CHAPTER - 2

REPRODUCTIVE HEALTH EDUCATION FOR ADOLESCENTS: A REVIEW OF LITERATURE

2.1 INTRODUCTION

One of the most important initial steps in a research is conducting the literature review. A literature review is a means of demonstrating a researcher’s knowledge about a particular field of study, including vocabulary, theories, key variables and phenomena, and its methods and history. Conducting a literature review also informs the researcher of the influential researchers and research groups in the field. Finally, with some modification, the literature review is a “legitimate and publishable scholarly document” (LeCompte et al., 2003). Gall, Borg, and Gall (1996) state that the literature review plays a role in delimiting the research problem, seeking new lines of inquiry, avoiding fruitless approaches, gaining methodological insights, identifying recommendations for further research, and seeking support for grounded theory.

Hart (1998) contributes additional reasons for reviewing the literature, including:

- Distinguishing what has been done from what needs to be done,
- Discovering important variables relevant to the topic,
- Synthesizing and gaining a new perspective,
- Identifying relationships between ideas and practices,
- Establishing the context of the topic or problem,
- Rationalizing the significance of the problem,
- Enhancing and acquiring the subject vocabulary,
- Understanding the structure of the subject,
- Relating ideas and theory to applications, and
- Identifying the main methodologies and research techniques that have been used.

Another purpose for writing a literature review is that it provides a framework for relating new findings to previous findings in the discussion section of a dissertation.
Without establishing the state of the previous research, it is impossible to establish how the new research advances the previous research.

For the purpose of review in the present study, the researcher has selected review of articles, books and empirical studies carried out from different parts of India and abroad due to their methodological strength and their coverage to fulfill the objectives. The studies taken for the review are from the year 1995 onwards as the adolescents reproductive health issues have gained recognition in the International Conference on Population and Development (ICPD), Cairo, in 1994.

In order to have a clearer picture, the researcher has surveyed some of the existing literature in order to gather relevant information from the findings of similar studies pertaining to the adolescents’ reproductive health issues. Reproductive health is an important component of overall health and well-being. It is a major, positive part of personal health and healthy living and it follows that “reproductive health education should be available to all as an important component of health promotion and services” (UN, 1994). Providing reproductive health education in school is nowadays an important public health issue, as it concerns not only prevention of adolescents from HIV/AIDS, sexually transmitted infections, and pregnancy but also interpersonal relationships and psychosocial issues. Therefore providing reproductive health education in school contributes to promote better citizenship. The reproductive health issues covered by the studies reviewed here are on various aspects of adolescents reproductive health viz., physical and psychological development during adolescence, reproductive and sexual health and interpersonal relationships between adolescents and parents, members of the opposite sex, peer group, gender roles in respect of reproductive and sexual health issues, importance of socio cultural norms of sexual behaviour and healthy attitude towards the opposite sex, need for adolescent health services, adolescent pregnancy and its consequences, unsafe abortion, adolescents myths and misconceptions, sexual abuse, STIs, HIV/AIDS, and substance abuse and its relationship to other high risk behaviours.

2.2 SCOPE OF THE REVIEW OF LITERATURE

The chapter presents fifty six (In order to bring more clarity one study is reviewed under many themes and sub-themes according to the findings of that study) studies
which described the various dimensions involved in imparting reproductive health education for adolescents. For obtaining relevant information on reproductive health education, literature on empirical studies, articles and books has been thematically reviewed under five themes according to the objectives of the present study. Each study further reviewed under various sub-themes according to the themes emerging from a particular study. The themes include:

2.2.1 Knowledge and Perception of Adolescents regarding Reproductive Health Issues

2.2.2 Sources of Information accessed by the Students about Reproductive Health Issues

2.2.3 Opinion of Parents towards Reproductive Health Education for Adolescents

2.2.4 Opinion of Teachers about Need of Imparting Reproductive Health Education to Adolescents

2.2.5 Interventions/Recommendations in order to impart appropriate Knowledge and Attitude among Adolescents regarding Reproductive Health Issues

2.2.1 Knowledge and Perception of Adolescents regarding Reproductive Health Issues

In this section the studies related to the knowledge and perception of the adolescents regarding reproductive health issues have been reviewed. This section is further divided into ten sub-themes namely:

- Process of growing up
- Age at Marriage
- Adolescent pregnancy and its consequences
- Unsafe abortion
- Contraception
- Sexual behaviour
- Sexual abuse
- STI/HIV/AIDS
- HIV/AIDS related knowledge
- Substance abuse
Process of growing up

Understanding the reproductive health needs of adolescents, both physical and emotional, is crucial for their health and well-being. Against this backdrop, to understand the process of growing up, nine studies were reviewed in this section.

Ahuja and Tewari (1995) have conducted a study titled “awareness of pubertal changes among adolescent girls” aiming to determine the awareness among adolescent girls regarding the changes that occur during puberty, their beliefs and practices relating to menstruation, their main sources of information on these issues and their exposure to sex education. The sample comprised adolescent girls (50 school going and 50 non-schools going) in the age group of 12-16 years. A questionnaire and personal interviews were used as tools to gather data. Findings show that the girls were aware of pubertal changes and the onset of the menstrual cycle during adolescence. But about three fourth of them were unaware of the physiology of menstruation and experienced a sense of isolation during their periods.

Sharma and Sharma (1995) have conducted a study titled “The letter-box approach – A model for sex education in an orthodox society” A community survey conducted to study the sexual behaviour of adolescent boys and girls in ten villages in Kheda district of Gujarat. In an attempt to impart sex education in an acceptable manner, a letter-box approach was developed, assuring anonymity to the students. Teachers were recruited to impart knowledge to the children, as parents were most reluctant to do so. Very few teachers volunteered because they themselves had a lot of misconceptions and confusion about sexuality. After a letter-box was installed inside the college/school campus, the students were encouraged to drop letters into the box with queries about various health-related problems and those related to their bodies. The response was heartening. Most of the questions asked by the boys were related to masturbation and the size of the penis, and by girls about menstruation, body hair, and the size of the breasts. The advantage of this model was that it made use of a group/team approach, which gave confidence to the teachers as well as the students.

Khan et al., (1996) in the research titled “Knowledge, attitude and sexual behaviour of school going adolescents in Uttar Pradesh” assessed adolescents’ awareness of
reproductive physiology, family planning, and AIDS/STI. An attempt was also made to analyze their sexual behaviour. The study was carried out in eight schools of Lucknow city, four private English medium schools, and four government public schools. A total of 510 students (270 boys and 240 girls) were systematically selected after a random start. A structured questionnaire was administered to collect relevant information. Two thirds of the students were 16-18 years, one-third was 15 years or less and four students were 19 years old. Demographic and socio-economic analysis did not show any significant differences between boys and girls, but a major economic disparity was revealed between the students studying in government and private schools. In the study the level of knowledge about reproductive physiology revealed a general lack of awareness, although private school students were better informed than their counterparts in public schools.

Sharma and Sharma (1996) undertook a study titled “Sexual knowledge and practices of college girls in rural Gujarat” to determine the knowledge of human sexuality, physiology of reproduction, and contraception among adolescent girls. The influence of various demographic and socio-cultural factors such as parental education and socio-economic background on the level of awareness in adolescents was also assessed. Unmarried girls (N=530) with a science background studying in the first year of college (mean age=17.3 years) participated in the study. Data were collected with a pre-tested questionnaire assessing the variables mentioned. ANOVA and multiple regression analysis revealed that (1) overall knowledge about human sexuality, reproduction, and contraception was poor among the college girls; (2) knowledge scores were significantly higher among girls who had educated parents and had learnt about sexuality from their elders (elder siblings, teachers, and in some cases parents); (3) girls residing in hostels had a higher level of awareness than girls living with their parents; and (4) a history of masturbation was found to be positively associated with knowledge regarding sexuality.

Shilpa and Ratna Kumari (1999) in their study titled “Knowledge of high school students on reproductive health and AIDS” examined the knowledge of students (class IX and X) on reproductive health and AIDS and gender differences. The sample consisted of 200 boys and 200 girls (12-16 years). A questionnaire was used to assess
the knowledge on reproductive health and HIV/AIDS. The study found that the majority of the students lacked knowledge regarding various aspects of reproductive health, indicators of physical maturity in girls’ and boys’, indicators of pregnancy and family planning methods.

