Study on Creating Awareness on Reproductive Health Care Among Adolescent Girls

By

Swarnalatha A.

A THESIS SUBMITTED TO THE AVINASHILINGAM INSTITUTE FOR HOME SCIENCE AND HIGHER EDUCATION FOR WOMEN - DEEMED UNIVERSITY, COIMBATORE - 64' 043

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF SCIENCE IN FAMILY AND COMMUNITY SCIENCE

MAY - 1998

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Certified as bonafide research work

Signature of the
Head of the
Department

Signature of
the Guide

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Introduction

I INTRODUCTION

Family is the central nucleus for the lives, dreams and health of people. A woman in her role as mother forms the backbone of the family. In India, nearly 1.25 Lakh women die every year due to pregnancy related causes such as obstructed labour, heamorrhage, unsafe abortion and hypertension. About 1,50,000 unwanted pregnancies are terminated every day by induced abortion. One third of the abortion are performed under unsafe conditions and in an adverse social and legal climate, resulting in some 5,000 deaths every day (Bhatt, 1995). The best yardstick for assessing the development of a country is its maternal and perinatal mortality. As the country progresses and improves its health care delivery system, maternal and perinatal mortality rates drop chastically (Soonawala, 1997).

In India excessive bleeding during pregnancy was the single largest cause of maternal mortality, accounting for 22 percent of the deaths, followed by anaemia (20 percent), pregnancy induced blood pressure (13 percent), postnatal infection and abortion (12 percent each) and malposition of child (6 percent). The remaining 15 percent of the deaths were accounted for a range of miscellaneous causes (The Hindu 1998).

Women should not be seen as merely "Machines" for producing babies, but should be recognised as individuals in their own right (Ramani, 1998). In India almost 40 percent

Review of Literature

II REVIEW OF LITERATURE

The related literature of the study on "Creating awareness on reproductive health care among adolescent girls" are reviewed under the following headings.

A. Meaning of adolescence and reproductive health
B. Importance of health and nutrition during adolescence
C. Aspects of reproductive health
D. Need for creating awareness on reproductive health among adolescents
E. Efforts undertaken by government to promote better reproductive health awareness

A. Meaning of adolescence and reproductive health

Youth is not entirely a time of life, it is a state of mind. The world of the adolescence has sometimes been called a "no man's land" between childhood and adulthood. The word adolescence is from the latin word adolescre meaning "to grow into maturity" (Fassbender et al, 1984). Adolescents are the delicate flowers and they are in the period of stress and strain, day-dreams, intense affection and excitement. He is full of love and showers his affection on any one without any pre-thinking. The adolescent is still in his teens and lacks maturity of thought and experience (Shamsuddin, 1996).

Adolescence is the time period that begins with the onset of puberty, which is the appearance of secondary

sexual characteristics. Adolescence continues through the completion of pubertal development, resulting in functional reproductive organs, and the attainment of final physical growth. Psychological maturation occurs simultaneously. During adolescence, the prepubertal child develops into a physically matured adult body and a psychologically matured young adult mind (Wright, 1984). Adolescence is a time of hope and idealism; of false starts and creative exploration; and of experimentation in the service of the external quest for identity and meaning. The responsibility for the developing adolescent extends beyond the family (Karmel, 1984). In the view of some observers young people are more rootless, more troubled emotionally, more promiscuous sexually and less idealistic than their peers in earlier generation. Today's youth are better informed about the world in which they live than any generation in history (Peter, 1984). Adolescence generally begins with the onset of puberty. Hurlock (1978) designates the years from 10 to 12 as pre adolescence, 13-16 years as early adolescence and 17-21 as late adolescence (Devadas, 1996).

The health and well being of adolescents is closely interlinked with their physical, psychological and social development, but this is put at risk by sexual and reproductive health hazards which are increasing in much of the World (Friedman, 1994). Reproductive health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity, in all matters

relating to the reproductive system and to its functions and process. Reproductive health therefore implies that people are able to have a satisfying and safe sex life and that they have the capability to reproduce and freedom to decide it, when and how often to do so. Reproductive health care is also defined as the constellation of methods, techniques and services that constitutes to reproductive health and well-being by preventing and solving reproductive health problems. It also includes sexual health, the purpose of which is the enhancement of life and personal relations and not merely counselling and care related to reproduction and sexually transmitted disease (International Conference on Population Development, 1994).

According to Nassim (1989), reproductive health is the ability of men and women to under take sexual activity safely, whether or not pregnancy is desired and, if it is desired, for the woman to carry the pregnancy to term safely, deliver a healthy infant and be prepared to nurture it. Reproductive right on the other hand is the right for women to be in charge to their own bodies and freedom to determine the matters of procreation and sexuality (Rajagopal, 1996).

The major issues and consumers pertaining to women's reproductive health are safe motherhood, unsafe abortion, family planning infections, STD and AIDS, adolescent pregnancies, genital mutilation equal rights of males and females in sexual relationships and mental health. There is

an urgent need to address basic issues relating to wcmen's rights to reproductive health . This is necessary not only because it is humane but also an investment in human resources (Mooi, 1994).

B. Importance of health and nutrition during adolescence

Adolescence is marked by rapid physical change and good physical health promotes sound development. The adolescent with low vitality is more likely to be irritable, less energetic and to get along on a low level of aspiration (Rogers, 1982). During adolescence growth rate increases, height and weight also increase, body composition changes and sexual maturity is achieved. On the average girls begin the adolescent growth spurt between the ages of 10 and 12 years. During the adolescent growth spurt, there is an acceleration in growth velocity for 18 to 24 mcnths during which the growth rate is at its maximum. During this period, nutritional requirements of the teen may be as much as double those during the rest of the period of adolescence. Changes in body composition during this period also influence the need for nutrients. During adolescence girls deposit proportionately more fat tissue (Rees et al, 1984). The growth spurt signaling the onset of puberty depends on the child's attaining a critical weight of 30 kg and a critical body weight of 10 percent body fat, however 22percent of body fat is required to maintain regular ovulation. They attain their adult stature between

18 - 20 but bone mass continues to increase upto age of 25 (Hamilton et al, 1990).

With the onset of puberty, a young women's life changes dramatically. It is from this time that the monthly loss of blood leads to progressive anaemia and the remarkable array of physiologic deficits which results in weakness, susceptibility to infections, and lack of energy. An understanding of personal hygiene and the care of her own body will enable young women to care for themselves (International Conference on Population Development, 1989).

Studies conducted at Avinashilingam Deemed University revealed that the intake of protein, iron, vitamin A and Energy was very low in adolescents, compared with their recommended nutrient allowance given by ICMR. The amount of their intake is given in the Table 1.

Table 1. Dietary intake of adolescent girls

Agegroup	Energy Kcal/day		Protein g/day		Iron g/day		Vitamin - A mg/day	
	RDA	Intake	RDA	Intake	RDA	Intake	RDA	Intake
16-18	2050	1721	66.0	47.7	30	23.4	600	142

Hence physically, biologically and nutritionally the adolescent girl is at the rear end of the human ladder. Achievement of optimum growth in girls is therefore considered to be atmost importance in improving maternal nutrition and health, reducing incidence of low birth weight

babies, and for the betterment of child survival and development. With the profound growth of adolescence come increased demands for energy, protein, minerals and vitamin (Chandrasekar, 1992).

Most of the Indian girls enter into marriage at very early age as a result of which teenage pregnancies are common and Indian teenage mother bears various physiological and pathological burdens involved in the growth and development of self and their off spring leading to problems of undernutrition and under development (Gopalan, 1989). Prepregnancy nutritional status of a mother is generally determined by nutrition during her growing years. chronic childhood under nutrition resulting in maternal childhood negatively affects reproductive performance there by affecting the health of future citizen (Kamet,1993).

The recommended nutrient allowances and that of dietary allowances of adolescents are indicated in Table 2.

Table 2. Recommended nutrient allowances and dietary allowances of adolescents

Recommended nutrient allowances *		Recommended dietary allowances (g) **	
Energy Kcal.	2060	Cereals	460
Protein (g)	65	Pulses	45
Calcium (mg)	600	Green leafy vegetables	50
Iron (mg)	28	Other vegetables	50
Vitamin A (mg)	600	Milk and milk products	250
Ascorbic acid (mg)	40	Fats and oils	40
Thiamine (mg)	1	Sugar and jaggery	45
Riboflavin (mg)	1.2		
Niacin (mg)	14		
Vitamin B_{12} (mg)	0.2-1		

* Source : Nutritive value of Indian foods, 1995

** Source : Essential of food and nutrition, 1985

The nutrient requirement of adolescent closely follows physiological changes. As energy requirement increases to support the growth spurt, so do protein needs. Since protein is known to be important in supporting growth, adequate protein intakes during adolescence should be maintained (Sreelakshmi, 1996). The minerals of greatest concern during adolescence are calcium, zinc and iron as those are more often limited in the adolescent diet than others. Calcium is needed for skeletal development, iron

for the increase in muscleness and blood volume and zinc for increase in skeletal and muscle tissue. Surveys show that half of all adolescent girls consume less than 70 % of the RDA for calcium. Once menstruation begins, girls also have high iron requirements. Anaemia is found to be more prevalent among adolescent girls than of any age group. A survey done by Crowley (1984) indicates that more than 80% of adolescent females consumed less than 18 mg/day. Zinc is important for growth as well as for sexual maturity of young adults and deficiency may delay sexual maturation. The need for thiamine, riboflavin and niacin, increases directly with increased caloric intake. skeletal growth requires vitamin D while the structural and functional integrity of newly formed cells depends on the availability of vitamins A, C and E (Fassbender, 1984).

Most adolescents experience a growing sense of independence which often affects their eating habits. Psychological disorders bulimia and anorexia nervosa affect the adolescents eating habits. These changes in psychological pattern often result in malnutrition (Gostmaker et al, 1987). These adolescents when they become mothers are not only able to take care of their own needs but, in consequence, are also less able to take care of the needs of others. This can lead to adverse health effects both for themselves and for their children (Mapanga, 1997). Child bearing at an early age combined with repetitive pregnancies will therefore result in a cycle of poor health

of both mothers and subsequent children, resulting in a constant drain on her nutritional, physical and emotional resources (Hussien, 1997). Thus nutrition needs receive adequate attention in bringing up adolescents. The nutritional status indicate both immediate and long range effects. Immediately they may advance (or) thwart the adolescent spurt to certain extent. When left unchecked it might enter into the genetics and affects the secular trend (Narayanan, 1996).

C. Aspects of reproductive health

Reproductive health is a state of complete physical mental and social well being and not merely the absence of disease or infirmity in all matters relating to the reproductive system, its functions and process (United Nations, 1996). Reproductive health is a package which includes safe motherhood, regulation of fertility, prevention and management of reproductive tract infection, sexually transmitted diseases, HIV/AIDS and preventing complications of abortions (Giri,1996). Every minute of every day, a woman die from complications related to pregnancy and child birth. As per official estimates maternal mortality rate in India is nearly 400 per 1,00,000 live births, next to Bangladesh (600) and Nepal (800) and is largely contributed by poverty, illiteracy, malnutrition, poor health care and low health consciousness (Mukhurjee, 1997).

Safe motherhood initiative established in 1987, is a goal effort to reduce maternal mortality and morbidity. The target is to reduce maternal deaths by at least half by the year 2000 (Rao, 1997). The better the maternity coverage during pregnancy and delivery, the safer is motherhood. Seventy to eighty percent of maternal deaths in India can be prevented with existing knowledge and technology. Adequate nutrition and health care for girls and women, family planning as a part of primary health care, quality prenatal and intranatal care, essential obstretic care in emergencies are some of the health facilities that are essential in the drive for safe motherhood (Mukhurjee, 1997).

