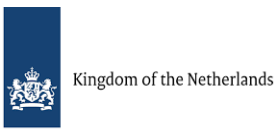
Implementation Research to enhance facility-based gender-responsive adolescent-friendly health services in selected districts of Bangladesh

Report



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ACRONYMS

ADOHEARTS	Adolescent Health and Rights Enhancement through Innovation and System Strengthening
AH	Adolescent Health
ASRH	Adolescent Sexual and Reproductive Health
AFHS	Adolescent Friendly Health Services
BSMMU	Bangabandhu Sheikh Mujib Medical University
BCC	Behaviour Change Communication
BDHS	Bangladesh Demographic and Health Survey
BBS	Bangladesh Bureau of Statistics
CS	Civil Surgeon
DGHS	Directorate General of Health Services
DGFP	Directorate General of Family Planning
DPHI	Department of Public Health and Informatics
DHs	District Hospitals
MOH&FW	Ministry of Health and Family Welfare
MOWCA	Ministry of Women and Child Affairs
SRH	Sexual and Reproductive Health
SDG	Sustainable Development Goal
SACMO	Sub-assistant Community Medical Officer
UH&FWC	Upazila Health and Family Welfare Center
UHC	Upazila Health Complex
UH&FPO	Upazila Health & Family Planning Officer
UNICEF	United Nations Children Fund
UNFPA	United Nations Population Fund
WHO	World Health Organization

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EXECUTIVE SUMMARY

Adolescent Friendly Health Service (AFHS) is a newer approach designed by the Government of Bangladesh to meet the unique needs of adolescents. However, like other developing countries, AFHS remains a relatively new and sensitive area in Bangladesh. Department of Public Health and Informatics (DPHI), Bangabandhu Sheikh Mujib Medical University (BSMMU), Department of Public Health, North South University (NSU) and Department of Reproductive and Child Health (RCH), National Institute of Preventive and Scoial Medicine (NIPSOM) have designed an implementation research (IR) using mixed method study design. The objective of the research was to enhance facility-based AFHS within the existing government health system of Bangladesh. The research had both implementation and scale-up components; and was conducted in AFHS the selected health facilities at district, sub-district and union level in Tangail, Jamalpur, Gazipur and Khulna from October 2018 to December 2019. At first, implementation approaches were applied at selected health facilities in Tangail and Jamalpur. To enhance service utility of the adolescents, enabling and hindering factors were required to identify a successful implementation of the AFHS program. A pre-intervention assessment was done for assessing the bottleneck of low service utilization of the adolescents. A set of pre-tested questionnaires and guidelines were used to collect quantitative and qualitative data from the adolescents, parents, school teachers, service providers, health and family planning officials, and Facility Management Committee members during the pre-intervention assessment.

According to the pre-assessment results, most of the respondents (86%) were not aware of AFHS. During school survey, it was found that 94% of the adolescents did not visit health facilities. Those who visited facilities, only 20% of them were referred by the health workers. While being generally happy with the way service providers treated adolescents, AFHS users and others described several limitations in accessing services during qualitative interviews. According to all respondent groups, lack of publicity and lack of awareness about AFHS, lack of gender-matched sensitive service provider etc. were identified as hindering factors of AFHS.

Considering pre-intervention assessment, and also based on the discussion with stakeholders, three interventions were designed to aware adolescents, parents, teachers, and other stakeholders about AFHS. Those were - i. “Sharing AFHS messages in school assembly” at the school level, ii. “Sharing AFHS messages in courtyard sessions” at the community level, and iii. “Special service day for adolescents in the health facility” at facility level In addition to the three interventions, designated room/space for adolescents, trained service providers on AFHS, guideline to implement AFHS, logistics, adolescent-focused BCC materials, maintaining separate registers for adolescents, and ensuring privacy at health facility were also ensured. To assess the

effect of the interventions, post-intervention (round 1) data were collected after the continuation of interventions for a period of two months in Tangail and Jamalpur. Effective interventions have been extended in two new Upazilas of Tangail and Jamalpur, and scaled up in two upazilas of Khulna and Gazipur following the same approach. Before starting intervention in Khulna and Gazipur, a pre-intervention assessment was done in the selected facilities of selected upazilas of these two districts. Finally at the end of the research, post-intervention data (round 2) were collected from all study upazilas of four districts.

Both quantitative and qualitative findings revealed that these three interventions helped to increase awareness about AFHS among adolescents, and others by awaring them about the range of services provided by the facilities. That played an important role later on to increase adolescents' flow in facilities. This intervention also assisted to develop referral linkage among facilities, schools, adolescent clubs, and the local community.

Findings from pre and post interventions are given below:

Intervention areas: Tangail, Jamalpur

- In the pre-intervention assessment, only **14%** adolescents were aware about the services of AFHS. But after the intervention, **91%** became aware of AFHS.
- In the pre-intervention assessment, **23%** of adolescents got messages regarding AFHS from service providers. Whereas in the post-intervention assessment, **91%** of them got messages from schools.
- In pre-intervention assessment, no adolescent was referred by school; however, in post-intervention assessment, **46%** was referred by schools.

Scale-up areas: Khulna, Gazipur

- In pre-intervention assessment, **31%** adolescents were found unaware about the services of AFHS, but it fell down to to **0%** after the intervention.
- In pre-intervention assessment, **24%** of adolescents got messages related to AFHS from school which increased up to **85%** in the post-intervention assessment.
- In pre-intervention assessment, 11% adolescents were referred by school; but in post-intervention assessment, **68%** were referred by schools.

The study concluded that these three interventions had shown an encouraging trend; where the utilization of AFHS had been increased in the study sites. The more the awareness, the more it drives to sensitize the adolescents about the utilization of AFHS through "Sharing AFHS messages in school assembly", "Sharing AFHS messages in courtyard session", and "Special service day for adolescent in the health facility" interventions. A large number of adolescents, parents, school

teachers, community people, and others can be aware of AFHS through these interventions, and it also helps to establish a linkage among schools, communities and AFHS centers. Efforts should be made by all relevant stakeholders to create a conducive environment for adolescents. Theses three interventions are simple, acceptable and sustainable in nature that can be scaled up in others health settings too.

