Adolescence is that phase of growth and development of human beings when most dramatic life transformations take place. The term adolescence meaning “to emerge” or “achieve identity” is a relatively new concept, especially in development thinking. The origins of the term from the Latin word, ‘adolescere’ meaning, “to grow, to mature” indicate the defining features of adolescence.

Oxford’s dictionary defines it as a period between childhood and adulthood.

World Health Organization defines adolescence both in terms of age (spanning the ages 10 and 19 years) and in terms of a phase of life marked by special attributes. These attributes include:

- Rapid physical growth and development
- Physical, social and psychological maturity, but not all at the same time
- Sexual maturity and the onset of sexual activity
- Experimentation
- Development of adult mental processes and adult identity
- Transition from total socio-economic dependence to relative independence
To distinguish adolescents from other similar (and sometimes overlapping) age groupings, which however differ in these special characteristics, WHO has also defined youth and young people.

**Youth** - persons between 15 and 24 years

**Young people** - persons between 10 and 24 years

The formulation of definitions clearly demarcating the age and characteristics of adolescents is only a recent phenomenon, and yet to be widely recognized across the world.

A summary of the writings of recognized authorities and of previous research provides evidence that the researcher is familiar with what is already known and what is still unknown and untested. Since effective research is based upon past knowledge, this step helps to eliminate the duplication of what has been done and provides useful hypotheses and helpful suggestions for significant investigation. Citing studies that show substantial agreement and those that seem to present conflicting conclusions helps to sharpen and define understanding of existing knowledge in the problem area, provides a background for the research project, and makes the reader aware of the status of the issue.
Review of literature for the present study is classified under the following topics:

1. Theoretical perspectives supporting the present research
2. Adolescent Scenario in India
3. Status of programs for adolescent girls
4. Nutritional problems of adolescent girls
5. Reproductive Health problems of adolescent girls
6. Life Skills Education for adolescents
7. Communication strategies to reach out to adolescents

1. THEORETICAL PERSPECTIVES SUPPORTING THE PRESENT RESEARCH

The following has been compiled from WHO information series. (2002)

A significant body of theory and research provides a rationale for the benefits and uses of life skills based approach to empower adolescent girls for life preparedness. The theories share many common themes and have all contributed to the development of life skills based health education. Behavioral science and the disciplines of education and child development, placed in the context of human rights principle constitute a primary source of these foundation theories and principles. Those who work in these disciplines have provided insights acquired through decades of research and experience - into the way human beings,
specifically children and adolescents grow and learn; acquire knowledge, attitudes, and skills; and behave. Research and experience have also revealed the many spheres of influence that affect the way children and adolescents grow in diverse settings, from family and peer groups to school and community.

**CHILD AND ADOLESCENT DEVELOPMENT THEORIES**

An understanding of the complex biological, social, and cognitive changes, gender awareness, and moral development that occurs from childhood through adolescence lies at the core of most theories of human development.

The onset of puberty constitutes a fundamental biological change from childhood to early adolescence. An important component of social cognition in the transition from adolescence to adulthood is the process of understanding oneself, others, and relationships. The ability to understand causal relationships develops in early adolescence, and problem-solving becomes more sophisticated. The adolescent is able to conceptualize simultaneously about many variables, think abstractly, and create rules for problem-solving (Piaget, 1972). Social interactions become increasingly complex at this time. Adolescents spend more time with peers; increase their interactions with opposite-sex peers; and spend less
time at home and with family members. Moral development occurs during this period as well; adolescents begin to rationalize the different opinions and messages they receive from various sources, and begin to develop values and rules for balancing the conflicting interests of self and others.

**Implications for the present research**

- In the school setting, late childhood and early adolescence (ages 6-15) are critical moments of opportunity for building skills and positive habits. During this time, children are developing the ability to think abstractly, to understand consequences, to relate to their peers in new ways, and to solve problems as they experience more independence from parents and develop greater control over their own lives.

- The wider social context of early and middle adolescence provides varied situations in which to practice new skills and develop positive habits with peers and other individuals outside the family.

- Developing attitudes, values, skills, and competencies is recognized as critical to the development of a child's sense of self as an autonomous individual and to the overall learning process in school.
Within this age span, the skills of young people of the same age and different ages can vary dramatically. Activities need to be developmentally appropriate.

MULTIPLE INTELLIGENCES

In 1993, Howard Gardner, defined seven types of intelligence. Two more types have been added for a total of nine types. According to the theory of multiple intelligences, all humans possess in varying amounts—the nine identified types. Each individual has different intellectual compositions. The nine types of intelligence are as follows:

Verbal-Linguistic: well-developed verbal skills and sensitivity to the sounds, meaning and rhythms of words. A child whose strength is in this area enjoys language arts, that is, speaking, writing, reading and listening.

Mathematical-Logical: ability to think conceptually and abstractly and has the capacity to discern logical or numerical patterns. Children with this strength have an aptitude for numbers, reasoning and problem solving.

Musical: ability to produce and appreciate rhythm, pitch and timber. These children learn well through songs, patterns, rhythms, instruments and musical expression.
Visual-Spatial: capacity to think in images and pictures, to visualize accurately and abstractly. These children learn best through visuals and spatial organization. They like to see what you are talking about in order to understand. They enjoy charts, graphs, maps, tables, illustrations, art and puzzles.

Bodily Kinesthetic: ability to control one’s body movements and to handle objects skillfully. These children learn best through activities like games, movement, and hands-on tasks such as building something.

Interpersonal: capacity to detect and respond appropriately to the moods, motivations and desires of others. This child is people-oriented and outgoing and does his or her learning cooperatively in groups or with a partner.

Intrapersonal: capacity to be self-aware and in tune with inner feelings, values, beliefs and thinking processes. These children are especially in touch with their own feelings, values, and ideas. They may appear to be reserved but are quite intuitive about what they learn and how it relates to themselves.
Naturalist: ability to recognize and categorize plants, animals and other objects in nature. These children love the outdoors, animals and field trips. They also pick up on subtle differences in meanings.

Existential: sensitivity and capacity to tackle deep questions about human existence, such as what is the meaning of life, why do we die, and how did we get here. These children learn in the context of where humankind stands in the "big picture" of existence. They ask "Why are we here?" and "What is our role in the world?"

Implications for the present research

➤ The concept of multiple intelligences provides several thoughts concerning the planning of strategies for successful teaching.

➤ A broader vision of human intelligence points toward using a variety of instructional methods to engage different learning styles and strengths.

➤ The capacity of managing emotions and the ability to understand one's feelings and the feelings of others are critical to human development, and adolescents can learn these capacities just as well as they learn reading and mathematics.

➤ Students have few opportunities outside of school to participate in instruction and learning for these other capacities, such as social
skills. Therefore, it is important to use the school setting to teach more than traditional subject matter.

> Individuals learn new information in different ways. Thus having a basic understanding of differences in learning styles and planning strategies can contribute to successful learning, assessment and ultimately behavior change.

**SOCIAL LEARNING THEORY OR SOCIAL COGNITIVE THEORY**

This theory is based largely upon the work of Albert Bandura (1977), whose research led him to conclude that children learn to behave both through formal instruction and through observation. Formal instruction includes how parents, teachers, and other authorities and role models tell children to behave, observation includes how young people see adults and peers behaving. Children's behavior is reinforced or modified by the consequences of their actions and the responses of others to their behaviors.
Implications for the present research

- Skills teaching needs to replicate the natural processes by which children learn behavior: modeling, observation, and social interaction.
- Reinforcement is important in learning and shaping behavior. Positive reinforcement is applied for the correct demonstration of behaviors and skills; negative or corrective reinforcement is applied for behaviors or skills that need to be adjusted to build more positive actions.
- Teachers and other adults are important role models, standard setters, and sources of influence.