Yadav (2003) conducted a study on Awareness and Attitude of adolescent students towards reproductive health issues in different cultural settings, i.e., Rural, urban and tribal. Sample of the study comprised the students of IX class of Madhya Pradesh. Questionnaire consisted of 16 items, awareness test of 3 parts having items Yes/No/Do not know and of multiple choices, Attitude scale-60 statements on 3-point scales – Agree/Disagree/Not Sure was used as tool of data collection. The study has highlighted that students have low awareness about various aspects of physiological and psychological development. Students either wrongly reported or were not aware about issues related to growing up aspects, health, pregnancy, and interpersonal relationships.

Dash (2004) in the research titled “reproductive health problems of unmarried adolescent girls” assessed their level of knowledge about reproductive health problems. Sample size of 100 girls selected from sample frame of 663 girls in 10 villages. All enumerated girls were arranged village wise. Systematic random sampling with a random start method was used. Interview schedule was used as a tool to gather the data. The study threw light on the fact of sanitation and hygienic condition during menses, it was found that during menses, girls used old clothes and reuse the same after wash. Causes and consequences of reproductive health problems were low.

Sahoo (2004) in his study titled “level of knowledge on sexual health education among unmarried adolescents” found that knowledge about menstrual health was poor among adolescent girls. The sample comprised of 100 adolescents (55 male and 45 female) selected using simple random method. An interview schedule contained questions related to the socio-economic status and knowledge regarding sexual and reproductive health was administered. Respondents pointed out that parents and guardian were main obstacles to gain knowledge on reproductive and sexual health.
Prasad (2006) conducted a study titled “Perception on Sexual Matters among Rural Adolescent Boys: A study in Andhra Pradesh”. The objectives of the study were to understand the sexuality among adolescent boys, and to throw light on Hindu and Muslim rural adolescent boys’ awareness regarding perception on sexual matters. A pre-designed questionnaire was administered on 200 Hindu and 200 Muslim adolescent boys. It was reported by the study that a significant proportion of adolescent boys did not answer about masturbation, bed-wetting or erection. The study reflected that misconceptions regarding masturbation and extra-marital relations needs to be cleared up.

**Age at marriage**

This section dealt with the studies related to age at marriage. Five studies were reviewed in this section.

The study conducted by Uplaonkar (1995) titled “The emerging rural youth: A study of their changing values towards marriage” aimed to analyze whether youth have emerged as a distinct group anchored by the modern values of freedom and autonomy, able to decide the issues of life completely on their own. The objectives of the study were to know values of youth towards ideal age at marriage for males and females, and the choice of a life partner. The major findings are: (1) Eighty-five percent of the respondents indicated 21-25 years as the optimal age for males. Age range indicated for females was 17-18 years. (2) In choosing a life partner, the youth want a certain amount of autonomy in conformity with the ideas of the joint family. (3) A considerable percentage of rural youth wanted to exercise an independent choice, in consultation with their parents. In comparison with men, however women were more tradition bound; ninety eight percent opted for partner selection by parents only.

The study carried out by Gupta and Khan (1996) looked at the fertility differentials among adolescents (13-19 years of age) and currently married women in Uttar Pradesh (UP) and tries to determine whether regional/district level variations exist in these differentials. Results regarding teenage girls revealed: (1) A significant difference in the proportion of married teenage girls by residence (urban/rural), educational level, religion, and caste groups. In six out of the 15 surveyed districts,
about 25 percent of all adolescent girls were married. (ii) Age at marriage was high in western and hill regions, whereas it was low in central, eastern, and Bundelkhand regions. (iii) A positive correlation (0.76) between female literacy and the mean age at marriage was seen. (iv) A negative correlation (-0.80) between the percentage married and the mean age at marriage was observed. (v) Awareness of family planning was quite high among teenage wives, although lower than that among the older couples (> 20 years). (vi) The contribution of teenage fertility to the total fertility rate (TFR) was around 15 percent with wide regional variations. (vii) Regional variations were also quite large, with the eastern region displaying the highest unmet need for child spacing among the teenage respondents.

Umamani and Raju (1997) revealed that many females get married at an early age in India. This is of concern because early marriages raise the level of fertility and maternal and child mortality, lower the level of literacy, and increase the chance of a wide age gap between the spouses. The sample of the study comprised of currently married women (N=644) in the age group of 15-49 Years from Mandya district of Karnataka state. The Census studies regarding the Mandya district indicated that the females married earlier in the district than in the state (Karnataka). The cultural practice of pre puberty marriages was also reported in the district. The results, analyzed using regression analysis and Multiple Correlation Analysis, confirmed the practice of pre puberty marriages among the present sample due to various factors such as caste, consanguinity, and illiteracy. The percentage of pre puberty marriages was significantly higher amongst the scheduled castes than amongst the Vokkaligas (a caste group in Mandya district). The marriages were also significantly more common amongst close relatives than non-relatives and amongst the illiterates than the literate groups.

Shilpa and Ratnakumari (1999) in their study titled “Knowledge of high school students on reproductive health and AIDS” found that a high percentage of students (class IX and X) were aware of the appropriate age of marriage.

The study conducted by George (2004) determined the level of knowledge and attitude of adolescents regarding select reproductive health issues. Sample of 120
adolescents was selected out of 295 in the age group of 11-19 years. 50 percent sample of 8 villages was selected by simple random sampling from the list of 15 villages arranged geographically. An interview schedule was used as a tool for data collection. The findings of the study reflect that seventy four percent adolescents were aware of the fact that the girls could get married at eighteen years or above.

**Adolescent pregnancy and its consequences**

Pregnancy at any age generates developmental changes, but in an adolescent it can create a developmental crisis. Failure to accomplish developmental tasks not only places the adolescent at risk for further developmental difficulties, but it places the children of these adolescents at biological, social, and psychological risk. In this section six studies were reviewed.

The study conducted by Ahuja and Tiwari (1995) with the adolescents in the age group of 12-16 years showed that very few of the students knew the appropriate age for marriage and childbearing, and 80 percent reported no exposure to sex or health education.

The review of studies by Kamat (1996) highlights major issues related to the risk factors influencing teenage pregnancy and its outcomes. The risk factors are presented under three main headings: (1) Nutrition: Chronic under-nutrition during childhood or before/during pregnancy and inadequate weight gain during pregnancy lead to negative outcomes like low birth weight (LBW) infants, pre-term delivery, etc. Anemic adult women also undergo undesirable pregnancy outcomes. (2) Physical and clinical: Early age of menarche results in various undesirable pregnancy outcomes. Even at late age of menarche, the relationship between low gynecological age and poor pregnancy outcome remains controversial. Adequacy of antenatal care is significantly associated with pregnancy outcomes of adolescent mothers, more in the developing countries. (3) Socio-economic: Female illiteracy and ignorance, widespread in socio-economically deprived communities, not only contribute to undesirable pregnancy outcomes, but also pose difficulty for studies in obtaining reliable information on factors like maternal age, age at menarche, prenatal weight gain, etc. At a broader level, teenage pregnancy is a burden on the national economy.
and adversely affects national family planning programs. Interaction of the combined effects of various factors on pregnancy outcomes related to the nutritional and socio-economic status of the mother needs to be investigated.

The study done by Pratinidhi (1996) was based on observations of adolescent pregnancy during a community-based research project. For teenage pregnancy, nutritional advice and referral to health center/hospital for delivery were considered adequate intervention. It was found that: (1) 10 percent of the total deliveries were to women less than 20 years old and the children of these mothers faced the highest perinatal and neonatal mortality, (2) mothers below 18 years of age also faced greater risks of primiparity and associated factors like prolonged labor, short stature, and anemia when compared to other women, (3) babies born to primipara mothers below 18 years suffered higher rates of perinatal and neonatal mortality, along with additional risks, (4) comparing the proportion of primigravida women below 18 years in this study with an earlier study on the same population of Sirur, there was a declining trend in pregnancy below 18 years, (5) a significantly higher proportion of low birth weight babies and anemic mothers in the high risk group was explained by malnutrition, (6) the ignorance and immaturity of mothers were largely responsible for higher morbidity and mortality among adolescent mothers themselves and babies born to them.

In the study conducted by Atwood and Hussein (1997) adolescent motherhood has been discussed in the light of a large proportion of girls in India marrying under the age of 18. The researchers discussed the various factors that contribute towards making adolescent girls particularly vulnerable to early marriage and motherhood in rural India. The girls undergo a premature transition to adult roles due to early responsibility for domestic roles, poverty, illiteracy, and poor nutrition. Although the scenario is marginally different for the urban girls, there is greater concern to study the situation of their rural counterparts, because most adolescent girls live in rural areas and form a large and neglected group. Early marriage and childbearing (15-19 age groups) may lead to higher mortality rates, because the girls have not attained complete physical maturity. The consequent effects on the newborn, such as higher perinatal and neonatal mortality, stunting, reduced immunity, and reduced learning
ability, are discussed. Under these grim circumstances, Atwood and Hussein (1997) discussed on developing a multidisciplinary approach to understand the factors leading to adolescent motherhood.

