

## Effectiveness of Reproductive Health Education in Adolescent, Rural School Girls of Udupi Taluk, Karnataka.

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**Abstract:** In India there are 190 million adolescent girls comprising 21% of India's total population. There is a need to provide the adolescent girl with adequate knowledge regarding menstruation, pregnancy and contraception and subsequently help them to lead a productive and healthy life. To determine the effectiveness of an educational intervention programme on knowledge of rural adolescent girls towards reproductive health, adolescent girls were educated regarding adolescent reproductive health and their awareness levels were evaluated immediately following intervention. Data was tabulated and analyzed using SPSS version 11.0 windows. Findings were described in terms of proportions and Chi square test was used to test the effect of health education intervention. A significant increase in overall knowledge after intervention was observed regarding contraception, ovulation, first sign of pregnancy and fertilization process. The knowledge regarding importance of diet during pregnancy significantly improved from 66% to 95% following the intervention. **Conclusion:** This study clearly showed that educational intervention programme can bring about a desirable change in the knowledge among adolescent girls regarding reproductive health.

### INTRODUCTION

Adolescence is the most important and sensitive period of one's life<sup>1</sup>. World Health Organization (WHO) Expert Committee considers adolescence as the period between 10 and 19 years, the second decade of life. Adolescents comprise 20% of the world's total population with one out of every five being an adolescent. Out of 1.2 billion adolescents' world wide, about 85% live in developing countries. In India, there are 190 million adolescent girls comprising 21% of India's total population<sup>2,3</sup>. The adolescent pregnancies constitute 10-15% of total pregnancies in India. This is largely attributed to early marriage, a culture widely prevalent in whole of the Indian sub-continent besides Africa<sup>4</sup>. Among adolescents, girls are particularly vulnerable not only because they are more likely to be coerced invariably for unprotected sex than boys, but they are more susceptible biologically to sexually transmitted diseases (STDs), including HIV infection. Inequity between the sexes makes girls more vulnerable to violence and sexual abuse. Their long term economic potential is reduced still further by early child bearing<sup>5,6</sup>.

In order to lead healthy, responsible and fulfilling lives and protect themselves from reproductive health problems, young people need to be knowledgeable about themselves and the people they relate to, need sound information about the physical, psychological and social changes that take place through childhood and adolescence<sup>6</sup>. This study was thus carried out to assess the knowledge of adolescent girls regarding menstruation, pregnancy and contraception, to design, develop and implement a health education programme for adolescent girls and the effect of health education programme in terms of improvement of knowledge.<sup>s</sup>

### MATERIAL & METHODS

This intervention study was carried out for one year from 1<sup>st</sup> July 2003 to 30<sup>th</sup> June 2004 among the rural colleges of Udupi Taluk, Karnataka. The study population included adolescent girls from pre-university colleges. The sampling design used for the study was stratified cluster sampling. Adolescent girl students were stratified on the basis of the year (first or second of pre-university) and course (i.e. art, commerce and science) Based on the

experience gained from the pilot study, 34 clusters were selected and each cluster comprised of a group of (40-60) students for the intervention. Due to feasibility constraints, only 16 clusters among these were randomly selected. The sample size calculated was 391 with a drop out rate of 10% and design effect of 2, but considering the feasibility and the beneficial effect of the intervention, a total of 791 students were included in the study. Willingness to participate in the study was obtained by a verbal consent from the students after explaining objectives of the study. Their responses were strictly kept confidential.

#### Data collection procedure

**Pre-test:** A total 791 students participated in the pre-test assessment. A pre-tested questionnaire was administered which included baseline characteristics of the study population related to knowledge and practices on menstruation, hygiene and regarding pregnancy antenatal care and contraception.

**Intervention:** A comprehensive health education programme was organized with 5 sessions of around two hour duration each for five consecutive days. Out of 791 students, who enrolled themselves for this study, only 779 were available for the intervention and immediate post-test assessment. The training methods included didactic lecture followed by interactive sessions. The topics included menstrual hygiene, pregnancy, antenatal care and various methods of contraception. Audio visual aids such as chalk and blackboard, charts, posters and video films were also used. The education was followed by an integrative with the student to clarify doubts.

**Post-test:** The effect of intervention was evaluated immediately following intervention with a post-test questionnaire. The data was analyzed using the statistical Package for Social Sciences (SPSS) Version 11. The data has been analyzed using proportions and chi square test. Here, p-value <0.05 considered as statistically significant.