PROBLEM-BEHAVIOUR THEORY

Jessor & Jessor (1977) recognize that adolescent behavior (including risk behavior) is the product of complex interactions between people and their environment. Problem-behavior theory is concerned with the relationships among three categories of psychosocial variables. The first category, the personality system, involves values, expectations, beliefs, and attitudes toward self and society. The second category, the perceived environmental system, comprises perceptions of friends' and parents' attitudes toward behaviors and physical agents in the environment, such as substances and weapons. The third category, the behavioral system,
comprises socially acceptable and unacceptable behaviors. More than one problem behavior may converge in the same individuals, such as a combination of alcohol and tobacco or other drug use and sexually transmitted disease.

**Implications for the present research**

- Behaviors are influenced by an individual's values, beliefs, and attitudes and by the perceptions of friends and family about these behaviors. Therefore, skills in critical thinking (including the ability to evaluate oneself and the values of the social environment) effective communication, and negotiation are important aspects of skills-based health education and life skills. Building these types of interactions into activities, with opportunities to practice the skills, is an important part of the learning process.

- Many health and social issues, and their underlying factors, are linked. Interventions on one issue can be linked to and benefit another.

- Interventions need to address personal, environmental, and behavioral systems together.
SOCIAL INFLUENCE THEORY AND SOCIAL INOCULATION THEORY

Social influence theory recognizes that children and adolescents will come under pressure to engage in risk behaviors, such as tobacco use or premature or the traditional values, at the same time the mean age of onset of puberty is declining; mean age of marriage is rising. They have little access to contraceptives. This implies a longer period of possible unprotected sexual activity between puberty and marriage thus bringing unprotected sex.

Social influence and inoculation programs anticipate these pressures and teach young people both about the pressures and about ways to resist them before youth are exposed. Usually these programs are targeted at very specific risks, tying peer resistance skills to particular risk behaviors and knowledge. Social resistance training is usually a central component of social skills and life skills programs.

Implications for the present research

➤ Peer and social pressures to engage in unhealthy behaviors can be dissipated by addressing them before the child or adolescent is exposed to the pressures, thus pointing toward early prevention rather than later intervention.
Making young people aware of these pressures ahead of time gives them a chance to recognize in advance the kinds of situations in which they may find themselves.

Teaching children resistance skills is more effective for reducing problem behaviors than just providing information or provoking fear of the results of the behavior.

COGNITIVE PROBLEM SOLVING

This competence-building model of primary prevention theorizes that teaching social and cognitive problem-solving skills to children at an early age can improve interpersonal relationships and impulse control, promote self-protecting and mutually beneficial solutions among peers, and reduce or prevent negative "health-compromising" behaviors. Poor problem-solving skills are related to poor social behaviors, indicating the need to include problem-solving and other skills in skills-based health education.

Implications for the present research

Teaching interpersonal problem-solving skills at early stages in the developmental process (childhood, early adolescence) develops a strong foundation for later learning.
- Focusing on skills for self-awareness and self-management, as in anger management or impulse control, as well as generating alternative solutions to interpersonal problems, can reduce or prevent problem behaviors.

- Focusing on the ability to conceptualize or think ahead to the consequences of different behaviors or solutions can help children make positive choices.

**RESILIENCE THEORY**

This theory explains the process by which some people are more likely to engage in health promoting rather than health-compromising behaviors. It examines the interaction among factors in a young person's life that protect and nurture, including conditions in the family, school, and community, allowing a positive adaptation in young people who are at risk. The importance of this theory is its emphasis on the need to modify and promote mechanisms to protect children's healthy development. Resilience theory argues that there are internal and external factors that interact among themselves and allow people to overcome adversity. Internal protective factors include self-esteem and self-confidence, internal locus of control and a sense of life purpose.
External factors are primarily social supports from family and community. These include a caring family that sets clear, nonpunitive limits and standards; the absence of alcohol abuse and violence in the home; strong bonds with and attachment to the school community; academic success; and relationships with peers who practice positive behaviors (Kirby 2001; Infante, 2001; Luthar, 2000; Kirby 1999; Kass, 1998; Blum & Reinhard, 1997; Luthar & Ziegler, 1991; Rutter, 1987).

According to Bernard (1991) the characteristics that set resilient young people apart are social competence, problem-solving skills, autonomy, and a sense of purpose. Today, there seems to be agreement on the sets of factors that are present in resilient behaviors. Research is focusing on identifying the types of interactions among these factors that allow resilient adaptation to take place despite adverse conditions.

**Implications for the present research**

- Social-cognitive skills, social competence, and problem-solving skills can serve as mediators for behavior.
- The specific skills addressed by skills-based health education and life skills based education for other learning areas, are part of the internal factors that help young people respond to adversity and are the traits that characterize resilient young people.
➤ It is important that both teachers and parents learn these same skills and provide nurturing family and school environments, modeling what they hope young people will be able to do.

➤ Resilience focuses on the child, the family, and the community, allowing the teacher or caregiver to be the facilitator of the resilient process.

➤ While skills may protect young people, many larger factors in the environment play a role and may also have to be addressed if healthy behavior is to be achieved.

THEORY OF REASONED ACTION AND THE HEALTH BELIEF MODEL

The Theory of Reasoned Action and the Health Belief Model contain similar concepts. Based on the research of Fishbein and Ajzen (1975) the Theory of Reasoned Action views an individual's intention to perform a behavior as a combination of his attitude toward performing the behavior and subjective normative beliefs about what others think he should do. The Health Belief Model, first developed by Rosenstock (1966; Rosenstock et al., 1988; Sheehan & Abraham, 1996) recognizes that perceptions - rather than actual facts - are important to weighing up benefits and barriers affecting health behavior, along with the perceived susceptibility and perceived severity of the health threat or consequences.
Modifying factors include demographic variables and cues to action which can come from people, policies or conducive environments.

Implications for the present research

➤ If a person perceives that the outcome from performing a behavior is positive, she will have a positive attitude toward performing that behavior. The opposite can be said if the behavior is thought to be negative.

➤ If relevant others (such as parents, teachers, peers) see performing a behavior as positive and the individual is motivated to meet the expectations of relevant others, then a positive individual behavior is expected. The same is true for negative behavior norms.

STAGES OF CHANGE THEORY OR TRANSTHEORETICAL MODEL

This theory, based on a model developed by Prochaska (1979; & DiClemente, 1982), describes stages that identify where a person is regarding her change of behavior. The six main stages are:

❖ Pre contemplation (no desire to change behavior),

❖ Contemplation (intent to change behavior),
- Preparation (intent to make a behavior change within the next month),
- Action (between 0 and 6 months of making a behavior change)
- Maintenance (maintaining behavior change after 6 months for up to several years)
- Termination (permanently adopted a desirable behavior).

**Implications for the present study**

- It is important to identify and understand the stages where students are in terms of their knowledge, attitudes, motivation, and experiences in the real world, and to match activities and expectations to these.
- Interventions that address a stage not relevant to students are unlikely to succeed. For instance, a tobacco-cessation program for people who mostly do not smoke or who smoke but have no desire to change is not likely to lead to quitting smoking.

