CHAPTER-II
REVIEW OF LITERATURE

Adolescents got recognition, as a distinct age group who require special attention in the human resource development agenda only recently. Policies and programme interventions targeting this age group initially were focused on ameliorating the problems as and when they arose. Later on the attention started getting shifted to prevention of these problems. Of late the focus has again been shifted to include a developmental perspective in adolescent care. More emphasis is now being given to improving the global competencies of the young, through positive youth development programmes. Before proceeding in to the different research studies related to the current work, conceptual frame work of the study is presented first.

2.1 Conceptual Frame Work

The present study has used a positive youth development frame work which primarily applies a strength based approach to promote competence of the adolescents to be contributing adults in the future. Basic premises under which the positive youth development programmes function is the Pittman’s proposition (as sited in Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2004) that ‘problem-free does not mean fully prepared’. Young people in today’s society need help in understanding life's challenges and responsibilities and to developing the necessary skills to succeed as adults.

Catalano, Berglund, Ryan, Lonczak, & Hawkins, (2004) define positive youth development programmes as approaches that seek to achieve one or more of the following objectives: 1) Promotes bonding, 2) Fosters
resilience 3) Promotes social competence 4) Promotes emotional competence
5) Promotes cognitive competence 6) Promotes behavioural competence
7) Promotes moral competence 8) Fosters self-determination 9) Fosters spirituality
10) Fosters self-efficacy 11) Fosters clear and positive identity
12) Fosters belief in the future 13) Provides recognition for positive behaviour
14) Provides opportunities for pro-social involvement 15) Fosters pro-social norms.

In the opinion of Whitlock and Hamilton (as cited by Small and Memmo, 2004) positive youth development can be conceptualised in three ways: (a) to describe the natural process of development in children and adolescents; (b) as a category of programmes and organizations that provide activities to promote youth development; and (c) as a unifying philosophy characterized by a positive, asset-building orientation, that builds on strengths rather than categorizing youth according to their deficits. It is the second conceptualisation that formed the basis for the present intervention programme.

A positive youth development approach is based on the following assumptions: 1) helping youth achieve their full potential is the best way to prevent them from experiencing problems. 2) youth need to experience a set of supports and opportunities to succeed. 3) communities need to mobilize and build capacity to support the positive development of youth. 4) youth should not be viewed as problems to be fixed, but as partners to be engaged and developed. The positive youth development approach has relevance for all youth, rather than just a certain targeted group. (Dotterweic, n.d).
Youth development occurs in a wide range of settings. Programmes are one among them. These are semi-structured processes; most often led by adults and designed to address specific goals and youth outcomes. A programme can be considered a youth development programme when it intentionally incorporates experiences and learning to address and advance the positive development of children and youth. This may range from highly structured activities, (often in the form of curriculum with step-by-step guidelines) to those that may have a looser structure but incorporate a clear focus, on one or more youth development activities (e.g., service learning). Schools, national voluntary youth organizations, and community-based organizations are primary, but not exclusive, delivery systems. (Benson and Saito. n.d).

Developmental theories that identify important developmental tasks, challenges and milestones, and the competencies required to meet them during infancy, childhood and adolescence, provide the foundations for positive youth development approaches, some of these theories are discussed here for an understanding of the concepts.

2.2 Adolescent Development Theories

Adolescence is a period during which notable development happens in many different areas. Understanding adolescent development — that is, how young people are changing physically, cognitively, socially, emotionally and behaviourally—is important in the design and implementation of effective adolescent development programmes. Many theories have been proposed to explain the adolescent development process; some of the important ones are discussed below.
Stanley Hall (1904) was the first one to who did a scientific study on adolescence. He described adolescence as a period of storm and stress. Freud’s ‘Psycho Sexual Stage Theory’ conceptualised adolescence, as a time of tremendous stress and turmoil which is generated from the strong impulses of the id and the restrictions of the superego (Muuss, 1975, p. 38). Anna Freuds’ theory of ‘Adolescent Defence Mechanism’ proposed, that the reawakening of libidinal interest which happens as a result of physical maturation, causes psychological disequilibrium during adolescence. (Freud, 1969).

Erikson's ‘Identity Development Theory’ emphasizes the dynamic, progressive organization of the child's drives, abilities, beliefs, and individual history, leading to the development of the internal self structure, known as identity. Disruption of secure identity development produces a child unable to make healthy choices, based on positive internal values and standards. In short, the unsuccessful completion of developmental tasks is a primary source of behavioural problems, according to Erikson. (Erickson, 1968).

James Marcia extended Erickson’s theory to propose the ‘identity status’ achievement (Marcia, 1967, p.119). The four categories of identity statuses that have been proposed include identity diffused, foreclosure, moratorium and identity achieved.

Piaget’s Cognitive Development theory proposed that the cognitive development during adolescence proceeds from concrete to abstract thinking, and a decrease in egocentric thought. According to him the ego centric thoughts of early adolescence is characterised by self consciousness, imaginary audience, personal fables and thoughts of invulnerability (Piaget, 1947) all of which decreases as age proceeds.
Margaret Mead was a cultural anthropologist who gave insights into adolescent development from a cultural perspective. During adolescence an individual liberates himself/herself from the parental ideologies and identifies themselves more with their peers. She said that the socio cultural context, in which this change happens, is very important. A rapidly changing social situation would present a more complex frame of reference for the adolescents to follow. (Muuss, 1975, p.111).

Kurt Lewin’s Field Theory of Adolescence views this stage, as a period of transition from childhood to adulthood with resultant confusion in roles and responsibilities i.e. adolescence is a stage of ‘social locomotion’ which creates lots of confusion and uncertainty for the individual and those around them. According to him culture has a major role in this transition process. (Lewin, 1942 as sited in Muuss, 1975).

Robert Havighurst’s ‘Developmental Tasks of adolescence, identified developmental tasks (which are skills, knowledge, attitude and functions etc.) which an individual has to master before he/she proceeds to the next stage of development. Failure to master these tasks would result in social disapproval, increased anxiety and lack of adjustment, as proposed by Havighursts (Muuss, 1975, p.141).

Lawrence Kohlberg’s Cognitive Development Approach to Moral Development during adolescence distinguished three levels of moral development i.e. the pre-conventional, conventional and the post conventional level. The primitive moral concept of the child becomes more sophisticated and social as the child proceeds, to adolescence which may ultimately lead to an awareness of the universal values and ethical principles in certain individuals (Muuss, 1975, p.311).
Though so many theoretical propositions have come up to explain the development during adolescence, debates on the following points are still continuing in the scientific world. i.e. (1) whether development is continuous or discontinuous with the preceding and following stages in the life cycle, (2) whether the period of adolescence is one of turmoil and stress or is relatively uneventful, (3) whether it is critical for adolescents to accomplish specific developmental tasks, during this time, (4) whether internal or environmental factors have a more significant influence on the experiences and outcome of adolescent development (Pierno, 2009). Having discussed the theoretical framework, let us now look at the relevant studies, in the area of adolescent development.

2.3 Review of Studies

Though not very comprehensive, this review has included relevant studies in the area of adolescent development, which has happened across the globe in the last two decades. Apart from these studies, this review also looks into some of the works that are related to the topics, included in the training module. The collected literature have been organised into five core areas. i.e

1. Adolescent development intervention studies
2. Studies on health, nutrition and lifestyle of adolescent
3. Studies on adolescent interpersonal relationships
4. Studies on reproductive health of the adolescent

2.3.1 Adolescent Development Intervention Studies.

Studies on adolescent development are analysed here with a view to understand the 1) intervention programme per se and 2) the research design used.
2.3.1.4 International initiatives.

‘Children of Divorce- Intervention Programme’ combined health and competence promotion techniques based upon the child development theory that hypothesized how children respond to parental separation. The programme had 10-sessions that included skills for effective problem-solving, communication, decision-making, and anger and anxiety management. Intervention used an experimental design, in which children were randomly assigned to an experimental or control condition, within their own schools, and were matched by sex, grade, and length of time since their parents' separation, and eight of 10 pre-adjustment measures. A post test was done for all measures two weeks after the intervention ended. No follow-up data were collected. The study sample of third to sixth grade Caucasian students included 75 participants (42 boys and 33 girls) from four suburban schools. Results showed significant improvements at the two-week post test for the experimental group compared with the control group, on a number of behavioural outcomes. Teacher ratings indicated, that children in the experimental group had greater reduction in anxiety and learning problems, as well as, on an overall index of classroom adjustment problems. The children in the intervention group were rated higher by teachers, on a total competence score and on specific competencies, including peer sociability, frustration tolerance, compliance with rules, and adaptive assertiveness. Group leaders rated significant increases in skills for personal problem solving. (Pedro-Carroll, & Cowen, 1985).

