



Operational Guideline for

Adolescent Nutrition

Interventions 2020

National Nutrition Services
Institute of Public Health Nutrition,
Directorate General of Health Services
Ministry of Health & Family Welfare



স্বাস্থ্য ও পরিবার কল্যাণ মন্ত্রণালয়



শিক্ষা মন্ত্রণালয়



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Cover Design
Upama Haider

Design and Layout
Azad/Kali/Drik

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Abbreviations

can	Advisory Committee on Nutrition
AFHS	Adolescent-Friendly Health Services
AHI	Assistant Health Inspector
ANC	Antenatal Care
BBS	Bangladesh Bureau of Statistics
BMI	Body Mass Index
CDC	Communicable Disease Control
DHIS2	District Health Information System 2
DGHS	Directorate General of Health Services
DHS	Demographic Health Services
DPHE	Department of Public Health Engineering
DSHE	Directorate of Secondary and Higher Education
DWA	Department of Women Affairs
FSNSP	Food Security and Nutrition Surveillance Project
HA	Health Assistant
HI	Health Inspector
IEC	Information Education and Communication
IFA	Iron Folic Acid
IPHN	Institute of Public Health Nutrition
NCD	Non-Communicable Diseases
NNS	National Nutrition Services
NPAN	National Plan of Action on Nutrition
RDA	Recommended Daily Allowance
SMC	School Management Committee
TSEO	Thana Secondary Education Officers
UAS	Upazila Academic Supervisors
UHFPO	Upazila Health & Family Planning Officer
USEO	Upazila Secondary Education Officer
WASH	Water Sanitation and Hygiene
WHO	World Health Organization
WIFA	Weekly Iron Folic Acid

Introduction

More than one-fifth of the total population of Bangladesh are adolescents between the ages of 10 and 19 years, which accounts for approximately 34 million people (BBS Projection for 2020, Unpublished Data). According to recent nutrition analysis, adolescent girls aged 15–19 years are in an especially unsatisfactory predicament (BDHS, 2014). Stunting (HAZ<-2SD) among girls in this age is high both in urban and rural areas (34.5 per cent and 39.9 per cent, respectively). In rural areas, the rate of anaemia in adolescent girls can be as high as 40 per cent in the countryside, compared with 36 per cent in urban areas.¹

Nutrition has a profound impact on the current and future health of adolescents. A sustainable and healthy diet during adolescence has the potential to limit any nutritional deficits and the effects of stunting during the first decade of life. A healthy and balanced diet also renders children less susceptible to the epidemic of non-communicable diseases in adulthood. Investing in adolescent nutrition brings triple dividends: better health for adolescents now, improved well-being and productivity in their future adult life and reduced health risks for their children. But it is important to note that securing optimal nutrition among adolescents requires coordinated actions across multiple sectors.

Considering the severity of malnutrition rates among adolescents, the National Strategy

for Adolescent Health 2017–2030 and the Second National Plan of Action for Nutrition (NPAN2) highlight a number of evidence-based interventions to improve matters, including: (1) mainstreaming nutrition education; (2) promoting dietary diversity; (3) micronutrient supplementation; (4) deworming; (5) preventing child marriage; (6) community-based nutrition awareness; (7) physical activity; (8) food supplementation and nutrition counselling.

The purpose of this operational guideline is to improve matters for adolescents aged 10–19 years. It will be used by head teachers, guide teachers, adolescent peer leaders, club facilitators and peer leaders of the community adolescent clubs, and service providers of adolescent-friendly health services (AFHS). A variety of government agencies and NGOs are implementing adolescent nutrition interventions using health facility, secondary school and community platforms. The Institute of Public Health Nutrition (IPHN) under the Directorate General of Health Services (DGHS) and Directorate of Secondary and Higher Education (DSHE) will steer and coordinate the process, provide technical and stewardship efforts and ensure implementation of nutrition services at secondary schools. Similarly, at community adolescent clubs and adolescent-friendly health facilities, the IPHN will steer and coordinate the process, provide technical and stewardship efforts and ensure implementation of nutrition services.

¹Adolescent Nutrition 2000–2017: DHS Data on Adolescents age 15–19'. <https://dhsprogram.com/pubs/pdf/CR47/CR47.pdf>

Section 1

Goals, objective and specific objectives

1.1. Goals

1.2. Objective

1.3. Specific objectives

1. Goals, objective and specific objectives

1.1. Goals

To ensure access to nutrition services, improve the nutritional status of adolescents, and control levels of anaemia and obesity.

1.2. Objective

To provide guidance for joint implementation of sustainable and quality nutrition interventions for adolescents aged 10–19 years attending secondary schools, *madrasahs*, community adolescent clubs and adolescent-friendly health services (AFHS) in Bangladesh.

1.3. Specific objectives

- Ensure that all adolescents aged 10–19 years attending secondary schools, *madrasahs*, community adolescent clubs and AFHS receive a package of adolescent nutrition interventions
- Make adolescents aware of the correct dietary practices for increasing micronutrient intake for physical and mental growth
- Ensure that all adolescent girls (aged between 10 and 19 years) are given weekly iron folic acid (WIFA) supplements during the calendar year
- Ensure that all adolescents receive mebendazole (500 mg) twice a year for deworming
- In combination with interventions
 - to influence the family and wider community, include interventions to inform adolescents that girls should not get married before 18 years of age
 - Incorporate vigorous-intensity physical activities and games to strengthen muscle and bone, at least three times a week
 - Establish a system for record-keeping and monitoring the process of implementation of nutrition interventions at schools to improve the quality and efficiency of services
 - Establish referral linkages between secondary schools/*madrasahs*/community adolescent clubs and health facilities to manage cases including malnourishment and anaemia and other cases that require medical attention

Section 2

Strategy for implementation of nutrition interventions

- 2.1. Establish multisectoral coordination (national and subnational level)
- 2.2. Engagement of the school management committee
- 2.3. Functioning student/adolescent clubs at secondary school
- 2.4. Formation of advisory committee at secondary school/*madrasah*
- 2.5. Defining roles, responsibilities and capacity development of managers
service providers

2. Strategy for implementation of nutrition interventions

School-based nutrition interventions will require multisectoral engagement with defined roles and responsibilities. This operational guideline explains the strategies necessary for effective coordination among relevant directorates, departments and other institutes for implementation of nutrition interventions at secondary schools. This guideline is also a reference tool and should be followed and used by all relevant programme staff and partners, starting from programme design and planning to implementation, monitoring and reporting of nutrition interventions at different platforms such as secondary schools, *madrasahs*, community adolescent clubs and AFHS. The guideline follows action-oriented processes for implementing the nutrition interventions using different platforms in Bangladesh.

2.1. Establish multisectoral coordination (national and subnational level)

2.1.1 National-level coordination

The planning and implementation of the nutrition interventions for adolescents at secondary schools will be done through effective coordination between the two main responsible institutes and directorates under two different ministries: the National Nutrition Services (NNS) of Institute of Public Health Nutrition (IPHN) under the Directorate General of Health Services (DGHS) and the Directorate of Secondary and Higher Education (DSHE).

The national-level lead agency for implementation of the adolescent nutrition programme is the NNS, DGHS. It is responsible for developing all technical documents such as guidelines, tools, and information education and communication (IEC) materials, for ensuring nutrition supplies, monitoring and evaluation (M&E) for coverage and quality nutrition services, etc.