George (2004) has revealed in the study on knowledge and attitude related to reproductive health of adolescents, that thirty seven percent of adolescent boys were aware that girls can become pregnant the very first time she had sex with a person as compared to eighty three percent of adolescent girls aware of the same. Twenty four percent of boys were aware as against forty nine percent of girls that even if a girl washed her vagina after sex that she could become pregnant.

It was identified by the study conducted by Sahoo (2004) on the “level of knowledge on sexual health education among unmarried adolescents” that knowledge about consequence of early pregnancy was poor among unmarried adolescents.

Unsafe abortion

Seven studies were reviewed in this section related to unsafe abortion. As abortion is such a sensitive topic, levels of induced abortion are difficult to measure directly.

Thapa and Rawal (1998) summarized information available from various surveys regarding the prevalence of premarital sexual experience among teenage boys and girls in different regions of India. They reported that of the 110 abortions done every month in a medical college in Thiruvananthapuram, 12 percent were to unmarried teenagers. According to the Ministry of Health, in Maharashtra 21.7 percent of all abortions done were for girls younger than 15.

United Nations Population Fund (UNFPA) (1998) provided a composite picture of adolescents in the SAARC countries on three major areas: (1) demographic and socio-economic profile; (2) marriage and childbirth; and (3) sexual and reproductive health status. The statistics indicated the following: Although 60 percent of the region’s adolescents are literate, indicating improvements in educational opportunities, there is wide disparity among the SAARC countries (90 percent in Srilanka and Maldives, 32 percent in Bangladesh). Most did not complete primary school, and the majority did not go to secondary schools (the ratio of Female/Male is 75-100 at the primary and
29-110 at the secondary level). South-Asian girls still marry early and become mothers before they are 18 years old. The percentage of seeking antenatal care is low, and only a small percentage of babies are delivered by trained birth attendants, in which 11 percent in Bangladesh, Nepal, and Pakistan, and 24 percent in India.

A review of literature conducted by Center for Operations Research and Training (CORT) (1999) highlighted the disadvantaged position of adolescent girls in the prevalence, of malnourishment and anemia, early marriage; high illiteracy, unsafe abortions, poor knowledge of reproductive health and prevention of STI/HIV/AIDS.

Ganatra (2000) conducted a review on abortion related studies. Studies suggested that a substantial proportion of adolescents, both married and unmarried seek abortion services. It is estimated that between 1 and 10 percent of abortion-seekers in India are adolescents, though a few facility based studies report that the proportion of adolescent abortion-seekers is as high as one in three.

Jejeebhoy (2000) in his study found that among unmarried abortion-seekers, adolescents constituted a disproportionately large percentage. At least one-half of unmarried women seeking abortions were adolescents, many of whom were below 15 years.

Ganatra and Hirve (2002) conducted a community-based study in rural Maharashtra. The study reported that young women aged 15-24 constituted over half of married abortion-seekers in the area. Findings of this study suggested that adolescents have considerably less decision-making authority than older abortion seekers, are more likely to be coerced into an abortion, or conversely, to face opposition from their families, and are more likely to report post-abortion morbidity.

It was indicated by the study done by Sahoo (2004) that knowledge about the reasons and consequences of reproductive health problem were superficial, knowledge about unsafe abortion was very low among adolescents.

**Contraception**

Adolescents, especially those unmarried, seldom use contraception. Sexually active adolescents who have sex with a steady partner often claim that intercourse is not the
result of premeditated or conscious decisions but just “happens”, so they are unlikely to be prepared with contraception (Khisbiyah et al., 1997). Five studies were reviewed in this section.

Khan et al., (1996) in a study conducted with school going adolescents assessed their awareness of reproductive physiology, family planning, and AIDS/STIs. An attempt was also made to analyze their sexual behaviour. It was found that the awareness of family planning methods was not uncommon among adolescents. More than half of the students (65 percent male and 43 percent female) were aware of safe sex.

Analysis of the study conducted by Sharma and Sharma (1996) revealed that: (1) overall knowledge about human sexuality, reproduction, and contraception was poor among the college girls; (2) knowledge scores were significantly higher among girls who had educated parents and had learnt about sexuality from their elders (elder siblings, teachers, and in some cases parents); (3) girls residing in hostels had a higher level of awareness than girls living with their parents. The researchers discussed the need for incorporating family life education in school curricula and the crucial role that teachers can play in bringing about desirable and socially acceptable changes about sexuality and related topics.

UNFPA (1998) in a study on sexual and reproductive health status of adolescents revealed that the use of contraception is low, resulting in adolescent unplanned pregnancies with short spacing. There is a high incidence of reproductive tract infections. Although sex outside marriage is considered taboo, study indicated that adolescents (60 percent in Bangladesh, 25 percent in India) do engage in pre-marital sex, raising the risk of unwanted pregnancy and illegal abortion.

Bhatia and Swami (2000) Giving statistical details regarding the increasing population of India and the need to generate awareness particularly in the youth, the study found the level of awareness among girl students in Chandigarh regarding fertility control measures. A majority of the girls were aware of fertility control methods; the level of knowledge regarding fertility control methods increased with age; literacy status of mothers positively influenced the level of knowledge of girls; girls having working mothers and whose fathers were in government and affiliated jobs had a higher level
of knowledge than girls whose mothers were housewives; and the girls in rural areas had much lower levels of awareness regarding fertility control methods than their urban counterparts.

George (2004) determined the level of knowledge and attitude of adolescents regarding select reproductive health issues. The study revealed that sixty seven percent of the boys had a correct understanding of what family planning was whereas only forty five percent of the girls knew what it is. Most of the boys and girls were in favour of small family norms. Fifty four percent of the boys say that women should not use family planning services before first delivery whereas sixty three percent of the girls disagreed to the same.

**Sexual behavior**

As already discussed in the previous section that sex outside marriage is considered taboo, but studies indicated that adolescents do engage in pre-marital sex, raising the risk of unwanted pregnancy and illegal abortion (UNFPA, 1998; Gantara, 2000). In this section twelve studies were reviewed.

Sharma and Sharma (1995) threw a light on the fact that most of the boys had their first sexual contact with a prostitute and had never used a condom. Some of them reported having their first sexual contact with a girl friend of almost the same age. This again brought the light to the fact that some of the unmarried adolescent girls might also be sexually active.

Khan et al., (1996) in his study found that one third of the students favoured premarital sex. Boys indicated a more liberal attitude than girls. It is interesting to note that students of private schools appeared less liberal towards premarital or extra-marital sex than students from public schools.

Jejeebhoy (1996) found that adolescent marriage and fertility rates are disturbingly high; adolescents face a variety of reproductive health problems; evidence suggests 20-30 percent of males, and up to 10 percent of females, are sexually active during adolescence before marriage; sexual awareness seems to be largely superficial; double standards exist (favouring boys) for boys and girls; and both married and unmarried
women are vulnerable to being unprotected from pregnancy and STIs, and have no decision-making power in their sexual relationships

The study titled “Understanding youth sexuality: A study of college students in Mumbai” conducted by Abraham (1998) provides insights into the sexuality of youth and ascertains knowledge and perception regarding reproductive physiology, STIs, and contraception. The study found that boys were sexually active whereas girls reported low rates of sexual activity. Myths and misconceptions regarding anatomy, physiology, contraceptives, and STIs were prevalent. Sexual activity increased with age, work status, and peer socialization. Religion, family, and educational institutions had limited influence on morality and regulation of sexuality among males, who explored their sexuality through multiple partners more than females.

Awasthi and Pande (1998) found that among the unmarried boys, eight percent of the boys under 18 years and equal percent of the boys above 18 years were sexually active and engaged in high risk sexual behaviour (man to man sex, visits to commercial sex workers).