Fertility regulation is an important component of reproductive health. An essential factor of reproduction is the ability to control conception if one wishes to do so. It improves health and status of women and allows women to determine number and spacing of births. Contraceptions save lives by preventing exposure to risks of pregnancy. Higher the contraceptive prevalence, the lower the maternal mortality rates. Fertility regulation is a basic requirement for women's survival, well being and quality of life (Mukhurjee, 1997)

Sexually transmitted diseases (STD) commonly known as Veneral disease (VD) are a group of contagious diseases that are almost always transmitted during sexual activity. The world wide incidence of sexually transmitted diseases is high and increasing. The social and economical

disadvantages that women face make them especially vulnerable to sexually transmitted infections by their exposure to the high risk, sexual behaviour. For women the symptoms of infections from sexually transmitted diseases are often hidden. The risk of transmission from infected men to women is also greater than from infected women to men, and many women are powerless to take steps to protect themselves. The common sexually transmitted diseases are gonorrhea, syphilis and genital herpes (International Conference on Population Development, 1994)

The most dreaded disease that rocks the world today is AIDS. AIDS is an Acquired Immuno Deficiency Syndrome. This is caused by a virus Human Immuno Deficiency virus. India stands first in AIDS as declared in the 11th International AIDS conference held at Vancouser, Canada on 12th July 1996. AIDS is an epidemic disease which has no cure but can be prevented. The rate of infection is increasing alarmingly in the developing countries and is expected to account for 70 to 80 percent of the world total by 2000 A.D. and 80 to 90 percent by 2010 A.D. Evaluation studies have shown that reproductive health education does not encourage early sexual risk taking among adolescents (WHO, 1996)

Abortion is a wicked crime and a gracious sin. The immediate complications of abortion are excessive bleeding, puncture of the womb and infection from decaying parts of the dead baby. A women who has undergone abortion may suffer from psychological problems. It has been estimated

by WHO that approximately half a million women die every year for reasons associated with their reproductive life, and that about thirty percent of those deaths are due to unsafe abortion (World Population Plan of Action, 1994). The 1997 Medical Termination of Pregnancy (MTP) act legally made abortion more (or) less available on demand. In addition to the more usual grounds of rape, injury to the physical (or) mental health of mother (or) child etc., abortion was legally permissible in the event of contraceptive failure (Government of India, 1982 and Mathai, 1997). Enhancement of action aimed at achieving responsible parenthood, accompanied by improved reproductive health education and access to safe and reliable family planning methods are the best means of preventing abortion (World Population Plan of Action, 1994).

To achieve the goal of low maternal mortality to an acceptable figure of 40 per 1,00,000, a strategic programme aimed at a "behavioural change" is necessary so that women as well as men are motivated to adopt safe reproductive health care practices. This involves education and councelling to make women aware of the care to be taken to ensure a safe delivery and a healthy baby as also of the services that are available to help them achieve these goals (Soonawala, 1997).

D. Need for creating awareness on reproductive health among adolescents

The importance of the reproductive health of adolescents has started to receive increased recognition, particularly in developing countries where four out of five of the world's young people live and where more than half the population is under the age of 25 (Giri, 1996). The adolescents form 22 percent of India's population and greater attention is to be given to the reproductive health of adolescents in a country because they are the future citizens and leaders. Adolescent's health will be dangerous by malnutrition, STDs, significant proportion of them are married early and exposed to the risks of adolescent pregnancy (Rao, 1994). The best way to solve these problems is by creating an awareness about the reproductive health among the younger generation, who will be entering into the reproductive age in due course of years (Audinarayana, 1996).

A substantial proportion of women in developing countries get married during adolescence. Overall, 20-50% of women marry or enter a union by age 18 and this phenomenon is most prevalent in south asia, In India, today early marriage and adolescent child bearing is still prevalent. Approximately 12 million girls in India are married under the age of 18 years (Hussion et al, 1997). The recent surveys reveal the fact that about 44 percent of the women are married between the age of 15 and 18. The

mean age for marriage of women is 18.3 years which is considered low (Sennakesavan, 1994). A study conducted in the ICDS projects area at Pondicherry, revealed that almost half of both boys and girls aspired that females and males should get married at 18+ and 23+ years which is a welcome sign (Premarajan et al, 1993).

Teenage pregnancy is more common in low socio-economic strata of society. Low purchasing power, illiteracy, ignorance are believed to be the undesirable out comes of pregnancy. About one out of every five babies is born to a teenager and more than a tenth of these mother are 15 or younger (Hamilton, 1997). Mortality and morbidity from early pregnancy whether ending in child birth or abortion is much higher among the younger adolescents. Young women especially those who have less formal education are more vulnerable to pressures of marriage or sexual relations before marriage. Lack of scientific knowledge on sex behaviours and the physiological changes in adolescence motivate them to explore in the area of sex behaviour. Even the physical aspects of intercourse is not known to quite a few adolescents Young people generally lack adequate knowledge about their own development and information on how to get help (Narayanan, 1996).

Reproductive health is affected by the economic, social, cultural and educational environment in which girls are born, grow to womenhood, marry and repeat the process in starting their own families (Nassim, 1989). In developing

countries, adolescents do not enjoy the reproductive rights as envisaged in the UN declaration which includes the selection of marriage partners etc. The reproductive behaviour of an adolescent woman is also affected by the attitude and behaviour of her parents and the society at large, towards, child bearing, most adolescent girls are not aware of family planning methods (Ram et al, 1986).

Adolescents lack adequate knowledge about sexual maturation and the relationship between sexual practices and pregnancy or STD. They lack information about the existing services and method of using them. They have considerable anxieties about the consequences of existing methods of contraception and negative feelings about the condom, they fear the consequences of disclosing their sexual behaviour to adults, whether members of their own family or health workers and they find it difficult to communicate with each other about the subject (Friedman, 1994).

Sexual intimacy of adolescents may result not only in a curable disease or an unwanted pregnancy but in infection with HIV for which there is no cure. In this decade and at least the next, developing a healthy sexuality is a matter of survival (WHO, 1996). In 1996 alone, 4,00,000 children under the age of 18 became infected with HIV, bringing the total number of children in this age-group living with the virus to 8,30,000 at the end of 1996. In many developing countries some 50 percent of the population are under 18 years of age (Peter, 1997). In the case of college students

the knowledge and beliefs on HIV/AIDS is still inadequate. A survey concluded in Maharastra state which stands second among the HIV/AIDS prevalence cases among states in India done with 409 college students within an age group of 18-24 years indicated very low level of awareness. The finding strongly suggests that an attempt must be made to understand the level of awareness among the adolescents on their basic knowledge about HIV/AIDS and other aspects of reproductive strategies to make them aware of reproductive health hazards (Williams, 1996).

Thus reproductive health of adolescents requires urgent global attention. Majority of adolescents expressed a strong desire for better education about contraception and consequences of sexual intercourse and commended that schools, colleges, universities, parents and community health services participate in educating young people about reproductive health (Obekiko et al, 1997).

E. Efforts undertaken by government to promote better reproductive health awareness

Reproductive approach recognizes that the foundation of women's health are laid in childhood and adolescence and are influenced by factors such as nutrition, education, sexual roles and socio economic environment. Reproductive health care strategies to meet women's multiple need include education for responsible and healthy sexuality, safe and appropriate contraception, and services for sexually transmitted diseases, pregnancy, delivery and abortion

(Nassim, 1989). The United Nation conference on human rights at Tehran in 1968 recognized family planning as a basic human right. A WHO export committee (1970) has stated that family planning includes in its purview the proper spacing and limitation of births, advice on sterility, education for parenthood, sex education, screening for pathological conditions, related to the reproductive system, marriage counselling, providing services for unmarried mother, teaching home economics and nutrition and providing adoption services. These activities vary from country to country according to national objectives and policies with regard to reproductive health and right. This is the modern concept of reproductive health and rights (Kinchles, 1994).

The World Population Plan of Action recognises as one of its principles, the basic right of couples and individuals to decide freely and responsibly the number and spacing of their children. A national family planning programme was introduced in the first five year plan (1951-56) with a modest investment for contraceptive services in hospitals and clinics. About 126 urban and 21 rural family planning clinic were set up in the second five year plan (Venkatasubramanian, 1997). From the third five year plan onwards, the programme was strengthened with an extension education approach to improve the reach of services in the community (Rajesh, 1995).

According to the National population policy of India, government raised the minimum age of marriage from 15 to 18

years for girls and 18 to 21 years for boys and the monetary compensation for sterilization was raised and special measures were taken to raise the level of the women's education in all states. The government has created the infrastructure for family planning and set up institutions for training and research. In its 40 years of family planning efforts there has been a steady decline in the total fertility rate from 5.8 in 1951-56 to 3.9 in 1991. Further more contraceptive prevalence rate rose from 22.7% among all couples of reproductive age in 1981 to 42% among married women in 1991 (Debnath, 1993). A number of voluntary organisation are involved in the efforts of the family welfare programme (Shankaranand, 1983). There is wider acceptance of family planning programme as constituting good vehicles for confronting the spread of HIV and other STD (Women and Population Action, 1994). But this programme has slipped somewhere. There is extensive recognition of the fact that incentive and disincentive scheme to lower or raise fertility have only marginal impact on fertility levels and in some cases are counter productive (ICPD report, 1994). The family planning programme work best when they are part of or linked two broder reproductive health programme. Family planning coupled with basic health services make a positive contribution to the health and well being of both mothers and children, Before entering in to wedlock, the adolescents must know about the ideal family size, its ideal

composition, spacing between children, when to have a first child, marriageable age, the various contraceptives available, their use and effect, (Diptivillam, 1996).

To improve reproductive health particularly for women, the safe motherhood conference held in Nairobi- 1987 made a number of recommendations. The conference call to action emphasized that better health and nutrition services for children are needed, with particular attention to the needs of girls to ensure they reach their child bearing years in the best of health (Nassim, 1989). Safe motherhood programme aimed at reducing the maternal mortality rates (MMR) in the developing world by at least 50 percent by 2000. The factor which contributes the maternal death in India are lack of access to health care facilities, poverty, illiteracy, poor woman's status, religious taboos, peculiar customs and beliefs, inadequate habitation and increased health risks during pregnancy and labour (Mukhurjee, 1997).

WHO has included the health of adolescents in its eight general programme of work (1990-1995) and is conducting number of activities in collaboration with government with professional groupings and with non-governmental organizations which include the young among their the members in the frame work of its family health programme. It gives special emphasis on reproductive health (Patel, 1989). The international conference on population and development held in 1994 in Cairo was major landmark in the realm of women's health. It was accepted that, the

programme for the population growth problems must be based on a proper understanding of people and their needs as individuals and communities, on the status of the women. It is heartening to note that in April 1996, India had abolished demographic targets for family planning. This is a proof of a major shift from population control policy to reproductive care for women, alongside child health care sufficient emphasis is placed on aspects relating to holistic care, as appropriate family planning, child survival, safe mother hood and reproductive tract infections/sexually transmitted diseases/AIDS prevention (Ramalakshmi, 1997).

The national AIDS control programme was started in 1997 with three major components survilance, screening of blood and blood products and information, education and communication. It is small scale programme, and to meet this major Managerial challenge, global programme on Aids has stepped up its support in the areas of planning, reviewing monitaring and evaluation (Cherney, 1995). The government has formulated number of polices to improve the programme and of non-governmental organizations that are initiating activities often focusing on reproductive health. However these actions have remained much too limited in scope and coverage to have had significant impact on adolescent reproductive behaviour. International conference on population and development, strongly recommended that government strengthen programmes so as to provide

adolescents with the information and means of preventing high risk pregnancies and births and to protect themselves from sexually transmitted diseases including HIV/AIDS (Srinivasan 1993).