### RESULTS & DISCUSSION

Among the total of 791 students enrolled into the study, 779 were available for the health education intervention, followed by an immediate post-test. In this study, 87% of the students were in the age group of (16-17) years with a mean of 16.47 years

(2SD $\pm$ 1.8) Majority (87.2%) of the participants belonged to the age group of (16-17.9) years. Here, 83% of the students were Hindus. Majority (84.6%) of their parents were literate.

Almost half the respondents were not aware of the term ovulation. Their knowledge regarding menstruation and menstrual hygiene improved significantly from (77.2% to 95.6%) and (91.8% to 100%) respectively after intervention. Though most of the adolescent girls (98%) were aware of the importance of regular antenatal checkups, but their knowledge regarding importance of diet, rest and exercise during pregnancy was poor (66%). Missed period as the first sign pregnancy was initially known to only 61.2% of the students. The intervention significantly improved this knowledge to 96.5 following the intervention. Participants were not aware about the various methods of contraception during the pre-test, but significant improvement was noted following intervention. It is observed that their knowledge regarding the temporary methods improved to a great extent [(84-89) % from (11.1-35% at pre test)] after intervention. The fact that small family norm refers to a family with two children was known to 98% of the students. Health personnel were the most preferred option for imparting sex education (95%).

The present study shows that girls had reasonably good knowledge regarding certain aspects of reproductive health. This is probably due to the better literacy rate that is seen in spite of being a rural area. Various studies across the world have also shown the effectiveness of interventions in increasing the knowledge on reproductive health.<sup>7, 8,9,10</sup> Developed countries show that girls have knowledge and use contraceptives to prevent unwanted pregnancies<sup>11</sup>. Studies from India revealed deficient knowledge

among girls regarding contraception,<sup>12, 13</sup>. Effective health education intervention is able to bring about increase awareness among adolescent girls empowering them to care of their own health as well inducing them to prevent reproductive health problems.

## RECOMMENDED READING

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## LITERATURE REVIEW

### *Efficacy of Teriparatide in Increasing Bone Mineral Density in Postmenopausal Women with Osteoporosis – An Indian Experience* BK Sethi, M Chadha, KD Modi et.al. *JAPI* • 2008;56:418

Osteoporosis is emerging as a leading cause of substantial morbidity in India, particularly in postmenopausal women. Teriparatide (recombinant human parathyroid hormone [1-34]) increases bone formation and improves bone microarchitecture, thereby reducing the risk of fractures. This study was conducted to evaluate the efficacy of teriparatide in increasing bone mineral density (BMD) in postmenopausal women with osteoporosis. A randomised, prospective, multicentre, open-label, controlled study was conducted on 82 postmenopausal women with established osteoporosis. Patients were randomly divided into control and teriparatide groups, each group consisting of 41 patients. All the patients were supplemented with 1000 mg of elemental calcium and 500 IU of vitamin D throughout the study period of 180 days. Besides, teriparatide group patients were administered teriparatide 20 µg daily subcutaneously. Lumbar spine, femoral neck and total hip BMD, bone mineral content (BMC) and bone area were measured by dual energy x-ray absorptiometry (DXA) at baseline and at the end of 6 months of treatment. Bone biomarkers, such as serum bone specific alkaline phosphatase (BSAP) and serum osteocalcin (OC), representing bone formation, and urinary deoxypyridinoline (DPD), representing bone resorption were assessed at baseline, and at 3 and 6 months of treatment.

During the study period, 9 patients (11%) were lost to follow-up - 6 in control group (7.3%) and 3 in teriparatide group (3.7%). There was an excellent compliance to both oral and injectable medication. The investigational product teriparatide was well tolerated and there were no serious adverse events. In addition, there were no significant differences between the groups in the incidence of adverse events. The percentage of increase in lumbar spine BMD, which is the primary endpoint, was significantly ( $P < 0.001$ ) higher in teriparatide group compared to that in control group (6.58% vs. 1.06%). Further, teriparatide significantly increased percentage of change in lumbar spine T-score ( $P < 0.001$ ), BMC ( $P < 0.001$ ) and bone area ( $P < 0.028$ ) compared to control group at 6 months. Administration of teriparatide resulted in a significant percentage of increase in all the bone biomarkers in teriparatide group compared to control group patients at 3 and 6 months over baseline, thereby showing that there was a significant increase in bone turnover in teriparatide group of patients.

**Conclusion:** These results show that teriparatide is an effective and safe drug in increasing the BMD and therefore, teriparatide provides yet another new therapeutic option for reducing the risk management of osteoporosis in postmenopausal women.