The ‘Bicultural Competence Skills’ programme, an intervention based on the bicultural competence theory and social learning principles, aimed at helping children develop, a positive identity based on “bicultural fluency,” or
becoming socially competent in two cultures. The specific skills training strategies, used by the programme ranged from practice and rehearsal techniques such as role-play, to positive peer-based cultural strategies such as homework assignments on communication and coping strategies associated with bicultural efficacy. Two Native American counsellors led the 10-session intervention. The study used an experimental pre test, post test, follow-up design in which subjects were voluntarily recruited, then randomly divided after pre-testing into prevention and control conditions. All subjects completed four outcome measures before, immediately following, and at 6-months post intervention. Out come measures included peer influences on tobacco, alcohol and drug use, levels of substance abuse, and changes in substance abuse knowledge and attitudes relevant to Native American culture. A sample of 137 Native American youth, whose average age was between 11 to 12 years were selected from western Washington. The evaluation found significant results at immediate post test measurement and at 6-month follow-up, in favour of the program group. At the post test, programme students were significantly more knowledgeable about substance use and abuse and held less favourable attitudes. The intervention group youth also had significantly higher ratings for self-control, the ability to generate alternative suggestions to peer pressure-based encouragement to use substances, and assertiveness. At the 6 month follow-up, intervention participants, continued to score higher on measures of knowledge of substance abuse, self-control, alternative suggestions and assertiveness. (Schinke, Botvin, Trimble, Orlandi, Gilchrist, & Locklear, 1988).

The curriculum-based intervention named Know Your Body is a school health promotion programme, based on the principles of social learning
theory and the health beliefs model. The primary goal was to modify, personal health behaviours related to the future development of cancer, including cigarette smoking, diet, and physical activity. The programme strategies encompassed a range of social, cognitive and behavioural skills training, designed to promote children's competencies and self-efficacy on health and self-management issues. These included educating youth on the connections between smoking-related decisions and self-image, values, anxiety, and stress, skills training in stress management, decision-making, communication and assertiveness, and increased awareness of social influences in the initiation of smoking. The study used an experimental design, with eight schools (485 students) randomly assigned to the intervention group and seven schools (620 students) randomly assigned to the control group. There were only two measurement points over six years, at baseline and at the six-year post test. The study targeted a population of all fourth grade children (n=1105) in 15 New York city elementary schools serving Hispanic/Latino, Caucasian, African-American, and Asian ethnic groups, although the largest group represented was primarily middle class Caucasians. Of the eligible subjects, 911 participated in the baseline measures. By the end of the study, 593 (65%) of the sample had measurement data recorded at both baseline and at termination six years later. In the baseline the mean age was 8.9 years The intervention provided two hours of curricula per week taught by the children's regular teachers throughout the school year over a six-year period. Results of the programme were assessed through a combination of physiological measures (e.g., serum tests to detect nicotine levels, examining and weighing school lunch portions), parent or caretaker reports, and 24-hour dietary recall interviews. The results at the six-year post test showed that the programme was effective in modifying two
major risk factors associated with the development of cancer—smoking and diet. (Walter, Vaughan, & Wynder, 1989).

A study by Caplan, Weissberg, Grober, Sivo, Grady, & Jacoby (1992) assessed the impact of school-based social competence training on skills, social adjustment, and self-reported substance use of 282 sixth and seventh graders. Training emphasized broad-based competence promotion in conjunction with domain-specific application to substance abuse prevention. The 20-session programme comprised of six units: stress management, self-esteem, problem solving, substances and health information, assertiveness, and social networks. Findings indicated positive training effects on the study subjects’ skills in handling interpersonal problems and coping with anxiety. Teacher ratings revealed improvements in the study subjects’ constructive conflict resolution with peers, impulse control, and popularity. Self-report ratings indicated gains in problem-solving efficacy. Results of the study showed that social competence training had some preventive impact on self-reported substance use, intentions and excessive alcohol use.

A multi-year, school-based programme named Project ALERT, was provided to students in grades seven and eight. 30 schools were chosen from eight school districts in California and Oregon for implementation of the project. These districts represented a range of community environments, racial and ethnic groups, and socio-economic levels. Schools were randomly assigned to one of three conditions: control, experimental-teacher-led or experimental-teacher-led with assistance from teen leaders. The post test evaluation was conducted 15 months after baseline after the students had received both the 10-session programme in the seventh grade and the three-session booster programme in the eighth grade. The baseline sample consisted
of 6527 students. The final sample (n=3852) at the end of the eighth grade intervention represented 60-64% of the original sample. Post test analyses used three sub-groups based on baseline risk levels, with risk level 1 being students who had tried neither cigarettes or marijuana, risk level 2 students who had tried cigarettes but not marijuana, and risk level 3 were those students who had previously tried marijuana. The programme showed short-term positive effects, through the end of eighth grade on behavioural measures and measures of cognitive risk factors associated with substance use and reported negative outcomes for baseline smokers at the end of the intervention. Results of the long-term follow-up measured at grades 10 and 12 showed that all intervention effects diminished by the end of High school. Authors concluded that the baseline smokers need a different kind of intervention than that was tried through project ALERT. (Ellickson, Bell and McGuigan, 1993).

Adolescent Transitions Project used a parent and youth skills training model designed for substance use and problem behaviour prevention. The main interventions were the Parent Focus and Teen Focus conditions. The Parent Focus curriculum combined three sets of family management skills, including pro-social fostering, limit-setting, and problem-solving. The Teen Focus component emphasized behaviour modelling by employing a peer counsellor who had successfully completed the modelling component. Adolescents learned self-regulation skills including realistic and incremental goal-setting and problem-solving. The programme included 12 sessions of curriculum with 18 hours of contact. The evaluation used an experimental, pre-test post test design. A cluster sampling approach was used first and followed by random assignment to conditions. Parents were recruited through newspapers, community flyers, school counsellors, and other community
professionals. Following parent inquiry, a telephone screening was conducted using a 10 question instrument based on risk factor research. If the child was assessed as at risk on at least four dimensions, the family was randomly assigned to one of four intervention conditions: Parent Focus, Teen Focus, self-directed change, and a control group. Interventions were conducted over two years, with four cohorts of approximately 30 families per cohort. Each intervention group consisted of approximately seven to eight families. Boys and girls received assignments separately to assure equal distribution of gender across conditions The sample of 143 families resulted in a youth sample of 83 boys and 75 girls between ages 10 and 14, enrolled in middle schools containing sixth to eighth grades, with the mean grade level for the sample being the seventh grade. Results were assessed through child behaviour inventories; audio taped problem-solving scenarios and videotaped family problem-solving sessions. Results showed that both the Parent and Teen components were shown to be effective in engaging both parents and teens, teaching the targeted skills, and reducing parent-child conflict.(Andrews, Soberman and Dishion, 1995).

The Zuni Life Skills Development curriculum is a culturally tailored intervention programme designed using a model of social cognitive development to remediate the behavioural and cognitive correlates of suicide. It was introduced in the tribal high school at New Mexico and was evaluated using a multi method approach including self-report, behavioural observation, and peer rating. Quasi-experimental design with two conditions, an intervention and a no-intervention condition were used. There were four classes in each condition, with a total of 69 students in the intervention condition and 59 students in the no-intervention condition. The sample was
64% female and 36% male (83 girls and 45 boys), and ages ranged from 14 to 19, with a mean age of 15.9. Neither students nor classes were randomly assigned to conditions, because of institutional constraints. Students exposed to the curriculum scored, better than the no-intervention group at post-test on suicide probability and hopelessness. In addition, the intervention group showed greater ability to perform problem-solving and suicide intervention skills in a behavioural assessment (LaFromboise, & Howard-Pitney, 1995).

Project Northland, a family, community and school-based intervention was conducted over a three year period, beginning in the sixth grade in the fall of 1991 and continuing through seventh and eighth grade. The programme focus was on preventing substance abuse, particularly seeking to influence children's choices about using alcohol and cigarettes. The study used a multi-level, multi-component, community-wide approach. Students received many forms of skills training intended to enhance their competence in dealing with their parents, and with peer pressure and normative expectations about alcohol. In addition to specific skills development, the intervention addressed community-level changes in alcohol-related programmes and policies. The school component used a social-behavioural curriculum, homework, peer leadership training, parental involvement/education, and community-wide task force activities. The primary effects of the intervention were measured with self report questionnaires given to students and parents. Other forms of measurement included observations of alcohol purchase attempts, by underage buyers, telephone surveys of alcohol merchants, and interviews with community leaders. For all students in the intervention districts, there were significantly lower scores on the alcohol scale, and had significantly lower scores on peer influence by the end of the eighth grade. (Perry et al, 1996).
A structured group intervention, using bibliotherapy and clarifying processes, was designed to reduce (a) aggressive behaviour, (b) endorsement of beliefs that support aggression, and (c) generally maladjusted behaviour. Based on the belief, that learning is not only a rational process, but incorporates a strong emotionally driven experiential system, the treatment programme in the study was aimed at dealing with emotions associated with aggression. It used a psychologically oriented approach and used cognitive and behavioural elements in intervention. For 2 years, 117 socially maladjusted male adolescents in three special education schools in Israel participated in the programme. Results of the 2 years were inconsistent: the 2nd-year study was more effective than the 1st-year study in reducing aggression as well as other maladjusted social behaviours; withdrawal was the only variable that affected consistently, and the programme did not reduce attitudes that support aggression. The control group showed increased endorsement of beliefs that support aggression and acting-out behaviour. The intervention was found to be useful in two ways: 1) some control over the increase in maladjusted behaviour with time, and 2) reduction in aggressive behaviour for most students (Shechtman, and Nach, 1996).