**2. ADOLESCENT SCENARIO IN INDIA**

Adolescents account for one fifth of world’s population. In India, they constitute twenty one percent of the population. (National Health Policy 2000) Never before have there been so many adolescents in India and
with their lavish consumerist lifestyles, neither have they had it so good. But statistics trickling in from doctors tell a more somber story. Indian adolescents are susceptible to a range of diseases; the implications are graver because a slew of studies show that many adult ailments have their roots in the adolescent period. The stigma associated with the changing phase of mental, skeletal and endocrinological maturity, coupled with poor socio-economic setup of rural and slum areas lead to a number of social problems. The worst sufferings are in the form of drop of female literacy, early marriage, and bonded labour and child abuse.

According to Bansal and Mehra, (1998) there has been a vast explosion of satellite TV programs cutting across cultural boundaries often explicitly directed at youth. Increased travel and tourism, migration, rapid and accelerating urbanization; easier access to harmful substances and an overall decline of the extent and influence of the family from the extended multigenerational family to the single parent family—these factors erode the danger of early or unwanted pregnancy, induced abortions, STDs/ HIV etc. It is paradoxical that there are no programs directly addressing this group.

Bezbaruah and Janeja (2000) have reported the South Asia Conference on Adolescents where it has been stated that the exploitation and neglect of
girls and women in South Asia has led to excess female deaths over male deaths, resulting in an adverse sex ratio. India has some of the region’s most severe forms of female neglect and infanticide. According to them a poor understanding of reproductive health and sexual issues is the main cause for the absence of focus on services.

The Government of India, (2002) presenting The Tenth Five Year Plan of India, for the first time, accepts the crucial role of adolescent girls in controlling the growth of population in the country. It says that ‘adolescent girls in the age group 15-19 years who account for 52.14 million of the population (10.5 percent) are very sensitive from the point of view of planning because they are in the preparatory stage for their future productive and reproductive roles in society and family respectively.

Mukherjee (2002) has reported that there is a lot of upheaval and restructuring during adolescence, both physical and psychological, which make health problems in this period unique. Of the physical illnesses, the most common are respiratory illnesses, malnutrition, anemia, rheumatic heart disease, injuries, poisoning, gynecological problems and skin diseases. So also a number of health problems regarded as “Adult” in nature are actually present during adolescence itself in a preclinical form.
and include hypertension, hypercholesterolemia and carcinoma-insitu of the cervix.

According to a report in The Hindu dated 8th November 2004 the ward-wise map of the child sex ratio in Bangalore Mahanagara Palike (BMP) limits throws up startling facts. In seven wards of the city, there are less than 900 girls per 1,000 boys. The average child sex ratio in the BMP has seen a considerable drop in the last 10 years-in 1991 it was 961 girls per 1,000 boys and in the 2001 it has dropped to 943 girls per 1,000 boys.

Even more alarming is that 25 wards have child sex ratio of between 901 and 925 girls for 1,000 boys. 29 wards across the city limits have sex ratio of between 926 and 950 girls per 1,000 boys. Only four wards have sex ratio of more than 1,000 girls for 1,000 boys according to the 2001 census data.

The census data indicates that sex ratio has gone from bad to worse mostly in urban areas, among affluent sections of the public. This contradicts the common notion that illiteracy and poverty are the only cause for decline in sex ratio.
Tewari (2005) states that neither reproductive health services nor research has paid adequate attention to the unique health and information needs of adolescents in India, despite their strategic importance in the success of the family planning program. Female literacy is considered to be a more sensitive index of social development compared to overall literacy rates. It is inversely related to fertility rates, population growth rates, infant and child mortality rates and shows a positive correlation with female age at marriage, life expectancy, participation in modern sectors of the economy and female enrolments. The literacy gap between males and females has widened through the years. By 1991, a literacy rate of around 63% was recorded for males but only a little less than 40% for females. Male-female gaps are closing in the urban areas but continue to be wide in rural areas.

Mane (2006) has indicated that poor nutrition, early child bearing and reproductive health complications compound the difficulties of adolescent physical development. Anemia is a primary cause for maternal mortality. Nutritional deprivation, increased demands of an adolescent girl’s body due to growth, excessive menstrual loss, early and frequent pregnancies aggravate and exacerbate anemia and its effects.
She further states that there is a rise in the number of urban adolescents who are overweight, have high cholesterol, and diabetes. One in three of them also suffer from bad eyesight and one in five adolescents have stress-related emotional disorders.

CONCLUSION

From the analysis of the adolescent scenario in India, the invisibility of adolescents in policy and service delivery emerges as the most critical problem. Yet, it is evident that adolescents have unique and serious concerns and needs that should be addressed separately. The first step should be a concerted effort to increase the availability of data and information on adolescents. Conceptual clarity should lead to greater understanding of the unique needs and concerns of adolescents, especially adolescent girls.

3. STATUS OF PROGRAMS FOR ADOLESCENT GIRLS

There are no comprehensive national policies and programs addressing all the multi-dimensional needs of adolescents including not just reproductive health and sexuality needs and problems but also education, employment, empowerment, food security and nutrition. Existing national programs are limited in size and scope, addressing only some aspects of reproductive health. They are mostly isolated in nature, not inter-related,
and targeted at youth (20-30 years). Interventions targeted specifically at adolescents (10-19 years), are few. The role of adolescents is hardly recognized in the formulation, monitoring and evaluation of national programs.

National Policy and Charter for Children-2001 recognizes the Right of Adolescents to education and skill development and states that, “The State and Community shall take all steps to provide the necessary education and skills to adolescent children so as to equip them to become economically productive citizens. Special programs will be undertaken to improve the health and nutritional status of the adolescent girl”.

Paramesh (2002) indicates that at present there are no specific health, nutrition or development programs for adolescents. In the absence of obvious physical morbidity, high psychological morbidity has not been appreciated. The real possibilities for establishing “Preventive Services for Adolescents”, a concept well established in the developed countries, has totally been ignored. During the tenth five year plan, programs for early detection and effective management of nutritional, health and developmental problems of adolescents with special emphasis on girls will have to be introduced. We need to understand the needs of adolescents from their own perspective.
Some of the programs introduced by the Karnataka Government are:

**Reproductive and Child Health (RCH) program**

Reproductive and Child Health services are provided at community level, sub centre level, primary health centre level and first referral unit or district hospital level. Health interventions include prevention and management of unwanted pregnancy, maternity care, childcare services and management of reproductive tract infections and sexually transmitted diseases.

**Adolescent Girls Scheme in Integrated Child Development Scheme (ICDS)**

The Adolescent Girls Scheme (AGS) is a special intervention under ICDS that was devised during 1991-1992 for adolescent girls in the age group of 11-18 years. This intervention focuses on school dropouts, girls in the age group of 11-18 years, to meet their needs of self-development, nutrition, health, education, literacy, recreation and skill formation. This scheme attempts to mobilize and enhance the potential of adolescent girls as social animators. It also seeks to improve their capabilities in addressing nutrition and health issues through center-based instructions, training camps and hands-on learning as well as sharing of experiences.
**Kishori Shakti Yojana**

The Adolescent girls Development Scheme called the "Kishori Shakti Yojana" is being extended to cover 2000 blocks in the country. Under this initiative about 13 lakh adolescent girls will be benefited. The initiative aims at improving the nutritional and the health status of girls in the age group of 11-18 years, as also provide the required literacy and numeracy skills through non-formal education. The yojana is currently under implementation in 507 blocks of the country benefiting about 3.5 lakh adolescent girls, through the Anganwadi centers, both in the rural as well as urban areas.