The research done by Chaudhary (1998) revealed some significant emerging trends and myths related to adolescents sexual and reproductive behaviour and underlined the gravity, diversity, and magnitude of the changes taking place in the lives of the adolescents, and brought out the implications of these changes in their lives. The changes ranged from the share of adolescents in the total population to their sexual and reproductive behaviour, social values about sex, marriage and marriage practices, and increasing exposure to STIs, HIV/AIDS, drug abuse, and various forms of sexual exploitation associated with rising industrialization and urbanization. The study identifies evolving gender relations among adolescents and their perspectives and expectations; and it reveals the information and the lack of understanding of the socio cultural context within which the adolescents operate and interact.

Sachdev (1998) in a study of sample comprised of 887 students (19-24 years) from two major universities in Delhi responded to a 30-item inventory regarding male and female sexual anatomy and function, contraception, reproduction and menopause, and common sexual problems. The women respondents expressed liberal views regarding
premarital sex and chastity, though they were more conservative than male respondents, e.g., 58 percent of the female students endorsed premarital sex compared to 79 percent of males. Female sexuality was acknowledged and opinions favoured fidelity in marriage.

Abraham and Kumar (1999) in their study explored heterosexual behaviour, the findings showed that the majority of males (70%) and females (66%) hold moderate views towards sex in general. Attitudes towards premarital sex differed considerably by gender. Forty-seven percent of male participants and 13 percent of females had had sexual experiences, as well as intercourse. Age, year in school, and academic program significantly influenced the likelihood of females having had sexual experience. Socio-economic variables at the household level did not show any significant relationship with students' sexual behaviour. The study also showed an inconsistent relationship between knowledge about sexual issues and sexual behaviour. The researchers concluded that education programs on sexuality should be designed to reach out to the students.

While the study by Dash (2004) revealed that ten percent unmarried girls had sexual experience, of whom majority of them were coerced into sex.

George (2004) found that most of the adolescents of various economic classes were of the opinion that it was not all right to have friends of the opposite sex.

Sahoo (2004) assessed the level of Knowledge on Sexual Health Education among Unmarried Adolescents. He found that Minority (25%) had knowledge about consequences of pre-marital sex.

Study conducted by Prasad (2006) found that eighty six percent of the adolescent boys opined pre-marital sex is bad. The study also reflected that thirty eight percent Muslim adolescent boys said extra marital sex was bad.

**Sexual Abuse**

Only a single study was found by the present research on sexual abuse in the studies related to reproductive health issues. Almost all the studies reviewed here did not
concentrate on the sensitive issue of sexual abuse, which is a part of reproductive health education.

A study conducted by McCabe (1996) titled “Sex education programs for people with mental retardation” indicated that adolescents need special help if they are to acquire socially appropriate sexual behaviour, to make safe sexual choices, and to become less vulnerable to sexual abuse.

**STI/HIV/AIDS**

The National Behavioural Surveillance Survey of the National AIDS Control Organisation (NACO) indicates that approximately 3 percent of young males and 5 percent of young females (NACO) reported the experience of symptoms of infection (STIs) such as discharge, ulcers or sores in the 12 months preceding the survey. These figures undoubtedly reflect considerable under-reporting (NACO and UNICEF, 2002). In this section ten studies were reviewed.

Sharma and Sharma (1997) conducted a study in Anand Taluka of Gujarat State to assess the sexual behaviour of unmarried, sexually active adolescent boys and to evaluate their knowledge of AIDS and other sexually transmitted diseases (STIs) and of correct use of condoms. A large number of boys believed that STIs were caused by having sexual intercourse with a woman during her menstrual period. It was also commonly believed that STIs could be cured by having sex with a virgin. The boys usually selected a prostitute as the first sexual partner, and this selection was influenced by their employment status, age at first coitus, and literacy level. A majority of the boys believed that HIV infection and AIDS are associated with homosexuality and that, being heterosexuals; they were protected from these diseases. It can be concluded that the sexually active adolescent boys are inadequately prepared to protect themselves against STIs and hence there is a need to impart knowledge of safe sex to them.

Abraham (1998) reflected on a very important finding that the risk of STIs/HIV was high among males because they practiced unsafe sex and among females because of ignorance. Information about behaviour, attitudes, and knowledge through regular surveys is
essential to better understand the dynamics of the STI epidemic. This information is also important in assessing changes over time as a result of prevention efforts.

The study by Awasthi and Pande (1998) assessed the sexual behaviour patterns and knowledge of STI among underprivileged 15-21 year old boys. The adolescents had poor knowledge regarding STI prevention, placing them at high risk for STI/HIV.

Harms et al., (1998) study titled “Perceptions and patterns of reproductive tract infections in a young rural population in Namibia” found the causes of the increased rates of STIs/HIV in young people are complex, however, the main reasons include biological factors, risky sexual behaviour patterns (early initiation of sex, premarital sex, bisexual orientation and multiple sexual partners), transmission dynamics and treatment-seeking behaviour.

Dash (2004) revealed in his study that causes and consequences of reproductive health was low, nearly half of the girls were not aware of hazards of unsafe abortion, knowledge of RTI/STI was low.

While a study conducted by Sahoo (2004) found that few of the respondents had knowledge about STI. Knowledge of HIV was better (60%).

A study conducted by UNFPA (1998) indicated that there is growing evidence of increased premarital sexual activities among young people. While generalization is difficult, study indicates that between 20 percent and 30 percent of young men and up to 10 percent of young women have premarital sexual experiences. Women, have a higher incidence of STIs than men because of their greater biological susceptibility.

NACO, MOHFW, and GOI (2005) revealed that Sexually Transmitted Infections (STI’s), including HIV (Human Immunodeficiency Virus) mainly affects sexually active young people. Young adults aged 15–29 years, account for thirty percent of AIDS (Acquired Immunodeficiency Syndrome) cases reported in India and the number of young women living with HIV/AIDS is twice that of young men.

The findings of the study titled “Study of knowledge, perception and attitude of adolescent girls towards STIs/HIV, safer sex and sex education: A cross sectional
survey of urban adolescent school girls in South Delhi” by McManus and Dhar (2008) indicated that knowledge about STIs other than HIV/AIDS was very poor among adolescents. The majority (71%) had not heard about Genital Herpes and almost half had not heard about Gonorrhoea (44%) or Syphilis (43%). This is of particular concern in developing countries like India, as STIs such as Chlamydia, Trichomoniasis, Syphilis and Gonorrhea are second only to maternal morbidity and mortality as the cause of death, illness and ‘years of healthy life lost’ among women in their child bearing years.

**HIV/AIDS related knowledge**

Sixteen studies were reviewed on HIV/AIDS related knowledge.

Study done by Aggarwal and Kumar (1997) evaluated the existing level of knowledge and awareness about AIDS in IX and X class students from rural and urban areas. Results of the study indicated a high level of knowledge about AIDS (36%-59% correct responses) considering the short time span of a campaign against AIDS in India. But misconceptions about transmission, prognosis, and prevention were also present. Rural girls had significantly more knowledge as well as misconceptions regarding AIDS than urban girls. In this study 57 percent believed that persons with HIV/AIDS could be detected by their physical appearance.

The study by Amalraj et al., (1997) aimed to find out future health care professionals’ knowledge of HIV transmission, misconceptions about the route of transmission, the modes of prevention, and knowledge regarding clinical manifestations. The results reflected that ninety-two percent of the students were aware of AIDS, predominantly through mass media, although misconceptions regarding transmission of HIV existed, more among females than males. Attitudes were generally negative: one fourth said they would not be friends with HIV infected people, one-fifth were undecided, a little more than half had no objection to such students attending college, but almost 40 percent felt that physicians with AIDS should not be allowed to work. More male (36%) than female (9%) students admitted practicing safe sex, mainly with friends.
The study by Bahulekar and Garg (1997) assessed AIDS awareness in schoolchildren regarding its cause, mode of transmission, and prevention. Nearly 10 percent of the students had not heard about HIV or AIDS, 59.8 percent knew nothing about signs and symptoms, most of them had misconceptions about the mode of transmission, 49.6 percent were not aware of prevention methods.

Bhasin et al., (1997) conducted a study to find out the existing knowledge and awareness regarding HIV/AIDS amongst schoolchildren, and to find out the impact of information, education, and communication (IEC) on their subsequent knowledge. A post IEC evaluation was carried out after a gap of 10 days. Results were encouraging regarding the awareness of the general aspects of HIV/AIDS (97.8% of the total participants of this study) and the fact that AIDS occurs in India. IEC intervention was effective in dispelling misconceptions and significantly generated an enhancing effect on most aspects of the subjects' awareness of HIV/AIDS.