The government should take steps to meet the family planning needs of the population as soon as possible and should, in all cases by the year 2015, seek to provide universal access to a full range of safe and reliable family planning methods and to related reproductive health services which are not against the law. Non- government organisation should play its role in mobilizing community and family support in increasing access and acceptability of reproductive health services including family planning. (International Conference on Population and Development, 1994).

Methodology

III METHODOLOGY

The methodology of the study on "Creating awareness on reproductive health care among adolescent girls" included the following steps

A. Selection of the area

B. Selection of the sample

C. Selection of the tool

D. Conduct of the study and

E. Analysis of data

A. Selection of the area

Both rural and urban area of Coimbatore were selected for the conduct of the study. For rural area, the Nachimuthu Polytechnic located in the interior area of Pollachi taluk was selected. Most of the students in the institution were coming from the nearby rural area. Avinashilingam Deemed University located in the centre of Coimbatore city was selected for urban area. These two institutions were mainly selected, as both the areas were easily approachable. The easy availability of the sample and a good co-operation rendered by the authorities of these institutions enabled the investigator to select the above mentioned institutions.

B. Selection of the sample

The sample of the study comprised of 100 adolescent girls in the age range of 17-20 years. Among whom 50 were selected from the rural area and other 50 from the urban area. In the words of WHO "Healthy youth are the best

resource". Youth's health is a key element for development. The present adolescent girls will be the future mothers of our nation. The adolescents are the ones upon whom the fate of our nation depends. To ignore adolescents means ignoring the coming future. Every community should take stock of its youthful resource and nurture it (Prabhakara 1993). The adolescents are the people who are likely to be entered in wedlock and produce children. Health of the future generation is in the hands of present adolescent (Giri, 1996). So it is essential to make the adolescents aware of the various aspects of family formation, so that they develop healthy attitudes and have knowledge to take responsible decisions affecting their own reproductive health and well-being as well as that of their families when the time comes (Srinivasan et al, 1993 and Ramichhabra, 1997).

C. Selection of the tool

The tools selected for the study consisted of the following;

(i) Questionnaire

Questionnaire was used as a tool to collect the data. A Questionnaire is the one which consists of a number of questions printed or typed in a definite order on a form or set of forms. Questionnaire method can be used when respondents are literate and cooperative. It is free from bias and it can be used for large samples and thus the result can be made more dependable and reliable (Kothari,

1995). The Questionnaire included aspects such as general information of the samples, details about puberty, problems faced during menstrual cycle, awareness of the sample on reproductive health, nutrition, family planning methods and sexually transmitted disease/AIDS.[APPENDIX-I]

In addition to the questionnaire, a check list was also prepared on aspects such as population situation of India, reproductive health and nutrition, family planning methods and sexually transmitted disease/AIDS. The check list consisted of 78 questions of objective type and each correct answer carried one mark. Thus the total score of the check list was 78. Population situation of India had a 13 questions with 13 scores, reproductive health and nutrition consisted of 19 questions with 19 scores, family planning methods consisted of 29 questions with 29 scores and sexually transmitted diseases/AIDS had 17 questions with the scores of 17. (APPENDIX II).

D. Conduct of the study

(i) Collection of data

The authorities of the institutions were approached and the purpose of the study was explained and permission was sought to conduct the study. After obtaining the permission, with the help of teachers, the sample were selected and they too were explained the purpose of the study. Then each one was distributed with the questionnaire and check list and was asked to fill the same and return.

(ii) Implementation of the education programme

After collecting the initial data the education programme was planned for the urban sample. Eventhough the concept of reproductive health has existed for a number of years, it is not specifically referred to in the Population Plan of Action. Recently it acquired an internationally recognized definition and the adolescents are more vulnerable to the reproductive health risks (WPPA, 1994). According to Friedman (1994), even the knowledge of urban educated adolescents on the reproductive health is not much. The most basic and only long-term solution for this problem is education. So as a first step, it was decided to organise the educational programme to the urban adolescents. Mobilising the resources in the urban area was also found to be easy.

The details about the educational programme with the personnel involved are shown in Table 3 and (Plates 1 and 2).

Table 3. Details about the Educational programme

S.No	Topic	Person
1.	Population situation of India i. causes and consequences of population. ii. Important of small family iii. Health policy of WHO	Investigator
2.	Health needs of adolescents i. Changes during adolescence ii. Eating habits and eating disorders of adolescence iii. Importance of reproductive health awareness.	Investigator
3.	Nutrition during pregnancy i. Importance of good nutrition during adolescence and pregnancy ii. Nutritional problems during pregnancy iii. Complications of pregnancy	Dr. Mrs. Vijayalakshmi Purushothman Professor and Head Department of family and community science Avinashilingam Deemed University Coimbatore-641 043.
4.	1.Family planning methods i. Age of puberty ii. Age at marriage iii. Ovulation and conception 2. Family planning methods	Mrs. Stella Meenakshi maternity centre Coimbatore - 641 043. Mrs. Gnana jaya jothi Meenakshi maternity centre Coimbatore- 641 043.
5.	Sexually transmitted disease/AIDS i. Types ii. Signs and symptoms iii. Control	Dr. Mrs. Sarasvathi, Medical Practioner of Avinashilingam Deemed University Coimbatore - 641 043.
6.	Safe Motherhood	Dr. Mrs. Mridubashini Govindarajan Director of reproductive Technology centre Coimbatore

GUEST LECTURES ON REPRODUCTIVE HEALTH

PLATE 1

PLATE 2

Eight sessions were arranged to teach the sample on various aspects of reproductive health. Each session carried 45 minutes. Lecture cum discussion method was followed mainly. The visual aids used were charts (Plate 3), posters (Plate 4) leaflets, Phamplets and video. An exhibition (Plate 5) was arranged on population situation of India, Family planning methods, importance of small family, nutrition during pregnancy, sexually transmitted disease and safe mother hood (Plate 6).

The students were encouraged to take part in discussions and they were also very much interested and enthusiastic in learning the facts. After the implementation of education, the same questionnaire and check list were once again administered to the sample and the data was collected.

E. Analysis of data

After collecting the data, it was consolidated and percentage was worked out wherever it was needed. The scores in the checklist were statistically analysed and compared using the students 't' test and paired 't' test.

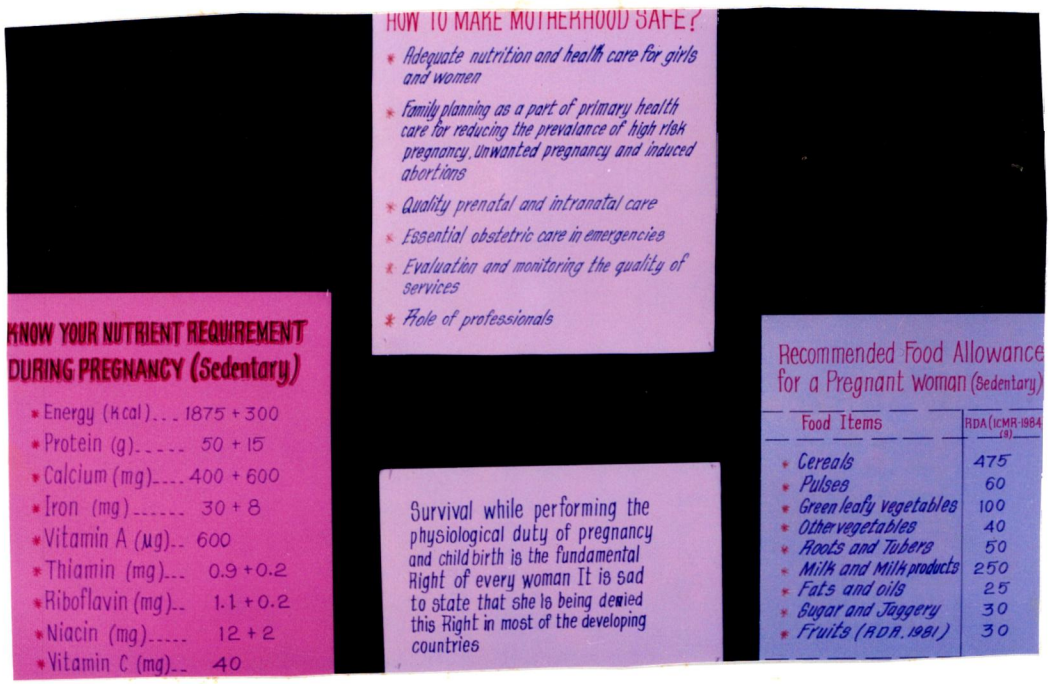


PLATE 3

CHARTS

PLATE 4

POSTERS

EXHIBITION

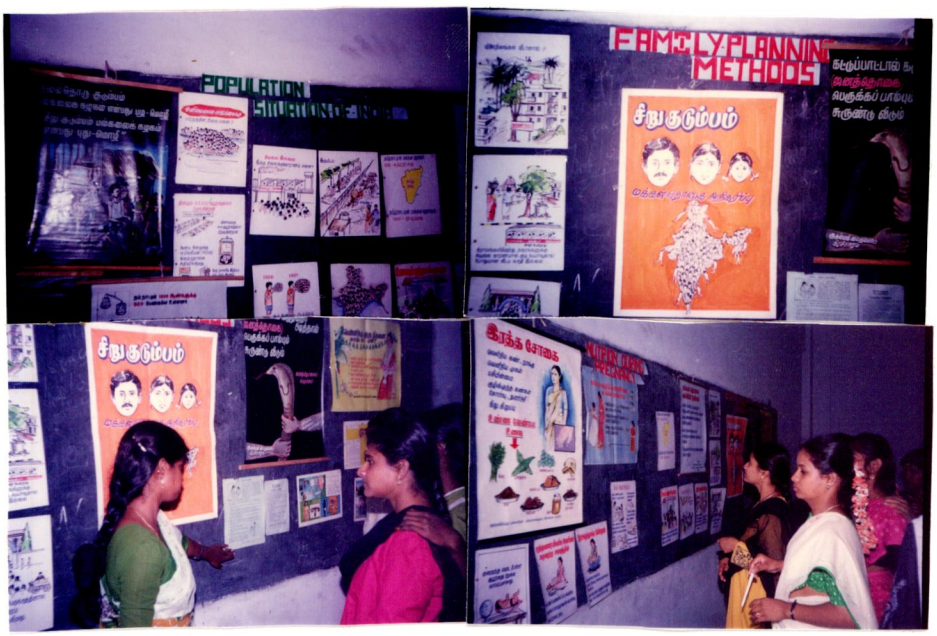


PLATE 5

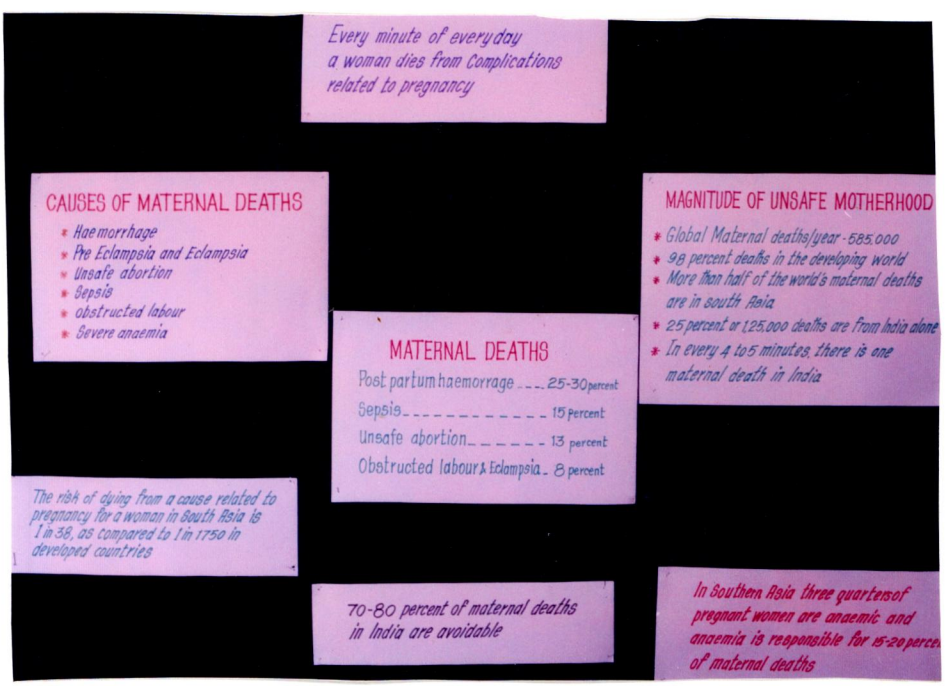


PLATE 6

Results and Discussion

IV RESULTS AND DISCUSSION

The results of the study on "Creating awareness on reproductive health care among adolescent girls" are discussed under the following heads

A. Family background information of the selected Sample
B. Details about puberty and its related aspects of the selected sample
C. Pre-education awareness of the selected sample in relation to selected variables
    1. Reproductive health and nutrition
    2. Family planning methods
    3. Sexually transmitted diseases/AIDS
D. Impact of education on the awareness of the selected sample on reproductive health

A. Family background information of the selected sample

The family background information of the selected sample is given Table 4.

