Health and Nutritional Profile for Adolescent Girls in the GCC Countries

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Studies of adolescent girls in this region demonstrate a number of health and nutritional problems. Iron deficiency anaemia is the main problem among adolescents in all socio-economic groups. Also a major concern is inadequate energy intake leading to underweight among a relatively high percentage of these girls. At the same time the prevalence of obesity in adolescent girls has increased, suggesting a predisposing factor for chronic disease such as heart disease, diabetes and hypertension. One of the main reasons for the increasing prevalence of overweight and obesity among teenage girls are intake of foods high in energy and fat, lack of physical exercise and sedentary lifestyle. Such chronic diseases are the main causes of death in the region, and thus any programme to prevent and control these diseases should start with children and adolescents.

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Health and nutrition of adolescent girls has been neglected in health programmes in most Arab countries, where the girls become child caretakers well before they become mothers. Despite the significant improvement in educational and health services in these countries, the health and social status of adolescent girls have not improved consequently.

UNICEF[1] reported that the concept of adolescence in the Arab World is relatively new, particularly where teenage girls are concerned. In the past, adolescence lay generally buried in the direct transition from childhood to adulthood, as girls married shortly after puberty. Nowadays, with increased education and delayed age at marriage, the needs and problems of young girls are becoming more obvious. Their physical and mental health has an impact not only on their own lives, but on the lives and well-being of their children and their families as well.

Information about the health and nutritional status of adolescent girls in the GCC countries is scarce. The current report highlights some health and nutrition indicators for adolescent girls in the GCC countries based on available data.

Social and Demographic Factors associated with Health of Adolescent Girls

Age at Menarche

Age at menarche is affected by genetic and environmental factors. Low nutritional status has also a negative influence on age at menarche. People living in tropical countries mostly have a late menarche, mainly because their nutritional status is poor. However, well-off children in these areas have menarche at about the same age as children in Temperate areas[2]. The mean age at menarche in Arabian Gulf countries ranged from 12.9 years in Saudi Arabia to 13.3 years in Oman[3,4]. A recent study in Bahrain showed that educated mothers (high economic group) were more likely to get menarche at an earlier age than illiterate mothers. In this study the mean age at menarche was also found to be about 13 years, and ranged from 9 to 19 years[5]. This average is slightly higher than that reported in Western countries. The nature and timing of the pubescent growth spurt and sexual maturation vary considerably among teenagers, but generally the adolescent female achieves physiological maturity about 4 years after menarche[6].

Age at Marriage

Early age at marriage in one of the risk factors affecting the health status of mothers and their children. In Saudi Arabia, Bhatty et at[7] found that, in general, females got married around menarche (10-16 years). Abdul-jabar and Wong[3] showed a slight increase in the age at marriage among Saudi women, but they still got married when they were below 18 years of age. The average age at marriage was 18.3 years, and 14% of women were less than 15 years of age when married.

The National Nutrition Survey of Oman[8] reported that a high percentage of mothers in Oman got married at less than 15 years of age (41.4%). About 48.8% got married at 15-19 years of age, and only 9.8% got married at 20 years and above. There were differences in age at marriage among various geographical regions. This is mainly due to differences in socio-economic and cultural factors.

In Qatar, it was found that 29% of women got married before 16 years of age, 46% got married between 16 and 20 years of age and 255 got married after 20 years of age[9].

In Bahrain the Central Statistics Organization (CSO)[10] demonstrated that a relatively high percentage (13%) of women who got married in 1989 were between 13 and 19 years of age. A recent study[11] showed that many Bahrainis

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got married at adolescent age and the mean age at marriage ranged from 14.2 to 22.8 years, with a general average of 18 years.

Compulsory enrolment of young girls in primary and intermediate schools is recommended to delay the age at marriage. Promotion of nonformal education programmes for adult females should be also encouraged.

Early Pregnancy and Interval between Births

As many Gulf women get married at an adolescent age, they are more likely to get pregnant at an early age too. In Bahrain, it was found that 18% of mothers got their first pregnancy between 11 and 15 years old, and about 43% between 16 and 19 years old[5]. In Oman, it was reported that 16.5% of women got their first pregnancy at less than 15 years of age, 68.2% at 15-19 years and 15.3% at 20 years and above[8]. A recent study in Saudi Arabia showed similar patterns as about 45% of women got their first pregnancy at less than 20 years of age.