The DSHE is the national nodal agency to provide guidance, directives, monitoring and evaluation of nutrition interventions at secondary schools. The Department of Public Health Engineering (DPHE) is the national nodal agency to provide support for schools seeking to ensure water sanitation and hygiene.

Communicable Disease Control (CDC) under DGHS, Ministry of Health and Family Welfare (MoHFW) is the department responsible for conducting deworming twice a year at secondary schools.

To ensure coordination among all stakeholders, including the government agencies, the following activities will be conducted at national level:

- Quarterly coordination meeting between national-level nodal agencies: IPHN, DSHE and the Project Office of Establishment of Adolescent Clubs under the Ministry of Women and Children Affairs (MoWCA), including international and national NGOs implementing adolescent nutrition interventions at secondary schools and community adolescent clubs

2.1.2. Subnational-level coordination

The Regional Divisional Director of Education and Divisional Director of Health will coordinate at divisional level and ensure guidance, supervision, monitoring and reporting of the implementation of adolescent nutrition interventions at secondary schools.

The District Civil Surgeon Office and District Education Office together will be responsible for planning, capacity development of service providers including health service providers, head teachers, guide teachers from secondary schools and *madrasahs*, adolescent peer leaders and orientation of school management committee (SMC) members. They will ensure engagement of district and subdistrict offices of DPHE for Water Sanitation and Hygiene (WASH) activities supporting nutrition interventions at schools and facilities.

The District Civil Surgeon Office and District Office of Department of Women Affairs (DWA) will be responsible for planning, capacity development of the service providers including child rights facilitators, *upazila parishad* members (female) and adolescent peer leaders for implementing the package of nutrition interventions for adolescents at community adolescent clubs implemented by the MoWCA.

The District Civil Surgeon Office, District Education Office and District Office of DWA will also develop and implement supportive supervision and reporting from secondary schools, *madrasahs*, community adolescent clubs and AFHS to the national level.

Recommended activities under subnational level coordination:

- Bi-monthly coordination meetings between the Civil Surgeon Office, District Education Office, District Office of DWA and District Office of DPHE to discuss progress and support for nutrition interventions at secondary schools, *madrasahs*, community adolescent clubs and AFHS

2.2. Engagement of the school management committee

The SMC will be notified of and orientated onto implementation of the package of nutrition interventions at the beginning of programme planning and implementation by the District Education Office and Civil Surgeon Office. The SMC will provide support for year-long implementation and periodical nutrition activities (such as nutrition fairs, debates and essay competitions, etc.) at schools.

2.3. Functioning student/adolescent clubs at secondary school

2.3.1. Formation of student/adolescent clubs

Student/adolescent clubs are key core groups involving students in which to implement a package of nutrition interventions for adolescents at secondary schools.

The recommended rules for formation of a student/adolescent club are as follows:

- A student/adolescent club comprises 30 students (six students from each class

VI–X). The ratio of girls to boys will be 50:50 in co-education schools

- Two club leaders (one female and one male for co-education) will be selected from the student cabinet who are focal for health and nutrition, and members of the adolescent clubs for nutrition activities. They will work with respective guide teachers (both female or both male for singular education)
- All club members including club leaders will work as peer educators for all students of their respective classes
- All students at the school will participate in the nutrition activities
- Peer leaders and club members will be changed every two years to give opportunity to more students and also to replace students who have graduated from class X
- Two teachers (one female and one male or two female; preferably science/agriculture/physical education/home economics teachers) will act as guide teachers to help club members for implementation of nutrition interventions at school
- Peer-educators will report to club leaders who in turn will report to guide teachers for updates on implementation of nutrition interventions

The selection of student/adolescent club members will follow this criteria:

- Acceptance by all/majority of students

- Interest of individual students to take part responsibility for nutrition education and services at the schools
- Willingness of students to implement nutrition education and services at the school
- Leadership quality and skills to mobilize and organize other students, club activities, public speaking skills and skills in cultural activities

Finally, parents should be informed by the school authorities and arrange consent for their children's participation as student/adolescent club members under the guidance of guide teachers.

2.3.2 Function of student/adolescent clubs

- School will allocate a classroom for club functions, which will be a safe place for adolescent girls
- Once a week (Thursday), club members will meet together for one hour for the club activities
- Each Thursday, club leaders/peer educators will discuss and learn about one important nutrition issue among themselves and prepare an outline to communicate with other students
- Each Sunday or any day of the following week at a particular time, club leaders/peer educators will discuss their knowledge on particular issues on nutrition with all students of the class as per the guideline supported by guide teachers

- Relevant nutrition materials will be distributed among all students of respective classes
- Activities will be performed as per the plan and students motivated to participate in the club activities
- Participation and attendance of irregular members will be ensured
- A register of the club members (club leaders and peer educators) will be maintained
- A register of the students of respective classes will be maintained, with a bi-annual record of measures of weight and height
- A register will be maintained of distribution to, and consumption of, IFA for girls, and deworming for all students under the guidance of guide teachers
- Club leaders/peer educators will coordinate with community adolescent clubs and disseminate their knowledge on nutrition among the community adolescent club members
- Club leaders/peer educators will also act as change agents for family food behaviour/practices and role models for the out-of-school adolescents
- Booklets, training modules, flip chart, IFA diary/card, other different types of IEC materials developed and approved by national authorities
- Registers and reporting books, etc.
- Games items, cultural materials such as music equipment, cultural dresses, etc.
- Measuring scales (weight and height) and height/weight charts to monitor nutrition status

2.4. Formation of advisory committee on nutrition at secondary school/madrasah

An advisory committee will be formed comprising the chair of the SMC, head teacher as the member secretary, other SMC members, guide teachers (science/agricultural/physical education/home economics teacher), local female counsellor of union *parishad*/municipality/city corporation, health inspector/assistant health inspector/health assistant, family planning inspector, assistant health officer from zone level for city corporation and two parents (one female and one male).

According to the local context, where a convening committee is functioning, the advisory committee will be formed with that convening committee.

Role and responsibilities of advisory committee:

- Overall monitoring of implementation of the package of nutrition interventions at schools
- Ensure regular coordination with GOB departments at district and subdistrict

2.3.3. Materials required for student/adolescent clubs

The SMC and teachers will ensure the following materials with support from IPHN, DSHE and DWA through District Civil Surgeon/District Education/District DWA offices:

level, including Office of Health Services and Office of DSHE

- Ensure all logistics and supplies are available for nutrition interventions
- Ensure parents are oriented on benefits of package of nutrition interventions implemented at schools
- Ensure documentation and record-keeping as per guideline
- Ensure coordination and engagement of district and subdistrict offices of DPHE for WASH activities supporting nutrition interventions at school
- Ensure timeliness of submission of monthly reports
- Support, and ensure removal of institutional barriers/bottleneck if any, for implementation of package of nutrition interventions at school

2.5. Defining roles and responsibilities and capacity development of managers/service providers

2.5.1. Roles and responsibilities of managers/service providers

Role and responsibilities of Deputy Director Education:

- Overall coordination between different departments of different ministries relevant to adolescent nutrition programme

- Ensure that District Education Officers, Upazila Secondary Education Officers/ Upazila Education Officers and other service providers relevant to the program have received capacity development training on adolescent nutrition program.
- Review and submit of monthly progress and monitoring report to the Monitoring and Evaluation Wing of DSHE.
- Monitor and provide technical assistance to the secondary schools, *madrasahs* and community adolescent clubs for implementation of adolescent nutrition interventions.
- Ensure referral system between district / *upazila* health complexes and secondary schools, *madrasahs* and community adolescent clubs.