Table 4. Family background information of the selected sample

S.No.	Particulars	Rural		Urban	
		No.	Percentage	No.	Percentage
1.	Type of family				
	i. Nuclear	40	80	46	92
	ii. Joint	10	20	4	8
2.	Family size				
	i. Small (<4)	30	60	34	68
	ii. Big (>4)	20	40	16	32
3.	Father's education				
	i. Primary education	14	28	14	28
	ii. Secondary education	14	48	14	28
	iii. Higher Secondary education	12	24	13	26
	iv. Graduation	10	20	9	18
4.	Mother's education				
	i. Primary education	20	40	27	54
	ii. Secondary education	20	40	23	46
	iii. Higher secondary education	5	10	-	-
	iv. Graduation	5	10	-	-
5.	Father's occupation				
	i. Business	11	22	14	28
	ii. Agricultural	9	18	-	-
	iii. Skilled workers	18	36	21	42
	iv. Clerical	7	14	9	18
	v. Professional	5	10	6	12
6.	Monthly income				
	i. Rs.1251 - 2250	17	34	17	34
	ii. Rs.2251 - 4250	21	42	19	38
	iii. Above Rs.4251	12	24	14	28

Majority of the families of both rural and urban sample were of nuclear type. Compared to urban Families 20 percent of the families were joint families which shows the existence of joint familes in the rural area. The educational status of fathers of the rural sample ranged

from primary education to graduation. Majority of them have their education upto primary and secondary level both in urban (28 percent) and rural area (28 percent) followed by higher Secondary education (26 Percent of urban area and 24 Percent of rural area) and about 9-10 percent were found to be graduates.A striking difference is observed with regard to mother's education as 10 percent each of the mothers of the rural area had higher secondary level and graduate education. Majority of the fathers were skilled workers (42 percent of urban and 36 percent of rural) which was followed by business (28 percent of urban and 22 percent of rural), clerical (18 percent of urban and 14 percent of rural) and professional (12 percent of urban and 10 percent of rural). Majority of the sample (42 percent) of the rural area belonged to middle income compared to 38 percent of urban familes where as 28 percent of urban families had an income above Rs. 4251. An equal percentage(34) of rural and urban familes belonged to low income group.

B. Details about puberty and its related aspects of the selected sample

Details about puberty and its related aspects of the selected sample is given in the Table 5.

Table 5. Details about puberty and its related aspects of the Selected sample

S.No.	Particulars	Rural		Urban	
		No	Percentage	No	Percentage
1.	Age of attaining puberty (in year)				
	(i) 13 - 14	32	68	40	80
	(ii) 15 - 16	18	36	10	20
2.	Perceiving information about puberty.				
	(i) Yes	8	16	14	28
	(ii) No	42	84	36	72
3.	Source of information				
	(i) Mother	2	25	2	14
	(ii) Relative	-	-	1	7
	(iii)Friend	6	75	11	79
4.	Information given				
	(i) Reason for puberty	5	63	7	50
	(ii)Have bath every day/cleanliness of sex organ	8	100	13	93
	(iii)Restriction in worship	8	100	14	100
	(iv) Importance of healthy food habits	6	75	10	71
	(v) Use of clean clothes/ sanitary pads	7	88	12	86
	(vi) No exercises/play	5	63	10	71
	(vii)Disposal of pad/cloth	4	50	12	86
	(viii) No bath	3	38	5	36

From the Table it is clear that majority of the sample (80 percent of urban and 68 percent of rural) attained puberty between 13 and 14 years followed by 15-16 years (20 percent of urban and 26 percent of rural).Now the children are maturing earlier and the average age of menarche is getting lower.The range of non pathological onset of menstruation is found to be between 9 and 16 years of age (Bullugh, 1981). Compared to the urban sample, a sizable rural sample have attained puberty at a later age.

Secondary sexual characters develop and often the suddenness of their onset upset the adolescents unless they have been adequately informed and prepared for the changes, Girls usually get frightened or shocked at the onset of menstruation. The girls must be explained about the role of menstruation is an acceptable way so that she can see her future as a wife and mother (Devadas, 1996). About 28 percent of urban and 16 percent of the rural sample only have got information about the first menstruation before they attained puberty. They had got information mainly from their friends (22 percent of urban and 12 percent of rural) and just four percent each of urban and rural area from their mother. Not much difference is seen between rural and urban samples with regard to receiving information about puberty.

The sample from urban area have received information such as restriction of worship, having bath daily and keeping sex organs clean and use of clean clothes/sanitary

pads. Majority of the urban sample have received information about the disposal of sanitary pads compared to their counterparts in rural area whereas the reason for puberty was mentioned by a large number of rural sample.2.

2. Problems during menstruation

Majority of the sample (74 percent rural and 84 percent of urban) expressed that menstruation is a natural process and it was considered to be an essential one to become a mother (28 percent of rural and 30 percent of urban). Above half of them (58 percent rural and 54 percent urban) had problems during menstrual cycle and details of the menstrual problems of the selected sample are given in Table 6.

Table 6. Menstrual problems faced by the selected sample

S.NO	PROBLEMS	Rural		Urban	
		No	Percentage	No	Percentage
1.	Head ache	6	20	11	41
2.	Stomach ache	22	76	20	74
3.	Body Pain	5	17	4	15
4.	Tiredness	14	48	12	45
5.	Initiation	1	3	2	7
6.	Bad mood	4	14	5	19
7.	Excessive Bleeding	10	34	12	44

About three fourth of the sample irrespective of the area had stomach pain which was followed by tiredness and excessive bleeding. Head ache and body pain were also expressed by the sample. When the sample were asked about the treatment taken for the problems only six percent of the rural and 14 percent of the urban mentioned that they had gone to the doctor and took treatment.

C. Pre-education awareness of the selected sample in relation to selected variables

Table 7 and (Fig.1) shows the pre-education awareness scores on reproductive health of the selected sample in relation to selected variables.

Table 7. Pre-education awareness scores on reproductive health of selected sample

S.No	Particulars	Number	Mean # standard deviation Total scores=78)	t Value
1.	Family size			
	i Small	64	26.4196 #2.4695	0.944^{NS}
	ii Big	36	26.83125 #1.85	
2.	Family type			
	i Nuclear	86	26.49565 #2.2685	0.83^{NS}
	ii Joint	14	27.1 #2.574	

Table contd...

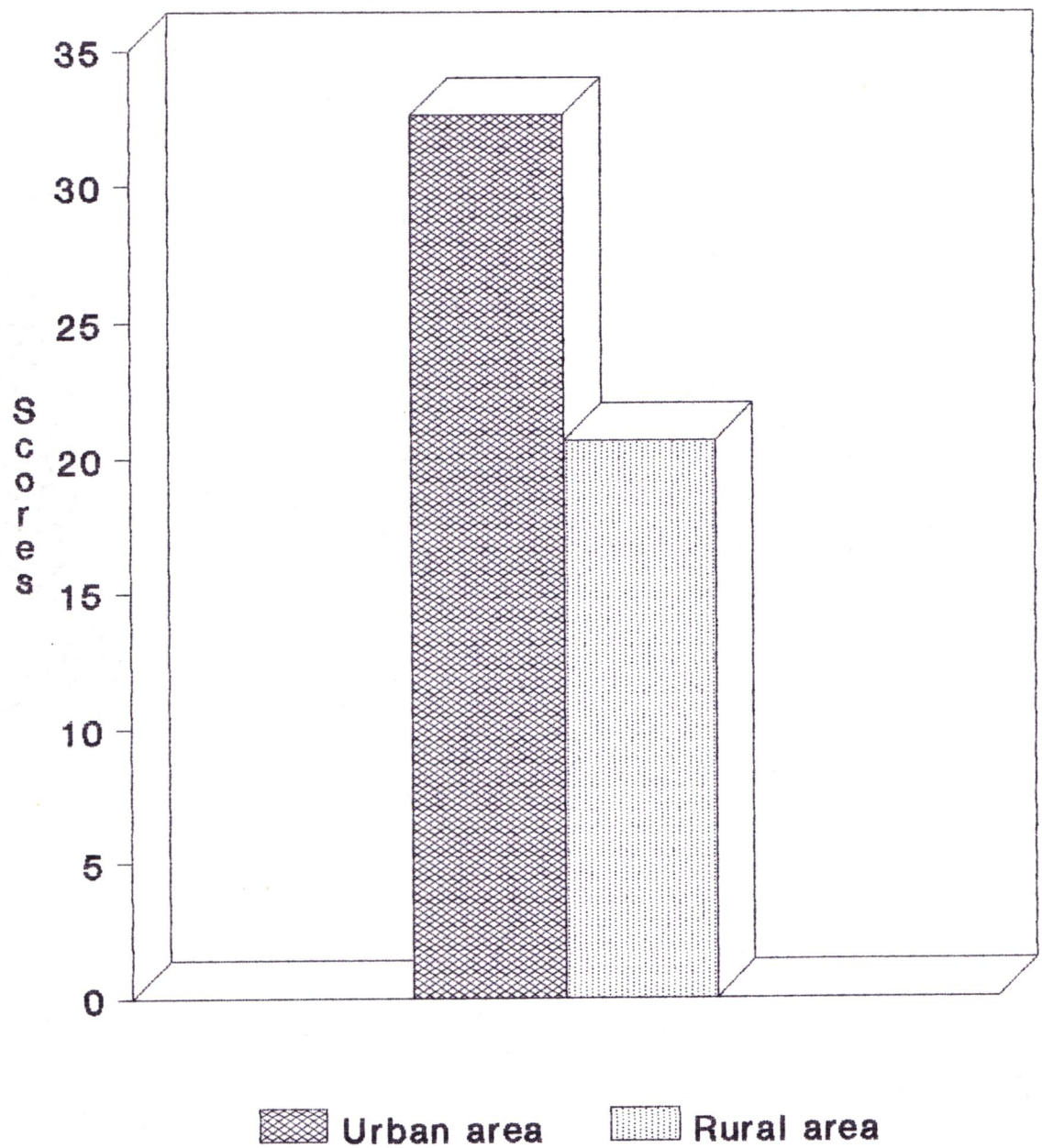
Table contd...