The goal of ‘Across Ages’ was to demonstrate the impact of an inter-generational mentoring approach to drug prevention for high risk sixth grade students. The program components included mentoring for at least two hours, twice a week for the school year by adults 55 years old or older; one hour every two weeks of community service activities with the mentor, 26 sessions of exposure to the Social Problem-Solving training, parental involvement and strengthening parent-child bonds by coaching parents in more effective parenting styles (offered once a week). The programme also focused on
developing positive relationships between mentors and parents. Social problem solving model was taught by the teachers after getting trained on the same. Teachers rated students on how much they participated in the positive youth development curriculum and community service sessions, and project staff rated mentors on the level of involvement with each student. Parental participation was not assessed. The study used an experimental pre test, post test research design. Experimental and control group classes were selected randomly from among sixth grade teachers of three public middle schools in Philadelphia neighbourhoods, who had indicated a willingness to participate. Three classes in each school were selected randomly from the remaining pool of sixth grade classes and assigned to one of the three groups, two intervention conditions and a control condition. One intervention group (PS) received the Positive Youth Development Curriculum, community service and parent workshop components, and the other intervention group (MPS), received those components and mentoring from older adults. Mentors were carefully recruited, screened, trained and matched with the youth. Data were collected for the 1991-92, 1992-93 and 1993-94 academic years. A total of 729 students completed the pre test. The final sample used in the evaluation consisted of 562 students who completed both the pre test and the post test (77% of those originally pre tested). Fifty-three percent of students who completed both the pre test and post test were females. The reported results showed significant effects for the combined group condition, when compared with the control group on a number of measures. The combined condition also showed several significant improvements, compared with the other intervention. (LoSciuto, Freeman, Harrington, Altman, & Lanphear, 1997).
The Teen Outreach Programme was a positive youth development project, involving school and community domains. It aimed at preventing teen pregnancy and academic failure. The theoretical focus was a developmental approach based on Helper Theory (defined as “empowerment”) and Social Development Theory (defined as “promotion of autonomy and identification with others”). The core belief was that the students would be empowered by, having the opportunity to be help-givers, rather than help-receivers. The programme involved adolescents in volunteer activities; classroom discussions, centering on various age-appropriate issues and service experiences (understanding yourself and your values, life skills, dealing with family stress, human growth and development, and issues related to social and emotional transitions from adolescence to adulthood); and class activities promoting program goals (group exercises, role plays, guest speakers and informational presentations). The volunteer component included such activities, as working in hospitals, peer tutoring, and participation in walkathons. Students were required to provide a minimum of 20 hours per year of volunteer experience, but averaged 45.8 hours in the course of the program, with the median participant performing 35 hours of service. Classroom discussions occurred at least, once a week throughout the year.

One of the studies used an experimental design in which 25 schools were randomly assigned to conditions from 1991 to 1995. The evaluation did not include a follow-up period; all data were measured at immediate post test following a one-year (school year) intervention. There were 342 programme participants and 353 control group participants at the study entry, all in grades nine to 12. The program group was 86% female and the control group was 83% female. Self-report questionnaires provided information on changes in
problem behaviours, including school failure, suspensions and pregnancy. The
same questions were asked at the pre and post-test, except the pregnancy
question, referred only to one year and a question was added to identify
students who had dropped out or intended not to return to school in the prior
year. Significant decreases were found for the experimental group on
measures of school failure, school suspension and teen-pregnancy compared
with the control group. (Allen, Philliber, Herrling, & Kuperminc, 1997).

A school-based psycho-social prevention programme for adolescents,
fooning on self-esteem, negative cognitive processes, and peer isolation
showed the following results. The participants were sampled from a Catholic
High school in Logan City, Queensland, Australia. Fifty one students ((15
males and 36 females), aged 13-16 years, were nominated by teachers and/or
the school counsellor) experiencing low self esteem, and/or difficulties
interacting with peers in social and school environments were selected as the
sample. They were recruited and randomly allocated to one of the three
groups; Social Cognitive Training group (SCT), Attention Placebo
Comparison Group (APC) and a Waitlist Control group (WL). A pre-post
design using two types of measures: specific measures of the target skills (self-
esteeem, self-statements) and impact measures (quality of peer relationships,
acceptability of intervention for adolescents and teachers) evaluated the
effectiveness and social validity of the intervention. Multi-variate Analyses of
Variance showed significant improvements on measures of target skills for the
SCT group in contrast to the comparison conditions on reported self-esteem,
and self statements. However mixed results were found on the impact
measures. While the SCT group was rated as highly acceptable and useful by
both adolescents and teachers. The students self report ratings of the quality of
peer relationships showed little change across the study period. The findings are highlighted as relevant in terms of the effectiveness of group based cognitive interventions, in developing adolescent self-esteem and social competence, and the ecological validity of implementing programmes within naturalistic settings. (Barrett, Webster, & Wallis, 1999).

Danish and colleagues designed a primary prevention program called Going for the Goal [GOAL], to teach life skills to at-risk urban adolescents. This 10-week programme was administered to 350 middle school students by 55 trained high school leaders in a predominantly Hispanic school district. The programme focused on setting positive, reachable goals, anticipating and responding to barriers to goal attainment, using social support, and building on one's strengths. Participants were randomly assigned to treatment or waiting-list control group conditions. Results demonstrated gains in knowledge of the skills being taught, as well as attainment of goals set during the programme. Leaders also showed an increase in their knowledge of life skills. The approach maximized both community resources and ecological validity while giving high school leaders the chance to benefit in their role as helpers (Todd, & Margaret, 1999).

The effectiveness of an intervention programme, initially designed to enhance the self-concept and motivation of gifted underachieving girls, was evaluated for students identified as having a low self-concept and social relationship difficulties. Twenty male and female secondary school students were randomly assigned to either a treatment or a control group. The programme, called ABLE (Attribution, Behaviour, Life skills Education), incorporates problem-solving, conflict resolution, and a multi-dimensional framework to investigate adolescents’ self-concept formation. The adolescents
in the study made significant improvements, in the areas of general self-concept, physical appearance self-concept, and total self-concept. Teaching conflict-resolution and problem-solving skills had a beneficial influence on self-concept. (Hay, Byrne, & Butler, 2000).

Kinsman et al. (2001) did a 19 activity extra-curricular school-based AIDS education programme lasting 1 year. The study was conducted in rural South-Western Uganda using specially trained teachers, and was evaluated using mutually supportive quantitative and qualitative methods. In total, 1274 students from 20 intervention schools and 803 students from 11 control schools completed questionnaires at baseline, and their classes were followed up. In addition, 93 students from five of the intervention schools participated in 12 focus group discussions. The programme had very little effect—seven of the nine key questionnaire variables showed no significant increase in score after the intervention. Data from the focus group discussions suggested that the programme was incompletely implemented, and that key activities such as condoms and the role-play exercises were covered only very superficially. The main reasons for this were a shortage of classroom time, as well as teachers' fear of controversy and the unfamiliarity with the participatory teaching methodology. The study group concluded that large-scale comprehensive school-based AIDS education programmes in sub-Saharan Africa may be more completely implemented, if they are fully incorporated into national curricula and examined as part of life-skills education. This would require teachers to be trained in participatory teaching methods, while still at the training college suggested the research team.

LeCroy (2004) did an evaluation study of a preventive intervention developed for early adolescent girls. The 12-session curriculum was designed
to address developmental tasks, considered critical for the healthy psychosocial development of early adolescent girls in contemporary society. The programme content included the following units: being a girl in today’s society, establishing a positive self image, establishing independence, making and keeping friends, learning to obtain help and find access to resources, and planning for the future. A total of 118 participants (59 experimental and 59 control group participants) who were culturally diverse (with 62.4% Caucasian, 19.7% mixed race, 13.7% Hispanic, 32.6% Native American, and less than 2% African American) were recruited. The study subjects were randomly assigned to a treatment (N = 59) or control group (N = 59) condition. The effects of the intervention were assessed using eight different measures such as body image, self efficacy, and attitude toward attractiveness. Results revealed significant improvement in the treatment group and significant differences between the treatment and control group on key outcome measures. The study group suggested that a “universal” prevention programme can produce meaningful effects.

Life Skills approach to smoking behaviour was tested in a study on 1024 pupils from Austria, Denmark, Luxemburg, and Germany (mean age 11.4 years SD .09) who constituted the experimental group against a matching sample of 834 pupil constituted the control group. The experimental group was exposed to a 21 session life skill curriculum, aimed at promoting social competence and coping skills along with information on smoking and specific skills to resist social influence to smoke were given, while control group did not get any intervention. The programme was conducted by trained school teachers over a period of 4 months. An anonymous questionnaire was used to test the pre and post intervention condition. Children and the teachers reported
great satisfaction with the idea and the material used for intervention. However the programme did not show any differential effect on current smoking and also showed a weak effect on life time prevalence and experimental smoking. The programme was effective in improving the knowledge on smoking, social competence and improving the classroom climate. No effect was found on susceptibility to smoking among non-smokers, attitude towards smoking and perceived positive consequences of smoking. Authors concluded that the prevention programmes done for a short period, can have a positive impact on the protective variables with regard to the smoking uptake (Hanewinkel, & Asshaeur, 2004).