The basic objective of the study by Khan and Singh (1997) was to evaluate knowledge, attitudes, and behaviour among groups of college and university students regarding HIV infection. Results cover each of these points. They show that 88 percent of the students are aware of AIDS but several misconceptions persist. Students opined that counseling was an essential component of management of HIV infection.

The study by Lal et al., (1997) assessed urban students’ knowledge, attitudes, and beliefs related to HIV/AIDS and compared them with those of their rural counterparts.

The study conducted by Rahate et al., (1997) was planned to determine how aware young adolescents from rural areas were about AIDS and its risk factors. The sample consisted of 261 students (107 commerce, 82 science, and 72 arts students) from a junior college of rural Saonar, District Nagpur. A questionnaire comprising questions on various aspects of AIDS, such as etiology, high risk groups, mode of transmission, treatment, and methods of prevention, was administered to the subjects, who ranged from 16 to 20 years (59.77% males and 40.23% females). The researchers found poor overall knowledge regarding the etiology of AIDS. About 70-80 percent of the students were aware of high risk groups and modes of transmission of AIDS, but an equally high percentage (60% - 70%) harbored misconceptions regarding the same. A
variability of knowledge regarding diagnosis, treatment, prevention, and seriousness of AIDS was observed. Science students were more knowledgeable than arts and commerce students.

The study undertaken by Sundar et al., (1997) determined the knowledge of AIDS transmission and prevention among student population. In spite of re-assuringly high levels of awareness regarding sexual transmission of HIV, findings revealed important gaps regarding other modes of transmission and preventive measures. Levels of knowledge were similar in all categories of the sample, but females knew considerably less and had more misconceptions than males.

Tikoo et al., (1997) study presents level of knowledge among adolescent boys and girls regarding human sexuality and AIDS in India. A research instrument consisting of 99 items pertaining to demographics, knowledge, attitudes, and behaviours regarding human sexuality and AIDS was used. The knowledge scale within the questionnaire was subdivided into a reproductive knowledge scale and an AIDS scale. Results showed that the Indian adolescent has a limited knowledge of human sexuality and AIDS. The higher the age and grade, the higher the score, males scored higher than females. The scores of girls and boys who planned to go to university were significantly different from girls who had no plans for university and boys who planned to get a job, respectively.

The main objective of the study by Verma and Pauri (1997) was to assess and compare AIDS awareness among students of a metropolitan city. Findings revealed that 69 percent of the students had been aware of AIDS for the past three years; only 5 percent knew of it for over four years. The most important sources of information were foreign magazines (65%) followed by Indian newspapers/magazines (43%), friends (32%), and TV (15%). A significantly greater proportion of Bombay students cited foreign magazines as an important source of information, whereas Pune students relied on Indian newspapers. No other significant differences were noted between the cities. A large majority from both cities (77% Pune, 78% Bombay) favoured single-partner sex. While a majority did not admit to knowing any intravenous (IV) drug users, a small percentage (9% and 4%) admitted knowing of Intravenous (IV) drug
users in their own college and circle of friends respectively. Many students (59%) from Pune (67%) and Bombay (55%) expressed willingness to join the campaign against AIDS.

Awasthi and Pande (1998) found that adolescents are at the maximum risk of HIV infection, and unlike the developed countries where reproductive health counseling is done mainly through the schools, in India a majority of children drop out after primary school.

Shilpa and Ratnakumari (1999) found that even so, a high percentage of students were aware of the appropriate age of marriage, recognized AIDS to be a sexually transmitted disease, were aware of the modes of transmission of AIDS, and considered it to be the most serious health problem of the country. Ignorance was prevalent regarding the full form of the acronym HIV/AIDS. Girls from girls' schools were less aware than boys from boys' schools regarding the physiology of AIDS. Preventive measures against AIDS listed by students included use of condoms, blood testing in case of transfusion, and avoidance of intravenous drugs. Respondents also felt that medical professionals and caretakers should take care of AIDS patients. Television, followed by doctors and newspapers/magazines, remained the most popular source of information. Students also expressed interest in including HIV/AIDS as one of the topics at the high school level.

The study titled “Impact assessment of school-based sex education program amongst adolescents” by Thakor and Kumar (2000), in order to cautioning against the rising proportion of youth who test positive for HIV/AIDS, points out that a majority of the youth remain ignorant about human reproduction and sexually transmitted diseases. The knowledge of students (class IX and X) on reproductive health and AIDS and gender differences was examined.

Study carried out by Dash (2004) on unmarried adolescent girls represent that most of them knew what HIV/AIDS is but knowledge about transmission and prevention is low. This is clearly an area that requires attention.

George (2004) found that Ninety one percent of boys knew about HIV/AIDS whereas only Sixty eight percent of girls were aware of the same. Most of the boys were aware
that AIDS was not curable, but among the girls about Thirty percent were not aware that it was not curable. Sixty eight percent of the adolescents of younger age group said that faithfulness to one’s own partner was important. As age increased only Forty six percent held the same view.

It was indicated by the study carried out by Sahoo (2004) among unmarried adolescents that majority of the respondents were aware that using condoms and avoiding multiple partners would prevent HIV infection.

**Substance abuse**

Only one study related to reproductive health of adolescents concentrated on the issue of substance abuse. Substance abuse is a very significant component of reproductive health education.

Awasthi and Pande (1998) in their study titled “Sexual behaviour patterns and knowledge of sexually transmitted diseases in adolescent boys in urban slums of Lucknow” found that adolescents who smoked or consumed alcohol were more likely to be sexually active before marriage (using the *Crude odd’s ratio*). One third of the boys were smokers and 13.1 percent drank alcohol. The study described the vulnerability of adolescent truck cleaners in relation to HIV and AIDS transmission. Most of them indulged in unprotected sexual intercourse. Abuse of alcohol, tobacco, and opium was very common with these adolescents. The researcher concludes that these adolescent truck cleaners were highly susceptible to the contraction and transmission of HIV/AIDS. He recommends specific programs to educate them and free distribution of condoms.

*Above reviewed studies have suggested that the rapid biological changes during puberty may cause embarrassment and even stress for many girls and boys. These negative attitudes are mostly due to inadequate knowledge. Compared to their parents, adolescents today receive better information and less restriction regarding puberty and sexuality; but misinformation is still evident (Ahuja and Tiwari, 1995; Shilpa and Ratnakumari, 1999; Prasad, 2006). Many adolescents are unsure of what is happening to them when they menstruate or have a wet dream (Sharma and*
The reasons for menstrual blood and wet dreams are puzzling to them. Menstrual blood is considered as dirty blood, and something dirty must be hidden. Boys feel guilty the first time they experience wet dreams, because they believe that having a sex dream is a sin. These negative attitudes may discourage adolescents from learning more about health aspects of these natural bodily functions (Sharma and Sharma, 1996; Sahoo, 2004).

Studies have reported that majority of the female adolescents are married before the legal minimum age of 18. The various factors identified by the researchers were caste, illiteracy, religion etc. (Gupta and Khan, 1996; Umamani and Raju, 1997). There were many studies which indicated that a number of adolescents were aware of the right age of marriage (Uplaonkar, 1995; Shilpa and Rainakumari, 1999; George, 2004).

Many researchers have identified a number of factors related to individual behaviour, family and community situations, and cultural pressures that underlie adolescent sexual and contraceptive behaviour, pregnancy, and childbearing (Kamat, 1996; Pratinidhi, 1996; Atwood and Hussein, 1997; Sahoo, 2004). Ethnicity, income, and the family structure children grow up in have an important influence contributing to their risk for adolescent pregnancy (Kamat, 1996; Pratinidhi, 1996). The studies reviewed above identified additional factors considered to influence adolescent sexual risk taking and pregnancy such as age at first intercourse, community environment, intimate relationships, peer environment, and individual characteristics. Researches argued that having more of these factors present in an adolescent’s life places him/her at a higher risk for becoming adolescent parent (Kamat, 1996; Atwood and Hussein, 1997).

Almost all the studies have highlighted the fact that a large proportion of the adolescents, both married and unmarried seek abortion services (Thapa and Rawal, 1998; UNFPA, 1998; CORT, 1999; Gantara, 2000; Jejeebhoy, 2000; Gantara and Hirve, 2002; Sahoo, 2004) and many of them faced post-abortion morbidity (CORT, 1999; Gantara and Hirve, 2002; Sahoo, 2004).