S.No	Particulars	Number	Mean # standard deviation Total scores=78)	t Value
3.	Family income			
	i (a) Low income	34	24.7353 #1.874	
	vs			4.76**
	(b) Middle income	40	26.4561 #1.0505	
	ii (a) Middle income	40	26.4561 #1.0505	
	vs			7.09**
	(b) High income	26	29.0595 #1.671	
	iii (a) High income	26	29.0595 #1.671	
	vs			9.421**
	(b) Low income	34	24.7353 #1.874	

NS - Not significant

** - (P < 0.01)

The pre-education awareness scores of the sample irrespective of the area were found to be poor which ranged from 24.74 to 29.06. Difference is noticed statistically in the mean scores of small and big families and of nuclear and joint families. But highly significant difference is noticed in the mean scores of the sample belonging to various income levels i.e., between middle income and high income. The awareness of the sample of middle income group compared to low income group, of high income group compared



PRE-EDUCATION AWARENESS SCORES ON REPRODUCTIVE HEALTH OF SELECTED SAMPLE
FIGURE 1

to low income and middle income group compared to high income group is found to be better which signifies the fact the family income has an influence on the awareness of the sample on reproductive health.

C.1 Pre-education awareness of the selected sample on reproductive health and nutrition

i. Awareness on reproductive health

About 44 percent of the urban and 28 percent of the rural sample said that conception took place by sexual contact and remaining (56 percent of urban and 72 percent of rural) did not have any idea about conception. About 72 percent of the urban and 32 percent of the rural sample felt that awareness about reproductive health was important for adolescents to plan their future family effectively (56 percent of urban and 19 percent of rural) and the present adolescents would become mothers of next generation (44 percent of urban and 81 percent of rural). The remaining (28 percent of urban and 68 percent of rural) were not in favour of the awareness about reproductive health and stated that it might increase the curiosity of the adolescent and lead them to choose the wrong path that they may become victims to social evils. A survey by WHO found evidence that reproductive health education leads to earlier or increased sexual activity among youths. It did indicate that reproductive health education can help to protect teenager from the risks of sexual activity (Narayanan, 1996).

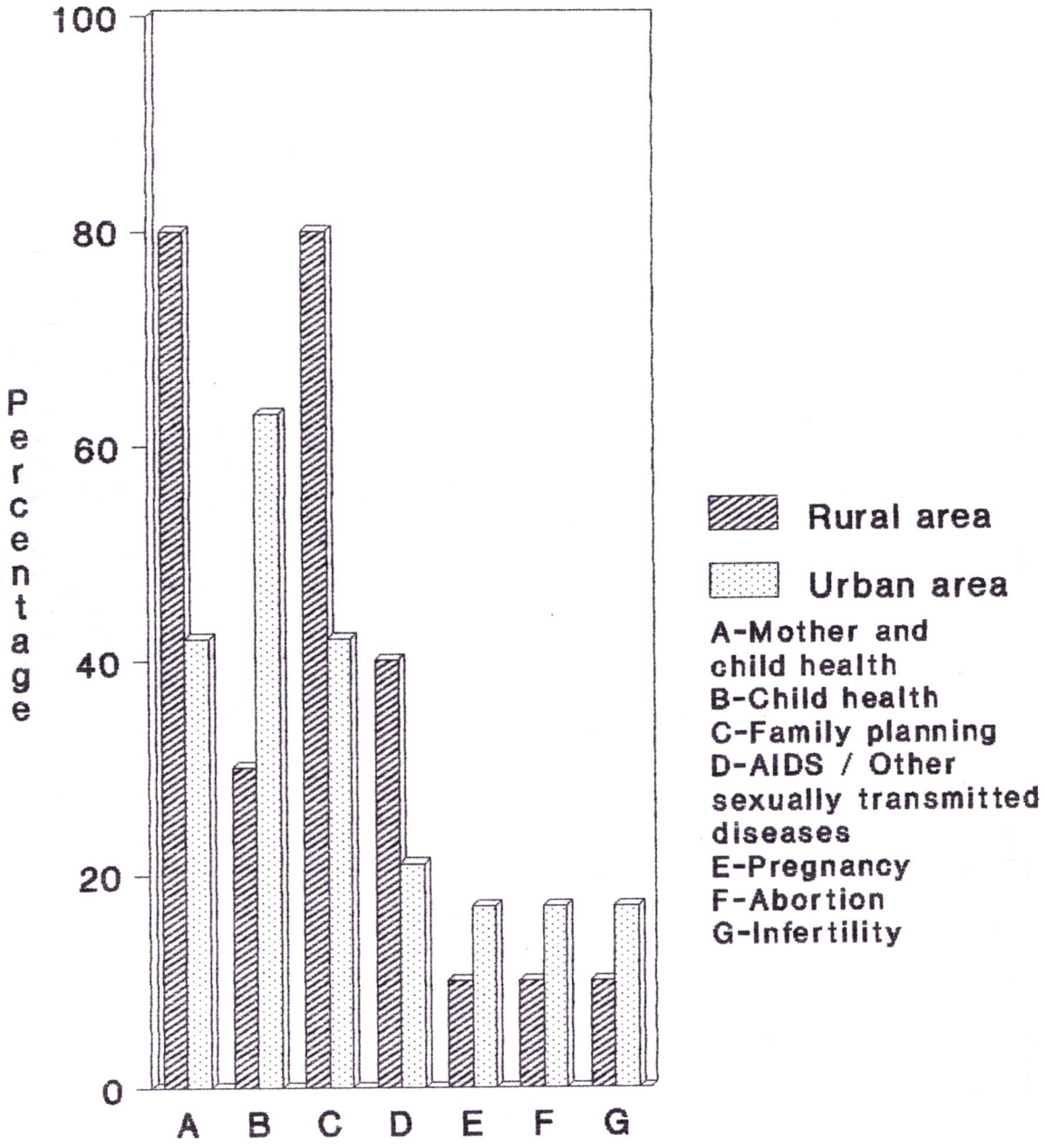
A well informed adolescent is more likely to take the right decision at the right time there by having a bearing on how its future generation will perceive opportunities for choice in its own reproductive life span (Diptivillam, 1996).

The following Table 8 and (Fig.2) give the awareness of the selected sample on reproductive health

Table 8. Awareness of the selected sample on reproductive health

S.No	Aspects of reproductive health	Rural		Urban	
		No	Percentage	No	Percentage
1	Mother and child health	8	80	10	42
2	Child Health	3	30	15	63
3	Family Planning	8	80	10	42
4	AIDS/other sexually transmitted diseases	4	40	5	21
5	Pregnancy	1	10	4	17
6	Abortion	1	10	4	17
7	Infertility	1	10	4	17

Compared to 48 percent of the urban sample only 20 percent of rural sample expressed that they had heard of reproductive health. Rural sample differed from urban sample in their concept about reproductive health. For majority of them it is mother and child health (80percent), family planning (80 percent) AIDS/other sexually transmitted disease (40 percent) and child health (30 percent) whereas the urban sample understood the term as child health



AWARENESS OF THE SAMPLE ON REPRODUCTIVE HEALTH
FIGURE 2

(63 percent) maternal and child health (42 percent) and family planning (42 percent). Pregnancy, abortion and infertility were mentioned by (10 percent) each of rural and (17 percent) each of the urban sample. When they were asked about the source of information of reproductive health, for majority of the sample, it was the friend followed by mass media and the teacher and only few had expressed mother as a source of information. A study conducted in Nigeria, also revealed the similar findings that majority of the adolescents got information about reproductive health from their friends and peers. In an adolescent sexuality survey, respondents ranked parents low as a source of information (obikeze et al, 1997). According to NCERT, the knowledge of adolescents on reproductive health is not much. The reproductive health awareness or knowledge must be created in adolescents. The reproductive health awareness must be spread through adolescents to build up healthy and happy nation (Audinarayana, 1996).

20 percent of urban and 8 percent of the rural sample took special care towards their health after attaining puberty and that they took iron rich foods to maintain the loss during menstrual cycle. The others did not take any. Hence it is clear that the sample irrespective of the area did not have adequate health and nutritional knowledge.

ii. Availability of reproductive health care services

Nassim (1989) states that the young people entering their reproductive years need to know the facts, the risks,

and the kinds of services available to them if they are sexually active, including family planning, STDs, infertility, other reproductive health concerns, and maternity. But the findings revealed that the entire rural sample and 90 percent of the urban sample did not have any knowledge about the reproductive health services available in the society. Primary health centre was mentioned by a very few urban sample. Friedman (1994) also confirms that the adolescents will have less knowledge, less experience and fewer resources to obtain knowledge and services which could help her.

iii. Importance of nutrition during pregnancy

Table 9 Indicates the importance of nutrition during pregnancy.

Table 9. Importance of nutrition during pregnancy

S.No	Particulars	Rural		Urban	
		No	Percentage	No	Percentage
1	For Mother's Health	28	56	32	64
2	For Child's Health	19	38	31	62
3	for Safe Delivery	-	-	3	6
4	Donot Know	18	36	-	-

Most of the rural and urban sample were having just general awareness regarding nutrition during pregnancy that nutrition was important for mother's health (64 percent of urban and 56 percent of rural) and child's health (62percent of urban and 38 percent of rural). They did not know

anything specific about the role of nutrition in avoiding complications both in the mothers and children. One third of the rural sample did not know the importance of nutrition during pregnancy.

iv. Nutrient and dietary requirement during pregnancy

The awareness of the selected sample on nutrient and dietary requirements during pregnancy is shown in Table 10.

Table 10. The nutrient and dietary requirement during pregnancy

S.No	Particulars	Rural		Urban	
		No	Percentage	No	Percentage
1.	Nutrient Requirement				
	i) All Nutrients	7	14	21	42
	ii) Calcium, Iron and Vitamin	6	12	-	-
	iii) Donot Know	37	74	29	58
2.	Dietary requirement				
	i)Green Leafy Vegetables	10	20	18	36
	ii)Milk and Egg	12	24	19	38
	iii)Fruits	19	38	24	48
	iv) Donot Know	25	50	10	20

Majority of the sample of urban area (58 percent) and rural area (74 percent) were not aware of the nutrient requirement during pregnancy. About 42 percent of the urban and 14 percent of rural sample just mentioned all the nutrients and did not have an idea of the various nutrients and their requirement. Only 12 percent of the rural sample mentioned about calcium, iron and vitamin. Similarly with regard to the dietary requirement during pregnancy green

leafy vegetables (36 percent of urban and 20 percent of rural), milk and egg (38 percent of urban and 24 percent of rural), fruits (48 percent of urban and 38 percent of rural) were mentioned and they did not know the quantity as such. Extra nutritional care is important during pregnancy for the betterment of mother as well as the baby. Most of the adolescents were not aware of it. It needs a family life education at an early age for laying the foundation for a healthy family. Important message such as problems related to pregnancy and care during pregnancy could be displayed on buses and trains in other public places (Premarajan et al, 1996).

V. Foods to be avoided during pregnancy

Table 11 Gives the details about foods to be avoided during pregnancy

Table 11. Foods to be avoided during pregnancy

S.No.	Foods to be avoided	Rural		Urban	
		No	Percentage	No	Percentage
1.	Papaya	31	68	38	90
2.	Pineapple	28	62	33	90
3.	Sesame balls	9	20	6	14
4.	Chicken	--	--	13	31

Majority of the sample (90 percent of rural and 84 percent of urban area) believed that certain foods need to be avoided during pregnancy. Papaya and pineapple were mentioned as foods to be avoided during pregnancy by more than 90 percent of the urban and 62-68 percent of the rural

sample. Sesame balls (20 percent) were mentioned by rural sample whereas urban sample mentioned chicken (31 percent). The reason mentioned was that they were hot foods and induce abortion in the pregnant women. The rest opined that all the foods have same nutrients and no food need to be avoided.