Role and responsibilities of civil surgeon:

- Overall coordination between different departments of different ministries relevant to adolescent nutrition programme
- Ensure progress review of adolescent nutrition programming coordination with IPHN and ensure nutrition supplies for programme implementation
- Ensure district implementation and monitoring plan
- Ensure monitoring data are input and sent to the IPHN on a monthly basis
- Ensure capacity development training on adolescent nutrition for supervisors and service providers

- Periodical technical monitoring of adolescent nutrition programme implementation at secondary schools, *madrasahs*, community adolescent clubs and AFHS
- Ensure functioning referral system between facilities (district and *upazila* level) and secondary schools, *madrasahs* and community adolescent clubs

Role and responsibilities of deputy director family planning:

- Participation in the coordination meeting organized by the District Civil Surgeon Office on adolescent nutrition
- Ensure adolescent nutrition counselling is a priority during household visits done by the family welfare assistant
- Ensure functioning referral system between facilities (district and *upazila* level) and secondary schools, *madrasahs* and community adolescent clubs

Role and responsibilities of district education officer:

- Participate in and update on implementation of adolescent nutrition in secondary schools in the coordination meeting organized by the District Civil Surgeon Office on adolescent nutrition
- Ensure *upazila* secondary education officers (USEO)/*thana* secondary education officers (TSEO)/*upazila* academic supervisors (UAS) of the respective *upazila* receive and provide training to secondary school teachers on adolescent nutrition as per the guideline

- Coordinate with the Civil Surgeon Office for necessary nutrition supplies at secondary schools for adolescent nutrition programming
- Ensure USEO/TSEO/UAS are engaged to collect programme implementation report from secondary schools as per the M&E guideline
- Periodical monitoring at secondary schools to ensure quality adolescent nutrition programme implementation

Role and responsibilities of head teacher:

- Designate two teachers as the guide teachers for nutrition interventions
- Orientate all class teachers from classes VI–X on nutrition interventions
- Ensure a specific place is available for student/adolescent club activities and a separate time is allocated for the nutrition education session within the regular class routine
- Ensure orientation of other class teachers, school students and SMC members on the package of nutrition interventions at secondary schools
- Ensure availability of necessary logistic and nutrition supplies for the nutrition interventions at school
- Ensure provision of safe drinking water
- Coordinate universal (SMC members, teachers, students) involvement during deworming days
- Arrange a parents' day every six months

at schools, at which the importance of adolescent nutrition and weekly iron folic acid (WIFA) is emphasised

Role and responsibilities of guide teachers:

- Form and supervise the club functions
- Plan for implementation of nutrition interventions at school
- Guide club leaders for a review meeting each quarter
- Orientate, support and supervise club leaders on record-keeping and reporting
- Support club leaders/peer educators to prepare specific nutrition topics for all students through classroom knowledge-sharing sessions
- Ensure methodology of nutrition education at classroom sessions and nutrition education at clubs
- Ensure systematic implementation of nutrition interventions other than nutrition education such as deworming, WIFA supplementation, promotion of preventing child marriage, physical activities
- Monitor and report sanitation, safe water and hygiene activities, and advise SMC on requirements for installation of facilities
- Establish a referral mechanism for malnourished/anaemic children who need medical care at health centres

Role and responsibilities of class teachers of specific classes (VI–X):

- Ensure active support during weekly distribution of IFA

- Prepare a list of students/adolescent girls aged 10–19 years
- Work with guide teachers to keep a record on IFA nutrition education and an everyday class attendance record
- Coordinate with guide teachers to provide IFA to girls who have not received it
- Support peer educators by selecting day and time each week to provide nutrition education on selected issues for all students in their respective classes

Role and responsibilities of health inspector (HI) and assistant health inspector (AHI):

- Mobilize support from the SMC for implementation of nutrition interventions as per requirements
- Assist school to form student/adolescent clubs and select club members
- Orientate/provide training to guide teachers, club leaders and peer educators in coordination with district health education officers (HEO) and USEO/TSEO/UAS
- Ensure logistic and nutrition supplies (IFA tablets, mebendazole tablets, IEC materials, etc.) to the schools under his/her supervision area
- Ensure recording and reporting of WIFA, deworming, nutrition education sessions at school
- Support referral linkages between schools and AFHS for managing acutely malnourished adolescents suffering from anaemia etc., and other cases requiring medical care

- Support nutrition fairs in the school (engage other allied departments) during National Nutrition Week and other national programme days
- Conduct periodic monitoring visits to assess nutrition interventions

Collect and compile monthly reports from schools under his/her supervision and share with civil surgeon through *upazila* health and family planning officers

- Coordinate with USEO/TSEO to implement package of nutrition interventions at school
- Monthly plan, and conduct courtyard meeting with parents and community members to raise community knowledge, awareness and behaviour change on dietary practices, safe and nutritious food preparation, the negative impact of early marriage on adolescent nutrition, risk of non-communicable diseases (NCD) and obesity, etc.

Role and responsibilities of senior/junior district health education officer (HEO):

- Prepare plan for monthly nutrition sessions at secondary schools in his/her working area in coordination with HI and AHI
- Attend parents' meetings and take sessions on nutrition
- Support and take part in orientation/training to SMC members, head teachers, guide teachers, peer leaders and peer educators
- Refer malnourished, anaemic and

pregnant adolescents etc., to the adolescent-friendly health facility for appropriate treatment

Role and responsibilities of *upazila* secondary education officer (USEO)/*thana* secondary education officer (TSEO)/*upazila* academic supervisor (UAS)

- Coordinate with head teachers and SMC to form school clubs, selection of guide teachers
- Support and take part in orientation/training to SMC members, head teachers, guide teachers, club leaders and peer educators in coordination with HI and AHI
- Support organization of nutrition fairs in schools (engage other allied departments)
- Supervise regularly to monitor the package of nutrition interventions at schools
- Coordinate with district and *upazila* health offices to implement the package of nutrition interventions at schools and functioning reporting system
- Coordinate with subdistrict offices of DPHE for WASH activities supporting nutrition interventions at schools
- Coordinate with CDC for implementation and reporting of the deworming program

Role and responsibilities of health assistant (HA), and sub assistant community medical officer (SACMO)/family welfare assistant (FWA):

- Monthly plan, and conduct courtyard meeting with parents and community

members for raising community knowledge, awareness and behaviour change on dietary practices, safe and nutritious food preparation, negative impact of early marriage on adolescent nutrition, risk of NCD and obesity, etc.

- Monthly plan for courtyard meeting should be developed in coordination with HI/AHI/FPI to avoid any duplication and provide wider coverage
- Refer malnourished, anaemic and pregnant adolescents etc., to AFHS for appropriate treatment

Role and responsibilities of district and *upazila* statisticians:

- Receipt of the monitoring report as per the monitoring guideline from the HI
- Enter data into the M&E system for implementation of the package of nutrition interventions in schools and also other platforms such as community adolescent clubs
- Compile manual report from HI and share with Nutrition Information and Planning Unit located at IPHN, DGHS.

2.5.2. Capacity development of managers/service providers

A fundamental first step in operationalizing the package of nutrition interventions at secondary schools is awareness. Orientation and comprehensive training for the multisectoral actors involved at different levels and different institutes are provided, based on their roles in programme implementation. The IPHN and DSHE have a vital role to ensure the requisite skills and

capacity among service providers and managers. The following capacity development programmes are recommended to enhance knowledge on adolescent nutrition interventions.

