Chapter-II

REVIEW OF LITERATURE

Review of literature is very important for any type of research work. A brief review of available literature is presented in this chapter, which provides a basis for the theoretical framework and interpretation of findings.

Fisher and Golden et al. (1995) reported that in many industrialized countries, eating disturbances and disorders have become a leading chronic illness among adolescent girls.

Senderowitz (1995) reported that as adolescents have low prevalence of infection compared with under five children and of chronic disease compared with ageing people they have generally been given little health and nutrition attention except for reproductive health concerns.

Dennison, Shepherd et al. (1995) reported that girls may be more exposed than boys to inadequate intakes because of dieting, lower energy intake, social discrimination and pregnancy.

Cordonnier (1995) stated that a majority of adolescents think that they are in good health and they show little concerns for protecting their health “capital” for the future.

Centers for Disease Control and Preventions (1995) revealed that girls aged 4-19 have significantly higher bad cholesterol levels, a primary risk factor for health disease than do boys.

WHO (1995) reported that nutritional assessment should be inherent part of preventive health care services to adolescents. This includes anthropometry, and weights and heights could even be regularly measured in schools. There is a need for improved tools to assess both under nutrition and obesity in adolescents.
but meanwhile, existing height and BMI references data are useful, provided adjustments are made for maturity.

Walker and William, et al. (1996) found that anaemia was independently associated with lower school achievement in adolescent girls.

Wong (1996) found that adolescent girls are at high risk of developing anaemia than adolescent boys.

Sheperd and Dennison et al. (1996) found that eating patterns are frequently erratic in adolescents, and this may be a common factor of nutritional risk irrespective of the area. When there are no major economic or food security constraints, food choices are primarily determined by psycho-social factors. Personal preferences take precedence over eating habits learned at home as adolescents progressively take control of what they eat, where and how.

Spear (1996) found that the following features are quite typical of adolescent and have a bearing on diets: search for identity, struggle for independence and acceptance; concern about appearance; vulnerability to commercial and peer pressure and limited concern for health.

Wallace and Aitken et al. (1996) found that improving nutritional status of adolescent pregnant girls who are still growing through food may affect birth weight, as it seems that the extra nutrients are diverted for maternal growth.

WHO (1996) reported that WHO’s global school health initiative and the ‘health promoting school’s programme provide an appropriate framework for enhancing nutrition among adolescents, at least for those who are in school.

Department of Health (1996) reported that people aged 16-24 years tend to engage in behaviour damaging to health to a greater extent than those in other age ranges.
Office for National Statistics (1996) reported that the U.K. ranks second in teenage pregnancy amongst developed countries; 8.3/1000 women conceived before age 16 in England and Wales in 1996.

Dinger, Waiqardt et al. (1997) reported that in high-income societies, it is observed that physical activity tends to fall during adolescence and girls are less active than boys.

Greene (1997) reported that the association of adolescence with sexuality is another factor which increases resistance to the concept, particularly in regard to female adolescence.

Nutmach (1997) reported that the health promotion approach, which integrates the determinants of health and aims at empowering people, is particularly appropriate for addressing nutrition in adolescents. However, the same caveat applies to nutrition as to health promotion in general: empowering young people should not convey the message that adolescents themselves are to solve health, nutrition and social problems.

Gillespie (1997) found that nutritional care in the postpartum may be particularly important in teenage mothers.

Jacobson and Pill et al. (1997) reported that teenagers are acknowledged to be at high risk of health damaging behaviours including smoking, teenage pregnancy, and drug and alcohol use. Additionally the recognition of high levels of psychological distress is cause for serious concern about teenage health.

Delisle (1998) found that by improving access to food and enhancing control of adolescents over their food resources should get appropriate emphasis as a major component of the supportive environment, and as a prerequisite for nutrition security.
Fazio-Tirrozzo (1998) reported that in contrast, in poorer societies of developing countries, adolescent boys and girls may be expected to engage in heavy physical work many hours a day, as observed, for instance in Aulur.

Blum (1998) reported that adolescents are tomorrow's adults, and 85 per cent of them live in developing countries. They are relatively healthy compared to other life cycle groups, and they show roughly similar morbidity and mortality trends in developed and developing countries.

Vanden broek and Letsky et al. (1998) reported that iron deficiency associated with poor intakes, or secondary to infections, is likely the major cause of anaemia among adolescents, but other factors may be involved and need to be better documented including multiple micronutrient deficiencies involving folate and vitamin A.

Jacoby and Cueto et al. (1998) reported that school based programmes may also encourage children and adolescents to remain in school.

Mehta (1998) stated that in India, the legal age at marriage is 18 for females and 21 for males. Nonetheless, early marriage continues to be the norm. By the age of 15, as many as 26 per cent of females are married. By the age of 18, this figure rises to 54 per cent.