The findings and experiences gathered from this implementation research will help to enhance service utilization of the adolescents at the facility level. However, documenting the implementation challenges, solutions and opportunities in the selected districts will guide to scale-up adolescent-friendly health services across the country.

CHAPTER 1: INTRODUCTION

1.1 Background

Adolescence is a crucial period of life with specific health and developmental needs and rights. It is also the time to develop knowledge and skills, learn to control emotions and manage relationships, and acquire attributes and abilities that will be important for enjoying adolescent years as well as efficient adult roles (WHO 2011; Lloyd CB 2005). Currently there are 1.2 billion adolescents in the world forming 18% of the world population; of which 88% live in developing countries. More than half of the world's adolescents live in South Asia, East Asia and the Pacific region; each of which contains roughly 33 million adolescents (UNICEF 2012). The latest Bangladesh National Census in 2011 has estimated that there are approximately 36 million adolescents in the country constituting one-fifth of the 150 million population. The number of adolescent population will continue to rise until 2021.

Globally, millions of adolescents die or become sick from preventable causes. It was estimated that 1.2 million adolescents had died in 2015, which was over 3000 every day (WHO 2018). Every year there are 44 births per 1000 girls aged 15 to 19 years worldwide. Half of all mental health disorders during adulthood start by the age of 14, but most cases remain undetected and untreated (WHO 2018).

Access to primary health care services is seen as an important component of care including preventive health for adolescent. Low accessibility along with low utilization of general health and sexual and reproductive health (SRH) services create a universal concern since unhealthy lifestyle, malnutrition, unintended pregnancies, unsafe abortions and sexually transmitted infections (STIs) contribute to a high morbidity and mortality rates among adolescents (Izugbara 2010; León 2002; Pathak 2010; Simões 2011; Ziraba 2000).

In Bangladesh, socio-cultural norms limit the disclosure of information about Sexual and Reproductive Health (SRH) as well as relevant issues to unmarried adolescents especially boys (Abajobir et al. 2014). Adolescents face a number of issues including high rates of early marriage, high fertility rates, limited negotiation skills, insufficient awareness and information about reproductive health (Barkat and Majid 2003). The adolescent birth rate of Bangladesh is 113 (births per 1,000 women ages 15-19) which is one of the highest in the world (BDHS 2014).

In government health facilities of Bangladesh, the presence of adolescents is very low. The recent baseline survey conducted by the Department of Public Health and Informatics (DPHI) of BSMMU entitled as 'Baseline survey of ADOHEARTS program areas', found that care-seeking of public

facilities from medical college to community clinics was not popular among adolescents. Approximately 13% unmarried adolescent girls (aged 10-14), 17% unmarried adolescent girls (aged 15-19), and 24% married adolescent girls (aged 15-19) sought health care from public facilities in last one year. In addition, 12% unmarried adolescent boys (aged 10-14) and 14% unmarried adolescent boys (aged 15-19) sought care from public facilities (Islam and Haseen et al. 2017). The studies identified somemajor challenges of adolescent health services such as low presence of adolescents at the facility level, inconvenient service providing time for adolescents, lack of publicity about the availability of AFHS, and lack of awareness among adolescents and parents regarding AFHS; which also contributed to the low utilization of services. (Ainul et al., 2017; Haseen et al. 2017).

Adolescent friendly health services (AFHS) have been recognized as an appropriate and effective strategy to address Sexual and Reproductive Health (SRH) needs of adolescents since the 1994 International Conference on Population Development (ICPD) in Cairo, Egypt (Abajobir et al. 2014).

The Lancet Adolescent Health (AH) series reiterated that 'Failure to invest in the health of the largest generation of adolescents in the world's history jeopardizes earlier investment in maternal and child health, erodes future quality and length of life, and escalates suffering, inequality, and social instability'. The lack of a gender- responsive adolescent health (GRAH) framework, lack of adequate investments to this sector, or the lack of appropriate engagement and participation of adolescents themselves as rights holders will create critical gaps in a country's overall development trajectory (Patton, 2016). The sustainable development goal (SDG) 3.7 is targeted to ensure universal access to SRH care services including family planning, information and education, and the integration of reproductive health into national strategies and program; which are directly linked with adolescent SRHR. SDG 5 aims to achieve 'gender equality and empowerment all women and girls'; which is also linked with SRHR and SDG 10 focuses on reducing inequality whereas SDG 16 based on inclusive societies are linked with SRHR too. Adolescent sexual and reproductive health is an area that needs research and evidence-based policies (Hindin et al., 2012).

AH is one of the major development agenda of the Government of Bangladesh. AH programmes have been incorporated into Adolescent and School Health Programme of Directorate General of Health Services (DGHS) in HPNSP from 2017 to 2022. Directorate General of Family Planning (DGFP) has been implementing AFHS in Maternal and Child Welfare Centre (MCWC) at the district level, and in Union Health and Family Welfare Centre (UH&FWC) at union level. Moreover, DGHS has been implementing AFHS in School Health Clinic at district level, such as District Hospital and

Upazilla Health Complex (UHC). Ministry of Social Welfare is providing support to extremely marginalized groups; where the Ministry of Women and Children's Affairs and the Ministry of Youth and Sports provide legal support and skills training to adolescent girls along with livelihood training and peer education through Youth Clubs.