- **Developed Master Trainers** on adolescent nutrition programme implementation at schools and communities. IPHN will select master trainers from the government institutes as well as national and international organizations mandated to implement and support nutrition interventions for adolescents. IPHN and DSHE jointly will organize *Training of Trainers* (TOT) for master trainers who will facilitate training/orientations for managers and service providers on the package of nutrition interventions. The following participants will receive TOT to act as trainers in subnational-level training:
 - District health managers or as nominated by civil surgeons
 - Deputy director secondary and higher education (regional) school/college
 - District education officers
 - Trainer from DSHE
- **Orientation Programme (national and subnational level):** This training is for the district health managers, *upazila* health and family planning officers, deputy director family planning, district and *upazila* secondary education officers, SMC members and head teachers. This programme will be organized under technical support from IPHN with support from DSHE. Master trainers will facilitate

the *Orientation Programme* for managers and service providers from the health, family planning and education sectors. An approved adolescent nutrition training module will be used as the resource document for this programme. The *Orientation Programme* will focus on quality programme implementation, and establishment and functioning of the monitoring and reporting system

- **Training for Guide Teachers :** This training programme should be conducted once a year at *upazila* level jointly by the USEOs/TSEOs and UHFPOs or nominated medical officers. Training modules on adolescent nutrition, IEC materials, booklets for teachers etc., are the key resources for this training programme
- **Comprehensive Training for Student/ Adolescent Club Members:** This training programme will be conducted by the guide teachers once a year with support from the *upazila* offices of the health and education sectors or master trainers from national level. Booklets on different issues, IEC materials, entertainment education materials etc., will be used for training of student/adolescent club members
- **Orientation for all Teachers:** This orientation will be conducted by guide teachers with support from head teachers, health inspectors and USEO/TSEO/UAS
- **Orientation for all Students:** This orientation programme is necessary for active participation in the student/

adolescent club activities. It will be recommended that this is organized at the beginning of every school calendar year

- **Orientation for Parents on Nutrition:** This should be organized once at the beginning of the school calendar year. This should be part of the parents' meeting
- **Refresher Training for Student/ Adolescent Club Members:** Biannual refresher training or problem-solving workshops can be organized based on any unresolved queries raised by the students during classroom sessions. Guide teachers will conduct refresher training with support from the *upazila* offices of the health and education sectors

2.6 School based report collection and submission

1. "Shushastho Card" for girls will be distributed to each school through DGHS, where school will record information on distribution and consumption of Iron Folic Acid Tablets and Deworming tablet (Mebendazole 500 mg).
2. Each class will have 'Class Register', where weight, height and BMI of all student will be recorded bi-annually
3. Distribution of WIFA and deworming tablets to all student will be recorded in same 'Class Register'.
4. At the end of the month, Guide Teachers will prepare Monthly report for school after compilation of all 'Class Register'(s). The Monthly Report must be reviewed

and signed by Head Teacher of the school. Head teacher will submit Monthly School Report to the Upazila Secondary Education Officer (USEO).

5. After compilation of the all school's Monthly Reports, USEO will submit Upazila Monthly Reports to the UHPFO and District Education Officer.
6. District Education Officer will submit Upazila reports to the respective Divisional office of Health and Regional Office of Education.
7. Regional Office of Education will submit all district report to Nutrition Information and Planning Unit (NIPU) of National Nutrition Services (NNS).
8. Similarly Divisional Health Office will submit all district report to Nutrition Information and Planning Unit (NIPU) of National Nutrition Services (NNS).

Section 3

Package of Adolescent Nutrition Interventions

- 3.1. Nutrition Education Promoting Healthy Diet**
- 3.2. Monitoring Weight, Height and BMI**
- 3.3. Weekly Iron Folic Acid (WIFA) Supplementation**
- 3.4. Deworming**
- 3.5. Referral of malnourished, anaemic and other nutrition cases who need medical attention**
- 3.6. Promoting Physical Activities**

3. Package of Adolescent Nutrition Interventions

With the aim of preparing a package of relevant interventions, the 'Adolescent Nutrition Guideline' (NNS, IPHN, 2018)² outlined eight issues for consideration: adolescence and puberty, adolescent nutrition status, food and nutrition of adolescents, problems of malnutrition and prevention, safe food and water, personal hygiene, child marriage, and care during pregnancy including care of neonates. Further, existing WHO³ evidence-informed interventions and policies relevant to adolescent nutrition were grouped into eight main actions: promoting healthy diets, providing additional micronutrients through fortification of staple foods and targeted supplementation, managing acute malnutrition, delaying early marriage with the aim of preventing early adolescent pregnancy and poor reproductive outcomes, promoting preconception and antenatal nutrition, providing access to safe environment and hygiene, promoting physical activity and disease prevention and management.

Against this background, a package of adolescent nutrition interventions has been defined for secondary schools in Bangladesh, following interventions that are feasible to implement, monitor and scale-up at secondary schools.

- Nutrition education promoting dietary diversity
- Weight and height monitoring
- Weekly iron folic acid (WIFA) supplementation

- Deworming
- Referral of malnourished, anaemic, and other nutrition cases requiring medical advice and care
- Promoting physical activities

3.1. Nutrition education promoting healthy diet

The most immediate cause of undernutrition in Bangladesh remains inadequate dietary intake of nutrient-rich foods. Although representative data among adolescents in Bangladesh are still scarce, a study conducted in 1998 showed that among urban schoolgirls, only 9 percent and 17 percent met the recommended dietary allowance (RDA) for energy and protein, respectively (Ahmed et al., 1998). Gender-based discrimination is widely recognized as a primary underlying cause of undernutrition in Bangladesh (Sen and Hook, 2012). Recent data (FSNSP, 2013) show that, in times of food scarcity, women are the first to sacrifice their own food intake for other household members to benefit.

Adolescence is a timely period for the adoption and consolidation of sound dietary habits. Teenagers are usually open to new ideas, show curiosity and interest, and many habits acquired during adolescence will last a lifetime. Furthermore, with increasing age, adolescents' personal choices and preferences gain priority over any eating habits acquired in the family, and they have progressively more control over what they eat, when and where (Thomas, 1991;

² 'Adolescent Nutrition Guideline', Directorate General Health Services, Government of Bangladesh, , IPHN, 2018.

³World Health Organization, 'Guideline: implementing effective actions for improving adolescent nutrition', <https://apps.who.int/iris/bitstream/handle/10665/260297/9789241513708-eng.pdf>, 2018.

Shepherd and Dennison, 1996; Spear, 1996). Improving adolescent nutrition behaviours is an investment in adult health.

The guide teacher along with peer leaders will prepare a quarterly nutrition education session plan for all classes and, accordingly, conduct weekly preparatory sessions on nutrition education for the peer educators at student/adolescent clubs during club time on Thursday. Peer leaders and peer educators along with guide teachers will conduct weekly nutrition education sessions in their respective classes on a pre-selected topic. Three months are required to complete one cycle, which will be repeated four times throughout the year.

Nutrition education sessions will follow multiple methodologies: presentation and discussion, quiz, debate, games, entertainment education using booklets, multimedia, etc.