The ADAPT Project is a prospective, group-randomized prevention trial conducted between 1999 and 2002 in nine disadvantaged rural school districts in Pennsylvania. The goal of the programme, was to make prevention an integral part of the total curriculum. Life Skills Training effects, on rural middle school females classified, at low or high risk for initiation or increased use of substances was studied. Risk domains included socio-economic status, family relations and functioning, psychological health, and academic performance. This programme addressed these risk variables, indirectly by attempting to improve protective factors. Selected schools were randomly assigned to one of the three conditions: standard Life Skills Training [LST] \((n = 234: 108 \text{ females, 126 males})\), infused life skills training [I-LST] \((n = 297: 128 \text{ females, 169 males})\), or no treatment control\((n = 201: 98 \text{ females, 103 males})\). Data was collected four times: T1 represents the pre-intervention survey at the beginning of the 7th grade, the second survey (T2) was administered at the end of 7th grade, the third survey (T3) was administered at the end of the 8th grade, and the final survey (T4) was administered at the end
of the participants’ 9th grade year. Data from T1, T2 and T3 were utilized in the analyses. Results found that the strongest effects were found for the high-risk group, with some continuing treatment effects after two years, in substance use and protective skills competencies. Early effects for low risk subjects were lost by the end of the second year programming. These findings, stressed the need, to choose prevention programmes and protective skills components more selectively, based on risk variables affecting the target population. (Vicary et al 2004).

A study was done by McVey, Davis, Tweed, and Shaw, (2004) to evaluate the effectiveness of a life-skills promotion programme in preventing disordered eating. The study aimed to improve body image satisfaction and global self-esteem, while reducing negative eating attitudes and behaviour and feelings of perfectionism, all of which have been identified as predisposing factors to disordered eating. A total of 258 girls with a mean age of 11.8 years (intervention group 182 and control group 76) completed questionnaires before, and 1 week after, the six-session school-based programme, and again 6 and 12 months later. Results showed that the intervention was successful in improving body image satisfaction and global self-esteem and in reducing dieting attitude scores at post intervention only. The gains were not maintained at the 12-month follow-up. The study could establish the short-term benefits of implementing a life-skills approach with 11–12-year-old girls, to help prepare them for the normative stressors, which may trigger the onset of disordered eating in early adolescence.

One of the studies examined the effects of the Second Step social–emotional learning programme and addressed the relations between social cognitions and pro-social and anti-social behaviour. The Second Step
programme is designed to both decrease aggressive behaviour and increase empathic, socially responsible behaviour by (a) fostering children’s cognitive, emotional, and behavioural skills; (b) reducing maladaptive beliefs about aggression and (c) promoting positive social goals and values. There were three units in the programme: Empathy Training, Impulse Control and Problem Solving, and Anger Management. Lessons lasting 25–40 minutes (depending on grade level) were presented by classroom teachers. Fifteen elementary schools from three cities in Western Washington were recruited to participate in the study. Participants were between the ages of seven and eleven and were roughly evenly divided by sex (48.2% female) and grade level (54.6% in second grade) with proportions equivalent in the two groups. There were 620 participants in the intervention group, and 615 in the control group. Students were followed through two school years. Children were assessed by teacher ratings, self report, and observation in two conflict situations. Intervention children were more likely to prefer pro-social goals and give egalitarian reasons for satisfaction than control children. Intervention children also required less adult intervention, and behaved less aggressively and (among girls) more cooperatively. Teacher ratings of social behaviour also showed improvement over time (Frey, Nolen, Edstrom, & Hirschstein, 2005).

A study was done to assess the impact of exposure to life skills education by youth in KwaZulu-Natal Province (KZN, South Africa) on knowledge and behaviour associated with the spread of HIV/AIDS. Data was collected during the 1999-2001 period. Participants aged 14–24 years were interviewed from a panel study of 2222 youth from several population subgroups in KZN. The intervention was a full coverage life skills education programme for all the students in middle and secondary schools. The impact
was measured as the net dose-response relationships between life skills exposure and outcomes. Econometric methods were used to control for non-random exposure to life skills education. Outcomes included sexual behaviour and condom use indicators. Results showed significant effects, albeit modest in magnitude, on selected areas of sexual–reproductive health knowledge and perceived condom self-efficacy, along with larger effects on condom use at first and last sex. No consistent effects on age at sexual initiation, secondary abstinence, or partnering behaviours were observed among these youth. The study concluded that school-based life skills education is capable of communicating key information and helping youth develop skills relevant to reducing HIV risk. (Magnani, MacIntyre, Karim, Brown, and Hutchinson, 2005).

The Girls Circle is a support group for adolescent girls developed by Beth Hossfeld & Giovanna Taormina as a unique programme that addresses the needs of the girls by focusing on increasing connection, building emphatic skills, and developing resilience. To find out the effectiveness of girls circle intervention on improving social support, body image, self efficacy, locus of control, and self esteem. 63 girls from 9 support groups across United States completed the Multidimensional Scale of Perceived Social Support, the Body Part Satisfaction Scale, The Nowicki-Strickland Personal Reaction Survey, Schwarzer’s General Self Efficacy Scale, and the Rosenberg Self Esteem Scale both before and after the ten week Girls Circle programme. Results revealed a significant increase in social support, body image, and self efficacy after the completion of the programme. (Stephanie et al. 2006).

Process evaluation of a 6-day teacher training programme which formed part of a sexuality education project in South Africa, yielded the
following results. The training was aimed at providing teachers with the necessary knowledge and skills to effectively teach a 16-lesson Grade 8 (14 year olds) life skills curriculum consisting of participatory exercises on sexual reproductive health, human immunodeficiency virus (HIV), sexual decision making, and abstinence, consequences of sexual activity, safe sex practices, substance abuse and sexual violence. Questionnaires were administered prior to the training, on completion of the training and at two follow-up time periods also. Findings showed that teachers reported increased confidence and comfort in teaching the sexuality curriculum. However, many struggled with the transfer of sexual reproductive knowledge and facilitative teaching methods into the classroom context. Authors concluded that HIV education should form part of teacher trainee programmes and ongoing support and engagement with teachers is needed to encourage alternative teaching practices (Ahmed, Flisher, Mathews, Jansen, Mukoma, and Schaalma, 2006).

Angolan youth were at risk of continuing cycles of violence following decades of war. They were in need of support in developing positive behaviours and social roles. Accordingly, a community-based programme was conducted in Angola during 1998–2001 to teach life skills to youth and to provide peer support and peace education. The project educated adults about youth, and engaged youth as workers on community development projects. Results of the project showed increased adult awareness of the situation and needs of youth, improved youth-adult relations, reduced perceptions of youth as troublemakers, reduced fighting among youth, increased community planning, and increased perceptions that youth make a positive contribution to the community. The results suggested that a dual focus on youth and
community development contributes to peace building and the disruption of the cycles of violence. (Wessells, and Monteiro, 2006).

A study to examine the extent to which a comprehensive prevention approach targeting an array of individual-level risk and protective factors which were previously found effective in preventing tobacco, alcohol, and illicit drug use is capable of decreasing violence and delinquency. The sample consisted of 4,858 sixth-grade students from 41 New York City public and parochial schools. The sample consisted of 51% boys and 49% girls, and the racial/ethnic composition of the sample was 39% African-American, 33% Hispanic, 10% White, 6% Asian, 2% Native American, and 10% of other or mixed ethnicity. The sample was composed largely of economically disadvantaged youth (55% received free lunch at school), with 30% living in mother-only households. Schools (N=41) were randomly assigned to intervention and control conditions. Participants in the 20 intervention schools received the Life Skills Training prevention programme including material focusing on violence and the media, anger management, and conflict resolution skills. Survey data were collected from 4,858 sixth grade students prior to the intervention and three months later after the intervention. Findings showed significant reduction in violence and delinquency for intervention participants relative to the controls. Stronger prevention effects were found in students who received at least half of the preventive intervention. These effects included less verbal and physical aggression, fighting, and delinquency. The results of this study as proposed by the authors indicated that a school-based prevention approach previously found to prevent tobacco, alcohol, and illicit drug use can also prevent violence and delinquency. (Botvin, Griffin, & Nichols, 2006).
A study examined the effects of a motivationally facilitative after-school programme, ‘the investigators club’ on 7th grade students’ autonomous motivation, learning goals, school engagement, and performance in the science class. The Investigators' Club is a 15-week after-school science programme. Participants were 90 seventh grade children (47 boys, 43 girls) from an urban, largely disadvantaged school in US. 31 (34%) participants were of European descent, 28 (31%) were Hispanic/Latino, 19 (21%) were African American, 10 (11%) were Asian, and 2 (2%) were Native American. The students self report and teacher rating were taken to evaluate the effectiveness. Pairs of students were individually matched on sex, race/ethnicity, free lunch status, and science grades and each member was randomly assigned to either a 15 week, after-school program or a control group. Students (N=90) completed questionnaires regarding their motivation, and engagement before and after the programme. Science, math, social studies, and English teachers rated students' levels of classroom engagement. Students participating in the Investigators' Club showed increase in learning goals, engagement in school and in science class, and science grades, and decrease in performance goals relative to the controls. (Grolnick, Farkas, Sohmer, Michaels, and Valsiner, 2007).