Besides government initiatives, development partners like UNICEF, UNFPA and WHO provide assistance to improve adolescent wellbeing. UNICEF and The Embassy of The Kingdom of the Netherlands have jointly taken initiatives to promote adolescent health activities in Bangladesh through 'Adolescent Health & Rights Enhancement Through Innovation and System Strengthening (ADOHEARTS)' Project. ADOHEARTS project has been enunciated in October 2016 and will continue till December 2020 across Gazipur, Tangail, Khulna and Jamalpur districts as well as Khulna City Corporation areas. ADOHEARTS aims to address the knowledge gap through evidence generation on AFHS using the existing public health system. In partnership with the Ministry of Health and Family Welfare (MoHFW), UNICEF is supporting efforts to influence policy, strategy and national plans for enhancing adolescent health programmes throughout the country.

1.2 Rationale

The AFHS concept is still new in Bangladesh. So, there is a need to identify the operational barriers and its solutions for effective implementation of the facility-based AFHS within the existing health system of Bangladesh. There was a lack of evidence to suggest that one particular setting or structure for adolescents could achieve significantly better outcomes than other approaches. Understanding what works and what does not work for adolescent SRH interventions will help scaling up promising interventions, minimizing duplicative efforts, and ensuring efficient use of available resources. It was imperative to identify the reasons for low utilization of SRH services by adolescents and to find out approaches that can improve access to health facilities and uptake of services by adolescents.

1.3 Objectives

1.3.1 General Objective

The overall objective of the proposed implementation research was to enhance facility-based adolescent health services at the district, sub-district and union level health facilities in four selected districts where the ADOHEARTS project is being implemented.

1.3.2 Specific Objectives

Innovation implementation objectives:

i. To identify the enabling and hindering factors to successful implementation of the adolescent health services at district, sub-district and union level facilities in Bangladesh.
ii. To identify the strategies to address the barriers/bottlenecks to the implementation of the AFHS within the existing health system.
iii. To improve the referral and linkages between community and health facilities for increased uptake of adolescent health services.
iv. To increase the utilization and quality of health services provided to the adolescent population in Bangladesh.

Scale-up implementation objectives

i. To identify the enabling and hindering factors to scale up the successful facility-based adolescent-friendly health services in selected ADOHEARTS districts.
ii. To identify the strategies to address the hindering factors related to scale up for smooth replication of the facility-based adolescent-friendly health services.

CHAPTER 2: METHODOLOGY

2.1 Study design

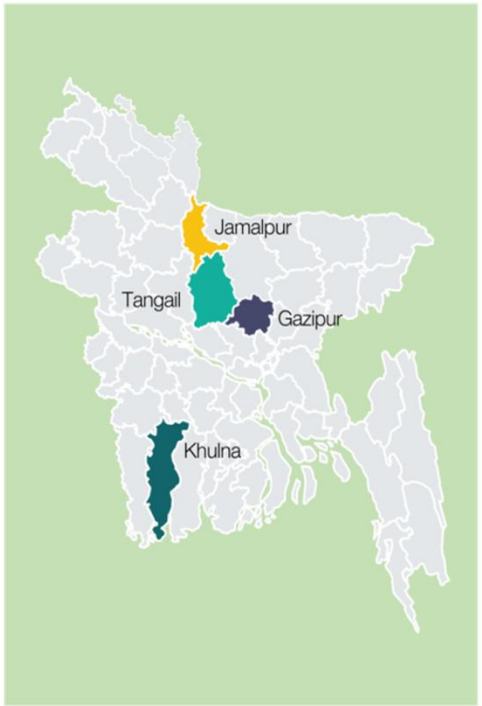
Implementation research (IR) using a mixed-method approach (both quantitative and qualitative methods) was conducted with pre and post-test evaluation from August 2018 to December 2019. Three interventions were implemented at selected AFHS Data were collected before the intervention and after the intervention (two round data were collected after the intervention). Alongside, adolescent health service statistics were gathered on a monthly basis in the study sites of all four districts.

2.2 Study population

The study population included individuals who can play a major role in adolescent health, specifically (i) Health and family planning (H&FP) officials, (ii) Service providers who work within the domain of adolescent health, (iii) School authorities and teachers who may influence service seeking behaviour of adolescents, (iv) Parents who are the main decision-maker of the adolescents (v) Adolescents (who had taken services, and who did not take services from facility) (vi) Adolescents from school and adolescent club, (vii) Facility Management Committee members of the adolescent health coordination committee and (iix) Manager of adolescent club

2.3 Study sites

The study was carried out in four districts purposively selected from ADOHEARTS project which were Gazipur, Tangail, Khulna and Jamalpur districts of Bangladesh. Government of Bangladesh is implementing intervention on AH with support from UNICEF and The embassy of The kingdom of the Netherlands in selected health facilities of DGHS and DGFP in these four districts. Within each district, data were collected from two types of sites; of which one was facilities under DGHS and the other wasfacilities under DGFP.



Upazila selection criteria were: (i) facility with an adolescent corner and (ii) functioning adolescent corner

2.3.1 **Tangail District:**

a) 250 Bedded General Hospital, Tangail
b) Maternal and Child Welfare Center (MCWC), Tangail Sadar, Tangail
c) Kalihati Upazila Health Complex, Kalihati, Tangail
d) Union Health & Family Welfare Centre (UH&FWC), Elenga, Kalihati, Tangail
e) Delduar Upazila Health Complex, Delduar, Tangail
f) Union Health & Family Welfare Centre (UH&FWC), Elasin, Delduar, Tangail

2.3.2 Jamalpur District:

a) 250 Bedded General Hospital, Jamalpur
b) Maternal and Child Welfare Center (MCWC), Jamalpur Sadar, Jamalpur
c) Bakshiganj Upazila Health Complex, Bakshiganj, Jamalpur
d) Union Health & Family Welfare Centre (UH&FWC), Dhanua, Bakshiganj, Jamalpur
e) Islampur Upazila Health Complex, Islampur, Jamalpur
f) Union Health & Family Welfare Centre (UH&FWC), Pathorshi, Islampur, Jamalpur

2.3.3 Khulna District:

a) School Health Clinic, Khulna
b) Maternal and Child Welfare Center (MCWC), Khulna Sadar, Khulna
c) Batiaghata Upazila Health Complex, Batiaghata, Khulna
d) Union Health & Family Welfare Centre (UH&FWC), Gangarampur, Batiaghata, Khulna

2.3.4 Gazipur District:

a) Maternal and Child Welfare Center (MCWC), Tongi, Gazipur
b) Kaliganj Upazila Health Complex, Kaliganj, Gazipur
c) Union Health & Family Welfare Centre (UH&FWC), Nagori, Kaliganj, Gazipur

2.4 Study duration

The study began on August 2018 and ended on December 2019.

