The main aim of the present study is to assess the Reproductive Health Status of Adolescent Girls in Chittoor District of Andhra Pradesh. A comprehensive review of literature is essential for any good research endeavour as it provides profuse background information to aid Investigator in designing and analysing research work. Specially, fill in gaps about how to design and evaluate programmes to empower youth and improve their reproductive health. The various interventions worked with both married and unmarried boys and girls ranging in age from 12 to 30, as well as their families and communities. These interventions included interactive reproductive and sexual health education for unmarried girls; life skills courses for unmarried girls to reduce iron deficiency anaemia. Men, families and communities were involved to advocate for young women’s reproductive health sexuality counselling for young couples. Social norms also influence the lives of boys and young men. The research studies show effective ways to change social norms so that adolescents and communities will be able to understand health problems and the services available to them, thus empowering the youth to make their own health care decisions.

An attempt is made in this chapter to give a brief account of literature related to various aspects Reproductive Health status of Adolescent Girls under the following headings.

2.1 Studies on Common and Chronic Health Problems of Adolescent Girls
2.2 Studies on Reproductive Health of Adolescent Girls
2.3 Studies on Factors Influencing Reproductive Health
2.4 Studies on Management of Reproductive Health Problems.

2.1 Studies on Common and Chronic Health Problems of Adolescent Girls

Joseph G.A. et al (1997) conducted a study to assess the General and Reproductive Health of Female Adolescents. Both quantitative and qualitative methods were used to assess the General and Reproductive Health of female adolescents spoke of having headaches, body pains and fatigue. There was reluctance to discuss sexual health problems, but many reported concerns about menstrual irregularities. Most girls stated that they would feel more comfortable in attending a separate adolescent clinic. Most frequently cited health complaints were fatigue, palpitations, frequent headaches, backaches and abdominal pain. Over 20% suffered from joint pains, weight loss, poor appetite and recurrent respiratory problems. Those
with higher educational status had fewer health complaints. About 30% were anaemic and their height, weights and body mass indexes were typical of those found in chronically undernourished populations. They found that the levels of knowledge about topics, such as menstruation, contraception, nutrition and AIDS were extremely low. They concluded that there is a dire need for both health education and special treatment services for girls who have suffered the health consequences of low economic status, unhygienic practices and poor nutrition.

Jonathan D, Klien et al (1998) carried out a study on Adolescent’s access to care and explored almost all adolescents (92%) rated their health as excellent (or) good and 90% had visited a health care provider with in the year. Most (88%) identified a source of primary care. Many youth identity school personnel as important resources for health needs. Only 8.4% respondents have used services confidentially, but half of all youth know where they could go for confidential care if they needed to. Adolescents were least likely to obtain mental health or substance abuse and reproductive services.

Meena P. Desai and Swati Karandikar (1999) in their study on Auto Immune Thyroid Disease (AITD) in childhood at Wooli, Mumbai, explored among 96 children and adolescents of 5 to 16 old suspected of AITD, 66 were private clinic and 30 were institution based thyroid antibody positive confirmed AITD. On initial testing 36 (55%) of 66 clinic cases were thyroid antibodies positive and 30 were negative. In 12 to 30 above cases re testing for antibodies by newer technique of FNAC confirmed AITD.

Sethi Sonam and Kartha G.P. (2000) assessed the Prevalence of Refractive Errors in school children (12-17 yrs) of Ahmedabad City. Students in the age group of 12-17 yrs studying in 7th to 12th class from the four schools of Ahmedabad; Naranpura, Ramdevnagar, Memnagar and Vastrapur were taken for the study. A total of 1,647 students (828 males and 819 females) were included in the study. The age of the students ranged from 11 to 17 yrs. The mean age was 13-22 yrs; median and mode age was 13 yrs. About 417 students (25.32%) were found to have refractive errors. Of these, 196 (47%) were females and 221 (53%) were males. There was no significant difference between refractive errors amongst males and females (x2 =1.34, p>0.25). Out of 417 students with refractive errors, myopia was found in 265 (63.5%),
hypermetropia in 47 (11.2%) and astigmatism in 85 (20.4%) cases. They concluded that adolescents aged 11-17 yrs during which the children are at risk of developing refractive error, because they are actively growing and subjected to the strain of near work due to demanding academic schedules. Such a population was more likely to have more number of myopic.

Rajarathnam et al (2000) assessed Haemoglobin Concentration by cyanomet-haemoglobin method in Tamil Nadu as a part of a community trial in two blocks by selecting 155 & 161 adolescent girls in the age group of 13 and 19 yrs. They found that the prevalence of anaemia was 44.8 % with severe anaemia being 2.1%, moderate 6.3% and mild anaemia 36.5%. There was a decrease in the prevalence as the age increased. The prevalence of anaemia was 40.7% in pre-menarche girls. They concluded that anaemia is more prevalent among post menarche girls.

Kalamka H.S. (2001) examined on Health Problems of Adolescents in Urban Field Practice Area. Out of 740 adolescents in 10 - 20 yrs age group, 700 adolescents were studied. After obtaining the preliminary information, every adolescent was subjected to thorough clinical examination and anthropometric measurement. Haemoglobin estimation was done by using Sahli’s haemoglobin meter. Clinical examination was done according to schedule suggested by Jelliffe and findings were recorded accordingly. Age of menarche in females ranged from 10 - 17 yrs, with majority having attained it at the age of 13 yrs. menstrual problems, including oligomenorrhoea were present in 30 per cent adolescents. Study shows that 439 (62.71%) adolescents were suffering from acute nasopharyngitis/ acute tonsillitis and 401 (57.28%) from anaemia. As many as 379 (54.14%) were having acne, 259 (37.0%) were having dental caries, 240 (34.28%) were having nicotine stains on teeth. Further, 184 (26.28%) adolescents were having signs of vitamin B complex deficiency, 136 (19.42%) had history of passing worms in stools, 45 (6.43%) adolescents had scabies, 52 (7.43%) pediculosis, 25 (3.57%) obesity and 2 (0.28%) were known cases of congenital heart diseases (CHD). Out of 700 adolescents, 401 (57.28%) were anaemic, with 117 (16.71%) having moderate and 284 (40.57%) having mild anaemia. He concluded that higher prevalence of anaemia was seen in 219 (60.16%) female adolescents as compared to 182 (54.16%) male adolescents. Worm infestations, repeated attacks of common cold, diarrhoeal diseases, monthly menstrual bleedings, menstrual disorders, dietary deficiency of iron and multiple
micro and macro nutrient deficiencies are reported to be responsible for increased prevalence of anaemia in adolescents.

A report of World Health Organization (2002) indicates that the Adolescence is a critical period of Growth and Development. As adolescents go through the second growth spurt in this period, it is crucial that they receive the required nutrients. In the South East Asia Region, while a large number of adolescents suffer from chronic under-nutrition, those belonging to the affluent segments of society suffer from obesity. If adolescents are well nourished, they can make optimal use of their skills, energies and talents today, and be responsible parents of healthy babies tomorrow. However, nutrition-related data of adolescents in South East Asia Region highlights the following (1) Dietary and nutrient intakes were far below the recommended values, particularly for energy, iron, calcium and vitamin A; (2) Surveys and studies from Bangladesh, India and Nepal showed a high proportion of adolescent’s boys and girls to be thin and/or stunted; (3) Iron deficiency anaemia is a major problem in both girls and boys; (4) Qualitative studies on eating behaviours have not been carried out and (5) There are no large scale interventions for improvement of adolescents nutrition in the South-East Asia Region.

Prasad J et al (2003) examined on Symptoms related to the Reproductive Tract and Mental Health among women in rural southern India. They appraised that symptoms related to the reproductive tract and symptoms of psychological distress are commonly seen in women living in South Asia. They found that out of the 622 subjects recruited, 150 (24.4%) complained of at least one symptom related to the reproductive tract. The commonest symptom was vaginal discharge (17.5%). Significantly higher scores were also associated with greater knowledge about prevention of sexually transmitted diseases and reproductive tract infections. Being currently married and educated were significant protective factors. An association between symptoms pertaining to the reproductive tract and psychological distress was observed. The results of the nested case-control study suggest that symptoms related to the reproductive tract are risk factors for common mental disorders, while education and being currently married are protective factors.
Rao V.G et al (2003) studied on Intestinal Parasitic Infections, Anaemia and Under-nutrition among 880 Tribal Adolescent Girls and Boys age 11 – 19 yrs in Madhya Pradesh. Majority of the villages in the block are inhabited. They found that high prevalence of under-nutrition in terms of underweight, stunting and wasting was observed among adolescent boys and girls. More than half of the adolescents were found underweight (61.7%) and stunted (51.7%). Wasting was observed in 32.8 per cent adolescents. Prevalence of under-nutrition was found similar in both the sexes. An overall prevalence rate of 59.5 per cent of intestinal parasites was observed among them, with boys having marginally higher prevalence (61.7%) as compared to girls (57.0%). Girls had significantly higher prevalence of anaemia (86.5%) than boys (78.6%). Moderate and severe anaemia was observed in 59 per cent adolescents. They concluded that both anaemia and worm infestation play a significant role in chronic under-nutrition among adolescents. This situation is further aggravated by poor hygiene and sanitation, resulting in a vicious cycle of malnutrition and adolescent morbidity due to preventable causes.

Singh J. et al (2006) carried out a Descriptive study to explore the Health Status of Adolescent Girls in slums of Lucknow. The study was a cross – sectional descriptive type carried on 400 adolescent girls in 10 -19 yrs age group, in four randomly selected slums of Lucknow. The mean height and weight of adolescent girls in all age groups was less than ICMR standards. Growth spurt was noted to occur between the age of 13-15 yrs, with increment of 11.1 cm in height and 8.8 kg in weight. They found that the mean haemoglobin level was 10gm per cent (SD=2.3); 56 per cent girls were anaemic of which 10.5 per cent were moderately anaemic (haemoglobin level 6.5 – 8 gm %), while 45.5 per cent were mildly anaemic (haemoglobin level > 8 – 11 gm%). Various morbid conditions were seen during the survey. Inadequate oral hygiene affected 55.4 percent of adolescent girls. Other morbidities found were pediculosis (39.2%), cold & cough (25.8%), lymphadenopathy (22.2%), scabies (16.2%), inflamed tonsils (7.8%) and ear discharge (7%) of girls. They suggested that Indians have comparable genetic potentials to grow but sub – optimal environmental factors like diet, morbidity burden, socio-economic status etc. that has resulted in poor growth of Indian girls.
Singh A.K. et al (2006) evaluated the Prevalence of Lifestyle associated Risk Factors in Adolescents. The survey was carried out among 510 students (279 boys ad 231 girls) aged 12 to 18 yrs from classes 9th – 12th of a school in New Delhi, through an age appropriate modified GSHS (Global School – Based Student Health Survey) on risk factors of non – communicable diseases. They found that about one – third of the adolescents (34.4% boys and 29.4% girls) ate fast food more than three times a week. In addition, 31.5% boys and 16.5% girls committed having added extra salt to their food/salads. About two – fifths (18.3% boys and 22.2% girls) responded as not being physically active for 60 minutes per day, at least three days in a week. 30.1 percent boys and 26.8 per cent girls admitted that they consumed alcohol at least once. Family history of hypertension was reported among 50.5 per cent boys and 48.5 per cent girls, while 22.9 per cent boys and 29.9 per cent girls stated that they had a family history of obesity. They concluded that a necessary step at school level itself for the prevention of non-communicable diseases is taken. Among all settings, school is a priority setting to target adolescents because it offers substantial opportunities for prevention.

Rashmi Gulia et al (2007) compared Health Status of young males and females of a rural community at Chandigarh. Both young male and female subjects age group of 13-21 yrs were the participants of the study. Among them nearly 39.6% female and 27.8% male subjects had acute health problems where as 16.5% female subjects and 4% male subjects had Chronic Health Problems. Anaemia was prevalent in nearly 70.3% female and 40% of male subjects. Mean systole and diastolic blood pressure was higher among male. Almost 28.6% female and 12.1% male and mild neuroticism. They concluded that the prevalence of various health problems among females are affected more as compared to male subjects.

Mathur P, Sharma S and Wadhwa A (2008) examined Rapid Assessment procedures for the Health and Nutritional Profile of adolescent girls. Twelve to 15 adolescent girls from 6 Anganwadi centres in Ladosarai, Mehrauli (totalling to 80), their mothers (n=61) or married elder sisters (n=3) were selected. They found that the adolescent girls’ perception of seasonal variation in peak frequency of different diseases was similar to that reported by the doctors. The winter months had the maximum frequency of fevers (75%), coughs (73.5%) and colds (72.5%). The summer months had a high frequency of conjunctivitis (57.5%) and diarrhoea.
The rainy season saw a peak in skin infections (27.5%). The girls associated each ailment with a particular season, except for diarrhoea, which almost half the girls reported as occurring frequently and not specific to any season and concluded that there was no significant difference between the mean nutrient intakes obtained by conventional and modified (RAP) 24 – hour recall.