Studies reviewed above reflected that significant number of adolescent boys and girls were sexually active before marriage. Boys were engaged in high risk sexual
behaviour such as man to man sex, visit to commercial sex workers and girls were coerced into sex. They were vulnerable to have unwanted pregnancy, abortion, STIs/HIV/AIDS (Sharma and Sharma, 1995; Jejeebhoy, 1996; Abraham, 1998; Awasthi and Pande, 1998; Abraham and Kumar, 1999; Dash, 2004). Adolescents had poor knowledge about the consequences of pre-marital sex (Sahoo, 2004). Boys indicated more liberal views towards pre-marital or extra marital sex than females (Khan et al., 1996; Abraham, 1998; Sachdev, 1998; Abraham and Kumar, 1999).

One of the studies pointed out that adolescents need help to acquire socially appropriate sexual behaviour, to make safe sexual choices, and to become less vulnerable to sexual abuse (McCabe, 1996).

Many of the studies have shown that adolescents had poor knowledge of sexually Transmitted Infections (STIs) (Awasthi and Pande, 1998; Dash, 2004; Sahoo, 2004; NACO, MOHFW, and GOI, 2005; McManus and Dhar, 2008). Sexually Transmitted Infections are high among male because they practiced unsafe sex and among girls because of their biological susceptibility and ignorance (Sharma and Sharma, 1997, Abraham, 1998). Various myths prevail related to STIs such as, STIs caused by having sexual intercourse with a woman during her menstrual period, STIs could be cured by having sex with a virgin (Sharma and Sharma, 1997).

Most adolescents have heard about HIV/AIDS but few know enough to protect them against infections. (Aggarwal and Kumar, 1997; Basin et al., 1997; Sundar et al., 1997). Several misconceptions persist about mode of transmission (Amalraj et al., 1997; Khan and Singh, 1997; Rahate et al., 1997; Sahoo, 2004).

A study indicated that adolescents who smoked or consumed alcohol were likely to be indulged in unprotected sexual intercourse before marriage and highly susceptible to the contraction and transmission of HIV/AIDS and other sexually Transmitted Infections (Awasthi and Pande, 1998).

### 2.2.2 Sources of Information accessed by the Students about Reproductive Health Issues

Adolescents are considered sexually mature, but reproductive health issues are rarely discussed with unmarried adolescents. In fact, reproductive health issues are not even
discussed openly in the family or society. Many of the studies reviewed in this section would explore the sources of information accessed by the adolescents on reproductive health issues. In this section sixteen studies were reviewed.

Ahuja and Tiwari (1995) found in their study that in the school-going girls, friends followed by the mothers were the major source of information regarding reproductive health matters, whereas in the non-school-going girls, it was mainly mothers followed by older sisters or sisters-in-law.

Khan et al., (1996) provided an analysis of exposure to various mass media. The findings showed little difference between the male and female students, except in the case of newspapers. More boys (74%) than girls (57%) read them daily. A comparison between types of schools (government and private), revealed a significant difference in the choice of media. Students in private schools depended more on print media, whereas the public school students favoured the radio. T.V. was used equally by both groups. Television, books, and magazines were the main sources of contraceptive information. Friends were another important source.

Bahulekar and Garg (1997) have stated that seven percent adolescents in their study had received information through health personnel.

Lal et al., (1997) revealed that adolescent students were unanimously aware of AIDS. Newspapers (67.4%), followed by T.V. (49.4%), magazines (41.6%), friends (30.4%), and radio (23.6%), were cited as the most common sources of information by the students, irrespective of the location of their college, subject of study, and gender. All the sources above were significantly more popular with urban students, except for friends, a source significantly more popular among rural students.

Awasthi and Pande (1998) revealed that the primary sources of knowledge about sex were friends, television, magazines and books, and siblings. The immediate initiation of reproductive health counseling programs is recommended.

It was found by Sachdev (1998) that basic knowledge regarding sexual anatomy and function was inadequate among both males and females, and this knowledge was obtained primarily from friends and books and rarely from parents.
Thapa and Rawal (1998) studied the sources of information regarding sex were friends, T.V., cinema, books, and the Internet. The data revealed the need to incorporate sex education in the school curriculum.

A study conducted by Singh, Devi and Gupta (1999) reported that for almost all the adolescent girls aged 13-17 in Haryana, the leading source of information was television (73%) and/or radio (37%).

Bhatia and Swami (2000) expressed concern about the low levels of knowledge in the rural girls regarding fertility control methods particularly, because three fourths of the country’s populations stay in villages. The crucial role that schools, parents, students, and social organizations can play in strengthening adolescent reproductive health programs is discussed.

Thakor and Kumar (2000) in their study stated that doctors and teachers were preferred as the source for imparting sex education, doctors still remained the first choice for imparting sex education.

Abraham (2001) in her study reflected that among low-income college boys in Mumbai, erotic materials were the main source of information. Television, peers and erotic literature are the most commonly cited sources of information on sexual and reproductive matters although the information they provide is not always accurate.

NACO and UNICEF (2002) in a National Behavioural Surveillance Survey suggested that by and large, young people are relatively unexposed to the large range of media providing messages on HIV/AIDS: while 76 percent were exposed to such messages on television, far fewer (between one-third and half) were exposed to messages through the radio or newspapers/magazines, and between 6 percent and 12 percent through billboards, pamphlets or films. In contrast, even fewer about 15 percent of males and females were exposed to inter-personal communication on the topic.

Dash (2004), found in his study titled “reproductive health problems of unmarried adolescent girls” that girls consulted their mothers mainly on reproductive health problems.
In the study conducted by Sahoo (2004), adolescents pointed out that parents and guardians were main obstacles to gain knowledge on reproductive and sexual health. It was recommended by the study that it is necessary to make parents aware of these issues. Parent teacher association should be effectively involved. Teacher should be selected as friendly adviser and train them. Question box can be set up in each school, IEC material be developed and collected and distributed.

Acharya and Dasgupta (2005) adopted a right based approach; the study explores widely the needs of adolescents in general and those of sexuality in particular. An in-depth analysis of contemporary and relevant policies has been undertaken in context of adolescents. A small field study of Jaunsari Tribes of Uttranchal has been incorporated to demonstrate the key issues. In-depth interview, FGDs with unmarried females and males in age group 15-19 were conducted. The results reflected that there is absence of a source to satisfy the queries on health and sexual matters, including HIV/AIDS, contraceptives and menstruation related problems. Young adults’ sites that they know about HIV/AIDS but are not clear as to the causes etc. Pointed out that advertisements in doordarshan and radio do not clearly explain the causes and how and why does it happen. All information they get from peers and video films that they watch in village. It was reported by the respondents that In village Kalsi Johdi – A young PHC worker usually available and helped them and answered their queries and girls usually get information from mother, elder sisters and sister-in-law.

Findings of the study conducted by Prasad (2006) to study the perception on Sexual Matters Among Rural Adolescent Boys represents that more than one-fifth of adolescent boys (22%) were inclined to read sex related issues published in periodicals than half of the adolescents (50%) who used to read a little. Half of the adolescent boys (50%) had read letters to editor on sex issues. Two-fifth of teenage boys (40%) opined that sex related articles were useful to unmarried boys. They believed that articles published in magazines were useful and should be made available to unmarried boys. Forty eight percent acquired knowledge on sex indirectly through observation, whereas Thirty nine percent assimilated sex knowledge directly through discussion with peers group or relatives.
Above Reviewed studies suggest that friends were most preferable source of information for the adolescents on reproductive health issues (Khan et al., 1996; Acharya and Dasgupta, 2005; Sachdev, 1998; Thapa and Rawal, 1998). Researchers reflected that teachers and doctors were also preferred as the source for imparting reproductive health education (Thakor and Kumar, 2000; Sahoo, 2004; Bahulekar and Garg, 1997). Mothers were major source of information for girls (Dash, 2004). Studies revealed that primary source of information on reproductive health issues were T.V./radio, books, magazine, and siblings (Acharya and Dasgupta, 2005; Thapa and Rawal, 1998; Lal et al., 1997; Awasthi and pande, 1998). It can be seen that television, peers and erotic literature are the most commonly cited sources of information on sexual and reproductive matters although the information they provide some times not accurate (Abraham, 2001; Acharya and Dasgupta, 2005).