2.5 Data collection

Both quantitative and qualitative data were collected. Quantitative data collection was tab based where. the software was developed with the help of the technical team for monitoring real-time data collection.

Qualitative information was collected through In-Depth Interviews (IDIs) and Key Informant Interviews (KIIs); and also through facility and client-provider interaction observation.

2.6 Data collection tools

2.6.1 **Quantitative data collection tools**

i. Questionnaire for school and club based data collection
ii. Questionnaire for "Exit interview" with adolescents at the health facility

2.6.2 **Qualitative data collection tools**

i. IDI guideline for service providers who provide AFHS
ii. IDI guideline for parents of the adolescents
iii. IDI guideline for adolescents not using service despite needs (who did not visit the facility within last one year)
iv. IDI guideline for adolescents who received AFHS from the facility
v. IDI guideline for adolescent members of adolescent club
vi. IDI guideline for "Facility Management Committee" members (There were committees related to adolescent health existing in both district and Upazila level. The aim of this guideline was to collect information about their activities)
vii. KII guideline for school authority/school teachers
viii. KII guideline for Health and Family Planning (H&FP) officials
ix. KII guideline for program manager of the adolescent club
x. Observation checklist for client-provider interaction during consultation/counseling
xi. Observation checklist for facility and logistics/medicines

2.7 Training

Four field research assistants (FRAs) were deployed to carry out data collection, provide support to implement IR study interventions and observe the implementation process of intervention. They were given fifteen days of training between 23rd October 2018 to 11th November 2018 on both quantitative and qualitative data collection tools. After designing the interventions, a short training was conducted later on regarding monitoring checklists of the implementation of interventions. Also, periodic trainings were organized on updated data collection guidelines.

2.8 Pre-testing

Pre-testing was done in MCWC,Tangail; and in the Association for Prevention of Septic Abortion, Bangladesh (BAPSA), Mirpur, Dhaka.

2.9 Study Approach

IR study followed two approaches, which were *i. Innovation implementation research and ii. Scale-up implementation research.*

Process of "Implementation Research" is given below-

i. Innovation implementation research: Enabling and hindering factors for the implementation of AFHS were identified as well as effective solutions to address the identified barriers were developed, implemented and monitored within MOHFW health system. Innovation implementation research was started in Tangail and Jamalpur since November 2018.

To identify and address the barriers/bottlenecks of the implementation of the AFHS within the existing health system, following initiatives were taken –

a) **Innovation Round 1:** Round 1 data were collected from the selected facilities of Tangail and Jamalpur. Data collection was started from November 18, 2018. Quantitative data was collected from selected schools (students of class 8, 9 and 10), and from adolescents who received services from the adolescent corners. Qualitative data were collected from schools and facilities.

School selection criteria were:

- Should be located within 2 KM from a selected health facility (Facility that was selected for IR study intervention)
- Must be High school

Table 1: Study participants with types of interviews during round 1 assessment

	Sample size (Jamalpur, and Tangail)
Exit interview at facility	90
School survey	105
IDI with adolescents who received services from the facility	2
IDI with adolescents who did not receive services from the facility	2
IDI with parents of adolescents	2
KII with School authority/ School teacher	2
IDI with Facility Management Committee member	2
IDI with service provider	2
KII with H&FP official	2
Observation of client-provider interaction during consultation/counseling	8
Observation of facility and logistics/medicines	8
Facility inventory	8

Picture 1: Monitoring data collection in Jamalpur and Tangail

b) Skype meeting: Round 1 assessment findings and designing intervention

- Skype meeting with district-level Health and Family Planning Officials, Tangail was held on 13th January 2019
- Skype meeting with district-level Health and Family Planning Officials, Jamalpur was held on 15th January 2019

c) Meeting at DGFP, Karwanbazar, Dhaka

To share round 1 data collection findings and design interventions based on pre-intervention data collection findings, a meeting was held at MCH Service Unit, DGFP on 16th January, 2019.

d) Workshops in Tangail and Jamalpur

Workshop Date: February 5, 2019 in Tangail

Workshop Date: February 6, 2019 in Jamalpur

e) Final intervention plan:

- Sharing AFHS message in courtyard session
- Sharing AFHS message in selected school assembly
- Special service day for adolescents in health facilitiy

Sharing AFHS message in courtyard session:

DGFP and DGHS organized courtyard sessions in the community. Usually, the sessions were arranged in a village within the house of a reputed person (e.g. House of the local leaders). Service providers conducted the sessions. It was planned to include AFHS information in an existing courtyard session topic to aware parents of adolescents as well as adolescents on existing AFHS.

Sharing AFHS message in selected school assembly:

A short message containing information about "AFHS" was shared at selected schools during school assembly for publicity. It was planned to share the message at least 2 to 3 times a week.

Schools selection criteria:

- Should be located within 2 KM from selected health facilities (Facility that was selected for IR study intervention)
- Must be high school

Special service day for adolescents in health facilities:

To introduce adolescents with AFHS at the facility, it was planned to arrange facility based "Special service day for adolescent" at selected health facilities (facility that was selected for IR study intervention)

f) Initiation of the implementation of interventions

Preparation for implementation of the selected interventions was started from the last week of February 2019; and interventions in 'Schools' and 'Courtyard session' were started on 13th March 2019 in Tangail and Jamalpur.

g) Monitoring of Interventions: Observing implementation of interventions through checklists by research team and field team.

h) Innovation Round 2:

Round 2 assessment was started on 2nd May 2019. Quantitative data were collected from the study facilities of Tangail and Jamalpur from adolescents who had taken services from the adolescent corners of the selected facilities; and students of class 8, 9, 10 from the same schools where data were collected earlier. Qualitative data was collected from both the facilities and schools.