One of the studies examined the effectiveness of an after-school programme, delivered in urban settings on the prevention of adolescent substance use. A total of 304 adolescents participated in the study: 149 in the intervention group and 155 in the control group. A comprehensive positive youth development intervention, which included delivery of an 18-session curriculum, previously found to be effective, in preventing substance use in school settings was adapted for use in urban after-school settings. The intervention emphasized adolescents’ use of effective decision-making skills.
to prevent drug use. Assessments of substance use attitudes and behaviour were conducted at the programme entry, programmes completion, and at the 1-year follow-up to programme entry. Propensity scores were computed and entered in the analyses to control for any pre test differences between intervention and control groups. Hierarchical linear modelling (HLM) analyses were conducted to assess programme effectiveness. Results demonstrated that adolescents who received the intervention were significantly more likely to view drugs as harmful at the programme exit, and exhibited significantly lower increases in alcohol, marijuana, other drug use, and any drug use 1 year after beginning the programme. The research group concluded that PYD intervention developed for use in an urban after-school setting is effective in preventing adolescent substance use (Tebes, et al 2007).

In an attempt to minimize the adverse effects of television violence, Rosenkoetter, and Acock (2009) implemented a classroom-based intervention with 496 children in 32 classrooms (grades 1 to 4). The intervention ‘REViEW’ consisted of 28 brief lessons which lasted for 20–30 minute. These were conducted twice a week for 3 months, followed by one each week for 4 months. Lessons were interactive and featured highly varied activities including art, drama, graphing, songs, and viewing of film clips etc. REViEW's basic premise was that all television programmes teach viewers lessons about life: how to dress, how to spend time and money, how to express opinions and emotions to others, and how to resolve disputes. The messages of some TV lessons are helpful, while others are harmful. Making wise choices about TV viewing is an important life skill, that can help children learn and develop effective interactions with people. Sessions were conducted by university staff over the course of 7 months. Participants were individually
interviewed prior to the intervention and on three other occasions, including 8 months after concluding the intervention. When compared to 242 participants in 17 control classrooms, the intervention children reported watching less violent TV and identifying less with TV's violent super-heroes. They also expressed more critical attitudes concerning television violence. These results were achieved for both girls and boys across the 4 grade levels and were still evident 8 months after concluding the intervention.

2.3.1.b The Indian initiatives.

There are no nation wide intervention programmes targeting the entire adolescent age population in our country. Most of the intervention studies are happening in the NGO sector or in academic institutions. Majority of these intervention programmes address reproductive health issues with a view to prevent HIV/AIDS. However efforts to make them part of the curriculum has been faced with vehement opposition from many parts of the country. The following are some of the studies that have been made in different parts of our country.

The Child Development Centre Thiruvananthapuram, in association with the District Panchayath, organized the Family Education Programme for 96 high school and higher secondary students studying in various schools of the Thiruvananthapuram district of Kerala. The programme included support mechanisms to provide medical care and counselling in the area of family life, mental hygiene, reproductive health, responsible sexual behaviour, sexually transmitted diseases etc to the adolescents. Results showed that students were facing scholastic problems, like lack of concentration and lack of memory which were the most common complaints, followed by lack of motivation for
studying, difficulty in learning specific subjects and making career choices. Girls reported to have more problems than boys. Emotional problems observed were anxiety / tension and intolerant anger. Emotional problems were found to be more in girls than boys. Many students reported feelings of anxiety and tension. Students reported having psychological problems like depressive symptoms, suicidal tendencies / attempted suicide, phobia, irrational beliefs and low self-esteem. Sexual abuse was experienced by 24 girls and 6 boys. (Nair, n. d ).

A cross sectional interview based study to assess the impact of sex education on the students and the feasibility of such a programme was done at two secondary schools of Surat city, India. The study sample consisted of 189 students. Impact was assessed by before and after administration of questionnaires. Z test for difference of means and proportions were done. Results showed that sex education influenced the need perception and knowledge of students. After training the mean age to start sex education was found to be 15-16 years. Doctors remained the preferred choice to impart sex education, followed by teachers. Knowledge about STDs and the means of prevention increased significantly (more in boys). Optimum days for conception became known to students (especially more girls) after training. Increased awareness about contraceptives was observed in both the sexes. A positive attitude change was observed in them about extra-marital sex. It also helped to remove myths associated with masturbation. (Thakor, & Kumar, 2000).

A study was done with the financial assistance from the National Institute of Nutrition (Indian Council of Medical Research), Hyderabad. The main aim of the study was to assess dietary habits and nutrition knowledge
levels of adolescent girls and also to study the efficacy of two different nutrition education tools in improving their nutrition knowledge in the classroom setting. Four secondary schools in Hyderabad, India were included in the study. Purposive sampling technique was used for selecting the subjects in the study. 164 adolescent girls belonging to the eighth grade were selected to be included in the study. Two interventions (Intervention-1. Traditional method using print media such as folders leaflets and charts; and Intervention-2. Audio-visual CD) were carried out in the classroom setting for the experimental group. FFQ(food frequency questionnaire data on dietary consumption of adolescent girls revealed more consumption of aerated drinks, bakery items, fast food and less consumption of millets, irrespective of their socio-economic conditions. However, consumption of vegetables, green leafy vegetables and fruits was moderate. A significant improvement in the nutrition related knowledge was observed, among the experimental group after interventions-1 and -2 as compared to the baseline data. However, no significant difference in the improvement of nutrition knowledge levels was observed, with the second intervention over the first intervention. The study concluded that education on ill effects of aerated drinks, fast food and the importance of nutrition during the adolescent phase should be emphasized in future programmes. (Rao, Vijayapushpam, Rao, Antony, & Sarma, 2007).

A study by Dindigal (2007) found that life skills training is effective in improving the psychosocial competence of adolescents. A total of 101 eighth and ninth standard adolescents from one of the schools in Dharwad district of Karnataka was selected, to include in the experimental group and a matching sample was taken from another school to include in the control group. Intervention was given for three months and the evaluation was done thrice.
First before intervention, second immediately after intervention and the follow up was done 3 months after the intervention. The intervention programme included 10 sessions which dealt with 10 life skills. It was presented in the form of case vignettes followed by discussion using participatory method. The intervention group performed better than the control group at post test, in follow up and in all psycho social competence areas.

Baker, Bakhshi, & Rees (2008) did a study to assess the efficacy of a brief tailored intervention utilising the Theory of Planned Behaviour to improve dietary behaviour and associated cognitions in adolescent girls. Using a repeated measures design, a tailored intervention was compared with a generic intervention to examine changes in dietary behaviour (wholemeal bread, wholegrain cereal, fruit and vegetables) over 6 weeks. Participants were randomised by class to either a tailored intervention group (237) or control group (220). Results showed significant increases in consumption, general attitudes and motivation to change (p<0.05) for wholemeal bread only in the tailored group. Participants who received the tailored intervention had greater confidence and interest in improving their diet (p<0.05). The findings of this study suggest that brief tailored interventions can be used in adolescents with some success, although there is a lack of theoretical explanation.

A study was undertaken at a coastal village in Udupi District, Karnataka, India to determine the effectiveness of an educational intervention programme on knowledge of reproductive health among adolescent girls. This educational intervention study was carried out over a period of one year. A total of 791 rural girls in the age group 16-19 years were randomly selected. Adolescent girls were educated regarding reproductive health and their awareness levels were evaluated immediately following intervention. A
significant increase in overall knowledge after the intervention (from 14.4 to 68%, \( P<0.01 \)) was observed regarding contraception. 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. The study concluded that an educational intervention programme can bring about a desirable change in knowledge among adolescent girls regarding reproductive health. (Rao, Lena, Nair, Kamath, & Kamath, 2008).