2.2.3 Opinion of Parents towards Reproductive Health Education for Adolescents

Reproductive health issues are taboo subjects within families. In many cases, parents believe that talking to adolescents about these matters would imply approval of sexual activity. Concern for the sexual security and chastity of daughters appears to dominate parental relationships with adolescent girls. While parents closely supervise the activities of adolescent daughters in an attempt to inhibit sexual activity, they often condone the sexual activity of their sons. However, relationships in which parents take on a policing role may not always safeguard against risky sexual behaviour: intimate non-sexual and even sexual relations does indeed occur, and unwanted pregnancy and resort to abortion are not unknown, notwithstanding parental perceptions (Mehra, Savithri and Coutinho, 2002). In this section four studies were reviewed:

Study Conducted by Abraham and Kumar (1999) on low-income college students in Mumbai reveals a positive relationship between perceived authoritarian family relationships and early sexual debut among young males

Another study of 16-year old students in Goa suggests that adolescents – especially girls, who experience unwanted sexual relations, are more likely than others to report lack of communication and support in the relationship with their parents (Patel and Andrew, 2001).
Ganatra and Hirve (2002) found that adolescent abortion-seekers suggests that fear of parents, fear of disclosure of pregnancy status and lack of perceived parental support may have led many pregnant adolescents to delay an abortion or to seek an abortion from unqualified providers.

Masilamani (2003) in the study titled “Building a supportive environment for adolescent reproductive health programmes: Essential programme components” stressed on the fact that parents increasingly recognize the importance of raising awareness among their adolescent children but are inhibited by lack of in-depth knowledge and embarrassment to do this themselves.

Studies have indicated that lack of communication and support exists in the relationship between adolescents and their parents (Abraham and Kumar, 1999; Patel and Andrew, 2001). Adolescent females who, experienced unwanted sexual relations have a fear of disclosure of pregnancy status. Lack of perceived parental support may have led many pregnant adolescents to delay an abortion or to seek an abortion from unqualified providers (Patel and Andrew, 2001; Ganatra and Hirve, 2002). Most parents felt inadequate to talk to their children about issues related to reproductive health (Abraham and Kumar, 1999; Masilamani, 2003).

2.2.4 Opinion of Teachers about Need of Imparting Reproductive Health Education to Adolescents

Reproductive Health Education in School is nowadays an important public health issue as it concerns not only adolescent pregnancy prevention and AIDS prevention and other sexually transmitted infections but also interpersonal relationships and psychosocial issues. Therefore reproductive health education in school contributes to promote better citizenship. Sexuality presents a multidimensional aspect and concern deeply humans in the interweaving between sexuality, social influences, cognitive and affective development. So sexuality can be reduce in a dichotomy biology/psychology and involve in same time psycho-affective and biological maturation and social learning (WHO, 1999; WHO, 2006). These conceptions have an impact on practices. Teachers seem reticent to implement Reproductive Health Education especially the social aspects (relationship, emotions, affects, equality, gender issues, sex orientation…). Two studies were reviewed in this section:
Study conducted by Verma and Pauri (1997) carried out with selected students and teachers from 18 randomly chosen schools of rural Maharashtra. Focus group discussions were conducted on AIDS, sex and sexuality, sex education, and role of teachers in providing AIDS related information. Male and female teachers participated together in the discussion, whereas separate student groups were formed for boys and girls. Results showed unawareness of AIDS among most of the students. Most of the teachers showed unwillingness to discuss sex-related topics with the students.

Bhasin and Aggarwal (1999) in their study brought the attention towards the need for creating awareness regarding responsible reproductive behaviour among adolescents, due to the rising incidence of HIV/AIDS among the youth and prevailing trends in Indian society that consider sex to be a tabooed subject. The cross-sectional study conducted by Bhasin and Aggarwal (1999) aimed at finding out the perceptions of senior secondary school teachers (N=476) regarding imparting of sex education to children. Their perceptions were considered important to facilitate learning regarding reproductive behaviour among adolescents. A majority of the teachers were in favour of imparting sex education. Possible content included reproductive anatomy and physiology, family planning, sexually transmitted diseases, dating, premarital sex, and sexual perversions. Those who opposed sex education cited reasons such as irrelevance of topic, not in accordance with the culture, increased promiscuity, and sex related crimes. The most appropriate age for commencing sex education was considered to be 14 years and ninth class. Teachers were willing to impart sex education after receiving proper training. Biology teachers were considered to be the most appropriate subject teachers, followed by doctors.

Researchers have discussed that the teachers’ perceptions considered important to impart reproductive health education among adolescents. A majority of the teachers were in favour of imparting sex education (Bhasin and Aggarwal, 1999). In another study Most of the teachers showed unwillingness to discuss sex-related topics with the students (Verma and Pauri, 1997). Those who opposed sex education cited reasons such as irrelevance of topic, not in accordance with the culture, increased promiscuity, and sex related crimes. Teachers were willing to impart sex education after receiving proper training (Bhasin and Aggarwal, 1999).
2.2.5 Interventions/Recommendations in order to impart appropriate Knowledge and Attitude among Adolescents regarding Reproductive Health Issues

Adolescents are considered to be vulnerable to reproductive health problems, and there is a need for developing healthy attitudes through reproductive health education. In this section eleven studies were reviewed.

The researchers Ahuja and Tiwari (1995) recommended the introduction of family life education from class VII onwards, and educating mothers as well as male members of the families of non-school-going adolescent girls from rural communities.

The study conducted by Bhende (1995) covers the following aspects: knowledge regarding menstruation, physical changes during puberty, reproduction, sexual aspects of marriage, and STIs and HIV/AIDS; opinions, perceptions, and values regarding love marriages, future partner, “bad girl/boy”, and restrictions on girls; and sexual behaviour including social interaction between adolescent girls and boys, reaction to sexual harassment, and premarital sexual behaviour. One point that clearly emerged from the various sources of data was that adolescent girls were vigilantly protected, their movements were strictly restricted, and non-compliance was severely dealt with. These girls were not sexually active, and friendly interaction with boys was superficial and mainly non-verbal communication. Research findings indicated that the girls utterly lacked power – power that stems from knowledge about their bodies and bodily functions, power of decision making, power to break away from the “culture of silence” they are forced into, resulting in poor self-image and self-esteem. Hence the study stressed on developing educational intervention for the girls not only concentrate on the sexual aspects, but cover themes relevant to their lives, themes that built up their confidence and self-esteem to deal with current and future problems. Indirect evidence showed boys at a different stage of sexual development, emphasizing the need for a different approach.

In a study by Jejeebhoy (1996) several program and research recommendations stand out and are briefly elaborated upon. The program recommendations are: (1) intensify efforts to postpone early marriage; (2) address the negative health implications of the lack of autonomy of married adolescent girls; (3) fulfill the nutritional needs of adolescent girls; (4) provide more education to adolescents on anatomy and physiology; and (5) respond more sensitively to special needs of unmarried adolescent girls and boys.
The role that youth, anganwadi and social workers, and women’s groups can play in ensuring the implementation of recommendations is elaborated in the study carried out by Atwood and Hussein (1997). Delaying early marriages, preventing conception, birth spacing, long-term support, and adequate mention at the policy level are considered to be crucial steps towards prevention of adolescent pregnancy. For adolescents who have already become mothers, the need to provide them and their newborns with accessible and appropriate care is suggested. Atwood and Hussein (1997).

Bahulekar and Garg (1997) strongly emphasized on the need for intensive AIDS educational programs through schools, mass media, health workers, and community leaders.

Abraham (1998) has revealed that Sex education programs did not reach the college youth despite government efforts. Recommendations include curriculum integration, a congenial educational environment, and student involvement in sex education programs.

The study by Thakor and Kumar (2000) assessed the impact of sex education amongst adolescents (need perception, knowledge and attitude regarding reproductive health issues), evaluated feasibility and acceptance of the program, and suggested a model for providing quality sex education. The lectures dealt with anatomy and physiology of the reproductive system and cleared up misconceptions regarding sexual behaviour. The study recommended that knowledge regarding sex education, appreciation of the role of contraceptives (more for boys), willingness to participate in sex education for girls, and added knowledge regarding conception needs to be improved.

Study conducted by Kirby (2001) reflected that the early access to information is the best way not only to prevent sexual violence and sexual transmitted infections but also to promote sexual health and more largely health education. School-based sexuality education is an important and effective way of enhancing young people’s knowledge, attitudes and behaviour. There is widespread agreement that formal education should include sexuality education.

In a study carried out by Yadav (2003) it was highlighted that a large majority of adolescent students desired that reproductive health education should be given in schools. Though their responses varied regarding how and who should do it, whether
parents or school or both, whether through integration or as a separate subject or through co-curricular activities or a combination of all, however, majority desired that both school and parents should help them clarify adolescents reproductive health related issues.