Berman (2007) referring to the increasing budget for disease control including AIDS, reproductive and child health and nutrition under the National Rural Health Mission in the recent five plan, has opined that simply pouring money into India's health system will not ensure a healthy life for all its citizens. He has stated that the country's services suffer from systemic problems that limit the efficiency with which these resources can lead to results. He has suggested that the government must also find innovative ways to improve the delivery of priority health services. The need of the hour is innovation. While there is some progress in new efforts, fresh thinking is called for in a number of critical areas. And while many of the innovations needed can be launched and
assisted by central programs, it is ultimately state and local government and communities that must own and sustain them.

CONCLUSION

It is evident from the above review of literature that till now scant attention has been paid to adolescent girls and their various problems related to nutrition, reproductive health and life skills. There are minimal National programs yet concentrating on this age group and little data to depict the magnitude of the problem. This calls for an urgent need to plan programs and policies for the adolescent girls to foster their holistic development. But, policies and programs for adolescents cannot exist in isolation; their success will be dependent on the extent to which they are embedded in the social, parental and familial intervention settings.

4. NUTRITIONAL PROBLEMS OF ADOLESCENT GIRLS

India, despite shining on many fronts has the world’s largest number of malnourished women and children. A vicious circle of poverty, illiteracy, malnutrition, infection and disease operates in the country, resulting in the dismal health and nutritional condition of common populace, especially mothers and children. The prevalent illiteracy in the countryside has been blamed for all these conditions and literacy is advocated as the panacea.
Bezbaruah and Janeja (2000) in their situational analysis of adolescents in India have stated that adequate nutrition is particularly critical for adolescents as it is a primary determinant of the spurt of growth that characterizes adolescence. Poor nutrition is often cited as the major reason for the delay in onset of puberty in Indian adolescents. Also, gender discrimination in India is mentioned as one of the main causes of female under-nutrition. The most visible manifestation of nutritional deficiency is the high prevalence of anemia and stunting among adolescent girls.

Virudhagiri (2002) reports that urban adolescents display extreme likes and dislikes with regard to food. They consume bakery items; chips and fast foods that are high in fat and salt content and are made of refined flour. Soft drinks, candies and chocolates are also popular. All these foods have empty calories and kill the appetite for healthy food.

A study was carried out by Sharma & Sharma (2004) to test the hypothesis whether illiteracy has some effect on women's status in general and mother-child health and nutritional levels in particular. Though the mothers' education was found to be significantly associated with her living status, yet this empowerment in the context of status in the
family and access to health services has been observed only in higher educated (above secondary) mothers. Therefore, the effect of education only becomes palpable after some threshold level of education and mere literacy or primary level education couldn’t bring any positive change in the condition of women. Further, the educated mothers (secondary and above) have shown their commitment towards child health by their child rearing practices where they commit indiscretions and lapses. They have also been found wasting, when it comes to caring for themselves, as became evident by their BMI and haemoglobin levels and other anthropometric indices. The study highlights the need of a holistic program for educating women to threshold level and advocates the urgency of some specific need based intervention programs, which make even educated mothers aware about the nutritional requirements of their children and their own selves in different stages of life cycle.

One thousand adolescent girls of different schools of Patna in Bihar were studied by Srivastava et, al. (2002). The sample comprised of early adolescence (10-13 years), middle adolescence (13-16 years) and late adolescence (16-18 years) belonging to higher, middle and lower economic class. An effort was made to assess the status and life conditions of the adolescent girls by analyzing the socialization process that they undergo, their knowledge about health and nutritional issues,
and their participation in work and motherhood status. The study revealed that the level of knowledge about correct general dietary beliefs among adolescent girls was generally poor among all the groups but it was especially poor among the low socio-economic groups and in early adolescents of all the socio-economic groups.

Dilbar (2003) has reported a nutrition education component to the food-distributing program in Tajikistan. It aimed at designing the behavior change strategy to reduce the prevalence of anemia in the target population.

The methodology included collecting information on current dietary practices. The women were also asked about their acceptance of organ meats. Analysis of this information focused on the use of haeme iron, non-haeme iron and Vitamin C food sources (enhancers).

Based on the information of food availability and taking into consideration the challenges and potentials, the team selected 5 possible behaviors for trials to recommend. The selected recommendations were:

- Consume meat at least one more time during the week.
- Consume cabbage or sauerkraut at least 2 times in the week.
- Use one lemon during the week.
Use some brown sugar everyday.

Replace tea with an alternative beverage at one meal per day.

Each member of the team visited 5 beneficiaries in their homes and presented information on the causes and consequences of anemia and good food sources and enhancers. The women were asked which of the behavior recommendations they were willing to try for a week and it was noted down. After one week, the staff returned to each woman’s home with an interview form designed to note compliance with recommendations and all the factors that aided or hindered compliance.

The results revealed that all women reported that they felt empowered by knowing the relationship of specific foods to iron deficiency and the concrete suggestions that were given to them to follow. The personal visit at home was regarded as a key factor in the women’s efforts to make behavior change.

Ushadevi (2004) conducted a study on the growth profile of rural and urban adolescent girls. Four hundred adolescent girls belonging to 13-18 years from rural and urban areas of Bangalore comprised the subjects for the study. Somatic status, dietary, health, morbidity, clinical and biochemical status were assessed using standard procedures. The
anthropometric parameters such as height, weight and MUAC were recorded and were compared with NCHS standards The subjects were categorized into different grades of malnutrition using various anthropometric indices The study revealed that mean height (154 cm and 156 cm) for all the age groups was much lower than the standard, which was significant at 1 percent level for both rural and urban respondents Mean weight was 42 and 43 kg for rural and urban respectively which was significant at 1 percent level Statistically significant difference was not observed in MUAC measurements in both the groups Prevalence of under nutrition according to BMI in the rural and urban respondents was 68 and 60 percent respectively CED Grade III was observed in 28.5 and 23 percent of the rural and urban respondents Prevalence of under nutrition was found to be high among 13 to 15-year-old respondents in both groups as compared to 16 to 18 year old respondents The analysis brings out that under nutrition was prevalent by lower height, weight and MUAC values in different age groups

Bodhankar (2002) opines that during adolescence 20-25% of adult stature and 50% of adult bone mass is gained There is an increased demand for energy, proteins, calcium, iron etc The self-conscious nature of adolescents tend to develop in them faulty eating habits like having too much junk foods, aerated drinks and skipping meals in order to maintain
their figures. The undernourished adolescent girl who is of a short stature and is anemic tends to have more complications during pregnancy and chances of her giving birth to low birth weight babies are higher.

Namitha (2004) recommends an educative approach for prevention and cure of anemia in adolescent girls. Anemia during adolescence has serious health consequences, since it affects growth and development. The objective of her study was to assess the knowledge about symptoms, causes and consequences of anemia and also the effectiveness of Nutrition Education Intervention (NEI) on the management of anemia among adolescent girls. One hundred girls aged 13-16 years participated in the study. NEI was given through lectures, exhibition, demonstrations and providing reading material. Knowledge about anemia was assessed pre and post intervention program. Results indicated a significant improvement in the knowledge about anemia after NEI. Frequency of consumption of greens, fruits, milk and pulses had increased. Mean intake of energy, protein and iron also increased. Knowledge about anemia significantly correlated with hemoglobin levels. It can be concluded that creating awareness about anemia and effective management would be an ideal strategy in control of anemia in population.
Bharat and Kumar (2005) have reported that one of the common health problems in adolescents, especially girls, is anemia. Nearly one out of seven children who attend schools and colleges suffer from anemia.