A study was done to ascertain the knowledge and practices of school going adolescents regarding diet and nutrition and also. To determine the impact of a training package on the subjects regarding diet and nutrition. 102 schools (6 in pilot and 96 in present study) from Chandigarh took part in the study. 641 boys and girls from class IX and class XI were enrolled in the pilot study and 904 in the main study in the pre-intervention phase. Overall 18414 adolescents were imparted health education. The information from 904 students was collected on a pre-designed, pre-tested format in the pre-intervention phase. The students were interviewed regarding their dietary intake and eating habits. The total calorie intake was measured by the 24 hour recall method. The adolescents were also assessed for their knowledge about a balanced diet and eating patterns. Anaemia was assessed by clinical examination. As part of the intervention the students were given information booklets and talks by doctors as well as trained workers about a balanced diet, the importance of a balanced diet, especially for the adolescent age group, nutritive value of different food items including fast food items and the average caloric requirement at their age. In addition, they were also told about the importance of having regular healthy meals, harms of skipping meals,
fasting, over indulgence in snacks / fast food items. They were also given information about some adolescent health problems like obesity, malnutrition, anaemia etc. Due consideration was taken during the lectures/talks to encourage them to consume locally available nutritious food. After imparting health education, training and intervention, the schools were revisited one month later. Nearly 1/3 rd of the schools were covered after selecting them randomly in proportion of the rural, urban and private schools. Information on the format was collected again from 344 adolescents. ¼ the of adolescents were anaemic, girls being affected more than boys. Most of the students preferred fast food in their tiffins over regular meals which changed after intervention. Junk food (wafers and chips) was mostly consumed by students of private schools. Fast food was favourable owing to its taste and of novelty factor due to peer pressure in schools. Overall a significant increase in knowledge regarding various nutrients and its sources was observed as a result of intervention. There was improvement in the knowledge level of the adolescent on balanced diet nutritive value of different food items, and problems of eating junk food as a result of intervention. (Puri. Bhatia, Swami, Rai, & Mangat, 2008).

A study was undertaken at Lingaraj pre-university college, Belgam, (Karnataka state of India) to evaluate the effectiveness of a planned teaching programme on knowledge of sex among adolescent girls. The main objectives of the study were to assess the knowledge of adolescent girls on selected aspects of sex and to prepare and conduct a planned teaching programme on selected aspects of sex education among adolescent girls. The study was an evaluative one with one group pre test post-test design. The sample size considered for the study was 65 adolescent girls and the sample was selected
using simple random sampling. The tool used for gathering relevant data was a structured questionnaire on knowledge of sex education. Results revealed that at the pre-test majority of the girls 40 (61.53%) had average knowledge, 14 (21.53%) had good knowledge, and 11 (16.92%) had poor knowledge, whereas in the post-test 62 (95.38%) of girls had good knowledge and 3 (4.61%) had average knowledge. Authors concluded that there was evident increase in the knowledge scores in all the areas, included in the study after the administration of the Planned Teaching Programme (PTP). Thus, the study suggested that the PTP was an effective teaching method for creating awareness on reproductive health (Raddi, Rajaput, & Kharde, 2010).

2.3.1.c Summarised Appraisal of the Adolescent Development Interventions.

Looking at the above studies, one can come to the following conclusions. Studies can be broadly classified in to two categories, based on the strategy used. First one being the preventive intervention strategy which again can be classified into two i.e 1) those targeting the at risk population and 2) those targeting the general population i.e universal prevention. The second one is a developmental strategy that focuses on building the strengths of the youth.

When we look at the issues addressed through the various intervention programme it ranges from prevention of problems like substance use, smoking prevention, suicide prevention, prevention of violence, HIV/AIDS prevention, life style illness prevention etc. On the other hand developmental interventions aim at enhancing the competence of the adolescents, which include teaching them communication, problem solving, decision making, anger and anxiety management, stress management, enhancing self esteem, teaching them pro-
social norms, goal setting, promoting bonding, and promoting study related competence etc.

Intervention approaches ranges from life skill education, group interventions, one to one mentoring, volunteering in community, peer education interventions all of which target the adolescent directly. Family based interventions (Eg: parent training interventions) and community oriented interventions (Eg: awareness programmes) etc target the adolescents indirectly. Some of the intervention programmes used combinations of settings and approaches. (Eg: Programmes for parents and the adolescents simultaneously). However majority of these programmes were conducted in school setting.

Some of the programmes have used very structured activities with training material which were incorporated in to the curriculum and the teachers were trained to function as master trainers. There are other programmes which used peer educators and counsellors as implementers of the training programme. The length of the intervention programmes ranged from 10 to 20 sessions depending upon the requirement. Some of the studies used booster sessions after one year on completion of the initial intervention programme.

An analysis of the design of these programmes reveals that all these studies used an experimental design or a quasi experimental design with a control group. Evaluations were done at the pre test level; post test level and follow up studies were also done to check the effect of the intervention. Some of the studies have tried two or three different interventions using two or three cohorts and compared the relative impact of each intervention. Most of these
studies were multi year studies and the intervention lasted for up to one year. The size of the sample ranged from 50 to thousands.

Majority of these programmes used the participatory method. Tools used for evaluation of the effectiveness of the intervention ranged from self reported measures which included knowledge, attitude, behaviour assessment, skill/competence assessment using structured tools, teacher rating, peer rating, and parent rating, behavioural observations, focused group discussions, audio and video taped situation analysis etc.

When we look at the outcome, most of these interventions programmes were effective in reducing the risk and promoting protective competencies in the target population. Some of them were effective in preventing problem behaviour for a shorter period, at least, and a small number of them could prove sustainability of the intervention effect after a long period.

From the above discussion, it is clear that there is wider scope for intervention programmes for adolescents in varied setting. In India large scale intervention and evaluation studies are less.

2.3.2 Studies on health, nutrition and life style during adolescence.

The second part of this review is focused on topics included in preparing the adolescent development education package. Literature search on studies on adolescent health and life style including nutritional status yielded the following results.
Rao (2001) reported that high prevalence of low birth weight; high morbidity and mortality in children and poor maternal nutrition of the mother, continue to be major nutritional concerns in India. Although nationwide intervention programmes have been in operation over two decades, the situation has not changed greatly. In addition, the Indian population is passing through a nutritional transition and is expected to witness higher prevalence of adult non-communicable diseases such as diabetes, hypertension and coronary heart disease according to the theory of ‘fetal origin of adult disease’. In order to tackle the above said problems, along with many other interventions, the author suggests, that efforts are necessary for exploring non-nutritional avenues, such as imparting knowledge about nutritional needs during pregnancy, lactation and infancy, and creating nutritional and health awareness among young rural girls to ensure a better quality of life for the next generation.

Pre school children, school children, and adolescents belonging to the low-income groups in the rural and urban areas of India, generally consume ill balanced diets deficient in several nutrients including protein, energy, and calcium and in several micronutrients, particularly vitamin A, riboflavin, folic acid, iron, zinc, and perhaps in other essential trace elements and B vitamins. Nutrition surveys among these groups have identified clinical and sub-clinical deficiencies of energy, protein (PEM), vitamin A (Bitot’s spot), iron and folate (anaemia) and riboflavin (angular stomatitis). Sub-clinical deficiencies of these nutrients are associated with several functional abnormalities such as growth retardation, impaired immune and cognitive functions, and lowered work capacity. (Rao, 2002).
A cross sectional study by The National Nutritional Bureau on diet and nutritional status of adolescents’ in rural areas of India in the year 1997 yielded the following results. About a quarter of adolescent girls had stunted growth and 18.6% were under weight. About 39% of the adolescents had stunted growth irrespective of gender. Prevalence of under nutrition was found to be higher in boys when compared to their female counter part. The intake of micro nutrients like riboflavin and vitamin A were woefully inadequate. The study concluded that the adolescent girls in rural areas could be at greater risk due to early marriage and conception before completion of their physical growth. (Venkaya, Damayanthi, Vijayaraghavan, & Nayak, 2002).

Kapur, Agarwal, & Agarwal (2002) reported that available studies on prevalence of nutritional anaemia in India showed that 88% adolescent girls (3.3% had haemoglobin <7.0 g/dl; severe anaemia) are having anaemia. They said that nutrition education to improve dietary intakes in family for receiving needed macro/micro nutrients as protein, iron and vitamins like folic acid, B12, A and C etc. for haemoglobin synthesis are essential.

Singh, Pathak, & Kapil (2003) did a study among the high income group segment of the population of Delhi. Nearly .21% of the boys and 13% of the girls were found to be obese, while 11.4% of boys and 4.2% of girls were found to be super obese. Total prevalence of obesity in the study population was found to be 27.3%. The study group came to the conclusion that there is an increase in obesity, among affluent family adolescent children in India which predisposes them to many non-communicable diseases like hyper-lipidaemia, hypertension, coronary artery disease, atherosclerosis and osteoarthritis.
Singh, Mahaswari, Sharma, & Anand (2006) conducted a study to evaluate the prevalence of lifestyle associated risk factors for non-communicable diseases in apparently healthy school children in an urban school in Delhi. Results showed that there were inappropriate dietary practices (fast food consumption, low fruit consumption), low physical activity, higher level of experimentation with alcohol and to a lesser extent smoking, high prevalence of obesity and hypertension in the school children. The study also showed an association between BMI, systolic and diastolic blood pressures amongst children and other lifestyle factors. The authors recommended school based interventions to reduce the morbidity associated with non-communicable diseases.

A review of studies done by Hansen, and Chen (2007) revealed that although some associations between SES and health behaviour exist during adolescence, the associations are not as robust as those in adulthood. Efforts to curb poor diet, inactivity, and smoking behaviours should target low SES adolescents, whereas efforts to curb teenage drinking and marijuana use maybe useful across the SES spectrum.

Haboubi & Shaikh (2009) did a cross-sectional survey to assess the nutritional status of adolescents of Indian origin living in India and the United Arab Emirates. Results showed that regardless of gender, the rate of stunned growth was higher in Indian adolescents from India (25.5-51%) when compared with Indian adolescents in UAE (3.1-21%).