Table 2: Study participants during round 2 assessment

	Sample size (Jamalpur, and Tangail)
Exit interview at facility	100
School survey	180
IDI with adolescents who received services from the facility	2
IDI with adolescents who did not receive services from the facility	2
IDI with Parents of adolescents	2
KII with School authority/ School teacher	4
IDI with Facility Management Committee member	2
IDI with the service provider	2
KII with H&FP official	2
Observation of client-provider interaction during consultation/counseling	8
Observation of facility and logistics/medicines	8
Facility inventory	8

i) Innovation round 3 assessment

Post-intervention assessment round 3 was started in Jamalpur and Tangail from 26th October 2019. Post-intervention round 3 assessment was done in the same process. Data were collected from the selected facilities of Tangail and Jamalpur.

Table 3: Study participants with types of interviews during innovation round 3 assessment

	Sample size (Jamalpur, and Tangail)
Exit interview at facility	100
School survey	100
IDI with adolescents who received services from the facility	2
IDI with Parents of adolescents	2
KII with School authority/ School teacher	2
IDI with the service provider	2
KII with Health & Family Planning official	2
Observation of client-provider interaction during consultation/counseling	8
Observation of facility and logistics/medicines	8
Facility inventory	8

ii. Scale-up implementation research: The successful elements generated in the innovation research areas were scaled up in Khulna and Gazipur districts within the existing MOHFW health system. The purpose of the scale-up component was to identify the barriers related to scale-up and find solutions for each barrier. The scale-up implementation research was started in Khulna and Gazipur from July 2019.

Process of "Scale-up implementation research" are given below-

a) **Scale-up Round 1 Assessment**: A quick assessment was done for situation analysis at selected facilities in Khulna and Gazipur. Facility data collections were done within July 2019.

Picture 2: Result sharing meeting in Gazipur and Khula

Table 4: Study participants with types of interviews during round 1 assessment in Khulna and Gazipur

	Sample size (Khulna, and Gazipur)
Exit interview of adolescent clients at facility	90
School survey among adolescents	108
IDI with adolescents who received services from the facility	2
IDI with adolescents from adolescent clubs in Khulna	3
IDI with program manager from adolescent clubs in Khulna	1
IDI with the service provider	2
KII with officials of DGHS and DGFP at Upazila level	2
Observation of client-provider interaction during consultation/counseling	7
Observation of facility and logistics/medicines	7
Facility inventory	7

b) Initiation of the implementation of interventions

Interventions were started since August 2019 in Khulna and Gazipur. Intervention activities in scale-up sites were continued up to October 2019.

- Sharing AFHS message in courtyard session
- Sharing AFHS message in selected school assembly
- Special service day for adolescents in health facility

c) **Monitoring of Interventions:** Observing implementation of interventions through checklists by research team and field team.

d) **Scale up Round 2 in Khulna and Gazipur:** Post-intervention assessment was done in the same process. Post-intervention assessment was started in Khulna and Gazipur from 26th October 2019. Data were collected from the selected facilities of Tangail and Jamalpur.

Picture 3: Monitoring research data collection in Gazipur and Khulna

Table 5: Study participants with types of interviews during scale up round 2 assessment in Khulna and Gazipur

	Sample size (Khulna, and Gazipur)
Exit interview at facility	100
School survey	100
IDI with adolescents who received services from the facility	2
IDI with adolescents from an adolescent club in Khulna	2
KII with the manager of an adolescent club in Khulna	2
IDI with Parents of adolescents	2
KII with School authority/ School teacher	2
IDI with the service provider	2
KII with H&FP official	2
Observation tool for client-provider interaction during consultation/counseling	7
Observation tool for facility and logistics/medicines	7
Facility inventory	7

2.10 Data Management

The project coordinator and other investigators provided training to data collectors; and supervised and monitored pre-testing activities in different tiers of health facilities. During data collection, the research team supervised and monitored data collection activities to ensure data

validity and reliability. The core study team members and UNICEF consultants made several visits to check the quality of data collection.

After completion of data collection, the team thoroughly checked the filled out questionnaires in case of any inconsistency. After completing qualitative interviews, FRAs sent the soft copies of those interviews to the investigators through email. A team consisting of the investigators, consultant and data analyst edited the qualitative data. The major objective of supervision was to verify that the guideline for IDI, KII, and observation checklists had been followed properly. Responses to such guidelines were recorded and transcribed (verbatim).

2.11 Data Analysis and Interpretation

Data were analyzed under the overall guidance and supervision of the investigators. Stata 14 software was used for tabulation and analysis of the quantitative data. Data analysis was summarized in the forms of percentages and frequency tables for categorical variables.

Qualitative data analysis was started with transcription (verbatim) while collecting data. After reviewing all transcripts, we prepared a code list and later revised the code list based on everyone's feedback. Thematic analysis was done from the very beginning to understand the inner perspective. Themes were visually mapped with the inclusion of quotes after the initial coding of transcripts. The idea was to provide a detailed picture of the information pertaining to each theme that emerged from the interviews.

2.12 Ethical Consideration

The study obtained ethical approval from the Institutional Review Board (IRB) of BSMMU. During data collection, the research team did supervision and monitoring to ensure the ethical issues. Permission to work with the health facilities was granted by the relevant provincial, district and sub-district health authorities. Approval was taken separately from DGFP and DGHS. Permission was also obtained from the Civil Surgeon and Deputy Diractor Family Planningduring district level data collection. Participation in the study was voluntary.

Informed written consent was taken from all participants before enrolling them into the study. Each individual was free to decide either to participate or deny. Participants were assured that their information would be handled confidentially and they could withdraw themselves at any time from the study.Anonymity was strictly maintained for study subjects. Each participant was assigned a study number, so no names of the participants were used throughout the whole study. Consent was also taken for recording the interviews. All the information were kept private and confidential.