Kishore S (2010) carried out a cross sectional study on Common Nutritional Deficiencies of Adolescents in Dehradun. The study comprised of adolescent girls and boys (10-19 years) residing in the villages of Doiwala block, Dehradun. Multi-stage random sampling technique has been used for the selection of villages. They surveyed a total of 840 adolescents and found that 37.4% and 55.5% of adolescent boys and girls respectively were found to be iron deficient. Moreover, the vitamin-B2 deficiency was found to be highest among adolescents (2.5%) and prevalence of vitamin-A deficiency is double among adolescent boys (1.7%) than adolescent girls (0.9%). The prevalence of anaemia among adolescent boys and girls were found to be 57.4 and 55.5% respectively. The prevalence of anaemia among late adolescent girls was found to be 65%.

Maliye C H, Deshmukh R et al (2010) carried out a study on Nutrient Intake amongst Rural Adolescent Girls of wardha. The mean height of adolescent girls was 142.9 cm overall 57% of the adolescents were thin and 43% of adolescents were normal. A cross sectional study was carried out in wardha with 430 unmarried adolescent girls. Over all 57% of adolescent girls were thin and 43% were normal, none of them were overweight or obese. The prevalence of thinness was significantly higher 67.6% in early adolescence than in late adolescence 55.4%. They concluded that majority (82.5%) had calorie intake less than 1400 K.cal, 7.5% girls had calorie intake less than 1000 K.cal. This was less than the recommended dietary allowance for this age.

Awasthi S et al (2011) examined Determinants of Health Related Quality of Life in school-going adolescents in Northern India. This cross-sectional study was conducted in public and private schools in Lucknow, Northern India after obtaining institutional ethical clearance. Children aged 10 to 19 yrs were included after obtaining parental written informed consent. They found that from 1900 schools in Lucknow, 10 public and 10 private schools were selected. Within schools, random
selection of the subjects was done. He concluded that younger adolescent age and enrolment in private schools are determinants of good Health Related Quality of Life (HRQoL) in school-going adolescents. They suggested that further research is needed to identify measures to improve HRQoL among older adolescents and those studying in public schools.

Kulkarni M V and Durga (2011) conducted a study on Reproductive Health Morbidities among 3000 Adolescent Girls of 10-19 yrs. A cross sectional community based study was carried out in an urban slum by using simple random sampling. The information regarding reproductive morbidities was collected in pre – designed and pre – tested proforma. Out of total 224 girls, 146 (65.18%) girls were having one or more Reproductive morbidity. A high prevalence of dysmenorrhoea (53.6%) was reported among adolescent girls. Backache was found to be a second common morbidity. A highly significant statistical association was found between age of girls and dysmenorrhoea. A highly significant statistical association was found between education of girls and reproductive morbidity. Out of 146 girls with Reproductive morbidities. Only 55 (33.67%) girls sought health care and 91 (62.33%) girls remained silent without seeking health care. Out of 91 girls who did not seek health care 88 (96.70%) girls reported no need of treatment as a reason for not seeking. A high prevalence of reproductive morbidities was found among adolescent girls but health care seeking behaviour was found to be very low.

Soumyajit M et al (2011) assessed Nutritional status of Rural Early Adolescent School Girls in West Bengal. All the subjects were in the age range of 10-14 yrs and were studying in 5th-8th classes. Physical growths of total of 3611 girls were assessed through anthropometry. Data on weights and heights of girls were collected using standardized techniques. The extent of mal nutrition of adolescent girls was evaluated by well – to – do Indian and NCHS median value. The results revealed that the weights and heights of these girls were below those of standard value. Regarding “Weight for age index,” only 28.2% subjects were in the normal category and the percentage of subjects suffering from Grade – I (25.7%), Grade – II (30.4%), Grade – III (13.7%) and Grade – IV (1.9%) malnutrition was quiet prevalent in present study. With respect to “Height for age index,” 65.2% of the subjects were in the normal category, 32.6% had mild retardation and about 2.2% in poor status. The study revealed that different grades of malnutrition are widely prevalent among the girls in
the study area. It suggest that school going early adolescent girls need better nutrition to combat the problems of under nutrition.

Rajesh G et al (2011) conducted a study on India moves towards Menstrual Hygiene, subsidised sanitary napkins for rural adolescent girls – issues and challenges at Uttarakhand, India have concluded that menstrual hygiene promotion needs to be included in school curriculum. The school teacher should be trained regularly. So that they can have the clean idea about how impart classes in school education and social empowerment of adolescents is also necessary. Equipment adolescents to make informed sexual and reproductive choices requires a multi prolonged approach.

Vinod Wasnik and Sreenivas Rao (2012) conducted a study of the Health Status of Early Adolescent Girls residing in social welfare hostels in Vizianagaram district of A.P state. Cross – sectional study was carried out with a total of 420 girls. They found that 37.4% were in the age group 13 yrs. According to WHO reference standards 56.4% girls were under – nourished (BMI < 18.5Kg/m2). Girls suffering from chronic energy deficiency grade I, II, and III were 25.2, 15.2% and 16% respectively. 2.9% was found to be obese. As per new guideline by GOI, 56.4% was found to be undernourished while 5.8% was found to be overweight (BMI<23.5Kg/m2). 30% were showed clinical anaemia, 27.1% were having dental caries, 16.7% were having reproductive problems (Dysmenorrhea), 16% were skin problem, and 4% Eye problem (defective vision & refractive error)and 24% were having URTI and 2.1% ENT problems. They concluded that there is a prevalence of under nutrition, dental caries and clinical anaemia among adolescent girls in social welfare hostels in urban sector.

Aabroo Talpur et al (2012) observed Prevalence of Anaemia in Adolescent Girls in the age group of 14-19 yrs. 150 adolescent girls were selected in the age range of 14-19 yrs. The results shows that out of 75 girls of 17-19 yrs 60% were anaemic; out of these 55.55% had mild anaemia (<12gm/dl), 22.22% had moderate anaemia (8-10gm/dl),and an equal percentage (22.22%) of girls had severe anaemic (<8gm/dl). Prevalence of the anaemia was the highest (93.33%) in the age group of 14-16 yrs. Out of these, 57.14% were found to have mild anaemia, 14.28% had moderate anaemia and 28.57% had severe anaemia. They found that association of severe anaemia with decreased BMI (Body Mass Index).
Alphonsus N. Onyiriuka et al (2012) examined Thyroid Disorders in Childhood and Adolescence in Benin City Nigeria. In their retrospective study, in University of Bennie Teaching Hospital (UBTH) at paediatric clinic among 8,350 new cases 9 (0.12) had thyroid disorder, representing one per 1000 new cases. Of the 9 patients with thyroid disorders, 6 (66.7%) had hyperthyroidism, 2 (22.2%) had non goitres hypothyroidism and 1 (11%) had euthyroid goitre. They concluded that the mean age at presentation of thyroid disorders was 11.2 + 4.3 yrs and female to male ratio was 4:1. For patients with hyperthyroidism, the mean age at presentation was 12.8 + 3.1 yrs female to male ratio was 5:1.

Jyothi C et al (2012) conducted a study on Morbidity Pattern among Adolescent Girls. This study was conducted in social welfare hostels at Nellore District of A.P. among 542 adolescent girls from rural background. The major prevalent morbidity conditions among these girls were pediculosis (83.41%), dysmenorrhoea (43.6%), dental caries (28.04%) and skin disorder (26.4%). The high morbidity was found in 11-13 yrs of age.

The above studies indicate that majority of the Adolescent girls were suffering from Anaemia in Rural and Urban areas. Menstrual irregularities among this group. Early detection enables early intervention. Other common health complaints were fatigue, head ache stomach ache, respiratory problems etc. under weight and obesity are reported by many. There is a need to plan educational program on awareness, prevention and management of health problems.

**2.2 Studies on Reproductive Health of Adolescent Girls**

Singh M. M et al (1999) examined Awareness and Health Seeking Behaviour regarding Menstrual and Reproductive Health of 130 girl students aged 13-17 yrs in Haryana. Awareness about process of menstruation was poor. Commonest reported menstrual problems was dysmenorrhea 40.7%, irregular menses 2.3% of which 5.3% consulted a doctor and 22.4% took over the counter medications from the chemist shops. Knowledge about normal duration of pregnancy and need for extra food during pregnancy was poor. Major sources of information were television 73.1%, radio 37.1% and parents 36.1%. Girls preferred to consult parents 49.2% and doctors 44.6% for help at times of having reproductive health problems.
Rana Majumdar and Ganguli S K (2000) studied 243 of 16-20yrs Adolescent Girls in Pune, Maharashtra and stated that puberty reported between 12 and 16 yrs of age with a mean age of 14 yrs. A higher proportion of girls, numbering 166 (68.3%) experienced pre – menstrual symptoms. Out of 230 girls checked, 105 were found anaemic. Majority of them (86.7%) knew that breast milk is ideal for infants. Knowledge of sex and reproduction was poor among them. A fewer number of girls, i.e. only 47(19.34%) had some knowledge of contraception and most of them, 208 (85.60%) knew about the modes of transmission of HIV / AIDS.

Kumar R et al (2000) focussed on Adolescent Behaviour regarding Reproductive Health. A cross-sectional household survey was undertaken in rural areas of district Sirmaur, Himachal Pradesh, to assess the Knowledge, Beliefs and Practices of adolescents about reproductive health. Six hundred and forty three unmarried adolescents aged 15-19 years were selected by 30-cluster sampling method from 2400 households. More girls (14%) were illiterate than boys (6%). Most of the boys (88%) and girls (58%) knew that a female conceives through sexual intercourse. Seventy seven per cent girls and Eighty seven per cent boys were aware of at least one contraceptive method. Majority of the girls (71%) and boys (82.5%) favoured termination of an unwanted pregnancy. About one-fourth respondents considered husband responsible for infertility and for sex of the baby. Boys considered night emission, poor body built and less growth of hair as reproductive health problems, whereas, girls were worried about menstruation and inadequate breast development. Almost 6% boys reported use of a contraceptive method indicating existence of pre-marital sexual activity. Knowledge on reproductive health is low and there is a big hiatus between actual and desired practices.

Pattnaik D and Lobo J (2000) conducted a study on Knowledge and Attitudes of Rural Adolescent Girls regarding Reproductive Health Issues. This cross –sectional study was conducted in the government schools and Anganwadi premises of 3 villages of PHC. The participants were 254 girls aged 13 – 17yrs, who had attained menarche. A pre – tested interview schedule was administered to each girl after taking permission from the principals and parents and with the consent of the participants. They found that all the girls were aware of a law regarding legal age of marriage but only 165(65%) of them knew the correct legal age. Early marriage was preferred by 19(7.6%), 214(84.3%) girls were aware of the small family norm but only 19 (8.8%)
knew the exact norm. A preferred family size of two or less was reported by 151(59.2%). Preference for a son was reported by 233(91.7%).

Rani et al (2000) surveyed 274 Adolescent School Going girls in Tirupathi town of Andhra Pradesh to study awareness and perception about menarche and menstrual problems. 200 of the 232 post menarche girls reported at least two problems experienced before menstruation. Dysmenorrhea (backache) was felt by 50% of the adolescents prior to as well as during menstruation. Bad odour of menstruation prominent problem reported by 57% of the adolescent girls. Profuse menstrual bleeding was complained by 31% of the adolescents. Calf muscle pain was the number one complaint felt prior to as well as during menstruation by more than a quarter of the adolescent girls. Tiredness was also experienced prior to the menstruation by 20.5% of the adolescent girls and this complaint had declined to 6% during menstruation. Irritability was reported by 20.5% adolescent girls before and 21.3% girls during menstruation.

Kumar R, et al. (2000) assessed the Knowledge, Beliefs and Practices of Adolescents about Reproductive Health in Rural Areas of Sirmaur District, Himachal Pradesh. Six hundred and forty three unmarried adolescents aged 15-19 years were selected by 30 cluster sampling method from 2400 households. They were interviewed using a semi-structured schedule. 56% were girls. More girls (14%) were illiterate than boys (6%). Most of the boys (88%) and 58% girls knew that a female conceives through sexual intercourse. 77% girls and 87% boys were aware of at least one contraceptive method. Majority of the girls 71% and boys 82.5% favoured termination of an unwanted pregnancy. About one-fourth respondents considered husband responsible for infertility and for sex of the baby. Knowledge on reproductive health is low and there is a big gap between actual and desired practices.

Anamika Sharma (2000) studied Menstrual Problems among 276 Under Graduate Girl Students. The results shows pre-menstrual syndrome (67%) and dysmenorrhea (33%) were perceived by the study subjects as the most distressing problems associated with menstruation. 54% were reported prolonged resting hours and 50% inability to study. More than half (50%) of the subject discussed their problems with their mother, and 60% of the study subjects were opted treatment for menstrual problems.
Narayan K. A. et al (2001) carried out research on Puberty rituals, Reproductive Knowledge and Health of adolescent school girls in South India. A sample size of about 800 was chosen for the survey and they were stratified across the 12 – 17 age group to capture the changes in knowledge with age. Equal numbers of rural and urban girls were interviewed with self-administered questionnaire schedule. South Indian female puberty rites can be divided into 3 main segments of ritual action. The ritual series begins when the girl comes of age. At the rituals, restriction and all the associated beliefs and symbolisms, it is surprising that young girls are not prepared for it with information about menstruation about the social meanings (including social readiness for marriage), and other knowledge. They concluded that adolescent girls were not prepared in any way for their first menstruation. 2/3rd of the girls described the onset of menarche as a shocking or fearful event, which often came as a distinct surprise to them. Many of them cried when they first saw the little information they were given was about keeping the cloth, and much of the new information they gained during the rituals came in the form of restrictions and cautions about behaviour towards males. To some extent, the evidence suggests that families rely increasingly on schools for imparting the information.