CONCLUSION

The above reviews indicate that the nutritional problems of adolescent girls are multi-dimensional in nature and require a holistic approach. Most of the common nutritional problems are preventable and will enhance the quality of life of adolescents throughout their child bearing and adult years. Many nutrition-related diseases take roots during adolescence and can be averted by following healthy food habits. It is important to equip the adolescent girls with information and skills necessary for healthy living. A life cycle approach to nutrition should be focused upon.
5. REPRODUCTIVE HEALTH PROBLEMS OF ADOLESCENT GIRLS

When God was not ashamed of creating sex, why should I be afraid of talking?

Sigmund Freud

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 its functions and processes (WHO).

Reproductive health care is defined as a constellation of methods, techniques and services that contribute to reproductive health and well being by preventing and solving reproductive health problems. It also includes sexual health, the purpose of which is enhancement of life and personal relations and not merely counseling and care, related to reproduction and STD. Reproductive health is central to general health and is affected by other aspects of health beyond reproductive years both in women and men (WHO).

Adolescence is a prime time for health promotion and to encourage them to establish healthy patterns of behavior that will influence their
development and health in later years. Adolescents and young adults who are becoming sexually active for the first time are particularly prone to be exposed to HIV and are therefore important target group for preventive action including sex education, condom promotion and STD care, and creating an enabling environment to facilitate behavioral change.

Indian youth, in the absence of systematic and correct information on matters related to sex and sexuality, are facing a dilemma between traditional Indian norms and western patterns of expression. Urmil (1989) has reported a study in Pune where it was found that 75% of those attending a Sexually Transmitted Disease (STD) clinic were between 18-19 years.

Watsa (1994) has conducted a study on ‘youth sexuality’ comprising of 4,709 respondents in the age group of 15 to 29 across fifteen cities all over India. This study revealed that correct knowledge on common sexual and reproductive factors was generally poor among youth. However, more males than females had correct knowledge on all factors including conception, except for females above 19 years of age. This indicates the need for providing unbiased, un-moralistic information to youth so that they are better informed and as a result better adjusted to their changing physical, biological and emotional needs of growing up.
Friedman (1994) has opined that as the social face of biological sex differences, gender must be considered when programming for adolescent health. Girls tend to suffer more as a consequence of problematic behaviors associated with unprotected sex, undernourishment and substance abuse. Girls often have less access to education than boys, which denies them the opportunity to develop their full potential. Factors with special risks for the adolescent girl include nutrition, sexuality, pregnancy and childbirth, abortion, STDs including HIV/AIDS, early marriage, substance abuse and mental illness.

Sengupta and Ghosh (1996) state that major components of reproductive health care include women’s health, safe motherhood and women’s development, adolescent sexuality, adolescence education and adolescent health; effective family planning; prevention and management of reproductive tract infections, sexually transmitted diseases and AIDS; Prevention and management of infertility and other reproductive disorders and of genetic and genetico-environmental disorders.

According to the WHO, reproductive health holds the key for brighter future. The way in which the young people’s feelings and expressions are handled by the parents, teachers or doctors has immense impact upon their adult lives. Most of the problems arise because of the ignorance
bout their sexuality and their responsibility. The remedy rests on providing sex education and proper counseling. For everyday simple problems counseling may be undertaken by teachers, parents and others concerned provided they have the knowledge, aptitude and practice.

Bezbaruah and Janeja (2000) report studies across South Asia on sexual activity and behavior conducted by Mehta (1998) and Jeejebhoy (1996) which indicate that:

- The magnitude of adolescent sexual activity is significant, and is higher in boys than girls. There is also underreporting of non-marital relationships by adolescent girls due to fears of social disapproval.
- Parents and teachers play minor role in giving information, and are usually reluctant to impart such information. Majority of the information on sexual and reproductive issues is obtained from peers (which can sometimes be misleading and inaccurate)
- Knowledge of sexual and reproductive issues is extremely poor. In some studies, 50 percent of female adolescents did not know about menstruation.
- The educational system does not adequately meet the needs for imparting sex education.
Sexual and reproductive decision-making by adolescents is constrained by age and gender factors. Adolescent women have little choice on whom and when to marry, and are usually not in a position to negotiate contraceptive use.

There is a huge unmet demand for adolescent health facilities, information and counseling services.

Knowledge of HIV/AIDS, safe sex and preventive behaviour (like use of condoms) is low across all ages and education levels.

A study by Jejeebhoy (1998) in Mumbai showed that 8% of males and 1% of females among adolescents had sexual experience. Although knowledge of protective effect of condoms was high among males, use of condoms was not practiced by even half of those who had sex. They concluded that the age group 16-18 years is appropriate for HIV reduction education and the social skill to use condoms.

Population Reports (1999) has published lessons learned from the experiences of sex education and condom distribution programs for youth by researchers all over the world. The report indicates that sex education and condom distribution do not lead to earlier sex or increased sexual activity. It may delay sexual activity and may decrease the number of sexual partners. Such programs raise levels of knowledge, change
attitudes and increase condom use. The report further advocates that for behavior change, programs should begin before sexual activity starts, have a clear focus on changing risky behaviors, include training and active learning especially in communication and negotiation and often have peer leaders. Such programs should also respond to young people's interest in information and guidance about sexuality and relationships.

Bezbaruah and Janeja (2000) are of the opinion that given the limited information on sexual health, it may not be surprising that unwanted pregnancies and induced abortions can possibly be a common feature in India. Poor access to contraception and contraceptive failure, lack of information or misinformation regarding reproduction, as also the incidence of rape contribute to the high rate of abortion among adolescents.

They further opined that, shifts in sexual behaviour have generated fresh reproductive health issues that need to be accounted for. Unprotected sexual behaviour among adolescents can have severe consequences, particularly for adolescent girls through unwanted pregnancy, maternal mortality (due to early childbearing), abortions and HIV/AIDS. Most of these can be prevented by the introduction of appropriate Adolescent Reproductive Health (ARH) services. At present, such services are not
widely spread, and are often of poor quality in terms of ensuring confidentiality or making provisions for counseling. Besides, service providers may tend to be judgmental when dealing with adolescents vis-à-vis adult women.

Nair and Pejaver (2001) studied the problems of adolescents. Two hundred adolescents attending the Adolescent Counseling Clinic at Thiruvananthapuram were interviewed. Many of the adolescents interviewed emphasized the need for facilities to provide counseling services to help cope with issues of curiosity about opposite sex, improper sexual concepts, urge for sex, masturbation, sexual abuse, STDs/AIDS etc. They also demanded Family Life Education services through the schools, because they felt that most of the parents were not comfortable to talk on sexual issues to their children.

Harikumar (2002) has expressed that there are a number of areas in health and development in which adolescents have a lot of doubts and misconceptions. When it comes to issues related to sex and sexuality, the adolescents need appropriate counseling. In girls, counseling apart from providing the message of sexual and menstrual hygiene, should also help develop a healthy and confident attitude about their own sexuality. This will help them in maintaining both emotional and physical health.
According to him, another issue that should be addressed with the girls is empowering them with assertive skills that may help them to keep off from situations of sexual exploitation.

Geervani (2003) states, the ages 15-30 years are crucial for women since the natural skills built up in this period of life have a major and usually a determining influence on the quality of her life as well as the members of the family. These years represent the years of peak reproductive and child-rearing activity, which demand women's time, energy and management.