Hall and Bundy et al. (1998) found that school-based health and nutrition programmes have practical benefits and can be implemented at low cost, teachers may be trained to provide some health care to children, and schools are a good channel for activities such as micronutrient supplementation, and deworming as an entry point.

Schucksmith and Hendry et al. (1998) stated that young people themselves view health-related issues such as nutrition is central to effective
strategies. The various levels of influence, including culture, peers, family, have
to be considered.

Gillespie and Johnston et al. (1998) stated that iron deficiency anaemia
need to be controlled and prevented, particularly in girls and ahead of pregnancy
as much as possible. Iron deficiency is the predominant case of anaemia and
correcting it is an investment in adult productive and reproductive lives.

Middleman and Durant et al. (1998) reported that adolescent girls are
often dissatisfied with their body image, and frequently engage in slimming
diets, even when they have normal weight, which put them at nutritional risk.

GOI (1998-99) reported that in spite of the numerous programmes for
reproductive health care and improved nutritive initiate on a substantial scale,
about half (47.8 per cent) of the adolescent married girls suffer from mild to
severe anaemia.

West and Katz et al. (1999) reported that vitamin A deficiency is not
only a problem in young children. It has been reported in pregnant women and it
is associated with excess maternal mortality.

Cavadini (1999) reported that some dietary patterns appear quite
common among adolescents, at least in industrialized countries and to mention a
few: snacking, usually on energy-dense foods, meal skipping, particularly
breakfast, or irregular meals; wide use of fast food, even in Europe, low
consumption of fruits and vegetables, and of dairy products in some instances,
faulty dieting practices in girls and unconventional dietary practices.

Strasburgen, Donneratein et al. (1999) found that adolescents may be
seen as early adopters of new products or ideas, if we consider the overwhelming
influence that the medias have upon them. All this makes adolescents an ideal
target for nutrition education.
India Country Paper, DWCD (1999) found that for girls, adolescence is a period of growth with an increased nutrient intake. Girl child in India: The situational analysis points out that a large number of adolescents are undernourished and the problem is more among girls (45 per cent) than boys (20 per cent), primarily due to deep-rooted gender discrimination.

Baker and Ballew et al. (2000) says that quantity the mean daily intake of milk by adolescent girl has remained relatively stable – although well below recommended quantities. In 1997-98 the average daily milk intake by girl age 10 to 14 and 15 to 19 years accounts for about 30 per cent of the Dietary Reference Intake (DRI) for calcium.

Tanasescu and Ferris et al. (2000) observed in teenage girls consumption of milk may be a concern regarding the development and maintenance of healthy bones. The importance of milk/dairy consumption should be emphasized to encourage adequate calcium intakes. Girls continued to consume nearly twice the amount of carbonated soft drinks compared with milk; however, with the quantity of carbonated soft drink intake stable and a decreased prevalence, no data in our study support the theory that carbonated soft drinks are displacing milk in children's diets. Some have suggested that carbonated soft drinks displace more healthful beverages.

Bains and Mann et al. (2000) assessed nutritional status of 75 hosteller and 75 day scholar women in the age group 18 to 23 form Punjab Agriculture University, Ludhiana and found 21 per cent of the subjects with BMI below 18.5. Sixty two per cent of their subjects were anaemia with 21 per cent of marginally, 27 per cent mildly and 14 per cent moderately anaemic. Their diet had 48 per cent RDA of iron, 93 and 94 per cent RDA of thiamin, riboflavin, niacin, folic acid and ascorbic acid respectively. The per cent adequacy of other
dietary minerals i.e. calcium, phosphorus, copper and zinc was 150, 207, 204 and 60 per cent respectively.

Majumdar and Ganguli et al. (2000) found that adolescence is the phase that comes during second decade of human being’s life (10-19 years). This is a period of rapid growth when young people acquire new capacities and physical changes with many new characteristics that create not only opportunity for their progress but also create problems to their health and well being, if they are not taken care of. During this period, the growth is accelerated by major physical changes in both boys and girls.

Amorin-cruz and Silveria et al. (2000) reported that in most developed countries, breakfast is the least important main meal in terms of energy and is frequently in adequate from the nutritional point of view. However, no more than 15 per cent of the adolescents skip it entirely in Southern European countries, in contract with the USA and other industrialized countries where much higher rates of breakfast skipping (up to 30 %) are frequently cited.

Rittakerttu Kaltiala Heino et al. (2001) reported that Bulimic type eating pathology among girls was associated with early menarche, early sexual, experiences and increasing age.

Delisle and Chandra et al. (2001) reported that obesity is rapidly becoming a serious health problem among adolescent in many middle income countries and is often also associated with loss of self-esteem among adolescent. A few studies show that preventing obesity is more successful among adolescent than adult girls.