Kotian, Kumar, & Kotian (2010) conducted a study to estimate the prevalence and determinants of overweight and obesity among school children aged between 12 and 15 years, in a city in South Karnataka. It was concluded
that the overall prevalence of overweight was 9.3% among boys and 10.5% among girls; 5.2 and 4.3% were obese, respectively. The prevalence of overweight was higher among the adolescents of the high socio-economic status group, who had physical activity of < one hour/day, watched television ≥ 4 hours/day, and ate chocolates daily. Authors recommended that action needed to be taken to curb the problem of obesity among adolescents.

A study was conducted to understand the nutritional status, level of haemoglobin and its relation to the endurance capacity, prevalence of anaemia and any other deficiency diseases in a cross sectional population of the rural adolescent girls in Kerala, India. Results showed that only 10 per cent of adolescent girls were having normal nutritional status. Anaemia, an indicator of iron deficiency, was observed to be the major (30%) deficiency symptom. Prevalence of dental caries, an indicator of calcium deficiency was also significant (13.3%). Other deficiencies such as glossitis and pigmented skin were also observed (3.3 and 3.4 per cent respectively), though not as high as anaemia or dental caries. Intake of all other nutrients was significantly low, when compared to RDA (recommended dietary allowances) values. An alarmingly high (44.0) per cent of the population was revealed to be suffering from Chronic energy deficiency (CED) of Grade III. (Panjikkaran & Usha, 2010).

Studies included in the above review shows a mixed picture of the nutritional status of the adolescents in India. For those in rural areas, poor nutritional status is the major problem. Major nutritional deficits in this category, include anaemia, stunned growth, wasting, dental caries and micronutrient deficits etc. Among upper and middle class adolescents and in those from urban areas, obesity and high prevalence of life style related risk
factors are seen. On the whole, nutritional deficits are closely linked with the socio-economic condition, lifestyle factors, and lack of adequate awareness among adolescents about the importance of nutrition for healthy living. Most of these studies have suggested, educational programmes to improve the dietary and lifestyle practices of the adolescents.

2.3.3 Studies on adolescent interpersonal relationships.

Interpersonal relationships during adolescence can be categorised into relationship with parents, relationships with peers, and other relationships in the social network.

A study examined the relationship among a host of family characteristics and indicators of adolescent competence in a sample (N = 107) of 8th- and 9th-grade students, in one school located in Berhampur city in Orissa state, India. The results indicated that families of more socially competent participants, tended to be verbally and emotionally expressive; democratic with regard to discipline, input, and decision making; close but not enmeshed; higher in their level of parent-adolescent communication and family ideals; and lower in external locus of control. Consequently, families of more anti-social adolescents had more conflict and enmeshment and were more external locus-of-control oriented and either permissive or authoritarian. (Carson, Chowdhury, Perry, & Pati, 1999).

The relation between parental and friends’ social support was studied, specifically with regard to emotional problems on a Dutch population during the 1991-97 period. Parental and friends’ support seemed to be relatively independent support systems. Although the degree of perceived support changes in the expected direction (with parental support decreasing and
friends’ support increasing), during early adolescence, parental support was found to be the best indicator of emotional problems during adolescence. The effect of friends’ support appeared to depend slightly on the level of perceived parental support, with the high parental support group, showing a slightly positive effect of friends’ support, and the low parental support group showing a negative effect of friends’ support. (Helsen, Vollebergh, and Meeus, 2000).

A longitudinal, community-based study on adolescent protective factors (that were associated with resilient outcomes in young adulthood) for those at risk of depression done by Carbonell. et al (2002) revealed that family cohesion, familial confidants, positive outlook, and good interpersonal relations in adolescence are protective for those at risk of depression.

A longitudinal project examined peer influence across five risk behaviour: cigarette smoking, alcohol consumption, marijuana use, tobacco chewing, and sexual debut. Results indicated that friends may protect adolescents from risk activities. (Maxwell, 2002).

A study on parenting style and its impact on the psycho social adjustment among 200 adolescents in the age group of 15-18 years (11th and 12th standard students) was done by Wilson (2004). Perceived parental care was found to have high positive correlation with adjustment and self esteem in adolescents, in all domains except social adjustment. Parental overprotection was negatively correlated with adjustment and self-esteem in adolescents.

A study was done at two high schools, located in a neglected area of a metropolis in Turkey. It revealed that learned resourcefulness, problem-solving skills, perceived marital adjustment, the level of peer attachment, the
mothers’ nourishing interpersonal relations, and parental attachment levels, were all significant predictors of social self-efficacy. (Bilgin, & Akkapulu, 2007).

A study by Sun & Hui (2007) to investigate the family, school, peer and psychological factors that contribute to adolescent suicidal ideation in Hong Kong adolescents, showed that family cohesion and sense of school belonging were the core predictors of self esteem and depression. Depression was a strong mediator of suicidal ideation. In the prediction of suicidal ideation, peer support was significant among girls and younger adolescents only, whereas peer conflict was significant among older adolescents only.

A study examined how a wide variety of diverse friendship group attributes affect changes in indicators of school performance, social behaviour, and mental health between early seventh and late eighth grade students. Two novel conclusions emerge from the study. First, nearly all the friendship effects are domain-specific. That is, peer attributes in the school domain affect individual school performance outcomes, while peer attributes in the social behaviour domain affect individual social behaviour. Second, friends’ grade point average, (GPA) emerged as the most powerful single friendship attribute that influence all other domains. (Cook, Deng, and Morgano, 2007).

Newman, Lohman and Newman (2007) did a study to explore the three aspects of peer group membership in adolescence i.e peer group affiliation, the importance of group membership and a sense of peer group belonging. Adolescents who viewed peer group membership as very important to them and had a positive sense of peer group belonging had significantly
fewer behaviour problems, than those who viewed peer group membership as important but did not have a positive sense of peer group belonging.

The quality of the adolescents’ relationships with residential parents has been found to predict many different health and behavioural youth outcomes. Strong associations have also been found between these outcomes and family processes, and between relationship quality and family processes. Hair, Moore, Garrett, Ling, & Cleveland, (2008) reported that the influence of a positive residential parent–adolescent relationship on better mental well-being and fewer delinquency was entirely mediated by family routine, parental monitoring, and parental supportiveness, net of socio-demographic controls.

A 4-wave longitudinal study examined developmental changes in adolescents’ perceptions of parent–adolescent relationships by assessing parental support, conflict with parents, and parental power. Results showed that support declined from early to middle adolescence for boys and girls and increased from middle to late adolescence for girls, while stabilizing for boys. Conflict was found to temporarily increase during middle adolescence. Parental power (relative power and dominance of parents) decreased from early to late adolescence. Results indicated that: (1) parent–adolescent relationships become more egalitarian during adolescence, (2) parents perceived by adolescents as powerful are viewed as supportive, especially in early adolescence, and (3) perceived conflict with parents is related to but not an impetus for changes in parent–adolescent relationships towards more equality. (De Goede, Irene, Branje Susan, Meeus,Wim, 2009).

One of the studies to assess the independent and interactive correlations of maternal and paternal parenting with adolescent self-esteem
revealed that the availability, involvement, and relationship quality of both the mother and father are significantly and positively related to the self-esteem of their adolescent children. (Bulanda & Majumdar, 2009).

In a study by Mallery (2011) done on the US population, parental attachment emerged as a predictor of lower levels of both delinquency and depression. The study suggested, parenting intervention programmes focusing on strengthening the parent child relationship to prevent adolescent problem behaviour.

Reviews on the adolescents interpersonal relationship points to the fact that positive parent adolescent relationship is important for the emotional wellbeing, social self efficacy, self esteem and overall mental health of the adolescent. In the peer domain, positive sense of peer group belonging is important in reducing behaviour problems. Friendship can protect adolescents from risk behaviour and suicidal ideation. It can also influence the academic performance, social competence and mental health of the adolescents. All these studies stress the importance of strengthening the relationship network during adolescence.

2.3.4 Studies on reproductive health of the adolescent.

A cross sectional household survey was undertaken in the rural area of Sirmaur, Himachal Pradesh, to assess the knowledge, beliefs and practices of adolescents about reproductive health. The study concluded that reproductive health knowledge is low and there is a gap between the actual and desired practice. (Kumar, Raizada, Agarwal & Kaur. 2000).
An ICMR task force study to assess the awareness of adolescents regarding various reproductive health issues were done as part of the launching of Reproductive Health Programme by the Government of India. It was a multi centre study done on rural coeducation schools in 22 districts in 14 states through-out the country. Reproductive health awareness was more in boys and in late teens when compared to girls and early teens. The study stressed the need to improve the IEC strategy to raise awareness about reproductive issues and gender related issues. (Gupta, Saxena, Singh, & Mathur, 2004).

Joshi, et al (2006) did a study on reproductive health problems and health seeking behaviour among adolescents in urban India which revealed high incidence and poor health seeking behaviour of the adolescent. The study group concluded, by saying that to improve the health status of the adolescents apart from health and life skill education, medical screening, parental involvement and referral to adolescent friendly health clinics for counselling and follow up are essential.