Jacqueline S. G (2001) explored Health Risks in American Indian Adolescents. A non-reservation sample of 243 American Indian students from a total sample of 1,815 students in a south western state completed health-risk screenings in the public schools. The students were between 14 and 18 years of age and in grades 9 to 12. Archival survey data were analysed by age, gender and race. They found that student reports of health-risk behaviours in the areas of physical health, substance use, and emotional health, risk of injury, perceived grades and academic expectations. The majority of the study participants reported average or below levels of health risks. The results from the quantitative survey showed that adolescent girls’ knowledge of anatomy (Particularly their knowledge of the source of menstrual blood) is very weak. Only one third of the girls identified the uterus correctly. Nearly as many girls (28%) mistakenly identified the urinary bladder as the source of menstrual blood. Older girls had somewhat better anatomical knowledge, as would be expected, and the urban girls scored better than the rural girls. The reports of white discharge among adolescent girls in the study suggest the presence of gynaecological morbidity but these data should be interpreted cautiously from the results they conclude that the teaching of
hygienic practices related to menstruation should be linked to an expanded health in which young girls can learn as practical information about RTI’s, STD’s and other useful knowledge.

Venkaiah K et al (2002) conducted a study on Diet and Nutritional Status of Rural Adolescents in India. The National Nutrition Monitoring Bureau collected information in the rural areas of the nine States. In each State, 120 villages were selected from eight districts. From each of the selected villages, 20 households (HHs) were selected from five clusters. The results revealed that about 23% of the adolescent girls were married before the age of 18 yrs. About a quarter of the married adolescent girls had short stature and 18.6% were underweight. They considered as 'at risk'. About 39% of the adolescents were stunted (<Median -2 SD of NCHS height for age) irrespective of sex. The prevalence of under-nutrition (<median -2 SD of NCHS weight for age) is higher (53.1%) in boys than in girls (39.5%). The extent of stunting was higher (42.7%) among adolescents belonging to the scheduled caste community. In the case of girls, the extent of underweight was considerably less in each age group than their male counterparts. About 70% of adolescents consumed more than 70% of RDA for energy. The intakes of micronutrients such as vitamin A and riboflavin were awe fully inadequate. They conclude that the extent of under-nutrition was high among adolescents and was higher among boys than girls.

An experimental study was conducted by Singh M. M et al (2002) among Rural Adolescent Girls studying in government girl's school in Punchakula City of Haryana on awareness and health seeking behaviour on menstrual and pubertal health problem. 130 adolescent girl students were participated as sample, questionnaire method was used. The results shows that the mean age of the participants was 13yrs to 17yrs. Majority of them (78.5%) attained menarche at age of 12-14yrs regarding menstruation, 82 girls (63.1%) perceived it to be a normal process while 48 girls (36.9%) felt that it is abnormal. Only 7 girls claimed to know the physiological reason for menstruation. Majority of the girls (80.7%) felt embarrassed and anxious. 58 girls (44.6%) suffered from various menstrual problems. So it emphasizes upon developing a healthy attitude towards pubertal changes in school students.
Venkaiah K (2003) stated that Adolescent girls in the rural areas are at greater risk of nutritional stress because of early marriage and early conception before completion of their physical growth. A cross sectional study was conducted on 1142 unmarried adolescent girls in 16 slums of Pune for their anaemic status. Haemoglobin was found to be less than 12gm/dl in 58%, less than 7gm/dl in 3% who were consuming two or fewer meals daily 40%. The programme activities like giving weekly iron and folic acid tablets in first three months; ongoing nutrition education through home visits and meeting by community health workers, participatory activities such as food fairs; community project through Institute of Health Management and Pachod life skill programme were carried out. Audio-visual materials such as flash cards and posters were used. They found that the anaemic status changed from 5.8 to 9.5 gm/dl for severely anaemic girls and from 8.9 to 11.2 gm/dl for moderately anaemic girls followed by the programme.

Indra P. Kambo et al (2003) carried out a Survey on Self-Reported Gynaecological Problems from twenty three districts of India as part of ICMR task force study. Total 93,356 married women in the age group of 15-45 yrs from rural areas were selected. Results revealed that 24.4% of women reported one or more gynaecological complaints. 10.4% reported backache, 8.3% reported lower abdominal pain, and 4.9% women mentioned vaginal discharge. Majority 20.6% women knew from where to seek services but only 14.2% went to any health facility. Of these only 9.8% were satisfied with the services. Majority of women had gone to practitioners of modern system of medicine with similar number of women going to medical officer of Primary health centre or Local practitioner (3.7% & 3.9%). The reasons for not seeking care were mostly personal including, lack of time, inability to go alone etc. as mentioned by 68% of women with problems. Reasons indicating inadequate facilities and indifferent attitude of health care providers were mentioned by 13.4% and 6.4% of women respectively.

Gupta N et al (2004) conducted a study on Reproductive Health Awareness of School-going, Unmarried, and Rural Adolescents. A multicentre study done in rural co-education/ higher secondary schools of 22 districts located in 14 states through Human Reproductive Research Centre (HRRC’s) of the Indian Council of Medical Research (ICMR). A sample of 8453 school going adolescents (aged 10-19 years) was surveyed by self-administered questionnaires. Awareness of legal minimum age of
marriage was present in more than half of adolescents. Attitude towards marriage of beyond 21 years in boys and 18 years in girls was favourable. More boys (23.7%) than girls (9.4) wanted three or more children with male preference. Only 19.8% of adolescents were aware of at least one method of contraception. Only two-fifth (39.5%) were aware of AIDS and less than one-fifth (18%) were aware of STD’s and most of them thought it is same as AIDS. Awareness of at least one method of immunization was present in three-fifth (60.1%) of students. Awareness of all Reproductive health matters was more in boys than girls and more in late teens (15-19) than earlier teens (10-14). The study identified tremendous lacunae in awareness of all reproductive health (RH) matters. They suggested that there is a need for evolving information, education, and communication strategies to focus on raising awareness on RH and gender related issues. A socio-cultural research is needed immediately to find the right kind of sexual health services for young girls and boys.

Research work of Lalitha M K and Joseph A (2005) on Reproductive Health Problems among young married women revealed that women often suffer silently with reproductive tract infections (RTIs). They found that fifty-three percent of women reported gynaecologic symptoms, 38% had laboratory findings of RTIs and 14% had clinically diagnosed pelvic inflammatory disease or cervicitis. According to laboratory diagnoses, 15% had sexually transmitted infections and 28% had endogenous infections. Multivariate analysis found that women who worked as agricultural labourers had an elevated likelihood of having a sexually transmitted infection. Two-thirds of symptomatic women had not sought any treatment; the reasons cited were absence of a female provider in the nearby health care centre, lack of privacy, distance from home, cost and a perception that their symptoms were normal. They concluded that the young married women in this rural Indian community have a high prevalence of RTIs but seldom seek treatment. Education and outreach are needed to reduce the stigma, embarrassment and lack of knowledge related to RTIs. The low social status of women, especially young women, appears to be a significant influence on their low rates of treatment for these conditions.

Raymond S U et al (2005) in their article on Beyond Reproduction: Women's Health in today's developing world opined that the concept of women's health is tethered strongly to reproductive health. At present, international attention and resources are focused on obstetric events and, recently, HIV/AIDS because of the
significance of these problems in the least developed nations. Allocation of health service resources should be aligned with the epidemiological realities of these threats to women's health. Cause of death data for women aged 15-34 yrs and 35-44 yrs were examined for nine less developed countries. Deaths associated with pregnancy and child birth, and HIV were compared with deaths due to three chronic disease categories (cancer, cardiovascular disease, and diabetes). They found that in seven out of the nine countries, among women aged 15-34 yrs, chronic diseases caused over 20% of deaths, while reproductive causes and HIV together accounted for approximately 10% of deaths, in all countries except in India. Among women aged 35-44 yrs, in all but India, chronic diseases accounted for over four times the deaths attributable to reproductive causes and HIV. They concluded that extending the definition of women's health to include a concern for chronic diseases is critical if the needs of women in less developed nations are to be met. In less developed countries, chronic disease is the most important cause of female death even during childbearing yrs and for women with young families.

Mishra R (2005) examined Need Assessment of Adolescents in two villages of Sidhi District. Among 350 households there were 290 male and 60 female adolescents participated in the study. 167 respondents said they preferred spacing of a maximum of two years in between two children. As many as 194 respondents had not heard about HIV/ AIDS and most of them belong to the early adolescent group. Over 90% males and about 25% females had no awareness on HIV / AIDS. Finally he concluded that reproductive health care programs should be designed to serve the needs of women, including adolescent girls.

Abha Choudhary and Prabhakar D Moses (2006) explored Prevalence of Anaemia among Adolescent Girls in the urban slums of Vellore, South India. The adolescent girls within the age limits of 11 -18 yrs were selected by using systematic random sampling method. The mean age of the girls was 14.2 years of the 100 girls, 68% had attained menarche. The mean age at menarche was 13 yrs. They found that the prevalence of anaemia was 29%. The mean Hb was 12.4g/dl, Muslims had higher odds for anaemia as compared with others (p=0.03).
Vikas R and Deepali S (2006) conducted a study to know the Prevalence of Reproductive Tract Infections in Tribal Women of Central India. The study was conducted in tribal villages of Jabalpur district. Ten villages having more than 90% tribal population were randomly selected. The sample size of 2100 married women aged 15 to 49 years were included in the study. Majority (72%) of the women were illiterate, while about 20% had received primary education. More than 75% women got married before the age of 18 years. A total of 172 women (7.8%) had at least one complaint suggesting RTI. In fact, a random sample consisting of symptomatic as well as asymptomatic women was drawn for studying these markers. However, it cannot be claimed that the infection was via sexual route. The finding is substantiated by the fact that no HIV infection was found in the random sample. The study highlights a need to strengthen the RTI/STI control program particularly in the tribal areas.

Nair P et al (2006) conducted a Cross Sectional study in Gazipur village in East Delhi on awareness and practices of pubertal changes and menstruation amongst 251 adolescent girls between the ages of 10 – 19 yrs. An interview method was used, to assess the outcome of the study. It was found that two – thirds of the study subjects had knowledge of menstruation. Only a 33.4% of the girls were aware of all the pubertal changes. The association between awareness of pubertal changes and increasing age was statistically significant. 45.5% of the girls had knowledge of menstruation prior to menarche. These variations can be due to the different regions surveyed and differences in the socio economic status and literacy status of the study subjects. Majority of the adolescents were aware of menarche and pubertal changes, but very low knowledge regarding breast development and appearance of axillary and pubic hair.

Tiwari H et al (2006) carried out a survey on Knowledge, Attitude and Beliefs towards Menstruation, in Anand district, Gujarat state. 900 school girls were of 11-17yrs were selected. Findings indicated that only 38.5% felt comfortable about menarche and only 31% believed that menstruation was normal physiological process. Many (37.2%) were informed about menarche before its onset. 48.2% felt that they were not mentally prepared. The major source of information were the mother (60.7%) or an elder sister (15.8%). Teacher and other relatives plays a small role, in this area of India many families continue the custom of celebrating the first menarche and observing the social restriction. The result of this study highlights the need for
health education regarding the pubertal changes and menstrual education needs to be ongoing process.

Tazeen S. A et al (2006) carried out a Cross Sectional Study in Karachi district of Pakistan to determine the understanding and the Level of Knowledge related to Puberty and Health Problems among the 150 female adolescents between 10-19 yrs of age. A pre coded questionnaire consisted of both open ended and closed ended questionnaire was used. 66% of participants gained knowledge through their mothers. 67% of the participants did not know about self-breast examination. Cable and internet were cited as a major source of puberty and sexual health related information. The finding shows that the female adolescents have limited access to puberty and sex related health education and services.

Patel V et al (2007) conducted a study on Prioritizing Health Problems in Women in developing countries: comparing the financial burden of reproductive tract infections, anaemia and depressive disorders in a community survey in India. Cross sectional survey of 2494 women aged 18-50 were randomly selected. They found that Catastrophic health expenditure, defined a priori as >10% of total household, Income spent out of pocket on health in the previous month, was reported by 138 women (5.5%; CI: 4.7-6.5%); they were more likely to report economic difficulties, such as having gone hungry in the past 3 months because of lack of money. Only depressive disorder was associated with significantly higher health care costs, lost time costs and risk of catastrophic health expenditure. There was a linear association between the psychological morbidity score (arranged into quintile groups) and the risk of catastrophic health expenditure (adjusted). If economic arguments were considered a key driver for global health policy, then depressive disorder should be considered a major health priority for women in developing countries.