C.2. Pre-education awareness of the selected sample on family planning methods

i. Age at Marriage

Even though the sample were aware that there existed a Marriage Act, they did not have a clear idea about the age at marriage for boys and girls as prescribed by the government.

Table 12 Shows the age at marriage for boys ad girls Marriage Act.

Table 12. Age at marriage for boy and girls as per the Marriage Act

S.No.	Particulars	Rural		Urban	
		No	Percentage	No	Percentage
1.	Age for boys (in years)				
	(i) 23	11	22	14	28
	(ii) 24	8	16	--	--
	(iii) 25	21	42	36	72
	(iv) 26	10	20	--	--
2.	Age for girls (in years)				
	(i) 20	4	8	--	--
	(ii) 21	44	88	25	50
	(iii) 23	2	4	25	50

It is surprising to note that irrespective of the area no one knew the age at marriage for boys (21 years) and girls (18 years) as per the Marriage Act, instead the age at marriage ranged from 23-26 years according to the rural sample and 23 and 25 years according to the urban sample. Similarly there was a variation with regard to the age at marriage for girls also. Majority of the rural sample (88 percent) mentioned 21 years as the age of marriage asper government Act which was followed by 20 years and 23 years, whereas in urban area 50 percent each mentioned 21 years and 23 years as the age of marriage.

The sample were asked about their preference for age of marriage, the details of which are indicated in Table 13.

Table 13. Preference of the sample for age of marriage

S.No.	Age (year)	Rural		Urban	
		No	Percentage	No	Percentage
1.	21	3	6	9	18
2.	22	6	12	--	--
3.	23	13	26	23	46
4.	24	6	12	6	12
5.	25	19	38	12	24
6.	26	3	6	--	--

Difference is noticed between rural and urban sample with regard to their preference for age of their marriage as 38 percent of rural sample preferred to get married at 25

years which was followed by 23 years whereas among the urban samples, 23 years were mentioned as the age of marriage followed by 25 years. Only very few sample had expressed 21 years as their preference.

ii) **Details about children**

The desire of the selected sample towards the number of children is depicted in Table 14.

Table 14. Desire of the selected sample towards children

S.No	Particulars	Rural No	Rural Percentage	Urban No	Urban Percentage
1.	Number of children				
	i. One boy	15	30	17	34
	ii. One girl	13	26	13	26
	iii. a Boy + a girl	22	44	20	40
2.	Ideal spacing between two children (years)				
	i. 2	17	34	18	36
	ii. 3	27	54	32	64
	iii. 5	6	12	-	-

Not much difference is seen between the rural and urban sample with regard to their desire for number of children. Majority of the sample preferred one child especially a boy. With regard to the spacing between two children majority of the urban sample (64 percent) preferred three years gap. About 12 percent of rural sample mentioned five years of gap.

iii) Details about family planning methods

Only few sample (22 percent of rural and 32 percent of urban area) expressed that they should know about the family planning methods during adolescence. Among them majority of the rural sample (64 percent) opined that they should know about these after marriage as they were not matured and knowing about them before marriage will lead to bad habits and problems whereas majority of the urban sample (67 percent) felt that they should know the methods even before marriage for best understanding and effective planning of family and in future. When the adolescents enter into the reproductive age, they must demand access to family planning services so that they can make their own choices about marriage and parenthood. An educated woman will be aware that too many conceptions or at too close conceptions can very badly affect her health as well as that of childs (Prabhakara, 1993).

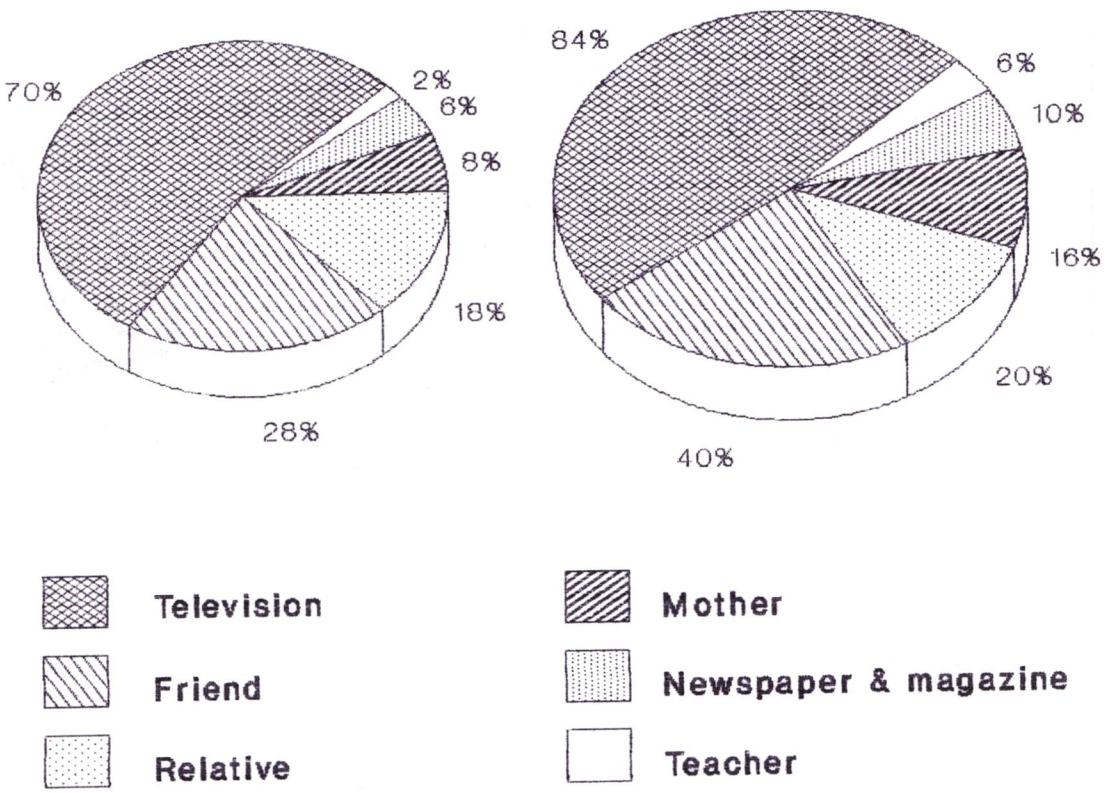
It was shocking to observe that the sample did not have a knowledge on the permanent and temporary methods of family planning as 38 percent rural and 52 percent of urban area mentioned condoms and pills as permanent methods and 8 percent of rural and 18 percent of urban mentioned sterilization as temporary methods of family planning.

Source of information about family planning methods is given in the Table 15 and (Fig.3)

Table 15. source of information about family planning

S.No.	Source	Rural		Urban	
		No	Percentage	No	Percentage
1.	Television	35	70	42	84
2.	Friend	14	28	20	40
3.	Relative	9	18	10	20
4.	Mother	4	8	8	16
5.	Newspaper and magazine	3	6	5	10
6.	Teacher	1	2	3	6

Television plays an important role in providing information about family planning followed by friends. Relatives and mothers have also passed on the information to some extent. In general the percentage of the urban sample mentioning the sources was higher than those of the rural area. When they were asked about the birth control, 94 percent of rural sample and 28 percent of urban sample did not know anything about it. About six percent of the rural sample and 22 percent of the urban sample informed that it is controlling population. The sample of both rural and urban area did not know the place of getting the contraceptive, pill, IUD and condoms and also the cost of each as well as the person from whom they can receive advice for knowing about the birth measures.



SOURCES OF INFORMATION ABOUT
FAMILY PLANNING
FIGURE 3

The poor awareness of the adolescents on family planning methods bring out the need for education to the adolescents. Girls must be provided with better access to education which is a key to increasing control over one's life and environment. Family planning and family life education programme must be expanded, particularly for young people and services for planning families must be made more socially, culturally financially and Geographically accessible (Nassim, 1989).

C.3. Awareness of the sample on sexually transmitted diseases/AIDS

When the sample were asked about the infectious diseases that spread through sexual intercourse, 100 percent of the rural and urban sample knew only about AIDS and they did not have any idea about other sexually transmitted diseases. They did not know the expansion of HIV and AIDS. But 33 percent of the urban and 40 percent of rural sample expressed that sexual contact with more than one person and involving in prostitution (17 percent of urban and 10 percent of rural area) might spread HIV and other sexually transmitted diseases. All the rural (100 percent) and urban sample (100 percent) believed that there was no medicine/treatment for AIDS and they pointed out that they came to know about AIDS/STD by mass media advertisements (100 percent).

ii. **Education/ Counselling on reproductive health**

Majority of the sample (76 percent of rural and 78 percent of urban area) suggested doctor as the suitable person who could give education to the adolescents and 24 percent of urban and 22 percent of rural area felt teacher as the suitable person to give counselling on reproductive health. They wished that their institution should arrange for lectures (42 percent of urban and 10 percent of rural area) on reproductive health. Guidance and knowledge about reproductive health including sexual health, is pressing need for this important and vulnerable segment of society and must be provided in high schools and colleges (Singh, 1989).

D. Impact of education on the awareness of the selected sample on reproductive health

The Table 16 and (Fig.4) depicts the details about the impact of education on reproductive health awareness of the selected sample.

Table 16. Impact of education on reproductive health awareness of the selected sample

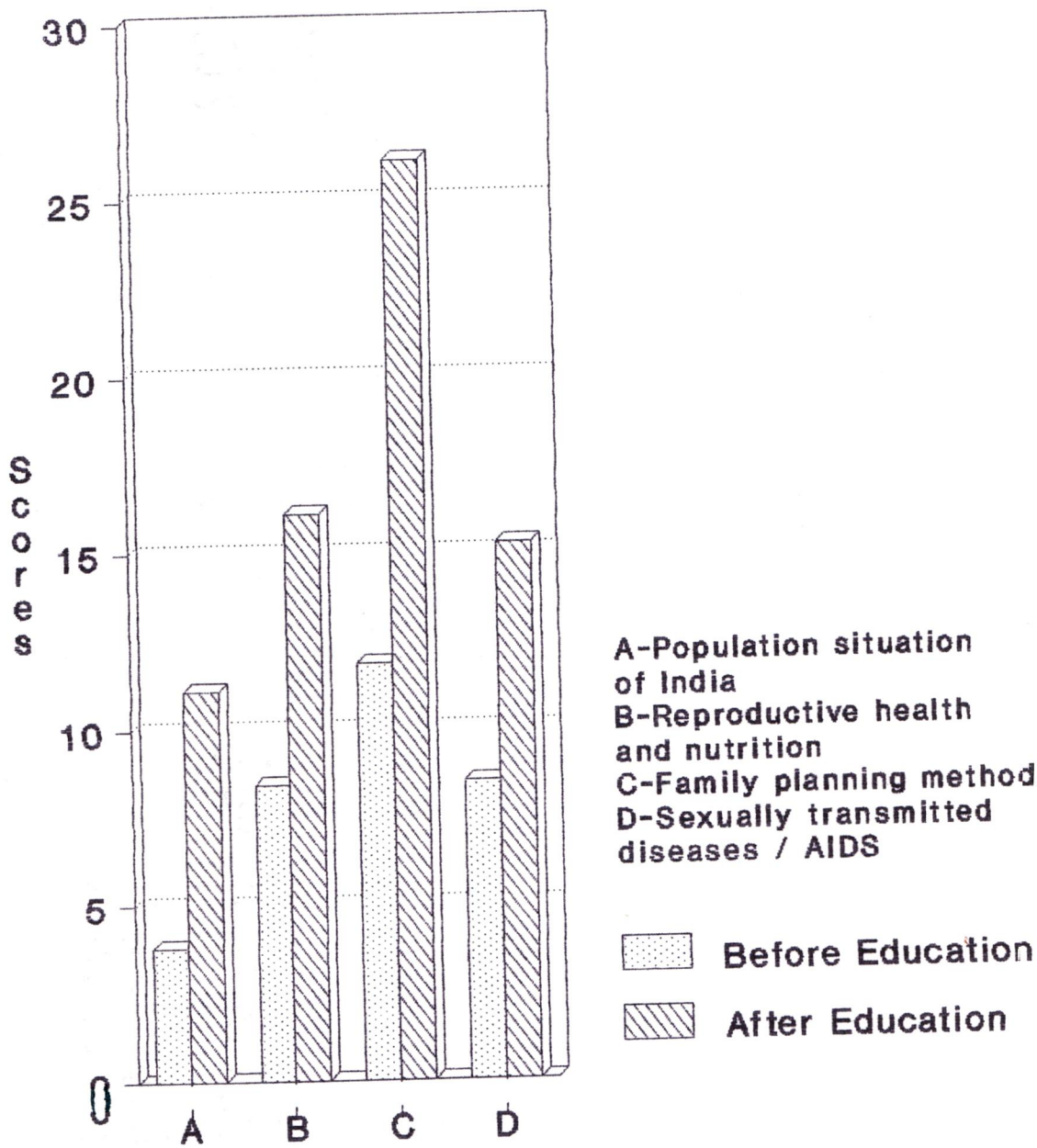
S.No.	Particulars	Total score	Mean Before education	Mean After education	t Value
1.	Population situation of India	13	3.7800 #1.166	11.0800 #1.007	91.82**
2.	Reproductive health and nutrition	17	8.4000 #1.262	16.1000 #0.931	36.93**
3.	Family planning methods	29	11.8400 #1.633	26.1200 #1.100	52.38**
4.	Sexually transmitted diseases/AIDS	19	8.4800 #1.681	15.2400 #0.797	24.59**