Among others, the following topics will be included in the nutrition education:

- Food and nutrition: balanced diet
- Importance of preventing obesity
- Control of iron deficiency anaemia
- Iodine deficiency and other micronutrient deficiency
- Consequences of early marriage and prevention
- Healthy lifestyle for healthy living
- Nutritious food during menstruation

- Practicing hygiene and nutritious food preparation

3.2. Monitoring weight and height

Adolescence is a period of rapid growth: up to 45 per cent of skeletal growth takes place and 15–25 per cent of adult height is achieved during adolescence (Rees and Christine, 1989). During the growth spurt of adolescence, up to 37 per cent of total bone mass may be accumulated (Key and Key, 1994). Nutrition influences growth and development throughout infancy, childhood and adolescence; it is, however, during the period of adolescence that nutrient needs are the greatest (Lifshitz, Tarim and Smith, 1993).

Over 80 per cent of adolescent growth (attained weight and height) is completed in early adolescence (10–15 years). The growth spurt of adolescence has been seen as a period of potential interest for catching up any growth deficits from childhood. This adolescent growth spurt is also associated with cognitive, emotional and hormonal changes. A girl begins her adolescent growth spurt at an average age of about 10 years and grows at peak velocity at about 12 years. A boy starts his adolescent growth spurt around 12 years of age and in a year or two overtakes the girl. The girl attains her adult height at about 16 years, the boy at 18 years.

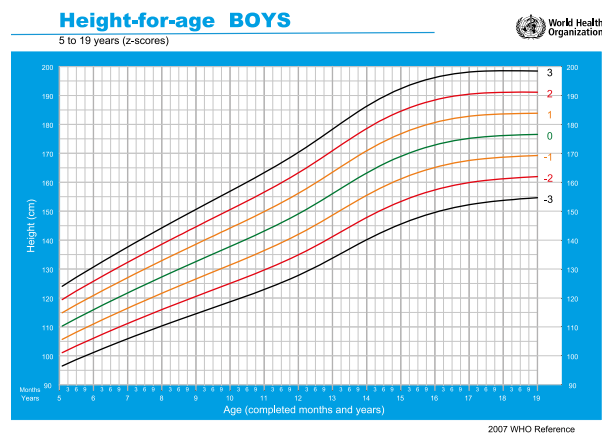
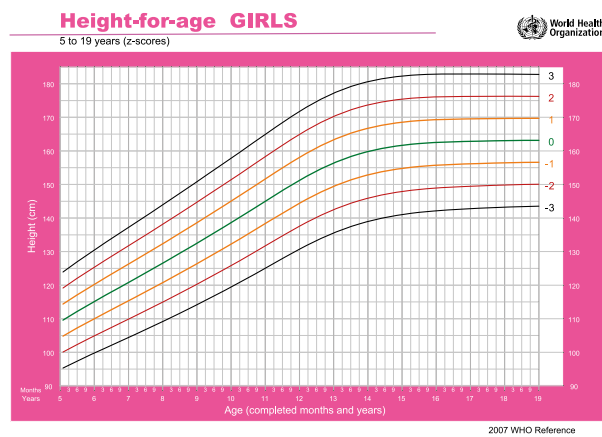
It is important to measure weight and height of schoolchildren to understand their growth in terms of the height which they should achieve during the adolescent period.

3.2.1. Measuring Weight, Height and BMI

- Peer leaders/peer educators will receive training to measure the weight and height of adolescents
- One height measuring tap will be placed in a suitable place on the wall, so any student can measure their weight and height
- At the beginning of the school calendar year, peer leaders/peer educators will

arrange a measuring session for weight and height in a particular week and invite all students to the session in a systematic manner

- The weight and height of all students will be recorded in a register/digital system, and height will be plotted on a chart to understand the physical growth of all students attending secondary schools. The plotted height chart will be put on the wall of the student/adolescent club for follow-up
- This exercise will be repeated at six-month intervals to follow the progress of physical growth of the adolescents, and also to determine the effects of any nutrition interventions among adolescents attending secondary schools



3.2.2. Body mass index (BMI)

Thinness, and overweight and obesity are characterized using BMI-for-age based on the WHO adolescent growth standards (de Onis et al., 2007).

Calculating BMI

For an adolescent girl aged 12 years of 28 kg weight and 1.25 m height, BMI is calculated using the following formula. Her BMI of 17.92 indicates that she is experiencing normal growth.

$$\text{Body Mass Index (BMI)} = \frac{\text{weight (kg)}}{\text{height (m)}^2} = \frac{28}{1.25 \times 1.25} = 17.92 \text{ kg/m}^2$$

The weight and BMI of all students will be recorded in a register book and plotted on the

charts twice in a year. Training will be given on calculation of BMI and interpreting nutrition status using the standard formula and WHO BMI charts.

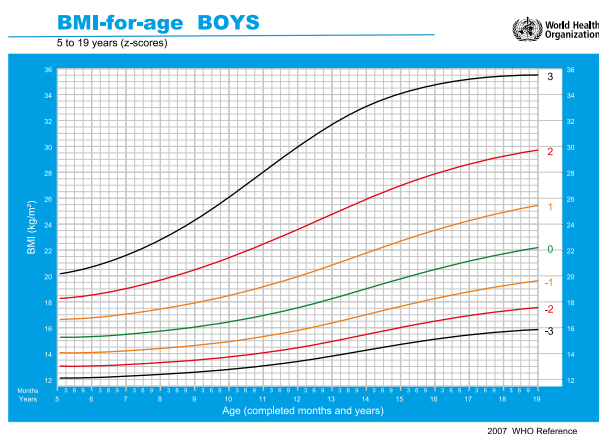
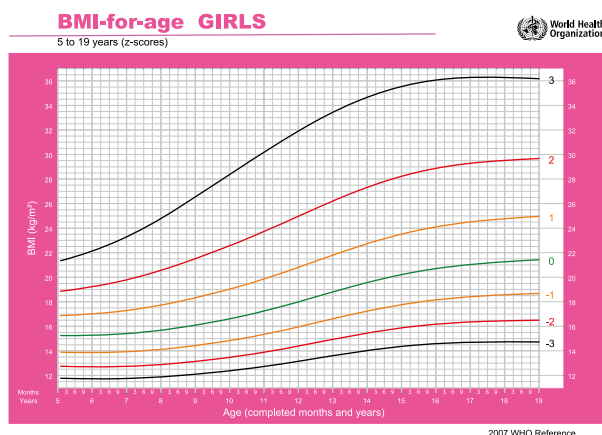


Figure 1. World Health Organization BMI-for-age charts for girls and boys.

3.3. Weekly Iron Folic Acid (WIFA) Supplementation

The need for iron increases with rapid growth and expansion of blood volume and muscle mass. As boys gain lean body mass at a faster rate than girls, they require more iron than girls, although the onset of menstruation imposes additional needs for girls. Adolescents should be encouraged to consume iron-rich foods.

Foods with the highest and most absorbable iron content are red meat and liver. Iron is also found in green leafy vegetables, banana, beans, papaya, lentils, wheat and molasses. However, it is often hard to get enough iron from food if the diet is not varied. Iron supplements prevent adolescents from becoming anaemic, they increase the body's immunity and enhance cognitive development and school performance. As iron cannot be stored in large quantities in the body, like vitamin A, iron needs to be consumed regularly and thus iron supplementation should be given regularly, especially to the adolescent girls.

According to the WHO Guideline 'Intermittent iron and folic acid supplementation in menstruating women 2011', the Ministry of Health and Family Welfare has taken initiatives to start a weekly iron and folic acid (WIFA) supplementation programme at secondary schools to meet the challenge of high prevalence and incidence of anaemia among adolescent girls in Bangladesh. The ultimate goal of the WIFA programme is to reduce prevalence of anaemia among adolescent girls aged 10–19 years.