Elder (2002), Mothercare (2000) conducted a study, anemia is a critical health problem in many countries, many efforts have focused on improving the
iron intake of adult women. Interventions aimed at adolescent girls have found that daily iron supplementation effectively lowers anemia and iron deficiency.

Bates and Benton et al. (2002) reported that inadequate nutrition contributes to the loss of function and the development and progression of disease. Nutritional status is influenced by a range of medical, physical, psychological, social and situational variable. The encouraging of better nutrition and the taking of exercise is a cost effective way of decreasing the incidence and progression of age-related diseases.

Manira (2002) studied few selected factors and their association with nutritional status of 1000 adolescent girls aged 10-19 years studying at 6 different schools and colleges from urban region of Dhaka city, Bangladesh. They revealed that according to height for age and weight for height, 52 per cent, 17.6 per cent, 13.5 per cent and 16.2 per cent of girls were normal, stunted, wasted respectively. According to weight for age only 18.9 per cent were normal, others exhibited various grades of malnutrition, whereas 6.0 per cent had severe grade of malnutrition. Among the factors studied, calorie intake (P<0.001), age at menarche (P<0.005) and overall socio-economic and educational status (P<0.05) exhibited an adolescent association with nutritional status. Better immunization and nutritional knowledge status were also the influential factors for better nutritional status during adolescence.

News Alert Archives (2003) reported that pregnant teens getting fewer than 2 servings of dairy a day could be shortchanging the bone development of their babies. Using 10 years of data from an inner-city maternity clinic, researchers studied the relationship between dairy intake and fetal femur length in 350 pregnant 13-18 year old African Americans. Dairy intake was evaluated by a registered dietitian at the time the teens entered the prenatal care
programme. After adjusting for variables, the lowest dairy intake (fewer than 2 servings daily) resulted in significantly lower fetal femur length than the highest dairy intake (3 or more servings daily). Results also showed that the highest dairy intake resulted in overall better nutrition (e.g. adequate intake of nutrients including protein, vitamin A and iron) in this vulnerable population (Editor’s note: Most people can meet their calcium needs with 3 dairy servings a day, but all teens need about 4 servings of dairy a day, in order to reach the current calcium recommendations of 1300 mg/day.

H.S. Chang (2003) found that beverage choices are notably different based on race/ethnicity. Based on data from USDA’s Continuing Survey of Food Intake by Individuals, researchers note that white children and adolescents drink more beverages than their African American counterparts. Additionally, the data shows that African American children drink less milk than white or Hispanic children. According to the study, young white boys and girls consume about 1.4 and 1.2 servings of milk per day, whereas young African American boys and girls drink 1.0 and 0.8 servings per day, respectively. The researchers note that African American adolescent girls’ low beverage consumption – and particularly low milk consumption – is a concern for future bone health and for the risk of hypertension. Hypertension, or high blood pressure, is a condition that is more prevalent in Africans and American, but may be reduced by adequate intake of dairy foods, which provide important nutrients including calcium, magnesium and potassium.

Forshee (2003) reported that African Americans can improve their health and reduce their risk of cardiovascular disease by eating a higher quality diet that includes calcium-rich dairy foods daily. This research review shows that African Americans who eat a varied diet including adequate servings of milk, cheese and yogurt-equal to 3 servings daily – decrease their risk for developing high blood
pressure, insulin resistance (Syndrome X), stroke, heart disease and possibly overweight and obesity. These health benefits are achieved without significant side effects. In fact, studies have shown that symptoms of lactose intolerance can be minimized or eliminated by consuming a variety of dairy products along with complete meals. The authors conclude that a nutritionally complete diet including milk, cheese and yogurt is a first line health approach to lessen the incidence of chronic diseases affecting growing numbers of African Americans.

Reusser (2003) conducted a recent study of more than 18,000 adolescents indicates that parental presence at the evening is associated with an adolescent’s higher intake of dairy foods, fruits and vegetables, as well as the likelihood of eating breakfast. As a part of the National Longitudinal Study of Adolescent Health, food intake interviews were completed in participant’s homes. Results showed that adolescents who ate more than three evening family meals a week were significantly less likely to skip breakfast than those who ate three or fewer family meals. Adolescents who are six or seven family meals were 27 per cent less likely to report poor dairy food intake, 31 per cent less likely to report poor fruit intake and 38 per cent less likely to report poor vegetable intake than those eating three or fewer meal with the encourage dietitians and health professionals to educate parents regarding the positive effects of family meals on adolescent nutrition.