Ramesh Chellan (2007) studied Socio-Demographic Determinants of Reproductive Tract Infection and Treatment Seeking Behaviour in Rural Indian Women. The present study used data from Reproductive and Child Health-Rapid Household Survey- 1&2 (RCH-RHS-1&2), 1998-99, which was conducted by International Institute for Population Sciences. The sample covered 379124 among rural currently married women in the reproductive age group of 15-44 yrs. He found that 29.1 percent of rural women reported experience of any one symptoms of
RTI/STI. Among those who reported symptoms, 34.6 percent have taken source of treatment or consultant. The burning sensation while urination is 13.7 percent, followed by lower abdominal pain (11.4 %) and any problem of vaginal discharge (20.6 %). Prevalence of RTI is high among women with no schooling (18.9 %), lower age at marriage (22. %), pregnancy wastage (24.0 %) and higher age (14.6 %). He concluded that Socio-economic and demographic factors have significant influence on prevalence of RTI/STI and treatment seeking behaviour among rural woman. It is clear that education, age of the women and types of houses have strong effect on prevalence of RTI/STI and its treatment seeking. Therefore, it is necessary to examine further on these issues.

Sarita Agarwal et al (2007) evaluated Knowledge and Attitude of Adolescent Girls of 15-19 yrs towards Reproductive Health and Related Problems. About 2/3rd (75.6%) of the girls were aware about all the signs of adolescence and 88.8% were aware of the needs of health life. Majority (80 %) had an idea about various aspects of sex education. Around 80.4% of girls had sex education. Most of the girls (90.4 %) wanted sex education to be included in the curriculum and 52.8% wanted it to be started at 13-15 yrs of age. About 1/3rd (32.8 %) thought doctors to be the persons to discuss such issues and 65.2% of girls were aware about at least one contraceptive. Emergency contraceptives were known only to 19.6 %. 91.6 % were aware that STD’s could be prevented by the use of condoms. Only 51.2 % were aware about right legal age of marriage for girls. Various menstrual problems prevalent were irregular cycle (84%) and pathologically vaginal discharge (10%). They concluded that adolescent girls need extensive and supportive education program to improve their awareness and thus reproductive health status.

A comparative study of school going girls and dropout girls of Jammu in terms of awareness of Reproductive Health among rural adolescent girls was carried out by Nidhi Kotwal, Neelima Gupta and Rashi Gupta (2008). Majority of the school going girls (80%) were studying in 10-12th class. Most of the school dropout girls (58%) had education up to 7th to 9th standard and rest of the school dropout girls (42%) had education up to 10th to 12th class. They found that the percentage scores obtained by respondents had variations for different aspects of reproductive system. The highly scored aspect of reproductive system was identification of reproductive organs (68%) of school girls and (74%) school dropout girls could identify the reproductive system.
They concluded that majority of both of school dropout girls and school going girls (94%) knew the transmission of AIDS and majority of school dropout girls (90%) and school going girls (86%) knew how to protect themselves from AIDS.

Sharma P et al (2008) in their work on Problems related to Menstruation among 198 Adolescent Girls observed the types and frequency of problems related to menstruation in adolescent girls and the effect of these problems on daily routine. Girls in the age group 13-19 yrs who had had menarche for at least one year at the time of study. Data was collected by personal interviews on a pre-tested, semi-structured questionnaire. They found that more than a third (35.9%) of the study subjects was in the age group 13-15 yrs followed by 15-17 yrs, 17-19 yrs respectively. Dysmenorrhea (67.2%) was the commonest problem and (63.1%) had one or the other symptoms of Pre-menstrual syndrome (PMS). Other related problems were present in 55.1% of study subjects. Daily routine of 60% girls was affected due to prolonged bed rest, missed social activities/commitments, disturbed sleep and decreased appetite. 17.24% had to miss a class and 25% had to abstain from work. Mothers and friends were the most common source of information on the issue. They concluded that screen adolescent girls for menstruation related problems and provide them with counselling services and relevant information on possible treatment options. Besides, there is a need to emphasize on designing menstrual health programmes for adolescents.

Das Gupta A and Sarkar M (2008) conducted a Study on Menstrual Hygiene among 160 Adolescent Girls at Singur, West Bengal. They stated that 108 (67.5%) girls were aware about menstruation prior to attainment of menarche and the mother was the first informant in case of 60 (37.5%) girls. one hundred and thirty eight (86.25%) girls believed it as a physiological process. 48.75% girls knew the use of sanitary pads during menstruation and 11.25% girls used sanitary pads during menstruation and 97.5% girls used both soap and water for cleaning purpose. They concluded that menstrual hygiene is a very important risk factor reproductive tract infection. Educational positive programs and trained health professionals can play a very important role in transmitting the vital message of correct menstrual hygiene to the adolescent girls.
Deo D S et al (2008) carried out study on Perception and Practices Regarding Menstruation. In these school girls aged 10-19 yrs in urban and rural areas of Ambajoggi reported that age of menstruating girls ranged from 12-17 yrs with maximum number of girls between 13-15 yrs of age. It was found that 42.5% urban and 55.4% rural girls were aware of menstruation prior to attainment of menarche. In urban girls mothers are the main source of information about menstruation 27.5% while it was teaching in rural areas 27.01%. Other source of information was friends and relatives and books. The reaction to first menstruation was score, in differential, discomfort disquiets and guilt. Discomfort and guilt were significantly more in urban, than the rural girls. The number of girls not practicing taboos was significantly more among rural girls (21.6%) as carried to urban girls (4.3%)

Patil S N and Wadker (2009) conducted a cross – sectional study to assess the Health Problems among Adolescent Girls in rural areas of Ratnagiri District of Maharashtra, India. They found that the mean age of study subjects was calculated to be 16.9 Yrs. As per proposed Asian and WHO Criteria, 67.8% & 69.3% adolescent girls were under weight (BMI < 18.5), as much as 41.9% study subjects were anaemic (Hb< 12gms%) as per WHO guidelines. Majority (more than 3/4th) of adolescent girls were suffering from menstrual related problems which lead to reproductive morbidities. It was found that 68.9% (MCHC<34%) of the study subjects were as far as problems related to menstruation cycle were concerned dysmenorrhea (44.2%) was the commonest problems faced by adolescent girls, Irregular menses (16.9%), Irritation (21.7%), Malaise (9.5%), Headache (14.2%), chest pain (8.2%), abdominal bloating (20.3%), constipation (11.3%), tightness in chest (10.6%) and white discharge (38.3%).

Sharma S et al (2009) examined Health Awareness of Rural Adolescent Girls in the age group of 14 to 18 years by selecting randomly from government schools of 5 villages in two blocks of Kangra district of Himachal Pradesh. They found that the health awareness is one of the major indicators which reveal a person’s knowledge about health problems increased to certain extent after post-test. This was specifically seen in the problems of cold, backache and stomach related problems. Most girls are not adequately aware of their increased nutritional needs for growth, especially increasing their food intake to meek calorie demands of pubertal growth, resulting in girls that are under nourished and of short stature. It was observed that very less
percentage of girls knew about reproductive organs (27.6%) and secondary sexual characteristics (4.4%) at the time of pre-test. It was very interesting to note that in spite of the girls studying in 8th, 9th, and 10th standards, they did not have knowledge about primary and secondary sexual characteristics. Majority of the girls faced problems during menstrual periods and pain in lower abdomen or stomach ache (86.6%) followed by backache (35.7%).

Kajal Jain S K et al (2009) assessed the Reproductive Health of Adolescent Girls in an urban population of Meerut, U.P. Around 402 adolescent girls in the 10-19 years of age group were interviewed with a pre – tested questionnaire. They found that 72.1% of the girls had attained menarche at the time of survey of which 66.9 % reported of having regular periods and 52% of them had irregular periods 40.3 % of them reported feeling of pain or cramps during menstrual periods. The average age of menarche was found to be 13 to 16 years. About 60% of the girls had heard about HIV/ AIDS and 31.8 % of them had heard about Reproductive Tract Infections. Moreover, 16.42% of the girls suffered from one or the other symptoms of RTI of which 80.3% suffered from excessive vaginal discharge. About 14.28 % of the girls sought treatment from government facilities 29.6% of the girls had knowledge about contraception.

Rajni Dhingra et al (2009) conducted a study on Knowledge and Practices related to Menstruation among Tribal (Gujjar) Adolescent Girls. The sample for the study comprised of 200 girls in age group of 13 – 15 yrs. Both nomadic and semi – nomadic Gujjars were included. Snow ball and random sampling technique was used for the selection. The results revealed that sample girls lacked conceptual clarity about the process of menstruation before they started menstruating due to which they faced several gynaecological problems. The most common source of information about menstruation for the majority (83%) of the sample girls were friends. There were several socio- economic taboos related to menstruation. The level of personal hygiene and management of menstruation was found to be quite unsatisfactory.98% of the girls believed that there should be no regular bath during menstrual cycle. All the girls reported following these cultural practices without much questioning. The results hold implications for professionals involved in improvement of adolescent reproductive health in particular.
Jahnavi G and Patra S R (2009) assessed the Knowledge and Attitude of Higher Secondary School Children regarding Conception and Population Control. Majority of the students (94.4%) were aware of contraceptives and their easy availability on chemist shop. 60% were considered that condom is an emergency contraceptive. Lack of employment facilities as a consequence of uncontrolled population growth was the main concern of both boys and girls. Most of the adolescents are misinformed about contraceptives and their attitude is not favourable as far as responsibility is concerned. There is an unmet need of contraceptive and population control knowledge and attitude among school adolescents and require urgent intervention.

Kundan Mittal and Manish Kumar Goel (2010) conducted a study on Knowledge regarding Reproductive Health among Urban Adolescent Girls of Haryana. A cross-sectional study among 788 girls in the age group of 15-19 years from different educational institutes. Three educational institutes were selected randomly from a total of seven institutes for the study. They found that the mean age of menarche in the study subjects was 13.1 years. Girls were aware that menstruation is a normal physiological phenomenon 626 (79.4%) Regarding abortion, 313 girls (39.7%) knew that it can be performed at government and private health facilities but none of them knew about the indications, criterion for the place where legal abortion can be performed, and person who can carry out legal abortion. Mothers were the most important source of knowledge (in 47.4%) regarding menstruation among the study subjects followed by friends/peers (23.8%), teachers (4.9%), and mass media (4.8%). Regarding contraception, friends/peers were the most important source of information (in 23.2%) followed by mass media (20.1%), mothers (14.8%), and teachers (10.4%). In relation to information regarding abortion, friends were the most important source (in 16.1%) followed by mothers (9.3%), mass media (8.7%), and teachers (5.4%) while for safe sex, friends were the most important source (in 4.0% only) followed by mass media (3.%), teachers (2.4%), and mothers (1.3%) Thus it seems that current efforts for increasing awareness among adolescents are doing well with respect to the knowledge regarding contraception, menstruation, and prevention from HIV / AIDS.
Kotecha P V and Sangita Patel (2010) conducted a study on Reproductive Health Awareness among rural school going adolescents of Vadodara district. A quantitative survey was carried out using a self-administered structured questionnaire among 768 (428 boys and 340 girls) students from 15 schools by systematic random sampling from 3 schools talukas). Focus group discussions, 5 each with adolescent boys and girls and teachers were held. They found that only 31% of the boys and 33% of the girls mentioned that they had heard about contraceptives. More than half of the adolescent boys and girls knew correctly about various modes of transmission of HIV/AIDS. A large proportion of boys and girls have mentioned changes in the opposite sex such as increase in height, change in voice, breast development, and growth of facial hair, growth of hair in private parts, onset of menstruation in girls, etc. Nearly 70% of adolescents were ready to use. Teachers perceived that adolescents become curious about the changes taking place in them, but they lack information and opportunities for open-discussions to get answers to their queries related to reproductive health. They concluded that school going adolescents are willing to take help from teachers but teachers are not equipped with knowledge nor are they comfortable discussing these issues with their students.

Bhandari M N and Kannan S (2010) in their work on Untreated Reproductive Morbidities among ever married women of slums of Rajkot City, Gujarat: the role of class, distance, provider attitudes, and perceived quality of care opined that it is a common problem in India for women in the reproductive age group to suffer from reproductive illnesses and not seek care. This paper is an attempt to assess untreated reproductive morbidities and to study factors affecting treatment-seeking behaviour among ever married women of urban slums. 1,046 women of the reproductive age group (15-49 years) were selected using two-stage cluster sampling for a community-based, cross-sectional study. In the selected samples, 57% of women had at least one reproductive morbidity; of these, only one third sought health care. The present study found that a lower sense of need, the cost of care, and societal barriers were the reasons for not seeking care. Providers’ poor attitudes, poor quality of services, and long waiting times were found to be the reasons for not utilizing health facilities. The determinants for accessing reproductive health care were resources available at the household level, social factors, the availability of services, and behaviours related to health. Government facilities remained underutilized.
Afrin et al (2010) examined Reproductive Health Problems among 126 adolescent girls of 13-18 yrs in view of menstrual problems. Majority 76 (60.32%) had no problems. Only 44 (34.92%) and 06 (4.76%) suffered from white discharge and itching respectively. It was observed that 84 (66.67%) respondents were practicing hygienic protective measure among which 38 (45.24%) suffered from painful bleeding and 24 (28.57%) suffered from per vaginal whitish discharge during menstruation. Though there was no association between protective measures and painful menstrual bleeding but there was significant association (p < 0.05) between protective measures during menstruation and per vaginal whitish discharge of respondent. Finally they concluded that adolescent girls suffer from reproductive health problems which demands awareness, motivation, education and appropriate health care facilities to improve their reproductive health.