Target group: Adolescent girls enrolled in government/government-aided/municipal secondary schools, *madrasahs*, out-of-school adolescent girls through community adolescent clubs and also those attending AFHS.

Intervention: Administration of supervised iron folic acid (60 mg elemental iron and 400 µg folic acid) to adolescent girls (aged 10–19 years) on a fixed day, preferably Thursday during morning assembly.

Note: According to the WHO guideline 2011, adolescent girls should receive IFA with the

composition 60 mg of elemental iron and 2.8 mg folic acid, and intermittent supplements should be given throughout the school or calendar year. Presently the MoHFW has no preparation of the recommended composition. WIFA supplementation for adolescent girls will start with the currently available preparation and efforts will be made to replace this as per the WHO-recommended composition.

Administrator: Each class teacher will administer the IFA supplementation among their female students with support from guide teachers, peer leaders and peer educators.

3.3.1. Key considerations during implementation of WIFA

- Encourage students to eat breakfast each day, with special attention to Thursdays. Girls will not receive the IFA supplementation without first having had breakfast
- Guide teachers will orientate other teachers and students regarding the WIFA programme
- Show students how to complete individual compliance cards
- Involve class teachers to ensure supervision during ingestion of IFA tablets by adolescent girls enrolled in classes VI–X
- Ensure provision of safe drinking water for IFA tablet consumption
- If the student is absent on Thursday or missed out on consumption of the IFA tablet, give it within the next week.

Continue weekly IFA supplementation in an adolescent with significant anaemia until she is tested for haemoglobin levels at a health facility

- Before the school closes for vacations, the students should be given the requisite number of IFA tablets for consumption during the holidays under parental supervision. After vacations, teachers will check empty IFA tablet strips to confirm intake
- Students should be properly informed about side effects during nutrition education sessions. Black stools, nausea and vomiting can occur in few cases, but such side effects are often transitory and their frequency is much lower than with daily doses. Side effects also decrease over time

Teachers should inform girls about the benefits of IFA supplementation such as:

- Improved concentration in school, and school performance
- Feeling stronger and less tired
- Increased energy levels and output in daily work
- Increased appetite
- Improved overall capacity to work and earn
- Better sleep
- Improved skin appearance
- Regularization of menstruation
- Building pre-pregnancy health

3.3.2. Estimation of requirement for and storage of IFA tablets

- Guide teachers are responsible for estimating supplies, and should submit requests to the HA to ensure they are delivered
- Guide teachers should store the IFA and maintain a register
- Annual supplies of IFA tablets should be stored in a clean, dry, dust-free area away from direct sunlight
- The guide teacher(s) for each school will estimate annual requirements for IFA tablets

Estimation of IFA tablets

IFA tablets for the year = $52 \times$ total number of students (girls only) in VI–X standards/year. An additional 20 per cent stock to be added as buffer.

- After calculation of the estimate, the head teacher at the school will submit the IFA requirement request to the UHFPO through the HA using the form given in Box 1
- The UHFPO, in coordination with the Civil Surgeon Office, will arrange supply of IFA for this programme

Requirement Slip for Iron Folic Acid Tablets

Date:

Name of School:

Address of School:

Total number of girls student:

Yearly requirement of IFA tablets:

Total requirement of IFA tablets for next three months:

Schedule for distribution of IFA tablets: (month-month) Year:

Signature (Guide teacher 1)

Signature (Guide teacher 2)

Signature (Head Teacher)

3.3.3. Monitoring and reporting

- The guide teachers and class teachers will be responsible for overseeing that the compliance cards are completed correctly
- IFA administration information will be entered each week into the register (Box 2) by peer leaders/peer educators of the respective classes (VI–X) under the supervision of the class teachers
- At the end of the month, the class teacher will compile the information on the number of girls who have taken four to five IFA tablets per month (five tablets in case of five weeks in a month)
- In cases of girls not able to consume four IFA tablets in a month, the reason for non-compliance should be noted in the remarks column of the form and will be compiled in the school report
- Class teachers will compile monthly data by classes under the supervision of the guide teachers
- The guide teachers will consolidate all the information from the class reporting formats into the monthly school-reporting format (Box 3) and submit it to the school head teacher
- The head teacher will review the information in the monthly school reporting format, countersign it and submit it to the offices of Health and Education at *upazila* level monthly. This will be done manually until the e-reporting system is established linking with DHIS2
- The head teacher will also send a copy of this monthly school report to the advisory committee on nutrition (ACN)

- All girls will use the IFA diary for their own record of receiving IFA on a weekly basis

3.4. Deworming

In Bangladesh, worm infections are widespread, especially in rural areas because of poor personal hygiene and unsanitary environmental conditions. Intestinal worms are parasitic organisms, which reside in the human intestine and affect the absorption of nutrients needed for growing, learning and staying healthy. There are several types of worms, for example roundworm, hookworm, threadworm and tapeworm, but roundworms and hookworms are the most prevalent among school-aged children in Bangladesh. Deworming kills the worms and if done regularly prevents children from building heavy worm loads, which have more severe consequences on their health and education. Deworming is a safe, easy and cheap intervention: the most commonly used drug, albendazole, is biochemically proven to be a safe, single administration drug.

In 2017, Communicable Disease Control (CDC) under the Directorate General of Health Services, MoHFW started implementation of 'deworming weeks' twice a year for secondary school students (boys and girls) in coordination with the Directorate of Secondary School Education under the Ministry of Education. The programme has fixed the two months for deworming weeks: the first dose of mebendazole (500 mg) tablet should be given in April, with the second dose given in October/six months after the first. Each year before the start of the deworming weeks, CDC provides orientation to all education officers, health service providers, FP workers and teachers on implementation.

3.5. Referral of malnourished, anaemic and other nutrition cases who need medical attention

All secondary schools should have established referral linkage with health facilities, in AFHS where available, to manage severe anaemia, severe malnutrition and other issues such as mental health, sexual reproductive health, etc.

Management of severe acute malnutrition among adolescents (10–19 years) should be referred to hospital and treated in accordance with WHO recommendations for management of severe acute malnutrition.

The guide teacher, leaders and members of the school should have the knowledge and skills to identify the sick students who need to be referred to the nearest appropriate health facilities:

- Identify the malnourished and anaemic students and refer (Box 4) to the nearest appropriate health facilities for advice. Female students should be screened for presence of moderate/severe anaemia by assessing nail bed, palmar, conjunctival and tongue pallor. (Note: High technical knowledge and skill may not be required to detect the malnourished and anaemic students, physical observance can be sufficient)
- During administration of iron folic acid supplementation (recommended to be consumed after meals only as per guideline), if a girl complains of uneasiness/side effects, the teacher will refer her to the nearby health facilities
- Married adolescents should also be advised, counselled and referred for delaying first pregnancy by adopting family planning methods including the emergency contraceptive pill
- Although pregnancy of adolescent girls is not desirable, pregnant adolescent girls should be treated with respect and referred to the nearest AFHS, or nearby health facility for antenatal care (ANC)
- Any student with sickness requiring medical care should be referred to the nearest available and appropriate health facilities for treatment and advice
- Students will be informed and encouraged to receive IFA from their nearest health centres during long vacations from school

Hospital Referral Form				
Only used by school		Only used by hospital		
Date:/...../.....	Gender	Age	Weight	Height
Name of school:	<input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Other			
Upazila: District:.....	Marital Status	Description of the problem	Anaemia (based on physical examination)	
Name of student:Class:.....			<input type="checkbox"/> (-) <input type="checkbox"/> (+) <input type="checkbox"/> (++) <input type="checkbox"/> (+++)	
Reasons for Refer:	<input type="checkbox"/> Unmarried <input type="checkbox"/> Married <input type="checkbox"/> Other			
.....				
Name of the hospital:	Need for follow-up		Prescription provided	
Referred by:	<input type="checkbox"/> Yes, days after-		<input type="checkbox"/> Yes (please attached)	
	<input type="checkbox"/> No		<input type="checkbox"/> No	
Seal and Signature		Seal and Signature		

3.6. Promoting physical activities

Physical activity is defined as any bodily movement produced by skeletal muscles that causes energy expenditure. Thus, physical activity occurs in many different settings. At school, physical activity includes participation in physical education, recreation and dance programmes, school athletics and active play during recess, walking or cycling to and from school, and extracurricular opportunities that offer physical activities during leisure time.