2.13 Constraints

Data collection team faced some challenges while collecting data. First of all, It was difficult to get time from the respondents. However, after explaining the study objectives to the resondents and building a good rapport with them, this problem was solved.

Secondly, frequent interruption during qualitative interviews was another problem. As the Key Informants (KIs) were very busy with their day to day activities at district level and Upazila level, some of them were unable to provide sufficient time for interviews.

CHAPTER 3: RESULTS

The key findings fall into four main categories:

- Enabling and hindering factors for successful implementation of AFHS.
- Strategies to address the barriers/bottlenecks to implement AFHS within the existing health system.
- Increasing the quality and utilization of AFHS.
- Way to improve the referrals and linkages between community and health facilities for increased uptake of AFHS.

3.1 Enabling and hindering factors for successful implementation of AFHS

3.1.1 Enabling and hindering factors in innovation research areas

During Innovation "Round 1" assessment, adolescents were asked about the factors that encouraged them to visit the health facility. Qualitative findings revealed that the behaviour of service providers played an important role in motivating adolescents for coming to health facilities.

Short distance of health facility: Convenience of travelling was another cause to select a specific health facility for AFHS.

"I came here due to the convenience of travel"

(one adolescent from Jamalpur)

In "Round 2" IDI, adolescents mentioned about service providers.

Good behavior of the service providers: Service providers' friendly and supportive behaviour (who listen to adolescent's problem attentively and explain the treatment procedures in detail) and adolescent friendly environment of the facility played an important role to motivate adolescents for coming to health facilities.

"After coming here madam (service provider) explained everything nicely. It was easy for us to understand. After that … Faith… We have faith in her. We share any secret problem with her as we trust her. She helps us." An adolescent who received services from a facility, Tangail

"I did not get a trusted place like this before. That is why I came here." An adolescent who received services from a facility, Jamalpur

During "Round 3", qualitative findings discovered that family members, school teachers and friends were the motivators for receiving health care services by the adolescents from the centres.

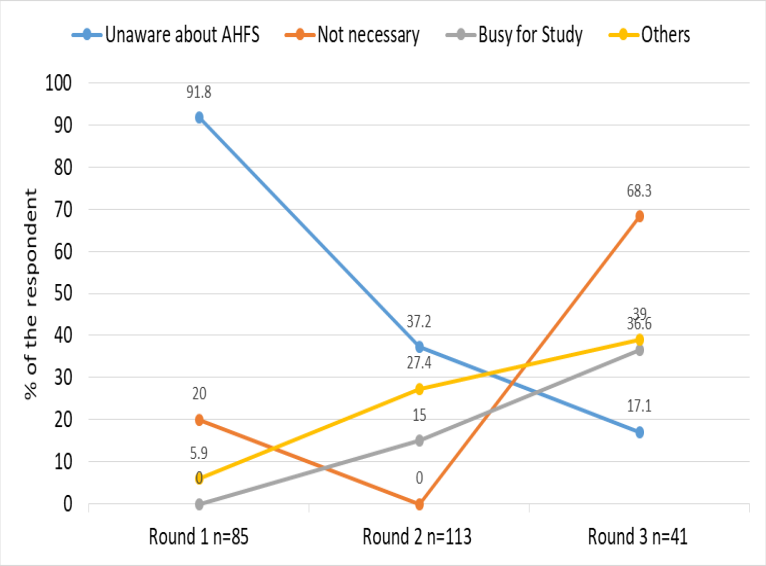
The service providers of health facility also encouraged the adolescents for coming to the facility. Adolescents were very much satisfied with the good behaviour of the providers. The providers were much friendly with the adolescents in terms of giving service. One of the adolescents stated his experience as:

> *"I brought him (brother) in the facility once and he brought his friend again." Adolescent, Khulna*

> *"We tell them to visit a health facility. We tell them you do not need money if you go to the adolescent corner, they will give you proper treatment and medicine. "- School Teacher, Tangail*

Everyone was happy with the way service providers treated adolescents; while AFHC users and others described several limitations in accessing services.

Figure 1: Opinion of the adolescents at school who had not yet visited any health facility in innovation areas



Only 17% adolescents were unaware about AFHS in Round 3. The publicity increased the knowledge of adolescents on AFHS. Majority of the adolescents said in Round 3 that taking services from health facility was not necessary. More than one third of adolescents (37% in post-intervention) mentioned that they did not get much time for visiting the health centre due to the tight schedules of their study.

During qualitative interviews, service providers as well as parents, adolescents, facility management committee members, school authority and Health and Family Planning officials mentioned major hindering factors to implement AFHS as following:

Inadequate publicity: Adolescents who did not visit facilities despite needs mentioned that services had been poorly publicized.

> *"I came to know about this service today. If I knew this earlier I would have visited there and got the service. These things are not in our text books properly so we don't know where to go and what to discuss".*
>
> Adolescent not using service despite needs, Jamalpur.

Publicity on AFHS was started at selected areas of IR study sites, but it was not enough to aware all the adolescents as well as others. According to the school teachers, AFHS were poorly publicized.

Lack of awareness about AFHS among adolescents and parents: Parents, programme managers, school authority and facility management committee members mentioned that lack of awareness among adolescents and parents regarding AFHS had also contributed to the low utilization of services.

Shortage of trained service providers and absence of gender matched service providers: Shortage of trained service providers on adolescent health was identified by the adolescents who visited facilities.. Due to the absence of gender matched service provider, adolescents was not feeling comfortable to visit health facilities. Program managers mentioned during the interview that female adolescents had not been comfortable with the male service providers.

Lack of coordination among facilities, schools, and adolescent clubs: Lack of coordination among facilities, schools, and adolescent clubs was another hindering factor to implement AFHS mentioned by the school authority and facility management committee members.