Saraswathi C et al (2010) examined the Knowledge regarding Pubertal Changes among Adolescent Girls in the age group of 10 – 12 yrs in Dharwad city of Karnataka State. Interview method was used. The results revealed that half of them attained sexual maturity at 13.1 yrs of age (50.96%) and more number of adolescent girls knew about pubertal changes particularly primary sex characteristic (56.73%). Less number of respondents knew about secondary sex characteristics such as height and weight 75%, pubic hair 19.23%, breast enlargement 14.42%, hip enlargement 9.61% respectively. They found that half (50.63%) of the adolescent girls lack in knowledge regarding pubertal changes.

Keerti J and Pravin Y (2011) carried out community based study on Menstrual Hygiene among Adolescent Girls. 360 adolescent girls were selected by using simple random sampling method. They found that out of total 360 adolescent girls, 257 (71.39%) girls have attained menarche and maximum number of girls (72.77%) have attained menarche in the age ranged between 12- 14yrs. Moreover, 15.96% girls have reported blood flow for more than 5 days in (66.54%) girls, menstrual cycle was of 28-32 days only. Around 36.19 per cent of girls were aware regarding menstruation prior to the attainment of menarche and in 61.29 per cent of girls, “mother” was found to be first source of information regarding menstruation. Teachers, friends and relatives were other source of information (53.7%) girls have reported use of sanitary pads during menstruation, (34.63%) girls have reported use of old clothes during menstruation. The results of the study revealed that mother of adolescent girls were
 ignorant about informing daughter about menstruation prior to menarche. All mothers irrespective of their educational status should be taught to break their inhibitions about discussing with their daughters regarding menstruation before age of menarche.

Ray S and Tarapada Ghosh (2011) conducted a study on Knowledge and Information on Psychological, Physiological and Gynaecological problems among Adolescent School Girls of Eastern India. A total of 521 adolescents aged 10-19 yrs were selected randomly from two secondary schools of girls of the total subjects. Moreover, 94.2% of them were in the age of 13 -16yrs. They found that nearly 94% respondents reported their age at menarche and maximum i.e., 54% respondents experienced in the age of 11 – 13yrs. It was observed that 60.7% had very poor knowledge and very poor knowledge of puberty. Pubertal problems and out of them 60% indicated that they had visited to a doctor for their pubertal problems. Subjects were found to have poor knowledge of sex education indicate poor knowledge of sexual infections.

Subhash B Thakre (2011) conducted a community based, cross – sectional study on Menstrual Hygiene: knowledge and practice among adolescent school girls of Sawner, Nagpur District They found that 312 (80.62%) respondents were not aware of the cause of the bleeding, 71 (18.35%) girls believed it as a curse from God. A majority of the girls 295 (76.23%) were not aware of the source of the menstrual bleeding. Only 10 (2.58%) were aware that the source of the menstrual bleeding was the uterus. A majority, i.e. 296 participants (76.94%) were aware of the use of sanitary pads. The mean age of menarche is the study subjects was 12.85 + 0.867 yrs; sanitary pads were used by 49.35% of the selected girls. The practice of the use of old clothes was reported in 45.74% of the subjects. Satisfactory cleaning of the external genitalia was practiced by 33.85% of the girls. They concluded that a variety of factors are known to affect menstrual behaviours, the most influential being economic status and residential status (urban and rural). Awareness regarding the need for information about healthy menstrual practices is very important. It is essential to design a mechanism to address and for the access of healthy menstrual knowledge.

Verma P B et al (2011) in their study on Menstrual Pattern of 745 Adolescent School Girls of Bhavnagar (Gujarat) carried out a cross sectional study at Govt. High school of Bhavnagar city. Total 745 Adolescent school girls and reported that most of
the girls (88.1%) had the prior information about menstruation before the occurrence of the event. The most common menstrual pattern was 30/3-5 days. The most common menstrual disorder was dysmenorrhea (50.6%), followed by irregular menstruation (22.9%). Most of the girls (87.3%) used old plain cloth as menstrual absorbent. They concluded that adolescent girls should be made educated about normal physiology of menstruation and menstrual hygiene at schools. Girls should be informed well in advance about the menstruation, physiological process involved, its importance etc. Mothers are primarily responsible for the transmission of such type of information. This will help the girls to take it positively. Hygiene during menstruation should be maintained to avoid any reproductive tract infection. Teachers’ role is highly important for the transmission of information.

Busari A O (2012) conducted a study on Menstrual Knowledge and Health care Behaviour among Rural Adolescent Girls in Nigeria. The study adopted a descriptive cross sectional approach with 1500 adolescents. The results showed that the participants overall mean age at menarche was 13 yrs. The average duration of menstrual flow was 5 days in the 28 days mean menstrual cycle. 87% reported having regular menstruation. It was found that more participants experience dysmenorrhoea during menstrual than during pre-menstrual periods. It was also found that participant’s mothers level of education determines the type of materials to be used as absorbent. 63% had positive attitude towards menstruation but only 7% consult medical doctor when experiencing menstrual problems. 38% of girls used paracetamol when experiencing menstrual problems. One twenty girls reported to be absent from school at the time of menstruation. It was concluded that only a few of the girls seek medical advice that they should be thought appropriate menstrual and health hygiene.

Kumbhar S M et al (2013) conducted a Study on Common Menstrual Problems among Slum Adolescent Girls of western Maharashtra, India. A cross sectional study was under taken with 230 unmarried adolescent girls. Out of 230 girls with attainment of menstruation were found suffering from menorrhagia (16.8%), metrorrhagia (17.8%), hypomenorrhoea (27.39%), dysmenorrhoea (59.36%) and premenstrual syndrome (49.30%) respectively.
It is evident from the above studies that Adolescent Girls do not have adequate awareness on premenstrual symptoms. Puberty, importance of maintaining personal hygiene, contraceptives, etc. Safe motherhood is dependent on good maintenance of reproductive health during adolescent period.

2.3 Studies on Factors Influencing Reproductive Health

Bhatia V and Swami H M (2000) conducted Knowledge on Fertility Control Methods among Adolescent Girls in schools of Chandigarh. The study covered 389 students – 316 (81.2%) in urban and 73 (18.8%) in rural areas. The results reveal that 51.9% of girls were aware of fertility control methods. It was also observed that with increase in the age group from 12-14 to 15-17 and 18-20 yrs, the level of knowledge improved from 44.9% to 59.4% and 66.7% respectively. Level of knowledge among girls having employed mothers was observed to be higher (60.7% in comparison to housewives (49.8%). Literacy status of mothers influenced the level of knowledge in girls showing an inverse relationship. Only 39.7% of the girls in rural areas had awareness about fertility control methods in comparison to 54.7 in urban schools. 45% knew about oral pills, 21.8% about oral pills; 21.8% about condoms and 22.8% for both. None of the rural girl mentioned about other than oral pills and condoms. The low knowledge of rural girls is of great concern since three fourth of the country’s population stays in villages.

Levitt Dayal M et al (2003) in their study on Adolescent Girls in India choose a better future. An impact assessment of an educational programme stated over the last decade, the Centre for Development and Population Activities (CEDPA) has been working to challenge gender inequities, expand life options and empower girls aged 12-20 through an integrated program called the “Better life options program” (BLP). The programme provides courses for girls in non-formal education, vocational skills, personality development, and family life education and teaches them basic skills for living, such as how to use the Post Office, bank and transport system. The programme also provides opportunities for recreation and focuses on developing leadership skills. To carry out these activities, CEDPA has been used the centre- based approach and has established village training centres run by local literate women. In addition, it trains alumni girls as peer educators and motivate them to open their own learning centres.
Bentley M E and Griffiths P L (2003) in their paper on the Burden of Anaemia among Women in India, investigated the prevalence and determinants of anaemia among women in Andhra Pradesh. They examined differences in anaemia related to social class, urban/rural location and nutrition status body mass index (BMI). A total of 4032 ever-married women aged 15-49 from 3872 households were considered for the present study. They found that the prevalence of anaemia was high among all women. In all 32.4% of women had mild (100-109.99 g/l for pregnant women, 100-119.99 for non-pregnant women), 14.19% had moderate (70-99.99 g/l), and 2.2% had severe anaemia (<70 g/l). Poor urban women had the highest rates and odds of being anaemic. Fifty-two percent of thin, 50% of normal BMI, and 41% of overweight women were anaemic. They concluded that the new program strategies are needed, particularly those that improve the overall nutrition status of women of reproductive ages. This will require tailored programs across socio-economic groups and within both rural and urban areas, but particularly among the urban and rural poor.

Frank M et al (2003) examined the Relationship of the Initial Manifestation of Puberty in girls with anthropometric measures, as well as age at menarche, height, weight, skin fold thicknesses and pubertal maturation. Out of 859 eligible females 443 (51.6%) were observed to have asynchronous maturation in the development of puberty, that is initial breast (Thelarche pathway) or pubic hair (Adrenarche pathway) development, without development of the other characteristic. Longitudinal regression model was used. The results shows that age of onset of pubertal maturation was the same in the 2 groups (10.7). Females in the Thelarche pathway had earlier menarche (12.6 vs. 13.1yrs) as well as greater skin folds, body fat and body mass index at the time of menarche. This study reveals that females who enter puberty through the Thelarche pathway, as compared with the Adrenarche pathway, had greater sum of skin fold thicknesses, body mass index and percent body fat 1 year before the onset, as well as throughout puberty.

Padmadas et al (2004) examined the comparison of Women's Reproductive Spans in Andhra Pradesh, India. Data from the second round of the National Family Health Survey were used to examine the reproductive span and the duration between first marriage and menopause or sterilization among 4,032 ever-married women aged 15-49 years living in Andhra Pradesh in 1998-1999. They found that between 1992-1993 and 1998-1999, the median age at which women married
remained at 15.1, whereas the age at which they adopted sterilization decreased from 24.5 to 23.6. In life-table analyses, reproductive spans of successive cohorts of women decreased from 22 years among those who married during the 1960s to 15 years among those who married in the 1970s, 10 years among those who married in the 1980s and five years among those who married in 1990-1996. Proportional hazards regression analyses that controlled for demographic and social characteristics, as well as reproductive attitudes, confirmed this cohort effect (hazard ratios, 1.5-2.6). They suggested that women are making the decision to end childbearing faster than older generations did. The gradual compression in reproductive spans is attributable mainly to sterilization acceptance among younger women.

Goyal R S and Anoop Khanna (2005) in their work on Adolescents in Rajasthan: A Situational Analysis, opined that the adolescence is a crucial period in the life of an individual. Between 10 and 19 years of age many key biological, social, economic, demographic and cultural events occur that set the stage for adult life. Improving access to appropriate health services is only a partial solution to their reproductive and sexual health concerns. Programmes should also focus on assisting adolescents in acquiring education, building skills, and personality development at Home, school, workplace or community settings. A logical first step in creating these programmes is the assessment of their needs in the realm of socio-economic and demographic characteristics, and cultural environmental conditions of living. Although there has been a notable improvement in education during the last decade, the educational attainments of adolescents are still at a low level. Urban girls are better placed than their rural counterparts or girls living in tribal and desert areas. In the socio-cultural context of Rajasthan, gender discrimination prevailing in the area is also a major impediment in the education of girls. Low nutritional status of adolescent girls has emerged as a serious cause of concern. Nearly half of the teenage women suffer from some degree of malnutrition. The nutritional supplementation provided under government programmes (like ICDS) is still not reaching the target group.

Beena Joshi (2005) conducted a study on Improving Reproductive Health of Adolescent: an urban school based approach among adolescent aged 11-19 yrs. Self-administered questionnaires, focus group discussion, provision of adolescent friendly services and a medical health check-up were used and need based interventions were carried out 23% of study group did not visit the centre, mainly for general health
complaints (14%) and menstrual problems (10%) followed by problems related to height and weight, vaginal discharge, itching of genitals etc. 22.6% of adolescent came to seek information on sexual and reproductive health issues. Although 23% of the enrolled adolescent did attend the adolescent friendly centre. Some of them probably still went to the private practitioners or quacks or took some home remedy for the same or problems did not bother them to the extent of seeking help. This shows that just starting an adolescent friendly service with IEC and counselling is not adequate.

Joshi N et al (2006) conducted a study on role of community and sustainable education in strengthening Young Women’s Reproductive Health in Andhra Pradesh. National Family Health Survey (NFHS) (1998-99) has been utilized as the data source. Young women have been taken in the age group of 15-24 yrs. bivariate methods of analysis have been applied. The results shows that the quality of family planning services was not very good in Andhra Pradesh, yet unmet need was only 7.7 as compared to 15.8 for India (NFHS-2). Intention to use contraceptives in the next 12 months after the birth of the last child was equally affected by both community and sustainable education. Antenatal and natal care was affected by community and sustainable methods of education, 60% of women though place of delivery was still in home. Less educated women had much Reproductive health problems than those who were receiving entertainment education for health and family welfare.