Appropriate levels of physical activity in adolescence are important. Physical

activity contributes to the development of musculoskeletal tissues and enhances bone health, the cardiovascular system and neuromuscular awareness, and can help to reduce symptoms of anxiety and depression. Regular physical activity is fundamental to energy balance, weight control and prevention of obesity. Physical activity of amounts greater than 60 minutes daily will provide additional health benefits.

Most of the daily physical activity should be aerobic. Vigorous-intensity activities should be incorporated, including those that strengthen muscle and bone, at least three times per week.

What type of physical activity should one do?

- 60 minutes each day: walking, running, cycling, housework like sweeping, playing with a ball such as catching and throwing, etc.
 - 2–3 days a week: muscle-building exercise, such swimming, boat riding, pulling rope, etc.
- The school should advise the physical education teacher/game teacher (where he or she exists), or in his/her absence the head teacher should engage one teacher, to make plans for regular physical exercise, games and yoga with the students
 - The game teacher will make a plan/ calendar when and how s/he will teach and arrange the sports and physical exercises with the students in the schools. The best way to promote healthy lifestyles is for whole classes or schools to become involved
 - The school should have an option for students to learn indoor games, for example basketball, hand ball, table tennis, etc., after school one day a week
 - The game teachers and peer leaders can teach physical exercises such as yoga, aerobics, body- and muscle-building exercises, etc.
 - Peer educators will arrange and implement the exercise plans for their respective classes, and the game teacher will arrange and implement the exercise plan for the entire school. More progressively, the class can select a captain for indoor games and another captain for outdoor games
 - The school authorities should encourage students to ride bicycles when commuting to school, which is environmentally friendly, cost-effective and efficient.
 - The students should be made aware of personal safety (wearing a helmet), road-safety and traffic rules

Section 4

**Linkage between school
student/adolescent clubs and
community adolescent clubs**

4. Linkage between school student/adolescent clubs and community adolescent clubs

While a school-based platform allows access to a considerable number of adolescents, more than 50 per cent of adolescents are not included because of high dropout rates from secondary schools. The current attendance rate at secondary or higher schools is only 46.1 per cent nationally.

A school-based initiative provides a unique opportunity to educate and enhance the knowledge, attitudes, practices and nutrition behaviours of out-of-school adolescents. School-going adolescents can act as agents of change to reach and support out-of-school adolescent to improve their nutrition knowledge and to influence appropriate nutrition behaviours.

The Ministry of Women and Children Affairs (MoWCA) initiated a move to establish around 5,000 adolescent clubs at the community level. The peer leaders/peer educators of the school student/adolescent clubs are a key part of the initiative. Using their learning from school-based nutrition interventions, peer leaders/peer educators can act as role models and agents of a changing community by sharing their information and influencing out-of-school adolescents through

active participation in the community adolescent clubs.

Community adolescent clubs will also implement the package of nutrition interventions as per this guideline.

Facilitators and peer leaders will receive training for implementation of the package of nutrition interventions at community adolescent clubs under coordination between district-and *upazila*-level offices from MOWCA and DGHS.

Annex 1. Operational guideline development strategy

This document has been developed following the recommendation of the Nutrition Implementation Coordination Committee (NICC). The committee held a consultative process that started after piloting experiences of the implementation of nutrition education in 40 secondary schools from 20 districts of all divisions, jointly organized by the Institute of Public Health Nutrition (IPHN) under the Directorate General of Health Services (DGHS) and Directorate of Secondary and Higher education (DSHE) between mid-2018 and mid-2019.

To ensure that the 'Operational guideline for adolescent nutrition interventions' accurately reflects the views of its stakeholders, an extensive consultation process was undertaken from May 2019 to September 2019. The consultations included participants from relevant ministries at the national

and subnational level, secondary schools, academia, research institutions, international and national organizations and UN agencies. They involved group discussion meetings with various stakeholders. The workshop outputs and recommendations were compiled and incorporated in the document.

A number of group discussions and one-to-one discussions were held after the third validation workshop held on 23 September 2019, with key managers and services providers from the Health, Education and Family planning sectors.

The Institute of Public Health Nutrition (IPHN) put together a small Expert Working Group consisting of seven members to review thoroughly and finalize the operational guideline before submission for MOH&FW and MOE endorsement. The Expert Working Group was also responsible for identifying critical issues to be addressed and ensuring coordination for all involved sectors.

The following table provides major events in the process of developing the strategy:

Time period	Event
11 April 2019	NICC meeting recommended for development of " Operational Guideline for Implementation of Adolescent Nutrition Interventions"
20 May 2019	Two stakeholders' workshops run in parallel for development of the operational guideline
June to September 2019	Draft and review of the operational guideline
23 September 2019	Review and validation of the operational guideline through a stakeholders' workshop
2 October 2019	Technical Expert Group Form and shared revised version for review

October 2019	Group discussion and one-to-one discussion for validation of roles and responsibilities of different positions, department, institutes mentioned under the guideline, conducted by UNICEF Zonal Nutrition Officers covering eight divisions
10 December 2019	Endorsed by Nutrition Implementation Steering Committee

Annex 2. Technical Expert Group

Chair:

Dr. S M Mustafizur Rahman
Line Director, National Nutrition Services
(NNS)

Coordinators:

Dr. Nandalal Sutradhar
Deputy Program Manager, NNS, IPHN

Dr. Ireen Akhter Chowdhury
Nutrition Officer, UNICEF Bangladesh

Members:

Prof. Prabir Kumar Bhattacharjee
Director (Training) DSHE

Md Mazharul Haq Masud
Assistant Director, Training, DSHE

Dr. Aman Ullah
Program Manager, School Health, DGHS

Dr. M. I. Bulbul
Deputy Program Manager, NNS

Dr. Romen Raihan
Associate Professor, BSMMU

Dr. Nizam Uddin Ahmed
Executive Director, SKNF

Saiqa Siraj
Country Director, Nutrition International

Annex 3. Lists of contributors Contribution through participation in operational guideline development workshops