Dash (2004) in his study recommended (1) Life skill education on self-assertiveness, self-confidence and negotiation skills should be developed (2) Fly life education including sexuality education provide as a part of school curriculum (3) Capacity building of adolescent girls needs to be initiated by training and sensitization. Study conducted by Berger (2005) stressed that effective school programmes would include the following elements: (1) A focus on scientific information about human reproduction, providing accurate information about contraception and birth control; (2) A basis in theories which explain what influences people’s sexual choices and behaviour and gender issue (3) A clear, and continuously reinforced message about sexual behaviour and risk reduction; (4) Working on psychosocial abilities, self-esteem, dealing with peer and other social pressures on young people; providing opportunities to practise communication, negotiation and assertion skills; (5) Uses a variety of approaches to teaching and learning that involve and engage young people and help them to personalise the information; (6) Uses approaches to teaching and learning which are appropriate to young people’s age, experience and cultural background. Formal programmes with these elements have been shown to increase young people’s levels of knowledge about sex and sexuality, decrease risk when they do have sex. All the elements are important and inter-related, and sexuality education needs to be supported by links to sexual health services, otherwise it is not going to be so effective. It also takes into account the messages about sexual values and behaviour young people get from other sources, like friends and the media. It is also responsive to the needs of the young people themselves - whether they are girls or boys, on their own or in a single sex or mixed sex group, and what they know already, their age and experiences.

Studies reflected that school-based reproductive health education is an important and effective way of enhancing young people’s knowledge, attitudes and behaviour (Abraham, 1998; Kirby 2001). Though opinions varied regarding how and who should do it, whether parents or school or both, whether through integration or as a separate subject or through co-curricular activities or a combination of all, however, majority desired that
both school and parents should help them clarify adolescents reproductive health related issues. It was recommended by the researches that it should be given from class VI onwards and both male and female members of the family needs to be educated on reproductive health issues of the adolescents (Yadav, 2003; Ahuja and Tiwari, 1995). Aspects to be covered suggested by the various researchers were: knowledge regarding menstruation, physical changes during puberty, reproduction, contraception and birth control; and STIs and HIV/AIDS and sexual behaviour including social interaction between adolescent girls and boys, reaction to sexual harassment, and premarital sexual behaviour. Life skill education on self-assertiveness, self-confidence and negotiation skills should be developed. Capacity building of adolescents needs to be initiated by training and sensitization (Bhende, 1995; Jejeebhoy, 1996; Atwood and Hussein, 1997; Thakor and Kumar, 2000; Dash, 2004; Berger, 2005).

2.3 OVERVIEW OF LITERATURE REVIEWED

Majority of studies were descriptive in nature, where researchers were found to be interested to describe the awareness level of adolescents on reproductive health issues including HIV/AIDS. In the reviewed studies, parents’ opinion on imparting reproductive health education was not studied, while two studies assessed the teachers’ perception on providing reproductive health education. Not even a single study covered all the reproductive health issues together (holistic), previous research studies concentrated on one or two issues of reproductive health like –

- Adolescents’ sexuality and sexual behaviour (Mehra, Savithri, and Coutinho, 2002); Sharma and Sharma, 1997; Jejeebhoy, 2000; Awasthi and Pande, 1998; Bhende, 1995).

- Awareness on reproductive health issues/Awareness of AIDS among school children/awareness regarding pubertal changes (Yadav, 2003; Verma and Pauri., 1997, Tikoo et al., 1997, Sundar et al., 1997; Sharma and Sharma, 1996; Rahate, et al., 1997; Shilpa and Ratnakumari, 1999; Sahoo, 2004; Sachdev, 1998; Ahuja and Tewari, 1995).


- Fertility control methods: Knowledge of adolescents (Gupta and Khan, 1996; Bhatia and Swami, 2000).
Issues related to substance abuse and sexual abuse have a strong relation with reproductive health but it is not been covered properly by the researches in the field of reproductive health. Substance abuse covered by the study on sexual behaviour patterns and knowledge of sexually transmitted diseases in adolescent boys (Awasthi and Pande, 1998). Issue related to Sexual abuse was covered by the study on sex education programs for people with mental retardation (Mc Cabe, 1996).

However number of studies did not mention their research design, but while addressing this issue researcher’s limited access to journals and literature available online can not be ignored.

Review indicates that most of the studies were exclusively undertaken with girls, some of the studies with the boys, and very few of the studies done with both boys and girls together.

Review of studies also indicates that a large number of studies have used quantitative techniques for data collection, very few studies used qualitative techniques and three used both quantitative and qualitative techniques.

Most of the studies used questionnaire or standardized inventories as a tool for data collection because of the time constraint involved with the school students and this also suggests that the tools, which can collect data in short span of time and do not require long term interaction with respondents may be best suited for research in this field.

Most of the studies used probability sampling methods to draw the required sample where mainly simple random and systematic sampling was used.

The research studies conducted on reproductive health have rarely considered it important to include unmarried adolescents in their sample. In India, reproductive health was studied traditionally as part of demographic studies in relation to family planning with in marriage. In recent years, it has become part of the HIV/AIDS research into sex related risk behaviour (Amalraj et al., 1997; Acharya and Dasgupta, 2005; Goyal, 1995; and Bhasin et al., 1997) Research into reproductive health from the perspective of family planning focuses mainly on married couples and AIDS research focuses on specific groups-at-risk. Both kinds of research tend to leave out
the adolescent group. The review suggests that there is a need to investigate on awareness and attitude towards reproductive health issues among more representative samples of adolescent boys and girls.

As indicated by many studies that most of the adolescents have little knowledge of reproductive and sexual health (Sahoo, 2004; Chaudhary, 1998; Yadav, 2003). Lack of knowledge regarding human reproduction has caused some young people to engage in risky sexual behaviour. Literature review has shown that adolescents are becoming sexually active at a younger age. The age of which sexual activity begins varies from 12-18 years (Abraham, 1998; Awasthi and Pande, 1998; Acharya and Dasgupta 2005; Sharma and Sharma, 1995). The trends indicate greater permissiveness towards premarital sex (Awasthi and Pande, 1998 and, Sharma and Sharma, 1995) Adolescent have misconception, myths and little access to correct information and knowledge about sex, sexuality and reproductive health (Ahuja and Tewari, 1995; Awasthi and Pande, 1998; Bhasin et al., 1997; and, Acharya and Dasgupta, 2005) Studies have shown that misconception existed, more among females than males (Amalraj et al., 1997; Abraham, 1998; Shilpa and Ratna Kumari, 1999) Most of the studies have recommended the need for comprehensive reproductive health education (Awasthi and Pande, 1998; Abraham, 1998; Ahuja and Tewari, 1995; Shilpa and Ratnakumari, 1999). Studies also discussed the crucial role that schools and parents can play in strengthening adolescent reproductive health programme (Bhatia and Swami, 2000; Acharya and Dasgupta, 2005). Studies have stressed that adolescent sexuality should be geared in a positive way for boy and girls (Bhasin and Aggarwal, 1999; and Acharya and Dasgupta, 2005) and the concept of sexual behaviours can also be clarified and inculcated during this phase of life.

The studies carried out so far on reproductive health issues have identified a number of pathways through which different factors may influence reproductive health of adolescents. Although there are several empirical studies focusing on level of knowledge of adolescents and youth on one or other component of reproductive health but no comprehensive study including all the components of reproductive health have been conducted. Thus the researcher proposes a study that includes all the components related to adolescents’ reproductive health.
Review further suggests that comparatively much empirical evidence exist on studying adolescents’ knowledge, attitude and perception, but there are few studies have been conducted to understand the perspective of both adolescents and teachers on imparting reproductive health education in schools (Bhasin and Aggarwal, 1999; Sharma and Sharma, 1995). Review reflects that almost all the studies recommended the involvement of parents in imparting reproductive health education amongst adolescents but no empirical evidences found where the parents’ opinion and concerns regarding their adolescents’ reproductive health issues and education have been studied. Thus, the present study will be holistic in nature, including adolescents, school teachers as well parents in order to study various dimensions related to reproductive health education for adolescents.

The limited research and mixed results concerning influence of various factors on reproductive health dictate the need for additional research exclusively on adolescents reproductive Health. The present study will attempt to address some of the issues that still needs to examine like, identification of the reproductive health needs of adolescents by using both qualitative and quantitative techniques so that findings can have a strong base for drawing rationale and explanations, documentation and evaluation of existing adolescents’ programmes, designing various approaches to address reproductive health needs of adolescents, and also ensuring involvement of parents, teachers and at large community also.