findings of the present study, it may be recommended to include 'hands-on-training', 'role play' and 'clinic visits' in training program for school teachers. As suggested by teacher's awareness of the problem of acquired immune deficiency syndrome, detailed dietary advice and sensitive issues like reproductive health should be incorporated in future training program. Further research may be conducted to elicit whether increase in knowledge of teachers can actually be transmitted to the students.

### **References**

1. Herr SW, Telljohann SK, Price JH, Dake JA, Stone GE. High school health education teachers' perceptions and practices related to teaching HIV prevention. *J School Health* 2012 ;82:514-21.
2. Rubie-Davies CM, Flint A, McDonald LG. Teacher beliefs, teacher characteristics, and school contextual factors: what are the relationships? *Br J Educ Psychol.* 2012;82:270- 88.
3. Persson E, Sandstrom B, Jarlbro G. Sources of information, experiences and opinions on sexuality, contraception and STD protection among young Swedish students. *Advances in contraception*, 1992; 8:41–9.
4. Leane W, Shute R. Youth suicide: the knowledge and attitudes of Australian teachers and clergy. *Suicide and life-threatening behaviour*, 1998; 28:165–73.
5. Rubie-Davies CM. Teacher expectations and perceptions of student attributes: Is there a relationship? *Br J Educ Psychol.* 2010;80:121-35
6. Malmberg LE, Hagger H. Changes in student teachers' agency beliefs during a teacher education year, and relationships with

- observed classroom quality, and day-to-day experiences. *Br J Educ Psychol.*2009 ;79:677-94.
7. Silverstein SC, Dubner J, Miller J, Glied S, Loike JD. Teachers' participation in research programs improves their students' achievement in science. *Science.*2009;326:440-2.
  8. Dunn LL, Venturanza JA, Walsh RJ, Nonas CA. An observational evaluation of move-to-improve, a classroom-based physical activity program, new york city schools, 2010. *Prev Chronic Dis.*2012; 9: E146.
  9. Panunzio MF, Caporizzi R, Antoniciello A, Cela EP, D'Ambrosio P, Ferguson LR et al. Training the teachers for improving primary schoolchildren's fruit and vegetables intake: a randomized controlled trial. *Ann Ig.* 2011;23:249-60.
  10. AdamuAN , AbiolaAO , Ibrahim MTO . The effect of health education on the knowledge, attitude, and uptake of free Pap smear among female teachers in Birnin-Kebbi, North-Western Nigeria. *Niger J ClinPract.* 2012 ;15 : 326-332
  11. Sharma N K ,Prasanna K L,KumarA..Effectiveness of structural teaching program on knowledge Regarding epilepsy in children among school teachers.*IOSR-JNHS*, 2013,vol 2(6): 7-13
  12. Kirchner JE, Yoder MC, Kramer TL, Lindsey MS, Thrush CR. Development of an educational program to increase school personnel's awareness about child and adolescent depression. *Education* 2000; 121:235–248.