A cross sectional study carried out in the Chandigarh Union Territory of India, revealed that four percent of males and 1% of females reported sexual intercourse. The main reason for not having sexual physical contact was societal norms. Male gender and modern attitudes were found to be the risk factors for initiation of sexual activity in adolescence. The study concluded that cultural norms rather than the individual/psychological factors tend to govern adolescent sexual behaviour in Indian society. (Lakshmi, Gupta, & Kumar, 2007).
A community-based cross-sectional study was conducted in the village of Ghazipur in East Delhi from April 1998 to November 1998. Results showed that only a third (33.4%) of the girls were aware of all the pubertal changes. Nearly half (45.7%) of the girls who had attained menarche and 29% of pre-pubertal subjects said that they had prior knowledge about menstruation. Mothers (41%) were the most common source of information about menstruation, followed by elder sisters (22.4%), friends (21%), relatives (6.7%), television (4.4%), books (3.3%), and doctors (1.1%). While 92% of the girls said they were restricted from worshipping, 70% were restricted from participating in household activities, and 56% girls did not eat oily, cold, or spicy foods such as pickles during menstruation. During menstruation, complaints like irritability, headache, malaise, and tenderness of the breasts affected 62.9%, 49.6%, 24%, and 9.4%, respectively. Dysmenorrhea was prevalent in 63.75%. Only one-third of the girls did not complain of any premenstrual symptoms. Majority (74.8%) of the girls used homemade sanitary pads, nearly 24% used ready-made sanitary pads, while 1.5% used cotton wool. The study concluded that knowledge of the adolescent girls on menstruation are limited and there exists many myths and misconceptions among them in this matter (Nair, Grover, Kannan, 2007).

A cross sectional study was carried out in 2007 in South Delhi, India to investigate the perception, knowledge and attitude of adolescent urban schoolgirls towards sexually transmitted Infections (STIs), HIV/AIDS, safer sex practice and sex education. Results showed that more than one third of students in this study had no accurate understanding about the signs and symptoms of STIs other than HIV/AIDS. About 30% of respondents considered HIV/AIDS could 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% thought it should only be taken by married women. Authors concluded that though controversial, there is an immense need to implement gender-based sex education, regarding STIs, safe sex options and contraceptives in schools in India (McManus, & Dhar, 2008).

Despite restrictive social norms, there is increasing evidence that youth in India engage in premarital romantic and sexual partnerships. Results of a study done among adolescents in Delhi showed that sixty-two percent of males and 53% of females reported that someone of the opposite sex had expressed an interest in them; 86% of males and 63% of females reported feeling good about it. In addition, 67% of males and 47% of females reported that they liked someone from the opposite sex. Compared with females, males were more likely to seek information about the person they were interested in (76% vs. 61%), and to engage in heterosexual premarital sex (32% vs. 6%). Females were less likely than males to report that it is okay to engage in premarital sex if the male and female love one another (14% vs. 33%). For both males and females, television and films were the most popular source of information on issues related to sexual health. The study group concluded that gender disparities in pre-marital romantic partnership formation and the experience of sexual relations make a strong case for sexuality education programmes tailored to the different experiences and circumstances of young men and women. (Jaya., & Hindin, M.J. 2009).

To identify the reproductive health issues associated with adolescence and their readiness to avail services like Adolescent Friendly Clinic (AFC) among rural school going children a quantitative survey was carried out in Vadodara district of Gujarat, India Results showed that only 31% of the boys
and 33% of the girls mentioned that they had heard about contraception. 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 adolescent friendly clinics. The study group recommended that information on the human reproductive system and related issues on reproductive health need special attention. Teachers’ sensitization to “adolescent health care” is required (Kotecha, et al. 2009).

Studies on sexual and reproductive health of the adolescents show that problems in this area are many and the knowledge of the adolescent is poor. There is immediate need to address this issue through educational interventions and adolescent friendly health care initiatives.

2.3.5 Studies on adolescents self and identity development.

Adolescence is a period during which individuals develop their self awareness and self-related concerns through encountering and coping with a series of major life issues.

In examining the variation in self-awareness and depressed mood over the course of adolescence, Chen, Mechanic, and Hansell (1998) found that the link between self-awareness and depressed mood was most apparent, during middle adolescence and there was no gender difference. Self-awareness and depressed mood seemed to mutually influence each other during adolescence. Early in adolescence, pubescent changes in both girls and boys were linked to increased self-awareness, but during middle and late adolescence, the quality
of relation with mothers was significantly associated with self-awareness. In late adolescence, when emancipation from the family of origin begins to occur, relationship with friends and lovers were most highly associated with self-awareness.

One of the studies used a cross-sectional design to examine age and gender patterns in self-esteem and to explore how contemporary social influences relate to adolescent self-esteem. Self-reported influences on self-esteem involving the media; sexual harassment, body image, family and peer relationships, and emotional expression were evaluated with 93 boys and 116 girls in Grades 5, 8, and 12. Girls reported lower self-esteem than boys in early adolescence, and late adolescent boys reported lower self-esteem than younger boys. Girls reported more negative body image and media influence scores than did boys in late childhood and early adolescence. (Polce-Lynch, Myers, Kliewer, and Kilmartin (2001).

In a study on Self-image and parental attachment among late adolescents in Belize adolescents, Kenny, Griffths, and Grossman (2005) investigated the relationship of ethnicity, parental education, gender, and parental attachment to multiple dimensions of self-image among 285 (161 female and 124 male) late adolescents. Student ratings of self-image were unrelated to paternal education and student ethnicity. Female students reported more positive self-images than males in vocational attitudes. Favourable self-images were associated with secure ratings of parental attachment.

A study investigated the association between the personality constructs of self-esteem/affectivity and General Well-Being (GWB) in Scottish adolescents. Home self-esteem was found the strongest predictor of
mood/affect and self/others well-being domains as well as well-being total. It was also the second best predictor of anxiety well-being domain. School self-esteem was the strongest predictor of physical well-being, whereas negative affectivity was the strongest predictor of anxiety well-being domain. However age and gender were not significantly associated with GWB, total or domain specific. The study added to previous evidence regarding the high association between GWB and personality factors in adult and adolescent populations. (Karatzias, Chouliara, Power, & Swanson, 2006).

A study examined the roles of social support as well as the possible mediators role of self-esteem and ethnic identity (sense of belonging to one’s ethnic group) in reducing internalizing symptoms in 227 African American adolescents (mean age = 12.55). The results suggested that ethnic identity and self-esteem, function as important links in how social support reduces internalizing symptoms in African American youth. (Gaylord-Harden, Ragsdale, Mandara, Richards, Petersen, 2007).

Ybrandt (2008) did a study to assess the relation between self-concept and social functioning in adolescence using a sample of 277 Swedish adolescents. A positive self-concept was found to be the most important factor for adjustment and for protection against common problem behaviours. A negative self-concept combined with female gender were risk factors for internalized problems. Adolescents of 15, 16 years of age had a stronger relationship between a negative self-concept and externalizing problem behaviour than younger and older adolescents. Internalizing problem behaviour such as anxiety and depression predicted aggressive and delinquent behaviour. These findings highlight the importance of promoting a positive self-concept in every adolescent in various psycho-social contexts.
Two hundred and twelve 7th, 9th and 11th grade students (59% female) in a public school in Jamaica described their actual and ideal selves in several different domains—friendship, dating, schoolwork, family, sports, and religion/spirituality—using a Pie measure. Students also completed measures of depressive symptoms, self-esteem, and academic achievement. Discrepancies favouring the ideal self and those favouring the actual self were linked to depressive symptoms, low self-esteem, and poor school grades in the domains of friendship, dating, and schoolwork. Effects were stronger among older adolescents than among younger adolescents. Theories of actual/ideal self-discrepancies have focused on problems arising when the ideal self overshadows the actual self; however, this study found that self-discrepancies, regardless of their direction, are a liability. (Ferguson, Hafen, & Laursen, 2009).

Psychological and psycho-social factors as well as poor coping skills have been correlated with unhealthy eating and obesity. A study was done to examine relationships among self-esteem, stress, social support, and coping; and to test a model of their effects on eating behaviour and depressive mood in a sample of 102 high school students. Results indicated that (a) stress and low self-esteem were related to avoidant coping and depressive mood, and that (b) low self-esteem and avoidant coping were related to unhealthy eating behaviour. Results suggested that teaching adolescents’ skills to reduce stress, building self-esteem, and use of more positive approaches to coping may prevent unhealthy eating and subsequent obesity, and lower risk of depressive symptoms (Martyn-Nemeth, Penckofer, Gulanick, Velsor-Friedrich, & Bryant, 2009).
The above studies show how self awareness and self esteem influence and is influenced by various behaviour patterns in adolescence. (eg: eating behaviour, externalising problem behaviours, depressive mood attachment etc.). Hence it is important to help adolescents to develop a positive self image to be a successful adult.

2.4 Summary

Theories and research studies on adolescent development point to the need to address a host of issues. However taking in to consideration the importance of the above core areas as per the ICDS norms these were included in the present study.