Rohini Pande et al (2006) focused on Improving the Reproductive Health of Married and Unmarried youth in India, The report summarizes the results of a multi-partner study of youth reproductive health interventions in rural and urban areas of India from 1996 to 2006. The research program demonstrated that it is possible to create effective programs to improve adolescents' health in a relatively short time. This report draws on lessons learned on how to strengthen community and government efforts to improve youth reproductive and sexual health.

Jennifer Wilder et al (2006) reported that the Reproductive Health of Young Adults in India (RHEYA) Project has improved the overall utilization of reproductive health and family planning services primarily by changing popular beliefs and knowledge about early marriage and childbearing and the importance of spacing children to improve their chances of surviving and thriving. In selected areas of the
states of Tamil Nadu, New Delhi, Rajasthan, and Madhya Pradesh, Pathfinder partnered with four local non-governmental organizations in developing highly effective interventions that reached nearly 22,000 young people from underprivileged communities with adolescent sexual and reproductive health (ASRH) information. The genius of the project rests in its simultaneous reaching and communicating with parents, in-laws, and community and religious leaders—virtually all of the people who influence the opinions and decisions of young people—as well as the young people themselves.

Vinitha C T (2007) conducted a cross-sectional study on Level of Reproductive Health Awareness and factors affecting it in a rural community of South India. This study was conducted in Ponur PHC area of Tiruvallur District in Tamil Nadu. Around 300 households were sampled from each sub-centre using the systematic random sampling technique. Knowledge of Family Planning (FP) methods among currently married women age 13-49 years was studied. They found that around 92% women know at least any one method of family planning, 63.9% (70.6% in SC-1 and 57.3% in SC-2) know about any spacing method. Firstly all women aged 13-49 years were asked to report the safe age to bear child, secondly do you think bearing a child below age 20 yrs as safe. Overall, 79.5% if women aged 13-49 years reported that bearing child before age 20 yrs as unsafe. Knowledge regarding reproductive tract infection (RTI), was asked from all ever married and menstruating never married women of 13-49 years. Only 15.8% had knowledge about RTI, and of those who knew about 81.4% said that it would be prevented.

Rao R S et al (2008) explored Effectiveness of Reproductive Health Education among Rural Adolescent Girls. A total of 791 rural girls in the age group of 16-19 years were randomly selected in Udupi District, Karnataka. A significant increase in overall knowledge after the intervention (from 14.4% to 68%, \( p<0.01 \)) was observed regarding conception. Knowledge regarding ovulation, first sign of pregnancy and fertilization improved by 37.2% (95% CI = (35.2, 39.2), \( P < 0.001 \)). Knowledge regarding the importance of diet during pregnancy improved from 66 to 95% following the intervention.
Jyoti Sajjan et al (2008) focused on an experimental study to determine the Impact of Nutrition Education Intervention on the haemoglobin status of 60 anaemic rural adolescent girls aged between 13-16 years. The nutrition education intervention was conducted by using “child to child nutrition education technique” for three months. Sixty adolescent girls were divided into two groups experimental and control of 30 each. The pre and post test scores of the experimental and control groups were assessed. The student t-test showed significant difference between the mean knowledge within the experimental group, a significant increase 7.70% in the haemoglobin level was observed. It was concluded that nutrition education is one of the appropriate, effective and sustainable approach to combat iron deficiency anaemia.

Ruchi Saxena et al (2009) evaluated Adolescent Girls and Young Women on Family Life Education issues with the use of communication on AIDS in a village of Uttarakhand. They have reported that majority of unmarried respondents 72% and married respondents 76% disagreed with the opinion that more iron rich diet is required for a girl as compared to a same age boy. After giving education 84% unmarried and 80% married respondents agreed on the opinion that more iron rich diet is required for a girl as compare to the boy of the same age.

Susmitha K M et al (2009) examined Morbidity Pattern among 542 Adolescent Girls living in Six Social Welfare Hostels for scheduled castes in Nellore city, Andhra Pradesh. Results show that majority of the girls were from rural background (83.58%) and 35.79% were in middle school. 86% of girls stayed less than five years in the hostel. The major prevalent morbid conditions among girls were Pediculosis 83.21%, Dysmenorrhea 43.6% Dental caries 28.04% and Skin disorders 26.4%. They concluded that Pediculosis, poor personal hygiene and Dysmenorrhea were found to have significance across the age groups. High morbidity was found in 11-13 year age group.

Shabana Tharkar and Vijay Viswanathan (2009) examined the Impact of Socio Economic Status on prevalence of overweight and obesity among children and adolescents in urban India. A cross sectional design was adopted and 3 schools (2 Private and 1 Corporation schools) were selected by stratified cluster sampling technique. Data was collected by interviewer administered method by using a pre-
tested and validated questionnaire to a total sample of 1193 school children from grades IV-X (aged 8 to 15 yrs). Prevalence rates were calculated using WHO-BMI for age percentile chart 2007. Regression analysis was done to determine the risk factors associated with overweight. The overall prevalence of overweight was 12.1% among the children and 15.5% among the adolescents. Both overweight (22%) and obesity (13.7%) were height among girls from affluent families. The mean anthropometric measurements, prevalence of overweight and obesity were higher among the urban affluent children. Factors associated with overweight were upper socio economic status (OR-3.4, CI-1.8 to 6.7, P <0.0001) and greater than 2hrs television watching (OR-2.5, CI-1.1 to 5.4, P<0.0001). They conducted that the children had grossly inadequate knowledge about healthy life style habits. Overweight and obesity are predisposing factors for many diseases. They suggest the need for early intervention programs, targeting the children from affluent society.

Ahmed S M and Avasarala A K (2009) conducted a study of Urinary Tract Infection (UTI) among Adolescent Girls in rural Karimnagar district in Andhra Pradesh. A total of 181 samples were selected. A pre designed structured questionnaire was used. There was a significant association between prevalence of UTI and improper perineal washing technique. (CI=95%, p<0.001), Malnutrition (CI=95% p<0.001), presence of vaginal discharge (CI=95% p<0.001) and use of unsanitary pads during menses. Low socio economic status was chiefly responsible for frequent use of same pieces of cloth as sanitary pads during menstrual bleeding leading to urinary tract infection.

David C et al (2009) in their paper on Adolescent Girls Health Agenda, Study on Intergenerational Health Impacts opined that the detailing child health outcomes and mothers’ characteristics as risk factors. The focus risk factor is mother’s age. They found that when the first born child is born to a young mother (where young is defined as 12-24 yrs old), then the child is at a greater risk of dying before the age of 5, being stunted, being underweight, and suffering from anaemia.

Ghosh S (2009) observed Socioeconomic Vulnerability of Anaemia among Women in Eastern Indian states. An attempt has been made to find out differences in anaemia related to social class and place of residence, and age and marital status. It was hypothesized that rural women would have a higher prevalence of anaemia
compared with their urban counterparts, particularly among the poorest social strata, and that ever-married women would be at elevated risk of anaemia compared with never-married women, particularly in the adolescent age group. He found that the prevalence of anaemia was high among all women cutting across social class, location and other attributes. In all 47.9% were mildly anaemic (10.0-11.9.9 g/dl), 16.1% were moderately anaemic (7.0-9.9 g/dl) and 1.6% were severely anaemic (<7.0 g/dl). Protective factors include frequent consumption of pulses, milk and milk products, fruits and fish, educational attainment, mass media exposure and high socioeconomic status. Urban poor women and adolescent ever-married women had very high odds of being anaemic. New programme strategies are needed, particularly those that improve iron storage and enhance the overall nutritional status of women throughout the life-cycle.

Balarajan Y and Villamor E (2009) in their paper on Nationally Representative Surveys show recent increases in the Prevalence of Overweight and Obesity among Women of Reproductive Age in Bangladesh, Nepal, and India. They examined trends in the prevalence of overweight-obesity and underweight among women of reproductive age in 3 South Asian countries i.e. Bangladesh, Nepal and India from 1996 to 2006 to identify socio demographic correlates of overweight in the most recent survey. The prevalence of overweight-obesity increased substantially in all countries. These increases were observed in both rural and urban areas and were greater in rural areas. During the study period, the prevalence of underweight decreased substantially in Bangladesh and only modestly in Nepal and India. Overweight-obesity was positively related to age, higher socioeconomic status, and urban residence in all countries. In conclusion, while the prevalence of underweight has remained high in Bangladesh, Nepal, and India, the prevalence of overweight-obesity in women of reproductive age has risen between 1996 and 2006.

Dipali Nemade et al (2009) assessed the Impact of Health Education on Knowledge of Menstruation. A community based interventional study was conducted on 217 adolescents of Kalamboli, Mumbai and Maharashtra in India. They found that health education regarding menstruation and healthy menstrual practices were found to be poor and practices incorrect. While in the post – test, there was a significant difference in the level of knowledge (p<0.001) on menstrual hygiene, misconception, sources of information etc.
Shabnam O and Khyrunnisa Begum (2010) conducted a cross-sectional study on Factors Influencing Hygienic Practices during Menses among girls from south India. A total of 350 students were selected. They found that the mean age of menarche was 13.4+ 1.2 years, disposable pads were used by two-thirds of the selected girls (68.9%) regardless of age while 45.1% reported to use both disposable and non-disposable materials. Frequency of changing pads was 2–3 times a day by 78.3% girls. Socioeconomic status (SES) of the selected girls and their age influenced choice of napkin/pads and other practices such as storage place of hygiene older girls had better hygienic practices than the younger ones. 76% of the participants desired for more information regarding menstruation and hygienic practices.

Mishra S K and Mukhopadhya (2011) in their study of Socio Economic Correlates of Reproductive Morbidity among Adolescent Girls in Sikkim stated that among participants of 250 adolescent girls, high prevalence of reproductive health morbidities were among both married and unmarried girls. Age, Media exposure and Economic status emerged as a significant correlates of treatment seeking practices among both married and unmarried girls. High prevalence of Reproductive Health Morbidity in this vulnerable group particularly in rural setting, requires urgent intervention of health planners. This study reinforced as indirect and mediatory role of socio economic and demographic factors in prevalence of reproductive health morbidities and associated treatment seeking behaviour.

Moloud Fakhri et al (2011) conducted a quasi-experimental study on Promoting Menstrual Health among Adolescent Girls (N=698) from low socio economic back grounds. Demographic information shows that 35.9% were from urban areas. The socio economic level was lower class for 86.2% of participants. A total of 61.6 in the experimental group compared with 49.3% in central group engaged in usual bathing during menstruation (p=0.002). They identified that industrial health status was significantly correlated with menstrual health. Attitude towards menstruation was also significantly related to menstrual health. They concluded that the educational interventions can be quite effective in promoting menstrual health.
Avachat S S et al (2011) conducted a study on Impact of Sex Education on Knowledge and Attitude of Adolescent School Children. They revealed that the need of sex education is increased considerably and the knowledge regarding contraceptives increased form manifolds after the intervention. There was significant increase in knowledge about menstrual hygiene, sexually transmitted diseases etc. after sex education workshop and the study concluded that there is an intense need of sex education and it has significant impact on knowledge of adolescent school going children.

Indupalli A S et al (2011) observed the Role of Education in Adolescent Girls. It was carried out among 250 adolescent girls aged 13-19 years. Interview technique was used. It was observed that 18.8% of adolescents were married and 8.4% were pregnant at one or the other time. Pressure of elders was the major reason for early marriage (53%) and early pregnancy (57%) among married girls. Out of 250 adolescent girls, 22% had well, 65.2% had fair and 12.8% had poor awareness regarding health problems. On the contrary girls who had poor awareness to health problems, 46.9% were illiterate and only 6.3% had higher education indicating that educational status has a bearing on awareness of the health problems and this was statistically significant (p<0.001). The education of adolescent girls plays a major role on the marital status and awareness of the health problems.

Santhya K G (2011) examined Early Marriage and Sexual and Reproductive Health vulnerabilities of young women: a synthesis of recent evidence from developing countries. Every third young woman in the developing countries excluding China continues to marry as a child that is before age 18. Recent studies reiterate the adverse health consequences of early marriage among young women and their children even after a host of confounding factors are controlled. The current evidence is conclusive with regard to many indicators: unintended pregnancy, pregnancy-related complications, preterm delivery, and delivery of low birth weight babies, foetal mortality and violence within marriage. However, findings present a mixed picture with regard to many other indicators, the risk of HIV and the risk of neonatal, infant and early childhood mortality. The findings call for further examination of the health consequences of early marriage. What are even less clear are the pathways through which the associations between early marriage and adverse outcomes take place. There is a need for research that traces these links. At the same
time, findings argue strongly for programmatic measures that delay marriage and recognize the special vulnerabilities of married adolescent girls.

Manjula Rangappa et al (2012) studied the Impact of Educational Intervention on Adolescent Reproductive Health among Pre University girls in Davangere district, South India. The study was conducted in pre-university colleges present in Davangere city. A pre-structured proforma was used to assess the existing knowledge, which consists of both open-ended and close-ended questions on growth and development during adolescence, pregnancy, and Sexually Transmitted Infections (STI) including HIV/AIDS. Educational intervention was done on the second day with the help of posters, printed materials, flip charts, Overhead Projectors (OHPs), and black board. For a majority of them, the source of information about the above-mentioned aspects was television, followed by magazines. About 98% of them preferred doctors for getting sex education. There was overall significant change in knowledge (P<0.001, HS) after educational intervention.