> *"Referral linkage between health facility and school should be improved. This could be possible through campaigning or ensuring regular visit of the service providers in the school".*
>
> School authority

Limited logistics: Insufficient logistics was identified as an obstacle to provide AFHS by the service providers. Inadequate medicine supply for adolescents was also a barrierto provide AFHS mentioned by the adolescents as well as service providers.

Inconvenient service hour : Inconvenient service providing time for adolescents is a challenge. Usually, AFHS is provided during school hours, making it difficult for school-going adolescents.

In innovation research area, "round 2" qualitative findings showed some hindering factors -

> *"Many people (adolescents) who are very ill have to wait in the rush to collect serial number for visiting service provider. For this reason, many do not want to go (health facility)." An adolescent who did not visit facilities, Tangail*

School teachers mentioned that though there is an adolescent corner in their area, they were not aware of it before sharing AFHS message during assembly time (IR study school intervention). As the school authority from Tangail said,

> *"Services have been provided to adolescents only, we did not know. There was no promotion of such service in our area. That is why we never send them (student) there before, now it starts, and we get services. But there is a shortage of medicine. Most of the medicine prescribed are required to buy from outside. Adolescents will be more benefitted if the supply of medicine increases." School authority, Tangail*

Limited awareness about AFHS: Facility Management Committee member felt that the main barrier in implementing AFHS is 'limited awareness about available AFHS'.

> *'The main barrier of AFHS is ignorance. There is no second barrier. It is not that adolescents are not interested to get services, but they are not getting it due to other problems. Guardians are not aware of AFHS, they are not interested. We have to inform and explain about AFHS.' Facility Management Committee member, Tangail*

Long waiting time before getting services: From the adolescents' (received services from facility) point of view, it was bit difficult to get services properly due to 'long waiting time'.

Negative preconception about facility based service: There were some negative preconceptions by adolescents (who did not visit facility) about the services in facilitye.g. unfriendly doctor's behaviour. These were mentioned as hindering factors by the adolescents.

> "I heard that d*octors are not well behaved, and they do not want to listen to all the problems of adolescents." An adolescent who did not visit facilities, Tangail*

Lack of privacy during service delivery: Lack of privacy during service delivery made it a bit difficult for getting services properly by the adolescents (who received services from facility) .

Limited logistics: Service providers felt that some logistics e.g. furniture, and sometimes the supply of medicine e.g. iron tablets were not adequate for adolescents.

Communication gap among parents and adolescents: Service provider mentioned that male adolescents often had not shared their problems with their parents. As a result, the presence of male adolescents in the facility is poor compared to the female adolescents,which might be a barrier to provide services for adolescents

"Male adolescents usually do not share their tension, concerns with their parents. This is a problem". Service provider, Tangail

Location of adolescent corner: According to district level H&FP official, location of an adolescent corner was one of the main issues of AFHS for adolescents. Adolescent corners were situated either in MCWCs or family planning centres. Usually, these places are known for receiving condoms and contraceptive pills. On the other hand, many parents didn't know about the availability of AFHS. As a result, adolescents felt discomfort to visit the adolescent corner.

Shortage of trained service providers: District level H&FP official also added that due to insufficient service provider, it was difficult to provide AFHS properly.

"It is difficult for one counsellor to provide services, being a doctor I have to see many patients at outdoor, then I do the cesarean, normal vaginal delivery, MR etc. So it would be better if I could get more manpower."

H&FP officials, Tangail

In Innovation "Round 3" adolescents, parents of adolescents, school teachers, service providers and H&FP officials were interviewed using qualitative data collection tools.

Long waiting time: School teachers mentioned about few limitations in accessing services at facility e.g. long waiting time in getting services and insufficient medicine supply for adolescents.

"Sometimes it takes a long time to get some services. Our clinics or hospitals have this problem. I think there is a lack of adequate doctors or counselling centres."- School Teacher, Tangail

Shortage of medicine: School teachers also said about few limitations in accessing services at facility e.g. insufficient medicine supply for adolescents.

"One or two common drugs are given from the facility. In fact, there are more drugs that ordinary people, students are not getting."- School Teacher, Tangail

Service providers mentioned that sometimes the supply of basic medicines e.g. folic acid and the sanitary napkin was not adequate. In addition, insufficient human resource (e.g. servicer providers) was also a barrier to provide AFHS.

"Supply of some basic medicines is insufficient. Out of all medicine folic acid is very important for adolescent girls. We do not need a lot. Ten tablets per month for a girl is enough." Service provider, Tangail

Lack of gender matched service provider: The insufficient number of the gender-matched service provider is a barrier for providing AFHS, mentioned by the service providers.

"Girls want to come easily, but boys do not, they do not want to share anything with me. If there was another male service provider here, it would be best. The boys would talk to him easily." Service provider, Jamalpur

Inconvenient service providing time: Service providing hours may create problems in visiting the facility by school-going adolescents, uttered by the service providers.

"We operate this centre from 8 to 2. We can see the maximum school time is 8 to 2. If we could run it later, they could have come here after school time." Service provider, Jamalpur

Limited supply of logistics and medicine: According to service providers, limited supply of logistics (e.g. sanitary napkin) and medicine (Iron, Folic acid), and insufficient human resource were the main barrier to provide AFHS.

Shortage of trained service providers: Insufficient number of skilled service providers was another hindering factor to provide AFHS, mentioned by the service providers.

Geographical location (hard to reach area): While conducting IDI with parents, it was found that there were some disaster-prone and hard to reach areas in Jamalpur e.g. Bostompara. It was very difficult for Family Welfare Visitors (FWVs) to reach those areas and share AFHS information. It was very challenging for adolescents too for visiting facilities from those areas to get services. Another major problem was the insufficient presence of male adolescents than female in a health facility. Shortage of medicines and sanitary napkins was a major challenge to receive AFHS as identified by the parents.