Neogi and Sharma, (2003) in their study on *Coping with sexuality during adolescence* have attempted to analyze the existing complex situation of societal marriage norms, sexual attraction and coping with sexuality. This study was conducted at five FPAI project operational talukas of Tonk District in Rajasthan State. Twenty-two girls were interviewed in-depth and 17 focus group discussions were held by a specialist on their experiences relating to sexual attractions and sexual harassment. Most of these girls wanted to delay their marriage. The flip side of delayed marriage is coping with sexuality during the adolescent years of sexual awakening. This study shows that young girls were often found coping with sexuality and sexual desires in conflict with their own social conditioning. It indicated strong sexual attractions of varying degrees.
Singh (2004) reports that illegal abortions are on the rise in Bangalore city. She suggests that a sound sex education could change this situation and empower young girls to make the right decisions.

Tewari and Tewari (2005) studied the knowledge and attitude of college going adolescent girls towards family planning and to get their suggestions for arresting the rate of growth of population. The sample consisted of 130 adolescent girls aged 15 to 19 years. Results revealed that knowledge among respondents about various aspects of family planning is incomplete and is mostly based on advertisements, hoardings, married friends and relatives. Their attitude towards family planning is favorable and the respondents felt that the introduction of systematic sex education in the study curriculum was an important measure to control the rapidly increasing population of India. Hence the authors have expressed that there is an urgent need to provide accurate, user-friendly information about reproduction and contraception to adolescents along with easy access to these services in order to achieve the population stabilization targets.

NACO, IAP, UNICEF and WHO compiled a manual for management of HIV/AIDS in children (2005). This manual indicates that today's youth is
Increasingly at the center of the AIDS epidemic, both in terms of transmission and impact. Over 50% of all new HIV-infections in India occur in young adults below 25 years. Most transmissions take place heterosexually. Different studies show high-risk behaviors among 10% of boys less than 15 years of age, 26-48% of boys in 14-18 years of age group and 3% of girls in the 14-18 years age group. There is lack of health education and counseling services in HIV/AIDS and adolescent sexuality, both in and outside of schools. The role of media (television, etc.) has been identified as one of the reasons for the outgoing nature of adolescents. The manual further indicates that such influencing factors must be balanced with good counseling and family life education in schools, which might easily prevent transmission of HIV in this group.

To prevent the spread of HIV, it has been seen that education provides young people with knowledge required, helping them to make responsible choices and adopt a healthy life style. Respecting and protecting the rights of young people and empowering them to take care of themselves are crucial to controlling the epidemic. Knowledge changes attitudes and in turn, the behavior of future adults who may in turn influence their own children. The manual advocates that it is not enough to disseminate knowledge in schools, but adolescents also require the skills to translate their knowledge into practice, and the motivation to do so consistently.
Narayan (2006) interviewed Dr. Watsa - India's first sexologist who established the Council of Sex Education and Parenthood International along with Dr. Patricia Schiller and others in India. “Sex is not just sex. Sexual behaviour is something where everything is combined with feelings. Attitudes have definitely changed but you don't know if it's for the better or the worse. Courting and courtship have fallen by the wayside because of the pressures of modern life”, laments Dr. Watsa who believes that younger people are too focused on the act itself.

Watsa has revealed that a recent survey of about 4500 urban college-goers between 15 and 29 years found that 27 percent were sexually active. He has stated that there is a higher incidence of oral sex now because people are afraid of HIV; others go for anal intercourse to prevent pregnancy. Youngsters are not aware that they can get AIDS from oral sex too.

**CONCLUSION**

The complexity of the period of adolescence and the accompanying changes in physical and social characteristics is usually emphasized, but it is not very well understood by adolescents or adults. A poor understanding of reproductive health and sexual issues is the main cause
for the absence of focus on services, information and research on unique features of adolescent reproductive health. In recent years, the trends of globalization and liberalization, the rapid spread of communication and information technology, and shifting social and moral norms have eroded the traditional bases and defining points for adolescent reproductive and sexual behavior, leading to a host of changes in reproductive health concerns. These require immediate attention and appropriate interventions.

With changing lifestyles, youth often experiment in the process of discovering their sexuality and are more likely to have unprotected sexual intercourse with a greater risk of contacting an STD or having an unwanted pregnancy. Under these changing circumstances, the introduction of effective sex education programs for all levels of society, particularly for adolescent girls is becoming increasingly relevant from the above cited literature review.

6. LIFE SKILLS EDUCATION FOR ADOLESCENT GIRLS

The second decade of life is a period of rapid growth and personal development without which individuals cannot acquire the competence needed to adapt to a diverse and changing world. Generally, competence develops whenever there are opportunities to practice certain skills by
understanding and using social conventions. The ability to solve problems and anticipate the outcome of one's choices helps to develop a positive sense of self-efficacy and self-worth.

Some characteristics of adolescence, such as stages of physical growth and development appear to be universal. Others, such as vulnerability and resilience, depend on the interaction of the adolescent with his or her environment. The social environment can, thus, provide and present hazards to health and obstacles to development.

WHO (1999) has indicated that social skills needed for the new kinds of relationships formed during adolescence are of crucial importance for health. Personal communication skills and the ability to assert thoughts, ideas, feelings and beliefs are essential and are some of the key "Life Skills" defined by WHO.

Young people in the South-East Asia region have reportedly fallen victim to the so-called "modern lifestyles" such as eating junk foods, fizzy drinking, smoking, drinking alcohol, taking illicit drugs and even having sexual relationships. They engage in prostitution and criminal acts to satisfy their "status". WHO-SEARO newsletter (May 2000) reports that in the next millennium, the change of population structure and
epidemiological transition will continue and pose a major challenge to human life. The health of people will depend on how well they cope with the changing and diverse challenges or risks in their environments and lifestyles. Children and adolescents need to develop various life skills such as self-awareness, empathy, interpersonal relationships, creative and critical thinking, problem solving, dealing with their own emotions, coping with stresses and challenges and make a wise decision in choosing a healthy lifestyle out of various alternatives.

Bezbaruah and Janeja (2000) states that knowledge on HIV/AIDS and STDs will be ineffective, unless adolescents are equipped with the social skills to negotiate sexual behavior and understand the importance of preventive behavior. Various studies and surveys have highlighted the critical need for life skills education, especially for adolescent girls.

Bhandari and Bhatnagar (2002) opine that life Skills essentially comprise of those abilities that enable young people to promote mental well being and their psychosocial competence as they face realities in life. Essentially every youth should acquire skills of decision-making, negotiating, problem solving, asserting and managing anger and stress- in a nutshell, called “Life Skills”. Life Skills also include communication skills, decision-making skills, critical and creative thinking, skills for
coping with emotions, stress and conflict and self-awareness building skills. It refers to an interactive process of teaching and learning which focuses on acquiring knowledge, attitude and skills which support behaviors that enable us to take greater responsibility for our own lives by making healthy life choices, gaining greater resistance to negative pressures and minimize harmful behaviors.

Seethalaksmi (2003) reports a proposed project to impart Life skills to students of Government schools. The project – a joint venture between the state government and NIMHANS targets adolescents, aiding them to tackle failure, prevent suicides, cope with academic pressure, stress and career choices. The life skills education program addresses virtually every aspect of teenage life. She further quotes Bharath stating, there is a need to provide ways and skills to deal with the demands and challenges of life in students. Many critical issues reach a culmination when the student enters high school. No school addresses the ‘person’ in a student. At a time when suicide rates among students are high due to academic pressure, this course would help them have a smooth transition from adolescence to adulthood.

Moses (2004) reports that a study published in the April issue of the prestigious British Medical Journal has revealed that south India has been
pegged as the teen suicide capital of the world. More alarmingly, the suicide rate among females is higher—148 per lakh as against 58 per lakh among males in the age group of 10-19 years.