Bharadwaj M et al (2012) conducted a study on Human Papilloma Virus Infection among Young Adolescents in India; Impact of Vaccination. Self – collected midstream urine sample from 940 healthy school children (8-17 yrs) from different schools in and around Noida, Delhi. Among them 3.2% were positive for HPV and 66.6% were positive for High-Risk Human Papilloma Virus (HR-HPV) type 16 (13.3%) for HPV. Among HPV positive girls 13 (66.6%) were >13 yrs and the rest were <13 yrs (p=0.004). while all seven HPV positive boys were >13 yrs (p=0.007). The majority of HPV positive adolescents (80-86%) belonged to Hindu and related communities, whereas about 14-22% belonged to Muslim community. A significant association was observed between the parent’s education and the awareness of cervical cancer which is significantly higher among adolescent girls from India, a lower prevalence of HR-HPV infection among adolescent girls will have significant positive effect on HPV vaccination and cancer control programs in India where education and awareness should go hand in hand.

Jena Sipra Komal et al (2012) carried out an Intervventional Study on Adolescent Girls and Reproductive Health at slums of Vijayawada. Finding revealed that 450 adolescent girls 48.89% were aware of reproductive health which significantly increased after health education (p=0.000). the awareness was more
among the girls whose mothers were more detected (p=0.000) significant number of girls were practicing menstrual hygiene and were aware of contraceptives including emergency contraceptives, minimum legal age of marriage, sexually transmitted diseases, HIV/ AIDS including modes of transmission and prevention after giving health education (p=0.000).

Premalatha et al (2012) carried out a cross sectional study on Prevalence of Anaemia and its Associated Factors among Adolescent School Girls (13-17 yrs) in Chennai. The result of the prevalence of anaemia was found to be 78.75% and there is a significant association (p<0.05) of anaemia is with type of family, socio economic status and diet. 42.5% of girls with BMI<18 were found to be anaemic.

Mane S V et al (2012) in their study of risk factors for Life Style Diseases among Adolescents in Western India. This was a prospective cohort study based on 15-18yrs age of boys (100) and girls (100) were included. General examination, blood pressure, anthropometric measurement was taken by using standard technique. Health risk score and BMI were calculated. In viewing BMI contributed to increase in systolic blood pressure (p=0.000) and diastolic blood pressure (p=0.000) stress appeared to be significantly correlated to BMI (p=0.023) and systolic B.P (p=0.009). Genetic risk factors are having significant correlation with BMI (p=0.001). Family history of hypertension has a positive correlation with systolic blood pressure (0.045). Family history of obesity has significant correlation with diastolic blood pressure (p=0.007). Sedentary habits significantly affected systolic blood pressure (p=0.009)

Merlin Saskila J E (2013) conducted a study on Personal and Social Adjustment in relation to the employ status were done. The study participants were 423 of 9th standard of which 229 were employed mothers and 194 of unemployed mothers. The investigator suggested that the parent should keep the fact in their mind that the mother employment has significant association with personal and social adjustment among adolescent, especially girl children as well as on urban adolescents. So, both parents and teachers should take care of the individual with maximum care, love, protection etc. Parent should spent sufficient time with the children within their limitation. Teachers also should arrange group activities, in the school that the children could develop personal and social values and should be able to know
importance of co-operations, synergy etc. leading to thus maximum development is possible.

Studies discussed above enables to understand various factors such as Age, Area of living, Education, Income level etc. that influence the status of Reproductive Health among Adolescent Girls. Nutrition is found to be a dominating variable that has nexus with menstrual irregularities. Need-based educational programs play an important role in promoting efficient Reproductive Health among Adolescent Girls.

2.4 Studies on Management of Reproductive health problems.

Maitra N et al (1994) studied Adolescent Sexuality Education and sources of information, by conducting a survey on 959 young females (ages 10-21 yrs). It highlighted the importance of educational attainment to fertility-related behaviours. Respondents represented a spectrum of educational levels: school drop-outs (32%), primary and secondary school attendees (41%), and college students (27%). School drop-outs were most likely to have obtained information about sexuality from films and other mass media, while students cited friends and neighbours as primary sources. There was a positive association between educational level and both preferred age at marriage and intended interval from marriage to first birth. 42% of adolescents with a secondary or college education planned to marry after 23 yrs of age and 84% wanted to defer childbearing for at least two yrs after marriage. The desire for formal sex education was strong in all educational subgroups (about 62%). However it has been estimated that postponement of the marriage age from 16 yrs to 20-21 yrs would result in a 20-30% decrease in the annual number of births in India. School-based sex education represents a feasible mechanism for helping to achieve this goal.

Kumar R (1997) in their work on Impact of Health Centre Availability on Utilisation of Maternity Care and Pregnancy outcome in a rural area of Haryana, interviewed six hundred married women of 15-45 yrs age group in 4 villages of the district Ambala in Haryana. Impact of Health Centre (HC) availability on the knowledge, opinion and practices related to maternity care and pregnancy outcome was assessed after adjusting the effect of socio-economic status. Except 17 women (2.8%), everyone knew at least one correct purpose of Ante Natal Care (ANC) and 98.2% women had contacted health staff for ANC. However, knowledge of the respondents about the components of ANC was found to be poor in study villages.
Traditional Birth Attendants (TBAs) conducted delivery in 76.1% cases in Sub-Centre (SC), 75.6% in villages without a HC compared to 49.8% in Primary Health Centre (PHC) village. However, preference for TBAs in PHC village was 14.9%, in SC village 33.5%, and in villages without HC 36.3% (p < 0.001). Among respondents having better awareness about ANC components, preference and utilisation of modern delivery attendants was found to be higher.

Singh M M and Kaur (1997) examined the Impact of Primary Health Centre (PHC) on maternal illness found that consultation rate of government functionaries was 67.9% in Primary Health Centre (PHC) village, 52.2% in SC village and 55.8% in villages without a Health Centre (HC). Perinatal mortality rate of 76.0/1000 births in villages without HC was not significantly different from the rate of 87.4/1000 in SC village but rate of 38.9/1000 in the PHC village was significantly lower (p < 0.01). Awareness and availability of modern maternity services were found to have significant influence on the health seeking behaviour and pregnancy outcome. A survey conducted in four villages in Ambala district, Haryana state, India, assessed the impact of Health Care Centre (HCC) availability on the utilization of maternity care services and pregnancy outcomes. Overall, 98.2% of respondents had contacted health staff for antenatal care. High awareness of modern maternity care, defined as knowledge of more than 3 components of antenatal care, was present in 9.6% of respondents in the HCC village, 22.1% in the sub centre village, and 15.3% in villages without an HCC. 49.8% of deliveries in the primary HCC village, 76.1% in the sub centre village, and 75.6% in those without an HCC, were performed by a Traditional Birth Attendant (TBA). Preference for a TBA-assisted delivery was expressed by 14.9%, 33.5%, and 36.3% of respondents, respectively (p 0.001). Both preference for and use of TBAs were lower among women with high awareness of the components of antenatal care. The consultation rate of government functionaries for maternal illnesses was 67.9% in the HCC village, 52.2% in the sub centre village, and 55.8% in villages without an HCC. The perinatal mortality rate in villages without an HCC (76/1000 births) was not significantly different from that in the village with a sub centre (87.4/1000), but was significantly higher than that in the village with an HCC (38.9/1000) (p 0.01). These findings indicate that awareness of and access to an HCC equipped with modern maternity facilities has a significant positive impact on the health-seeking behaviour and pregnancy outcome of rural women.
Patel P et al (2000) collected base line data and assessed the services needed to reproductive and sexual health for adolescent population of slums in Shahibaug. A sample of all adolescent boys and girls in the age of 12-19yrs residing in 3 slums in Ahmedabad were covered under study. Of all the adolescents 62% of boys and 57% go girls had heard about HIV/AIDS information. Need of adolescent girls reflected their curiosity to know about their own body and growth, pregnancy, child care, delivery while boys needs were less. They concluded that important information on adolescents’ health and development to plan future educational interventions at the community level in general adolescents are about scientific information on puberty, menstruation pregnancy, STD and HIV/AIDS.

Agarwal Shraddha and Bharti B M (2006) examined reproductive health among married female population (15-49 yrs) in urban slums. The data were analysed, of the 200 couples interviewed, 53% males were in the 26-30 years age group and 34% females in the 21-25 years age group. At the time of marriage 41% of males were below 21 years of age and 56% of females below 18 years. As well 48% males and 40% females were educated, and 26% couples had four children, 94% females delivered at home with the help of traditional dais. 93% had received tetanus toxoid injection during antenatal period. They found that 32% of couples didn’t have any knowledge about contraceptives and though 21% had the knowledge they did not use any contraceptive. They concluded that there was poor utilization of the Reproductive Child Health (RCH) services provided by the government, lack of awareness regarding services provided by the government, lack of awareness regarding birth spacing and very low use of contraceptives. Literacy and age at marriage are not raised in spite of laws made by the government.

Vrijesh Tripathi and Deoki Nandan (2006) in their article on Reproductive Health, an Introduction to IUCD in India stated that India was one of the first Nations to officially launch a family planning program. About 100 million married women throughout the developing world have an unmet need for family planning. About one-third of these women, an estimated 31 million, live in India. Unmet need for family planning is estimated to affect 16 percent of married couples in India. This paper gives a historical perspective of India’s Family Welfare Program focusing on the role played by Intra Uterine Contraceptive Device (IUCD). The Program has gone through various revamps shifting its initial target oriented approach to a more client centre
approach. The National Population Policy 2000 resets the objectives of the program given the scale and diversity of India’s population making it pro-poor, pro-women and pro-nature. However, poverty, illiteracy, and a shortage of resources remain the main barriers to the promotion and wider acceptance of family planning. The concept has evolved over time through multiple streams of research and action in the field of reproductive biology, contraceptive development and family planning; the delivery system and the socio-economic and cultural profiles of end-user populations and end-user environments; the long-standing Maternal and Child Health Care System and more recent Safe Motherhood Initiatives, the Child Survival and development and “Women in Development” movement among others. An urgent need has been recognized to strengthen MCH services that have suffered as a consequence both of the collapse of the public health system and the focus on the family planning program. At the same time, there is a need to promote user-controlled, safe, effective and temporary methods of contraception. Equally important is the need to monitor and systematically study the health implications of contraception, including sterilization.

Joshi B N et al (2006) emphasised on Reproductive Health Problems and help seeking behaviour among adolescents in urban India. A sample of 300 urban school going adolescents between 11-14 years were chosen at random and assessed using four tools namely, Self-administered questionnaire, Provision of adolescent friendly services, Medical screening and focus group discussion. They found that 72% girls and 56% boys reported health problems during survey with an average of 1.93 complaints/girl and 0.5 complaints/boy. However, only 43% girls reported to go to the clinic voluntarily to seek help and only 1/5th of the amount of problems reported in survey, which probably reflects a poor health seeking behaviour. A medical check-up with emphasis on assessment of reproductive health and nutritional status helped in detecting almost the same number of reproductive health problems as reported by them in survey. This intervention helped to increase the client attendance in subsequent period of next one year from 43% to 60% among girls.

Deshmukh P R et al (2007) explored the Effect of Community Based Health Education Intervention on Management of Menstrual Hygiene among rural Indian adolescent girls of 12-19 yrs. A need assessment for health messages with this target audience, using a triangulated research design for quantitative (survey) and qualitative (focus group discussions) methods was carried out Programme for Appropriate
Technology for Health (PATH) guidelines were used to develop a handmade flip book containing needs-based key messages about the management of menstrual hygiene. They found that after 3 yrs, significantly more adolescent girls (55%) were aware of menstruation before its initiation compared with baseline (35%). The practice of using readymade pads increased significantly from 5% to 25% and reuse of cloth declined from 85% to 57%. The trend analysis showed that adolescent girls perceived a positive change in their behaviour and level of awareness. The present community health education intervention strategy could bring significant changes in the awareness and behaviour of rural adolescent girls regarding management of their menstrual hygiene.

Rao R S P et al (2008) formulated a Structured Teaching Programme to assess the Effectiveness of Reproductive Health Education among Rural Adolescent Girls in Udupi taluk, Karnataka. A total of 791 rural girls in the age group 16-19yrs were randomly selected from coastal village in Udupi district. Adolescent girls were educated regarding reproductive health and their awareness levels evaluated immediately. The results revealed that a significant increase in overall knowledge after the interventions from (14.4% to 68%, p< 0.01) was observed regarding contraception, knowledge regarding ovulation, first sign of pregnancy and fertilization is improved by 37.2% (95%, CI = (35.2, 39.2), p< 0.001). Knowledge regarding the importance of diet during pregnancy improved from 66 to 95% following the intervention.