The hazards of teenage pregnancy are that it can cause maternal death and infants with low birth weight, which in turn affects child survival. Teenagers who become pregnant within less than 4 years after menarche are at high nutritional risk since they may have to meet their own needs for growth as well as the energy and nutrient demands of pregnancy. It also possible that pregnancy among these individuals may deplete their often limited nutritional reserves, which can compromise their own health and result in poor pregnancy outcome[6].

It was found that adolescent Bahraini mothers aged 15-19 years were more likely to deliver low-birth-weight (LBW) than mothers in other age groups (7%). In addition to teenage pregnancy, the risk of LBW is increased with the first pregnancy, as it was reported that the incidence of LBW was 10.6% for Bahraini mothers who delivered for the first time compared with 6.3% for mothers who have one child or more[12].

Interval between births is also a matter of concern. The recent data of Central Statistics Organization in Bahrain[10] showed that the majority (61%) of adolescent mothers (13-19 years) gave a space of less than 2 years between births, while the percentages were 32%, 18.7% and 15.3% for mothers aged 20-29, 30-39 and 40+ years, respectively. It was reported that Bahraini mothers were least likely to bear LBW babies when the interval between births was more than 2 years. As the interval between births increased the incidence of birth-weights more than 3.5 Kg increased[12].

Nutritional Problems

Adolescence, a period of rapid physical growth and increased nutritional requirements to support increase in body mass, makes adolescent girls vulnerable to nutritional problems because of several physiological and social factors[6]. Studies on the nutritional status of adolescent girls in Arabian Gulf countries are scarce. Some of the studies on nutrition of adolescent girls in this region will be briefly discussed.

Growth and Development

In general, the nutritional status based on anthropometric measurements of adolescent girls in the Gulf seems to be better than that of preschool or primary school children. In a cross-sectional study of school children aged 6-17 years in Kuwait, the children were found to be shorter than American children and tended to be heavier during adolescence, indicating a trend of obesity. There was no marked difference in fat and muscle areas between Kuwaiti adolescents and their American counterparts[13].

A comprehensive study on growth patterns of adolescent girls was carried out on 433 girls aged 11 to 18 years from all geographical areas in Bahrain[14]. The median height fluctuates between 25th and 5th percentiles of NCHS standard for age 11 years. For age 12 years onwards, the median height fluctuates between 25th and 10th percentiles. The median weight fluctuates between the 50th and 10th percentiles.

A cross-sectional survey[4] was carried out on 683 school girls aged 11-18 years in Oman in order to assess their physical growth. Results showed that median height and weight of Omani girls fluctuates between 25th and 5th percentiles and 25th and 10th percentiles of the NCHS standard, respectively. In general, Omani girls are shorter and lighter than girls of similar age in other Arabian Gulf countries (Bahrain and Kuwait).

Iron Deficiency Anaemia

Iron deficiency anaemia is considered one of the main nutritional problems among adolescent girls in the Gulf. In Kuwait, a cross-sectional study of 1208 school children aged 6-17 years was carried out to determine the prevalence of iron deficiency anaemia. Data revealed that anaemia was more prevalent among girls (26%) than boys(13%), but it was highly prevalent among younger boys (6-9 years) and adolescent girls compared with other age groups[15]. In Bahrain, Blair and Gregory[16] demonstrated that 24% of school girls aged 7-18 years had signs of iron deficiency based on transferrin saturation, and the anaemia was most prevalent among 15-18 year olds (42%). These findings confirm that teenage mothers in the Gulf are more at risk than older mothers.

Dental Caries

The incidence of dental caries among adolescent girls in the Gulf is alarming. In Bahrain, Barme[17] showed that the decayed, missing or filled teeth (DMFT) index among 12 year old Bahraini girls was 1.0, while another survey[18] on adolescent girls aged 12 and 15 years indicated that the DMFT index has increased to 1.3 and 1.9 for these age groups, respectively. The prevalence of caries was 51% and 55% for the same age groups, respectively. In Saudi Arabia, it was estimated that 78% of children aged 13-15 years were in need of dental treatment[19]. A survey of dental health in school children in Kuwait showed that the total average of DMFT was 3.2[20].

The frequency of consumption of sweets is of prime importance in the occurrence of dental caries. The intake of soft drinks, chocolates, sweets, cakes and other high sugar food between meals, especially by school girls has been associated with rising rates of dental caries. The high consumption of bottled water which contains low levels of flouride is another contributing factor to the occurrence of

dental caries in Bahrain. Prevention programmes should focus on the improvement of dietary habits and oral hygiene of school children, including adolescent girls.