Sheshadri, (2003) commenting on a suicide attempt by a young man in Bangalore, because he was denied a hall ticket to write his examination due to attendance shortage has stated that such incidents are reminders of inclusion of more stress relief and life skills programs to help students so that they handle situations better and they need a social support system with more emphasis on the human dimension.

Nair (2004) opines that all adolescents need support and guidance in decision-making, problem solving, critical thinking, developing interpersonal skills, self-awareness, empathy, coping with stress and managing emotions. Helping an adolescent move toward independence is a key thinking. All young people are searching to find their place in the world. Involving adolescents in developing solutions to community problems can shift their focus from themselves and help them to develop skills and feel involved and empowered.
CONCLUSION

The reviews suggest that life skills education is implicitly related to the need for information on life preparedness to adolescents especially girls. While information on these issues is essential to raise awareness among adolescents, they must also be equipped with skills and abilities to utilize this information for preventive behavior, and to enhance their own decision making skills. Therefore, any information dissemination initiatives should be composed of two parts – information and life skills education to promote empowerment of adolescent girls.

7. COMMUNICATION STRATEGIES TO REACH OUT TO ADOLESCENTS

Anspaugh & Ezell (2004) have stated that Communication is a key element in efforts to inform the public about preventive health strategies. They emphasize that to personalize health concepts, adolescents must relate to health instruction from the affective domain or attitudinal level. It is important for adolescents to have an opportunity to personalize information and make relative to their health. If adolescents have to make positive health decisions, the process of how to make intelligent decisions is crucial. These skills must be taught and utilized throughout the intervention and students must practice making decisions and enhance
their decision-making skills. This practice enhances their self-esteem and enables them to control their behavior.

Moore et al. (1996) opines that peer education programs are the most useful approach for developing countries with limited resources especially in AIDS prevention. Peer education is a program of education that is, at least in part devised and delivered by young people, for young people. Young people are more often comfortable talking to peers than parents and teachers. Same sex peers and older siblings especially girls were considered as trusted source of information. Most often peer education programs produce a change in knowledge as well as behavior than adult programs.

WHO (1994) states that the acquisition of life skills is based on learning through active participation. Life skills sessions need to be designed to allow opportunities for practice of skills in a supportive learning environment. Life skills sessions are both active and experiential. Active learning engages the teacher and students in a dynamic process of learning by using methods such as brain storming, group discussion and debates. Experiential learning is based on actual practice of what is being taught, for example, using games and role play. Life skills sessions could also include homework assignments that encourage pupils to
extend their analysis and practice of life skills to their lives at home and in their communities. It is important to present information to young people in a nonjudgmental manner as this makes it possible to provide them relevant information and encourages healthy choices without condemning the options individual adolescents may take. People with field experience in working with young people, report that this approach encourages young people’s participation and responsibility for individual actions.

Hornik (1995) opines that providing information to individuals and groups is enhanced by discussion and questions. Conditions that foster a supportive climate include acceptance of all questions, the facilitator’s willingness and ability to offer the information or identify other information sources, and mutual respect between participants and the facilitator. Such conditions are important for communication about all health topics, and are vital in sharing and discussing sexual health, substance abuse, violence and other potentially sensitive subjects.

Unni (1998) states that from the physical and psychological point of view, adolescence is one of the most dynamic and critical life stages experienced by human beings. The IAP Kochi branch contributed to this cause by proposing a curriculum for Family Life education and AIDS
awareness for schools as a project of the National IAP Conference. The ‘reducing the risk’ programs for high school children is expected to have a modest but significant effect in reducing sexual risk taking behavior and therefore should, in the Indian situation, be considered as a possible long term strategy for AIDS prevention. The AIDS awareness and the sex and sexuality package of this curriculum, piloted in a few schools in Kochi has found the use of peer educators a useful strategy for imparting information and clarifying values.

Singh et.al (1998) has reported a study on family life education of college adolescents through self-instructional materials. The family life education material used for this experiment was written in simple language by the systems approach, adhering to all the requirements necessary for self-instructional material. The target group consisted of 40 girl students (20 each) from the arts and science faculties of the 10+2 level from the city of Ludhiana. The level of their knowledge about health and family life was assessed through a pre-test of 20 short-answer questions and then the self-instructional family life education material was given to them. One week’s time was allowed for learning. On the eighth day, they were given the same questionnaire which served as the first post-test (post-test I). After a gap of another two weeks, retention and recall was assessed by administering the same questionnaire again (post-test II). The results
indicated that within the groups, the difference in the scores between the pre-test and post-tests was significant but the difference between post-test I and post-test II was not significant for both the groups. Feedback was also obtained from the group regarding the contents, presentation and readability of the material. The authors have also reported that the material was appropriate for the level of the students. They have concluded that self-instructional material provides a cost-effective and pedagogically proven medium with the potential of a wide reach.

WHO (1999) has outlined some of the features of successful approaches to the provision of information to adolescents. According to WHO, the information should:

- Be interactive – interactive communication is especially powerful, since it permits the young person to ask questions and explore issues of special individual significance.

- Be active in approach – in addition to being interactive, approaches to providing information can also be active physically, giving young people a chance to move around, and if possible to use as many as five senses as possible to enhance the process of learning. Active approaches help make learning fun. Evaluation of the information sharing components of youth programming
consistently confirm that young people respond well to (and prefer) active methods and interactive approaches.

- Be offered to a “voluntary” as opposed to a “captive” audience—there is a likelihood that someone who chooses to learn the information offered may be more receptive to it than one on whom the information is imposed.

- Be tailored to the needs of individual adolescents—activities to share information which addresses known concerns, needs or questions of young people are seen as important in increasing its usefulness.

- Reach a large number of people—reaching as many young people as possible is also an important aim of sharing information.

Population reports (1999) has stated that peer attitudes have a powerful effect on a person’s behavior, including their sexual behavior. Involving peers is a promising way to reach young people, teach healthy sexual behavior and encourage condom use. In Calcutta a peer education program among commercial sex workers increased condom use from 1% of workers to 42% in one year.

Baig (1999) studied the impact of adolescent education on women college students. The sample included 100 students aged 17-19 years. The study
was based on a pre-test post-test experimental design, with a control group. The experimental group received an adolescent intervention package. The mothers of the students of experimental group were also exposed to an intervention program. Techniques like lectures, seminars, audio-visual aids like film shows, transparencies, pictures and charts, group discussions, with full scope for individual and group participation, debates, quizzes etc., were used. Literature and reading material was provided for all the respondents. The findings of the study indicated that the adolescents who underwent a structured intervention program showed improvement in all the areas assessed. The parents who had undergone the intervention program were more aware of adolescent problems, adjustment and had improved attitudes about discipline and management than their counterparts who were not exposed to the intervention program.

Mo-suwan (2000) conducted a controlled trial of a ‘friend-helping-friend’ on the promotion of healthy eating and physical fitness among adolescents in Thailand A total of 553 students aged 11-16 years participated in the trial- 276 in the control group and 277 in the intervention group. During five months of intervention, each volunteer had sessions with the researcher They were taught about healthy eating, physical fitness, dietary record and simple dietary counseling. At the end
of the training, the volunteers agreed to help their friends develop healthy eating habits and become physically fit. An analysis of the data showed that ‘friend-helping-friend’ activities had significantly improved the healthy eating behavior of the children. Unfortunately, no effect on exercise behavior could be observed. The study concluded that the ‘friend-helping-friend’ scheme could be introduced through a more comprehensive approach by promoting the participation of teachers, parents and the community.