Standard deviation

The impact of the education of the selected sample on the reproductive health was assessed by administering the questionnaire and checklist before and after education and by analysed statistically by paired 't' test. The post education scores obtained by the sample were higher than that of pre-education scores. From the t values, it was noticed that pre and post education are significantly different at 0.1 level ($P<0.01$) in terms of all aspects of reproductive health.

1. Reproductive health

Education has improved the awareness of the sample on reproductive health as cent percent had expressed that reproductive health includes pregnancy, mother and child health, family planning, abortion, infertility and



IMPACT OF EDUCATION ON REPRODUCTIVE HEALTH AWARENESS OF THE SELECTED SAMPLE
FIGURE 4

AIDS/other sexually transmitted diseases. They could plan their future family as they would become future mothers. They also knew about the health services available such as primary health centres (74 percent), family planning programmes (70 percent) and AIDS rehabilitation programme (60 percent). The health policy of India, Health for all by 2000AD, was not known to anyone before education, after education they had expressed it is immunisation for all (88 percent), it improves the health status of people (70 percent)and it reduces the birth rate (52 percent).

The education has also improved the awareness of the sample on nutrition also. Specific aspects such as avoiding later complications in pregnancy (100 percent) and safe delivery (80 percent) were known to them. They also developed an awareness that they need not avoid any food during pregnancy. Anaemia (100 percent), vitamin and mineral deficiency (64 percent) and toxemia (50 percent) were mentioned as the nutritional problems faced during pregnancy. Different studies have reported that incidence of anaemia is very high among pregnant women followed by toxemia and vitamin and mineral deficiences (Gopta et al, 1995)

2. Family planning

Education on family planning has also improved their awareness as cent percent has understood the age of marriage for boys and girls as per the government rule. They also understood that small family was the best mainly it improves

the health status of the children. All of them also came to know that awareness of family planning methods during adolescence (before marriage) is a must as it will help for future family effectively (100 percent), for better understanding between the couple (80 percent) and become aware of STD/AIDS (74 percent). Education has helped the sample to differentiate between temporary and permanent methods of family planning. Condoms (100 percent), pills (100 percent), foams, jellies and creams (78 percent), IUD (66 percent) and diaphragm (58 percent) were mentioned as temporary methods of family planning. They also learnt, from where to get the contraceptives.

3. Sexually transmitted diseases

Education has helped the sample to learn about STDS which they had a very poor awareness before education. HIV, Gonerrhoea (70 percent) syphillis (66 percent) and other sexually transmitted diseases (90 percent) were mentioned as STDS. The mode of spreading of AIDS such as sexual contact with multiple person (100 percent), through infected blood unsterilised needle (60 percent) were mentioned only after education. With regard to creating awareness about reproductive health majority (76 percent) have expressed that teachers must be involved in giving education to the adolescents and they should give counselling on reproductive health (76 percent).

Summary and Conclusion

V SUMMARY AND CONCLUSION

The study on creating awareness on reproductive health among adolescent girls was done with the objectives of comparing the awareness of rural and urban area, imparting education to the urban sample and evaluating the impact of education. Nachimuthu polytechnic in Pollachi (rural area) and Avinashilingam Deemed University (urban area) were selected for the study. The sample comprised of 100 adolescent girls in the age range of 17-19 Years, among them 50 were selected from rural area and 50 were selected from urban area. Questionnaire and check list were used to collect the data. After collecting data, education programme was planned and given to the urban sample and once again the questionnaire and check list were distributed to the sample.

The findings of the study are summarised below:

1. No difference is observed statistically in the mean scores of small and big families and of nuclear and joint families. But family income had an influence on the pre-education awareness scores of the sample. The scores of the sample of middle income group compared to low income group and high income group is found to be better.
2. Majority of the families of both rural and urban sample was nuclear type. Both the father and mother of the rural and urban sample were educated. A striking

difference was observed with regard to mother's education as 10 percent each of the mothers of the rural area had higher secondary level and college. An equal percentage of rural and urban families belonged to low income groups. Most of the fathers were skilled workers followed by business, clerical work.

3. Majority of both rural and urban sample attained their puberty between 13 and 14 years. About 28 per cent of the urban and 16 percent of the rural sample only got information about first menstruation before they attained puberty. Majority of both rural and urban sample got information from their friends (22 percent of urban and 12 percent of rural) only few got information from their mother.
4. Above half of the urban sample (54 percent) had problems during menstruation. Majority of the sample had stomach pain which was followed by tiredness and excessive bleeding. only few (6 percent of rural and 14 percent of urban) took treatment from doctor.
5. About 44 percent of the urban and 28 percent of the rural sample believed that conception took place by sexual contact. Majority of the urban and 32 percent of the rural sample stated that awareness about reproductive health was important for adolescents.
6. Only 48 percent of the urban and 20 percent of rural sample were aware of the term reproductive health. Majority of them got information about reproductive

health from their friends followed by mass media and teacher. Only few urban and rural sample took special care for their health after attaining puberty.

7. Very few urban sample were aware of the reproductive health care services in the society. Majority of the urban and rural were aware of the importance of nutrition during pregnancy, such as mother's health, child's health and for safe delivery.

8. Majority of the sample of urban (58 percent) and rural (74 percent) area were not aware of the nutrient requirements during pregnancy. Also they were not aware of the dietary requirements.

9. Majority of the sample (68 percent rural and 90 percent urban area) believed that certain food such as papaya, pineapple, chicken and sesame balls need to be avoided during pregnancy.

10. Even though the urban and rural sample were aware of the existence of Marriage Act, they were not aware of the correct age of marriage as specified for boys and girls to marry. Majority of the urban (38 percent) and rural sample (24 percent) wanted to marry at 25 years which was followed by 23 years (26 percent of urban and 46 percent of rural area).

11. About majority of the urban and rural sample wanted to have one child especially boys. Majority of the rural 54 percent and urban 64 percent felt 3 years as ideal gap between the children.

12. Only few samples of both urban and rural were in favour of knowing about the family planning methods during adolescents as it would help them in better understanding of the family. Majority of the sample did not have an idea about the temporary and permanent methods of family planning.

13. For majority of the sample (70 percent rural and 84 percent of urban area), the source of information about family planning methods was television followed by friends. Majority of the urban and rural area were unaware of the term birth control and did not know the place from where to get the contraceptives and their price.

14. Both rural (100 percent) and urban (100 percent) stated that AIDS was the only disease that spread through sexual inter course not know the expansion of HIV/AIDS.

15. Majority of the urban and rural sample preferred doctor as the ideal person to give education on reproductive health and they wished their institution to arrange for lectures on reproductive health.

16. Statistically highly significant difference was found between the mean scores of pre-education and post education awareness scores of the sample in all the areas of reproductive health. The sample developed a better understanding about the aspects of reproductive health, health services available and about health policy, significance of good nutrition during

pregnancy, food fads and complications during pregnancy; temporary and permanent methods of family planning and the need to know about them during adolescence itself; Sexually transmitted diseases, mode of spreading and the role of teachers in educating the adolescents on reproductive health.

Recommendations

Following are the recommendations emerged out of the study.

1. University Grants Commission must give guidelines to all the universities/colleges to incorporate the concept of reproductive health and reproductive rights in the relavent subjects and NSS syllabus so as to promote better awareness among adolescents who would become parents in the future.
2. Decision - Makers in government must change laws and attitudes and improve the legal and health status of women especially in area such as adolescent marriage and restrictions on health care delivery.
3. Intensified efforts must be taken to spread awareness and information about the reproductive health concept.
4. Public and community level workers should be made conscious about the danger signals of pregnancy through circulation of simple pamplets in vernacular languages.

5. Research must concentrate more on the significant rural and urban areas using focussed and well defined research approches. While explotory research studiess continue to be important because of the vastness of the problems, there is a great need to use action research, implementing reproductive health education, evaluating it and getting feed back of the evaluation for further improvement of the programme.

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Appendices

APPENDIX I

REPRODUCTIVE HEALTH AWARENESS AMONG ADOLESCENTS

General information

Name :

Age :

Sex : Male ( ) Female ( )

Class studying (Major) :

Birth order : Nuclear ( ) Joint ( )

Type of Family :

Occupation :

Income :

Mother's Education :

Occupation :

Income :

Total Family Income :

Religion

a) Hindu ( ) b) Muslim ( ) c) Children ( )

d) Others ( )

Place of residence

a) Urban : ( ) b) Semi urban ( ) c) Rural ( )

d) Others : ( )

Family size

Total Number of Persons ( )

Information about adolescence

1. What is your opinion about adolescent age?
2. What were the changes you observed in your body at this stage?

3. What was your age at the onset of your first bleeding (Menses)?

   Age (in complete years) ( )

4. Did someone tell you about the onset of bleeding (Menses) before it started?

   Yes ( ) No ( )

   If yes, who was that person?

   a) Mother ( ) b) Father ( ) c) Relative ( )
   d) Friend ( ) e) Doctor ( ) f) Teacher ( )
   g) Book/Magazine ( ) h) Radio/T.V. ( ) i) Others ( )

5. What were you told about this?

   a) Why it occurs ( )
   b) Have bath every day/cleanliness of sex organs ( )
   c) Restriction in worship ( )
   d) Importance of healthy food habits ( )
   e) Use of clean clothes/sanitary pads ( )
   f) No exercise/Play ( )
   g) No bath ( )
   h) Restriction in domestic work ( )
   i) Disposal of pad/clothes ( )
   j) None of the above ( )
   k) Others

6. How do you feel about mensuration?

   a) Curse ( ) b) Burdensome ( ) c) Natural ( )
   d) Disguesting ( ) e) Essential to become a mother ( )
   f) Can't say ( ) g) None of the above ( )
   h) Others

7. (i) Do you experience any problem with your Mensuration?