Alexandra et al (2008) conducted a study on Knowledge, Perceptual Attitude of recent Girls towards STIs / HIV, safer sex and sex education. A cross sectional survey of urban adolescent school girls in South Delhi resulted that more among 251 female’s students from senior secondary school, 30% of the respondents considered HIV / AIDS can be cured. 49% felt that condoms should not be available to youth, 41% were confused about whether the contraceptive pill could protect against HIV infection and 32% it should only be taken by married women. Though controversial there is an immense need to implement gender–based education regarding STIs safe sex option and contraceptives in schools.
Wasnik (2009) reported that majority of girls had clinically obvious Nutritional Deficiency Diseases. Two third of study subjects were undernourished (BMI < 18.5 Kg/m²). The prevalence of anaemia among the adolescent girls was found to be 41%. There was a significant association of anaemia with educational status of adolescent girls. Adolescents are expected to enjoy a good health but this does not seem to be in rural areas of developing country like India, where poverty, malnutrition and repeated infection are rampant. They suggested that to achieve the optimum health and development of adolescent segment of the population, there is an imperative to introduce a comprehensive Adolescent Health Initiative (AHI) at block level.

Bhattacharya M et al (2009) examined Reproductive Tract Infections / Sexually Transmitted Infections in women in Delhi. They opined that the adequacy of the World Health Organization's syndrome approach for the diagnosis and management of Sexually Transmitted Diseases (STDs), especially at Primary Health Centers (PHCs) and at other levels, is still debatable in different settings in India and requires validation. A cross-sectional study was carried out in women attending the peripheral government clinics of Delhi in order to (1) enumerate their self-reported Reproductive Tract Infection (RTI) / Sexually Transmitted Infection (STI) symptoms; (2) assess their clinical status; (3) determine the syndrome diagnosis of RTI/STI in symptomatic women and etiological diagnosis in both symptomatic and asymptomatic women; and (4) compare the level of agreement between self-reporting of morbidity and syndrome and etiological diagnosis. The study was conducted over 26 months in 4090 women attending peripheral government healthcare centers, both rural and urban, in four zones of Delhi. They found that overall, self-reporting of morbidity was 65.0%. However, the percentage of women with some STD-related syndrome was 71.4%. The rural women were observed to have significantly more STD syndromes than their urban counterparts. They concluded that this study highlights the wide variation between self-reporting of morbidity and syndrome- and etiology-based diagnosis in women from both rural and urban settings.

Ray K and Muralidhar S et al (2009) made a Comparative study of Syndrome and Etiological Diagnosis of Reproductive Tract Infections / Sexually Transmitted Infections among women in Delhi and opined that the adequacy of the World Health Organization's syndrome approach for the diagnosis and management of Sexually
Transmitted Diseases (STDs), especially at Primary Health Centres (PHCs) and at other levels, is still debatable in different settings in India and requires validation. The rural women were observed to have significantly more STD syndromes than their urban counterparts. The etiological diagnosis could be established in only 32.2% of cases. They highlighted the wide variation between self-reporting of morbidity and syndrome and aetiology-based diagnosis in women from both rural and urban settings. This has implications for the syndrome approach to STI case management. These observations call for a review of the diagnostic policy for RTIs/STIs by national authorities in order to avoid the overuse of antimicrobials. The study also highlights the need for the introduction and/or strengthening of facilities for simple diagnostic tests for RTIs/STIs, especially at the peripheral healthcare level.

An Interventional Study was conducted by Sharma S et al (2009) on Health Awareness of Rural Adolescent Girls. It was observed that very less percentage of girls knew about reproductive organs (27.6%) and secondary sexual characteristic (4.4%) at the time of pre – test, but after six months of intensive intervention through discussions an increase their knowledge levels about reproductive organ (51.6%) and secondary sexual characteristics (16%) at the time of post-test, Educational interventions can help to change the attitudes of people for their betterment changes during pubertal stages.

Nemade D et al (2009) conducted a Community Based Interventional Study was on 217 Adolescent School Girls to assess the Impact of Health Education on knowledge regarding pubertal changes in Mumbai. In this study pre-test and post-test was carried out. In pre-test poor knowledge was assessed. In post-test practice were in correct after health education and these was a significant difference in the level of knowledge (p<0.01). There was no significant difference in pre and post-test knowledge regarding changes in pubertal (p>0.05). The result shows that the girls had poor knowledge regarding pubertal changes and the knowledge had increased after the health education.

Dorle A S et al (2010) explored Knowledge of 502 secondary school students on Puberty changes in Karnataka. It was found that 21.51% possessed correct knowledge regarding secondary sex characters (height, weight, pubic hair, breast development), 55.56% discussed sex matter with their friends, 74.07% girls did not
have prior knowledge about menstruation and 66.7% of the adolescent girls were lacking knowledge of pubertal changes. Therefore it is necessary to provide school education program to adolescent girls living in different villages, about awareness and knowledge regarding pubertal changes.

Palas Das (2010) observed Adolescent Girls Awareness on Psychosomatic Health in North Kolkata. This 'Health Education Intervention Study' was conducted in October and November 2006, in three senior secondary schools of North Kolkata. The Simple Random Sampling Technique was applied to select three schools from the spot map of North Kolkata for this study, and 282 girl students in the adolescent age group of 13 to 19 years were selected from the completed updated list of students from the enrolment registers in these schools. They found that the mean age of the participants was 15.7 years. This health education intervention showed a significant improvement in their knowledge on adolescent health, in the aspects of sex differences in pubertal spurts, probable causes of health problems during adolescence, physical changes in adolescent boys and girls, and psychological problems of adolescence. A significant improvement in positive attitude was observed, with regard to their opinion on substance abuse in the adolescent period and importance of sex education for adolescents.

Roy S (2010) in his paper on Education of Adolescents on Reproductive Health assessed the educational needs of the adolescent girl students regarding their reproductive health. The data were collected by administering an open-ended self-administered questionnaire to the participating students seeking their opinion on several issues related to adolescent reproductive health. He found that the students preferred their teachers next only to doctors as health educator. Their health problems included menstrual problems, weakness, eye problems, headache and weight gain. Other problems were tension with studies, inability to concentrate, depression and irritability. Two most important areas of their concern are safe motherhood and AIDS.

Rekha D and Shirish P (2010) conducted a cross sectional study to know the Prevalence of Reproductive Problems among Adolescent Girls in rural area of Raigad district, Maharashtra. Around 100 adolescent girls in age group of 10 – 19 yrs were selected. They found that 37% of adolescent girls are suffering from reproductive tract infections and concluded that health and sex education to female adolescents
should be started at school level for prevention of reproductive tract infections and training to health care workers should be given for identification of cases and referring them to PHC.

Vijayapushpam T and Antony G.M (2010) reported on Nutrition and Health Education Intervention for student volunteers; topic-wise assessment of impact using a non-parametric test, assessed the impact of a classroom-based nutrition and health education intervention among student community volunteers (N=687) in improving their knowledge on individual topics. Topic-wise knowledge change among student volunteers on individual topics pertaining to nutrition and health was evaluated at baseline and after intervention, using the McNamara test. A significant mean improvement of 11.36 (SD 8.49, P < 0.001) was observed in the overall nutrition and health knowledge scores of the student volunteers after the education intervention. The McNamara test showed that knowledge on individual topics related to energy, proteins, fats, adolescent phase, obesity, some lifestyle diseases and infectious diseases improved significantly (P < 0.01). No significant (P > 0.05) improvement was observed in knowledge on the nutritional content of milk and sprouted grams, hypertension, HIV/AIDS, ELISA and malaria.

Kannan S (2010) studied on Untreated Reproductive Morbidities among 1,046 ever married women (15-49 yrs) of slums of Rajkot City, Gujarat: They found that from this sample, 593 responses reporting reproductive morbidity were analysed for treatment-seeking behaviour and its correlates, 57% of women had at least one reproductive morbidity and of these, only one third sought health care. They also found that a lower sense of need, the cost of care, and societal barriers were the reasons for not seeking care. Providers' poor attitudes, poor quality of services and long waiting times were found to be the reasons for not utilizing health facilities. The determinants for accessing reproductive health care were resources available at the household level, social factors, the availability of services, and behaviours related to health. Government facilities remained underutilized.

Tej Ram et al (2011) studied Factors Affecting the use of Maternal Health Services. This study was designed as a cross sectional study. Data from 15,782 ever married women aged 15-49 years residing in Madhya Pradesh state of India who participated in the District Level Household and Facility Survey (DLHS-3) 2007-08
were used for this study. Multilevel logistic regression analysis was performed accounting for individual, community and district level factors associated with the use of maternal health care services. They found that 61.7% of the respondents used Ante Natal Care (ANC) at least once during their most recent pregnancy whereas only 37.4% women received Post Natal Care (PNC) within two weeks of delivery. In the last delivery, 49.8% mothers were assisted by skilled personnel. There was considerable amount of variation in the use of maternal health services at community and district levels. About 40% and 14% of the total variance in the use of ANC, 29% and 8% of the total variance in the use of skilled attendance at delivery and 28% and 8.5% of the total variance in the use of PNC was attributable to differences across communities and districts, respectively, found sufficient amount of variations at community and district of residence on each of the three indicators of the use of maternal health services. They suggested that for increasing the utilisation of these services in the state, in addition to individual-level, there is a strong need to identify and focus on community and district-level interventions.

Venkatesh K K and Srikrishnan A K (2011) studied on Sexual Risk Behaviours among HIV-infected South Indian couples and implications for Reproductive Health and HIV care delivery. The study examined sexual behaviours among HIV-infected Indians in primary care, where access to Highly Active Anti-Retroviral Therapy (HAART) has recently increased. They found that over three-fourths (80%) of participants were HAART-experienced. Among the 58% of participants who were currently in a sera-concordant relationship, one-third was sera-discordant when enrolling into care. Approximately two-thirds (63.2%) of participants were sexually active; 9.0% reported unprotected sex. In the multivariable analyses, participants who were in a sera-concordant primary relationship were more likely to have children, use alcohol, report unprotected sex and have been enrolled in care for >12 months. Among HIV-infected Indians in primary care, predictors of unprotected sex included alcohol use and desire for children. They suggested that the prevention interventions for Indian couples should integrate reproductive health and alcohol use counselling at entry into care.

Bellows N M and Bellows B W (2011) made a study on Systematic Review; the use of vouchers for Reproductive Health Services in developing countries: systematic review. A systematic search of the peer review and grey literature was
conducted to identify Reproductive Health (RH) voucher programmes and evaluation findings. They concluded that all evaluations reported some positive findings, indicating that RH voucher programmes increased utilization of RH services, improved quality of care, and improved population health outcomes. The potential for RH voucher programmes appears positive; however, more research is needed to examine programme effectiveness using strong study designs. In particular, it is important to see stronger evidence on cost-effectiveness and population health impacts, where the findings can best direct governments and external funders.

Bharathi C et al (2011) undertook an investigation to determine the Impact of Nutrition Education Intervention on the Haemoglobin Status of 60 anaemic rural adolescent girls aged between 13-16 years. The nutrition education intervention by using “Child to child nutrition education technique” was carried out for three months. Sixty adolescent girls were divided into two groups i.e. experimental group (n=30) and control group (n=30). The pre and post test scores of experimental and control group were assessed. The student t test showed significant difference between the mean knowledge within the experimental group. When their haemoglobin level was considered for three months of education intervention there was a significant increase in the haemoglobin level among the experimental group was observed. Finally they concluded that nutrition education is one of the appropriate, effective and sustainable approach to combat iron deficiency anaemia.

Ragini Kulkarni and Sanjay Chauhan (2012) in their work on Cause of Death among Reproductive age group women in Maharashtra, opined that the reliable data on mortality and morbidity among women of reproductive age group are scarce in India. They found that a total of 103 deaths in reproductive age group women were investigated, of which 7 (5.6%) were maternal while 96 (93.2%) were due to non-maternal causes. Six out of seven maternal deaths were in rural area. Among the non-maternal deaths, 46.8 per cent women had symptoms suggestive of anaemia and the leading cause of death was infectious and parasitic diseases (25%), tuberculosis being the top killer in this group. This was followed by injury and poisoning (20.8%), suicides being the leading cause in this category. Among non-communicable diseases, cancers contributed to 10.6 per cent deaths among which cancer oesophagus and cancer cervix took a major toll. They concluded that the communicable diseases, injury and poisoning and cancers are the major killers among reproductive age group
women. Several factors responsible for accidents and suicides also contributed substantially to the mortality load among these women. Majority of the maternal deaths were seen in rural areas indicating the need to strengthen the maternal health care. In conclusion, communicable diseases, injury and poisoning and cancers were found to be the major killers among reproductive age group women. Among communicable diseases, tuberculosis was at the top and various factors such as general health status of women, literacy and living standard and compliance to treatment by the women, contributed to the occurrence of deaths due to tuberculosis. Non communicable diseases and suicides also take toll of deaths in not only urban but also in rural areas; hence intervention measures must be done in both the areas. A comprehensive approach that includes in addition to reproductive health interventions, interventions addressing underlying under nutrition among women, communicable diseases and social reforms need to be undertaken.

Number of studies explained above depicts that timely intervention would half the Adolescent Girls, to improve their General Health as well as Reproductive Health. Parents, Teachers and Community workers can play a major role in taking the various Health Issues among girls studying in schools and colleges. Lecture, Demonstration, Visual aids and electronic and mass media helps in meeting the goal of healthy adolescents hailing from socio economic status. There is need to plan and organized appropriate investigation programmes.