Obesity

Obesity in children and adolescents may be a predisposing factor for adult obesity[21]. Several studies have reported that obesity is a problem of concern in the Gulf countries[22,23]. It is well documented that obesity is a risk factor for many health problems such as cardiovascular disease, diabetes, arthritis, hypertension and some forms of cancer[21]. These diseases are the major causes of morbidity and mortality in Bahrain.

In some Gulf countries, the prevalence of obesity among adolescent girls is alarming. The work of Eid et al[13] has provided interesting findings on obesity among adolescent girls that 23.7% of girls aged 10-13 years were obese (based on weight/height), while the percentage was double at age 14-17 years (44.5%). In general, Kuwaiti adolescent girls have small muscle mass and low physical work capacity.

Using skinfold thickness technique it was found that 19% of Bahraini girls aged 6-18 years were obese[16]. A cross-sectional survey on school girls aged between 15 and 20 years showed that 17.4% of these girls were overweight or obese based on body mass index more than 25[23].

An attempt was made to study some social and dietary factors associated with obesity among adolescent girls (15-20 years) in Bahrain[23]. The findings showed that obesity was higher among older girls (18-20 years), and girls with low family size, illiterate mothers or fathers and those with a family history of obesity. Girls who did not eat between meals, and those who ate 1 or 2 meals per day had a higher prevalence of obesity than those who ate between meals and ate 3 meals or more per day. The prevalence of obesity was also higher among girls who ate alone (21%) than those who ate with family (17%).

CONCLUSION

Adolescent girls are a neglected target group in health programmes in Arabian Gulf countries as most of these programmes focus on the health of mothers and children. Adolescent girls in this region seem to have several social and health problems. First of all, a relatively high percentage of them get married before they reach 19 years old, and this affects the health of both mothers and children.

Studies of adolescent girls in this region demonstrate a number of health and nutritional problems. Iron deficiency is the main problem among adolescents in all socio-economic groups. Also a major concern is inadequate energy intake leading to underweight among a relatively high percentage of these girls. At the same time the prevalence of obesity in adolescent girls has increased, suggesting a predisposing factor for chronic diseases such as heart disease, diabetes and hypertension. One of the main reasons for the increasing the prevalence of overweight and obesity among teenage girls are intake of foods high in energy and fat, lack of physical exercise and sedentary life-style. Such chronic diseases are the main causes of death in the country, and thus any programme to prevent and control these diseases should start with children and adolescents.

RECOMMENDATIONS

In order to improve the health and nutrition status of adolescent girls in the Gulf, the following activities and programmes should be included in health and social plans:

1. Expanding mother and child health services to include more activities related to teenage girls.
2. Improving of school feeding activities to provide more nutritious foods to school girls such as fruit juices, milk and milk products, and fresh fruits, instead of carbonated beverages, sweets and corn-puffs.
3. Programmes to control iron deficiency anaemia should be given a high priority. Several measures should be taken into consideration when attacking this anaemia such as iron tablet supplementation for teenage pregnant girls, blood screening for adolescents girls, prevention and treatment of parasitic infection, iron fortification of some common foods, education to increase the intake of foods rich in iron and vitamin C, and reducing intake of foods which inhibit iron absorption such as tea and coffee.
4. Dietary intervention to modify food habits of adolescent girls. Excessive intake of foods rich in fat, sugar and salt, skipping meals, especially breakfast, high consumption of carbonated beverages and low intake of food rich in fiber such as fresh fruits and vegetables are all examples of unsound habits among these girls, which need to be corrected through health education, through mass media and school curricula.
5. Introducing information on prevention and control of nutritional and health problems in the school curriculum.
6. Encouraging exercise habits among both children and adolescents. Regular and frequent isotonic exercise can play an important role in the prevention and control of obesity, hyperlopidemia, hypertension and diabetes. School children and adolescents should be encouraged to adopt a life-style involving some forms of exercise. Health education on physical fitness must be introduced in schools. It is essential also to allocate sufficient time in school schedules for exercise activities[21].
7. Professional training of health, social and community workers in prevention and management of health problems among adolescent girls.
8. Encouraging education of girls till at least secondary school to delay early marriage and pregnancy.
9. Carrying out further research and studies on factors associated with health and nutritional status of adolescent girls in this region.

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