   Yes ( ) No ( )

   (ii) If yes, what problem?

   a) Head ache ( )
   b) Stomach ache/cramps ( )
   c) Body ache ( )
   d) Tiredness ( )
   e) Initation ( )
   f) Bad mood ( )
   g) Excessive bleeding ( )

(iii) If yes above, did you seek advice/treatment from any source?
Yes ( ) No ( )

If yes,

Source	Treatment/Advice

I Awareness on reproductive health and nutrition

1. How does conception takes place?

2. Do you think that awareness about reproductive health among adolescents is important?
Yes ( ) No ( )
Reasons:

3. (i) Have you ever heard of the term reproductive health?

Yes ( ) No ( )

(ii) If yes, what is it?

a) Mother & child health ( )
b) Child health ( )
c) Family Planning ( )
d) AIDS/Other sexually transmitted disease ( )
e) Pregnancy ( )
f) Abortion ( )
g) Infertility ( )
h) Others ( )

4. From whom, did you get the knowledge about reproductive health?

a) Doctor ( ) b) Mother ( ) c) Relative ( )
d) Friend ( ) e) Mass media ( ) f) Teacher ( )
g) Others ( )

5. After attaining Puberty, Did you take any special care towards your health?

Yes ( ) No ( )

If yes,

Care	Reasons

If no, Reasons.

6. Are you aware of the different kinds of reproductive health services that are provided in society?

Yes ( ) No ( )

If yes, Mention the services,

7. What is the health policy "Health for all by 2000 AD" given by WHO ?

8. Why Nutrition is important during pregnancy?

9. Mention the Nutrient requirement during pregnancy?

10. What is the dietary requirement during pregnancy?

11. There is a belief that certain food should not be consumed during pregnancy, Do you believe this?

Yes ( ) No ( )

If yes, Mention the food that are commonly avoided during pregnancy,

Food to be avoided	Reasons

If No, reasons

12. What are the common nutritional problems found during pregnancy?

III Awareness on family planning

1. Is there any act in India prescribing the age at marriage for boys and girls?

Yes ( ) No ( )

If yes, give

a) Age at marriage for boys : ( )
b) Age at marriage for girls: ( )

2. When do you want to get married?

Age :
Reasons:

3. What is the ideal age for a girl to bear her first child?

4. What is the number of children one must have according to government advocacy?

   Number:
   Reasons a)
   b)

5. How many children do you want to have?

   Boy: ( ) Girl : ( )

   Reasons:

6. What should be the spacing between two children?

7. What is the spacing you would like to have between 2 children?

8. Who should decide the number of children in the family?

   a) Husband and Wife ( ) b) Husband ( )
   c) Wife ( ) d) In-laws ( )

9. Do you know the under certain conditions Pregnancy can be legally terminated?

   Yes ( ) No ( )

10. Do you think that one must be aware of the family planning methods during adolescence?

    Yes ( ) No ( )

    Before marriage ( )
    After marriage ( )

    Reasons:
    a)
    b)

11. What are the different methods of family planning, you are aware of?

Permanent	Temporary

12. From whom, did you get the information about family planning?

a) Mother ( ) b) Relative ( ) c) Teacher ( )
d) Friend ( ) e) T.V. f) Radio ( )
g) Newspaper & Magazine ( )

13. What do you understand by birth control?

14. Where can you get the following?

Methods	Pharmacy	Hospital	PHC	Cost (Rs.)
Pill				
IUD				
Condoms				
Sterilisation				

15. Where can you receive advice for birth control measures?

Awareness of sexually transmitted diseases and AIDS

1. Do you know of certain infectious diseases that can spread through sexual inter-course?

Yes ( ) No ( )

If yes, what?

2. What is HIV/AIDS?

3. How is HIV/AIDS transmitted?

4. Is there any medicine/treatment for AIDS cure?

Yes ( ) No ( )

5. How can STDS/AIDS be prevented?

STDS	AIDS

6. Mention the efforts taken by Mass-media to create an awareness about STDs/AIDS?

T.V.
Radio
Magazines
Newspaper

7. Do you receive education/counselling on reproductive health in your institution?

Yes ( ) No ( )

(ii) If yes, on what aspects?

8. Whom do you think would be the most suitable person to give education on reproductive health to adolescents?

9. What do you think is the role of educational institution in imparting education/providing counselling on reproductive health?

APPENDIX II

TOOL TO ASSESS THE AWARENESS OF THE SAMPLE ON REPRODUCTIVE HEALTH

Population situation of India (as per 1991 census)

1. As per 1991 census the population of India is ..... (838 Million)

2. The state that has the highest density of population in India is ..... (West Bengal)

3. The state that has the lowest density of population in India is .....(Arunachal Pradesh)

4. The state that has the highest sex ratio in India is ..... (Kerala)

5. The state that has the lowest sex ratio in India is ..... (Gujarat)

6. The state that has the highest female literacy rate in India is ..... (Kerala)

7. The state that has the lowest female literacy rate in India is .....(Bihar)

8. As compared to the land area, population of India is ..... (High)

9. The number of children born/minute in India is..... (43)

10. The number of birth/1000 population in India is ..... (Birth rate). (30.5)

11. The number of death/1000 population in India is ..... (Death rate). (10.2)

12. The infant mortality rate in India is .....(160)

13. The net reproductive rate in India is ..... (1.67)

Awareness on reproductive health and Nutrition

14. According to the health policy "Health for all by 2000 AD" given by WHO, the birth rate should be reduced to

* a. 21
b. 25

15. According to the health policy of "Health for all by 2000 AD given by WHO, the death rate should be reduced to

* a. 9
b. 8

16. According to the health policy of "Health for all by 2000 AD given by WHO, the infant mortality rate is reduced to

* a. 120
b. 140

17. According to the health policy of "Health for all by 2000 AD, given by WHO, the net reproductive rate is reduced to

* a. 1
b. 1.27

18. According to the health policy "Health for all by 2000 AD, given by WHO, the average family size should be reduced to

* a. 2.3 Children
b. 3.0 Children

19. Iron needs increase during adolescence due to the

* a. On set of mensuration
b. Hormonal change.

20. The common deficiency found during adolescence is,

a. Protein energy mal-nutrition
* b. Anaemia

21. The eating disorder that is associated with obese adolescence is,

a. Bulimia nervosa
* b. Anorexia nervosa

22. The eating disorder that is associated with thin body structure in adolescence is,

a. Anorexia nervosa
* b. Bulimia nervosa

23. The amount of protein required during pregnancy,

* a. 65 g.
b. 60 g.

24. The amount of iron required during pregnancy,

* a. 38 mg.
b. 30 mg.

25. The amount of vitamin-A required during pregnancy,

* a. 600 g.
b. 700 g.

26. The amount of milk required during pregnancy (vegetarian)

* a. One and half glasses(325 ml.)
b. 3 glasses (650 ml.)

27. The amount of green leafy vegetables required during pregnancy is,

* a. 150 g.
b. 155 g.

28. The amount of pulses required during pregnancy is,

* a. 55 g.
b. 100 g.

29. The average birth weight of the baby is,

a. 3.0 Kg.
* b. 2.5 Kg.

30. The pregnancy becomes more complicated, when the height of the mother is,

* a. <145 Cms.
b. >160 Cms.

31. The pregnancy becomes more complicated, when the weight of the mother is,

* a. <40 Kg.
b. <45 Kg.

32. The weight increase during the pregnancy ranges between

* a. 9-11 Kg.
b. 13-15 Kg.

Awareness on family planning

33. Conception takes place when

    a. The couple touch or embrace each other
* b. Egg from female & sperm from male fuse during mating

34. When is the ovum released

    a. Midway between 2 menstrual period
* b. Soon after menstrual period

35. Conception takes place during

* a. Fertility period
    b. Safe period

36. Conception

* a. Can be controlled
    b. Cannot be controlled

37. Vasectomy is performed for

    a. Men
* b. Women

38. Tubectomy is meant for

* a. Men
    b. Women

39. Natural method is meant for

* a. Spacing
    b. Limiting

40. Monetary incentive given for adoption of tubectomy is

* a. Rs.165/-
    b. Rs.225/-

41. Monetary incentive given for adoption of vasectomy is

    a. Rs.165/-
* b. Rs.225/-

42. Motivators for birth control receive an incentive

* a. Rs.10/-
    b. Rs.15/-

43. There is no need for any device in

* a. Natural method
b. Oral contraceptive

44. The period of abstinence in each cycle should be----days to prevent pregnancy?

* a. 2-3 Days
b. 5-9 Days

45. The women should not use IUD if she has one of the symptom given below

a. Vomiting & fever
* b. Chronic disease

46. Condom is used by

* a. Male
b. Female

47. Contraceptive pills prevent

* a. Ovulation
b. Menstruation

48. The hormonal contraceptive method is

a. Condoms
* b. Oral pills

49. Indian family welfare programme began to offer family planning services from

* a. 1951
b. 1961

50. The advantage of natural method is

* a. Requires no external device
b. It keeps a woman strong

51. The disadvantage of natural method is

a. It makes a woman sick
* b. Cannot be used if cycle is irregular

52. Use of foam tablets, jellies and creams is

* a. Chemical method
b. Natural method

53. Foam, jellies and creams are to be placed.

* a. In the birth canal before intercourse
b. In the birth canal after intercourse

54. Foam, jellies and creams are

* a. Spermicidal
b. Bactericidal

55. The advantage of chemical method is

* a. No need to see the doctor
b. No expense

56. The disadvantage of chemical method is

* a. Must buy supplies
b. No need to procure

57. The IUD used for a woman

a. Can be of any size
* b. Should be of correct size

58. Diaphragm is devised to be used by

a. Male
* b. Female

59. Diaphragm is placed over the opening

* a. To the inside of the womb
b. To the outside of the vagina

60. The advantage of diaphragm is

* a. No side effects
b. Given cent percent success

61. The courses for orall pill is

* a. 21 and 28 days
b. 7 and 10 days

Awareness on sexually transmitted diseases/AIDS

62. Syphilis is caused by

* a. Spirochracte germ
b. Gonococcus germ

63. Gonorrhoea is caused by

    a. Spirochracte germ
* b. Gonococcus germ

64. AIDS is caused by
* a. Virus
    b. Bacteria

65. Syphilis disease can be diagnosed by

* a. Blood test
    b. Urine test

66. Degenerative disease due to syphils is known as

    a. Gumma
* b. Tabes dorsalis

67. First sign of gonorrhoea disease is

    a. Loss of version
* b. Burning on urination/frequent urination

68. There is yellowish discharge during the acute stage of

    a. Syphilis
* b. Gonorrhoea

69. Symptom formed in the early first stage of syphilis is chancre which is

* a. Sore in the vagina
    b. Rashes on the skin

70. In the late stage of syphilis this appear

* a. Tumours
    b. Rashes

71. This is administered in large dose to destroy the germs or syphilis,

    a. Erythromycin
* b. Penicillin

72. Marked redness and swelling of genital organ is the common symptom of this disease

* a. Gonnorhoea
    b. Syphilis

73. Every day------children around the world die from aids

a. 2000
* b. 1000

74. Sexually transmitted disease

* a. Can be controlled
b. Cannot be controlled

75. By family planning method STD/AIDS

* a. Can be controlled
b. Cannot be controlled

76. AIDS virus can spread from one person to another by

* a. Sexual contact
b. Using contaminated articles

77. Main cause of aids virus is

* a. Prostitution
b. Blood transfusion

78. HIV is not transmitted through

* a. Air and water
b. Unsterilised surgical instruments