WHO-SEARO (2000) reports on the experience of LAMP project, conducted by the Family Planning Association of India in Shimoga has shown that the project not only improved school attendance, but led to an enhancement of the physical and mental state of the students. The LAMP was a child-centered health project under which selected children from classes V, VI and VII were provided with intensive education and training with regard to basic health practices. These trained children were called “little doctors” and they guided and supervised the personal hygiene of other children in their school. It is reported that the project has created a better physical and psychosocial environment for the students to grow up and develop in good health.
Sebastian (2001) states that health information can be communicated through many channels to increase awareness. Channels might include interpersonal communication such as individual discussions, counseling sessions or group discussions and community meetings and events; or mass media communication such as radio, television and other forms of one-way communication, such as brochures, leaflets and posters, visual and audio visual presentations and some forms of electronic communication.

Kirby (2001) has stated that effective programs utilize a variety of participatory teaching methods, address social pressures and modeling of skills, and provide basic, accurate information. Such methods actively involve the students and target particular issues. Each person must foster attitudes that will improve the quality of life and expand the human potential. To accomplish this, adolescents must be empowered to see themselves as being in control of improving their quality of life.

Population reports (2002) state that peer education is a key approach for AIDS education. Perhaps the most important goal of peer education is to establish standards for acceptable behavior. When youth play a role in developing social and group norms that protect against HIV infection, they serve as positive role models for behavior change. Most young
people find trained peer educators credible because they communicate well with other youth and set believable examples of behavior. Peers also can help other young people acquire such skills as sexual negotiation and assertiveness. For peer education programs to be effective, training and follow-up sessions that reinforce knowledge, beliefs and skills of the peer educators is essential.

Patnam (2002) has reported her study on impact of Self-Care Intervention Program (SCIP) on rural teenage girls. She worked with 120 rural girls for a period of 7 months. She conducted the program in their school premises weekly twice for a duration of 2-3 hours before the commencement of their regular classes. They were imparted knowledge on various aspects of personal hygiene, good habits, good social behavior, body systems, with special focus on reproductive systems, health and nutrition, pubertal changes and coping with them. It also included preparation for marriage and parenthood, ill effects of population explosion, self-esteem, educational games etc., in an informal environment. Some of the approaches used for the intervention included lecture cum discussion, case studies, demonstrations, role-plays, visual aids like models, posters and charts. All the girls were rated on a three point scale for knowledge attitude and practices before and after SCIP. The results of the study revealed that SCIP brought significant positive
changes in the rural girls' personal hygiene, self esteem, etiquette, behavior and habits. An increase in the girls' knowledge about various topics of the intervention program was noted.

Geervani (2003) has opined that strategies have to be designed according to the levels of understanding of the target group. Resource material to support the strategies is to be developed. All forms of media-print, electronic, radio, video and museums can be utilized. Participatory learning, exhibitions, organizing group discussions etc. can also be effectively utilized. Visits to exhibitions, organizing group discussions etc can also be effectively utilized. Visits to open house programs of scientific organizations would also be a useful method. Through legends, stories, festivities, village assemblies and such traditional means also, it is possible.

Gottert (2003) has reported a community-based program design that is participatory in nature. He has listed six guiding principles for streamlining community-based programs, which emerged from their experience.

Principle #1: Action-based messages

Principle #2: Develop easy-to-use front line teaching tools.

Principle #3: Short skill-based training in counseling and village theatre.
Principle #4: Engage large number of volunteers.

Principle #5: Intensive mass media support.

Principle #6: Celebrate achievement.

Kiran et al. (2003) analyzing their study report that replication of a good practice is a cost-effective means of utilizing scarce resources for bringing programs to scale. The spread of good practice provides an opportunity for mutual learning and sharing of experience. A positive outcome of exchanging experience is that it allows networks of people and groups to develop.

Based on their field experiences, the authors have given a conceptual framework for replication. They have concluded that Replication is a process that takes a ‘Best Practice’ and multiplies it. It is not automatic diffusion, but rather, it is the conscious reproduction of a set of concepts, activities, tasks, strategies and criteria. It takes a proven, demonstrated innovation “up to scale”.

Ward and Lee (2004) have compared the effectiveness of problem-based learning versus lecture-based instruction in high school foods and nutrition classes. A pretest was administered. During the semester, students belonging to the lecture-based instruction group received course content primarily through lectures. Students belonging to the problem-
based learning group received situations or problems and utilized various resources to solve problems. A posttest was administered. The t test for independent samples showed no significant difference in mean gains on test scores between the students of problem-based learning group and lecture-based instruction group. The authors have concluded that problem-based learning was found to be as effective as lecture-based instruction in facilitating students’ acquisition of foods and nutrition content. In addition, student questions from the problem-based learning group showed a greater understanding of the connections between content, the work world and their own personal lives. Students from the problem-based learning group also demonstrated improved critical thinking skills as compared to students from the lecture-based instruction group.

Sharma (2000) opines that Sexuality and reproductive health education is an area that generates misconceptions, confusion, fear and unwarranted caution in many programs. Curriculum and textbooks continue to limit their focus on biological, demographic, population and development and family life education issues. Sometimes, in spite of a well-designed curriculum, an ill-prepared teacher can render a program ineffective. Teaching methods used are not often suited to the sensitive nature of sexual and reproductive health education issues.
To overcome these problems, many organizations and individuals have taken steps to undertake innovative strategies to introduce reproductive and sexual health messages into their programs to reach the adolescents and influence them into taking responsible decisions regarding their sexual and health behaviors. These strategies and approaches range from energizing in-school education through co-curricular or community support from out-of-school sector; setting up counseling services inside a school campus; counseling through telephone hotlines; peer group counseling and discussions; development of IEC materials and interactive internet discussion forum; youth camps and debates and competitions and campaigns in recreational places.

Rao (2006) has reported her experiment on introducing health education as a co-curricular activity in a college in Mumbai. A ‘Social & Health Education Committee’ was formed and several programs were organized every year on different health issues involving students from Arts and Commerce streams. The programs consisted of talks by eminent persons in different fields of health such as psychiatry, gynecology, nutrition and diet, alternative therapies, etc. The activities also included health awareness camps, competitions in creating slogans, skits and posters on different themes. The author observed that several students participated in all these events very enthusiastically every year, which became a learning
experience for them as well as their peers. The author also coordinated with FPAI, one of the largest voluntary organizations in India working in the areas of reproductive health and Planned Parenthood. As a result of this collaboration the students attended basic and advanced courses on sexual & reproductive health among adolescents and youth to be trained as peer educators. The students felt that they could clear many doubts related to sexual life, marriage, parenthood etc. These 'peer educators' then passed on valuable information to their other friends in college. The author feels that students are often reluctant to approach teachers with their emotional and sexual problems. Hence, these young leaders can be used to clear their doubts and give them confidence.

CONCLUSION

With India’s population having crossed the one billion mark, out of which nearly 21 percent are adolescents, the significant role of this population group in enabling India to achieve its developmental goals of population stabilization, health for all, total literacy and mitigation of the spread of HIV/AIDS infection must be recognized. The exhaustive review of literature points out that barring a few exceptions, the focus on adolescents is not yet clearly defined. A separate, distinct emphasis on adolescents can be discerned mainly in the reproductive health programs, or in examining the issues relating to adolescent girls. Although both
reproductive health and the needs of adolescent girls are vital issues, for a holistic framework for action on adolescents, a wider gamut of interventions incorporating different sectoral goals is required. A major area of intervention is the need for information expressed by all adolescents at major conferences and Declarations.