1. **Dr. Md. Shahnewaz**
Director General, BNNC
2. **Dr. Somir Kanti Sarkar**
Director, MIS, DGHS
3. **Dr. Md. Khalilur Rahman**
Director IPHN
4. **Dr. Md. Yunus- Director**
DGHS
5. **Dr. Probir Kumar Vottacharee**
Director, DSHE
6. **Dr. S. M. Mustafizur Rahman**
Line director, NNS
7. **Dr. Pabitra Kumar**
Kundu DD, PM-3, NNS
8. **Dr Qumrun Nahar**
DD, Discipline DGHS
9. **Dr. Tahmina Sultana**
DD, DGHS
10. **Dr. A F M Shahabuddin Khan**
Acting Civil Surgeon, Dhaka
11. **Dr. Md. Abdul Alim**
DPM, IPHN
12. **Md. Aman Ullah**
DPM, NNS, IPHN
13. **Dr. Murad Morshed**
NNS, IPHN
14. **Dr. M. Islam Bulbul**
DPM, NNS, IPHN
15. **Dr. Gazi ahmod Hasan**
DPM, IPHN
16. **Dr. Md. Moniruzzaman**
DPC, IPHN
17. **Dr. Shahidul Alom**
Representative, IECTEH
18. **Dr. Saika Nizam**
BUHS
19. **Dr. Md Khaleduzzaman**
Associate Professor, BSMMU
20. **Dr. Md. Sirazul Islam**
DPM, NNS, IPHN
21. **Dr. Bibhash Chandra Mani**
DDC, IPHN, NNS
22. **Dr. Nur Riffat Ara**
DPM, MNCH, DGHS
23. **Dr. Md. Zahirul Islam**
DPM-NBH, NNHP & IMCI, DGHS

- | | |
|---|---|
| <p>24. Dr. Ayesha Siddiqua
Medical Officer- OSD. DGHS, DGDA</p> <p>25. Dr. Md. Monjur Hossain
AD, MCH, DGFP</p> <p>26. Dr. Sayeda Begum
UHFPO, Chandpur Sadar</p> <p>27. Dr. Murad Md Shomsher Tobrih Khan
DPM, NNS</p> <p>28. ENG. Md. Nazmul Ahsan
DPM, NNS</p> <p>29. Dr. Polash Chandra surtadhar
Co-ordinator, BSMMU</p> <p>30. Dr. Mustafa Kamal
DPM, DGHS</p> <p>31. Dr. Sharmin Sultana
MO, DGHS</p> <p>32. Dr. Belayet Hossain
UHFPO</p> <p>33. Dr. Birendo Bhowmik
UHFPO, Habiganj</p> <p>34. Dr. Md Jahangir Shipon
UHPFO-, Faridganj</p> <p>35. Mrs. Fatematuzohora
RO, DSHE</p> <p>36. Dr. Kazi Shamim Hossain
DDO PM-1, NNS, IPHN</p> <p>37. Dr. Fatema Akhter
DPM, NNS, IPHN</p> | <p>5. Dr. Dr. A.S.M. Abdur Razzaque
Civil Surgeon, Khulna</p> <p>6. Dr. Pulok Debnath
Deputy Civil Surgeon, Bagerhat</p> <p>7. Shahnaj Begum
Nutrition Officer, Khulna Field Office,
UNICEF Bangladesh</p> <p>8. Monowar Hossain
Civil Surgeon, Barishal</p> <p>9. Rama Saha
Nutrition Officer, Barishal Field Office,
UNICEF Bangladesh</p> <p>10. Md. Moinul Hoque
Assistant Director Education Officer,
District Education Office, Moulvibazar</p> <p>11. Monira Mustarin Eva
Assistant Director Education Officer,
District Education Office, Jamalpur</p> <p>12. Dr. Md. Alamgir
Nutrition Officer, Mymensingh Field
Office, UNICEF Bangladesh</p> <p>13. Dr Syed Abu Ahmed Shafi
Upazila Health and Family Planning
Officer, Dewanganj</p> <p>14. Dr. Osim Kumar Shamaddar
Upazila Health and Family Planning
Officer, Bagerhat</p> <p>15. Dr. Md. Shakhawat Hossain
Upazila Health and Family Planning
Officer, Sreemongol, Moulvibazar</p> <p>16. Muhammad Yunus
Upazila Secondary Education Officer,
Ranagor</p> <p>17. Dilip Kumar Bordhan
Upazila Secondary Education Officer,
Sreemongol</p> <p>18. Nimmi Hossain
Nutrition Officer, Sylhet Field Office,
UNICEF Bangladesh</p> <p>19. Dr Azizur Rahman Siddique
Civil Surgeon, Chattogram</p> |
|---|---|

Annex 4. Contribution through participating group discussions

- | | |
|--|---|
| <p>1. Shahjahan Kabir Chowdhury
Civil Surgeon, Moulvibazar</p> <p>2. Dr Gautom Roy
Civil Surgeon, Jamalpur</p> <p>3. Dr. G.K. Md. Shamsuzzaman
Civil Surgeon, Bagerhat</p> <p>4. Dr. Sheikh Abu Shahin
Civil Surgeon, Satkhira</p> | <p>5. Dr. Dr. A.S.M. Abdur Razzaque
Civil Surgeon, Khulna</p> <p>6. Dr. Pulok Debnath
Deputy Civil Surgeon, Bagerhat</p> <p>7. Shahnaj Begum
Nutrition Officer, Khulna Field Office,
UNICEF Bangladesh</p> <p>8. Monowar Hossain
Civil Surgeon, Barishal</p> <p>9. Rama Saha
Nutrition Officer, Barishal Field Office,
UNICEF Bangladesh</p> <p>10. Md. Moinul Hoque
Assistant Director Education Officer,
District Education Office, Moulvibazar</p> <p>11. Monira Mustarin Eva
Assistant Director Education Officer,
District Education Office, Jamalpur</p> <p>12. Dr. Md. Alamgir
Nutrition Officer, Mymensingh Field
Office, UNICEF Bangladesh</p> <p>13. Dr Syed Abu Ahmed Shafi
Upazila Health and Family Planning
Officer, Dewanganj</p> <p>14. Dr. Osim Kumar Shamaddar
Upazila Health and Family Planning
Officer, Bagerhat</p> <p>15. Dr. Md. Shakhawat Hossain
Upazila Health and Family Planning
Officer, Sreemongol, Moulvibazar</p> <p>16. Muhammad Yunus
Upazila Secondary Education Officer,
Ranagor</p> <p>17. Dilip Kumar Bordhan
Upazila Secondary Education Officer,
Sreemongol</p> <p>18. Nimmi Hossain
Nutrition Officer, Sylhet Field Office,
UNICEF Bangladesh</p> <p>19. Dr Azizur Rahman Siddique
Civil Surgeon, Chattogram</p> |
|--|---|

20. **Dr. Md. Niyatuzzaman**
Civil Surgeon, Feni
21. **Dr. Shahid Talukder**
Civil Surgeon, Rangamati
22. **Dr. Md. Abdul Gaffar**
Civil Surgeon, Lakshmipur
23. **Dr. Shakhwat Ullah**
Civil Surgeon, Chadpur
24. **Dr. Sajeda Begum**
Upazila Health and Family Planning
Officer, Chadpur
25. **Md. Aminul Islam**
Deputy Director, Directorate of Family
Planning, Feni
26. **Dr. U-Ba Swee Chowdhury**
Nutrition Office, Chattogram Field Office,
UNICEF Bangladesh
27. **SK Md Shahidul Hassan**
Nutrition Office, Rangpur Field Office,
UNICEF Bangladesh
28. **Sorit Kumar Chakma**
District Education Officer, District
Education Office, Lakshmipur

In Cooperation
UNICEF Bangladesh



for every child

UNICEF Bangladesh
BSL office complex
1, Mintu road, Ramna, Dhaka 1000
Bangladesh

Phone: +8802 55 66 8088
E-mail: infobangladesh@unicef.org
www.unicef.org.bd