Videon (2003) suggested recent data suggests that dietary calcium intake is associated with lower weight and body fat levels, as well as more desirable cholesterol levels. Women who consumed less than 600mg of calcium a day were found to have higher body weight and body fat than women who consumed higher amounts of calcium. Furthermore, both men and women who consumed an average of least 1,000 mg of calcium a day had “healthier” cholesterol levels (with respect to the ratio of total cholesterol to HDL cholesterol) than those who
consumed less than 600 mg of calcium a day. The study was based on data obtained from 235 men and 235 women ages 20-65. According to 3-day dietary records, the men and women got a majority of their calcium from dairy foods including milk, cheese, yogurt and ice cream. The researchers state that their findings on calcium and body weight are consistent with previous studies, but note that their study is the first to show a difference in cholesterol levels and calcium intake.

Elizabeth and Ransom et al. (July, 2003) defined malnutrition, as ill health caused by deficiencies of calories, protein, vitamins and mineral interacting with infections and other poor health and social condition, saps the strength and well being of millions of women and adolescent girls around the world. [In this brief, the term malnutrition will refer to conditions of nutritional deficiency including under nutrition and micronutrient deficiencies. Though malnutrition actually also related to problem of nutritional excess].

AMREF, LSHTM and NIMR (2003), a recent study in Tanzania provides the first rigorous evidence that the benefits of adolescent sexual and reproduction health programmes is low income countries can last for at least three years.

National Osteoporosis Foundation (2003) revealed that by about age 20, the average women has acquired 98 per cent of her skeletal mass. Building strong bones during childhood and adolescence can be best dense against osteoporosis.

National Center for Health Statistics (2004) reported that in 1970, only one out of every 21 girls was obese or overweight; today that figure is one in six.

Fontaine (2004) reported that among women in their 20s with severe obesity, the decrease in life expectancy is eight years for white and five years for
African-Americans. For any degree of over weigh, younger adults risked losing more years of life than older adults.

_Kimm (2004)_ reported that higher body mass index (a measure of body weight adjusted for height) predicted a decline in activity among black and white girls.

_U.S. Department of Health and Human Services (2004)_ reported that regular participation in physical activity during childhood and adolescence helps control weight, build lean muscle and reduce fat.

_Calle (2004)_ reported that overweight women are 60 per cent more likely to die from breast cancer.

_Litt (2004)_ reported that girls from lower socio-economic households or girls who mature early are at particular risk for being overweight.

_Centres for Disease Control and Prevention (2005)_ reported that adolescent girls have the highest rates of sexually transmitted disease, except for HIV/AIDS of any age group of women or men and their infections typically result in more severe complications.

_Henshaw (2005)_ reported that despite the recently declining teen pregnancy rates, 35 per cent of teenage girls get pregnant at least once before they reach age 20, resulting in more than 850,000 teen pregnancies a year. At this level, the United States has the highest rates of teen pregnancy in the fully industrialized world.

_Women's Sports Foundation (2005)_ reported that teenage female athletes are less than half as likely to get pregnant as female non-athletes (5% and 11% respectively), more likely to report that they had never had sexual intercourse than female non-athletes (54 respondent and 41% respectively) and
more likely to experience their first sexual intercourse later in adolescence than female non-athletes.

Team up for Youth (2005) reported that for girls, some gender associated constraints to physical activity include lack of role models, social pressures, body image issues, lack of parental encouragement (important in part because girls reportedly rely more than boys on such encouragement) and fewer sports choices.

President’s Council on Physical Fitness and Sports (2006) reported that exercise and sport participation can be used as a therapeutic and preventive intervention for enhancing the physical and mental health of adolescent females. It also can enhance mental health by offering them positive feelings about body image, improved self-esteem, tangible experience of competency and success and increased self-confidence.

The Commonwealth Fund (2006) reported that by high school, girls are almost twice as likely as boys the same age to say that they do not like themselves or they hate themselves (25 % vs 14 %).

Gulf Hurricane Relief (2006) reported that adolescence is the transmission period between childhood and adulthood, a time of life that begins at puberty. For girls, puberty typically occurs between ages 12 and 13, while for boys it occurs between ages 14 and 15. It is one of the fastest period of a person’s life. During this time, physical changes affects the nutritional needs, while changes in one’s life style may affect eating habits and food choices.

Jenson (2006) revealed that for obese individual poor diet quality and micronutrient deficiencies are relatively common concern.

The Commonwealth Fund (2007) reported that before graduating from high school, nearly one out of three adolescent girls will experience depression,
anxiety diseases, or eating disorders, a rate approximately twice the rate for boys.

Centres for Disease Control and Prevention (2007) reported that girls are significantly more likely than boys to have seriously considered attempting suicide, made a plan to attempt suicide, and attempted suicide.

Turn Beauty Inside out (2007) reported that by the time a girl is 17 years old she has seen more than 250,000 commercial messages telling her what to eat, what to eat, what to wear, what to buy and how to look.

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