"Most of the boys do not know about AFHS and do not give importance to their health conditions "Parent, Jamalpur

'' Free medicines should be available including sanitary pad, many times we did not get it'' Parent, Tangail

3.1.2 Enabling and hindering factors in scale-up research areas

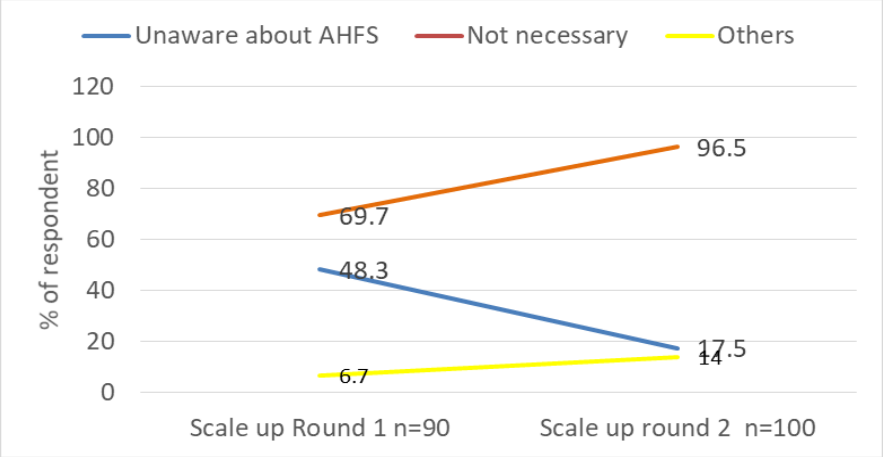
During qualitative interviews with adolescents, it was found that they were very much satisfied with the facility as a result of the good behaviour of the centres' service providers. The providers

did friendly behaviour with the adolescents coming to the facility. Besides, well-decorated AFHS attracted them for visiting a facility.

The family members and peers were the motivators for receiving AFHS from the facility. The service providers of the health facility also encouraged the adolescents to come to the health facility to get services. One of the adolescents stated his experience as:

> *"I brought him (brother) in the facility once and he brought his friend again." Adolescent, Khulna*

Figure 2: Opinions of the adolescents at school who had not yet visited any health facility in Scale up



Almost 18% of adolescents still did not know about AFHS. But the publicity increased their knowledge on AFHS. 30% of the adolescents ensured (30%) that they would take the service when required.

In Scale up "Round 1" assessment, there were some some hindering factors identified, which are presented below-

Lack of awareness about AFHS: According to adolescents' opinion, the main obstacle of AFHS was the limited awareness of AFHS among adolescents. As some of them were illiterate, they became unaware of AFHS. **Lack of publicity:** Lack of publicity on AFHS issue was mentioned by the service provider.

Lack of service provider: Lack of service provider was identified as one of the hindering factors for providing AFHS by the H&FP official and service providers.

> *"I am the staff of Family Planning, I have to give services to the patients of family planning on priority basis. If patients and adolescents come at a time to get family planning-related services, then it becomes difficult to provide services to the adolescents smoothly." Service provider, Gazipur*

Lack of gender matched service provider: According to the service provider (Khulna), presence of male adolescents in the facility was lower than female. From his point of view, male adolescents were not that much comfortable to share their problems with their parents very often. As a result, their parents could not become aware of their health needs; and so they did not refer their adolescent sons to the facility.

Insufficient logistics: As per the service providers, unavailability of logistics was a major challenge to provide AFHS.

Misconception about Family Planning office: According to the key informant in Gazipur,. local people had a misconception that only MR services were provided from FWC. Besides, insufficient staff was a major hindering factor to provide AFHS.

> *"Absence of medical staff in the facility is one of the main barriers to implement the adolescent health program". H&FP official, Gazipur*

During "**Round 2"** qualitative interviews, some challenges were identified. They are described below-

Demand is high considering service capacity of the facility: Adolescents mentioned thata facility (UHC, Gazipur) was crowded with huge patients. ts. Few female adolescents were not comfortable with the management of the facility.

Inconvenient service providing time: According to the parents of adolescents, service providers and H&FP official, one of the main challenges to receive AFHS was service providing time. As school time and service providing time were the same, it was a little bit difficult for school-going adolescents to visit the facility during school time.

> *"Many know about AFHS. Some could not come. The reason for this is that the examination is going on in school now, so many could not come. They have classes, and because of that, they could not visit facility. They can come when they are free, like in the afternoon. But that time we are not available." Service provider, Khulna*

Lack of service providers: Another major challenge was the shortage of skilled service providers, as mentioned by the H&FP officials and service providers. Sometimes it was found that service providers were out of the facilities due to their scheduled field visit, as said by the parents.

Limited supply of medicine: According to the service providers, limited supply of medicine for adolescents was a challenge to provide AFHS.

Waiting time: The school authority shared that sometimes students had to wait for a long time due to the long queue.

Misconception about AFHS: H&FP officials mentioned that the school authority including teachers considered AFHS as a girl's program only.

3.2 Strategies to address the barriers/bottlenecks for the implementation of AFHS within the existing health system

3.2.1 Opinion to address the hindering factors/barriers/bottlenecks for the implementation of AFHS:

In "round 1" assessment of innovation areas, respondents of the qualitative interviews were asked to share their opinions that would help to develop the strategies to address the barriers/bottlenecks for the implementation of the AFHS.

Respondents' opinion to address the hindering factors/barriers/bottlenecks for the implementation of AFHS are given below -

Publicity about AFHS: Service providers and adolescents put special emphasis on raising awareness among adolescents as well as their parents. Huge publicity was needed to raise awareness about AFHS, as suggested by facility management committee members, adolescents and parents. Specific campaigning strategies to popularize the AFHS e.g. campaigns, advertisements through television, internet etc. were advised.

> *"This information could be given through social media so that students can get easy access to information related to adolescent health facilities".*
>
> *An adolescent who did not visit the facility*

School program: H&FP officials, facility management committee members, parents and adolescents proposed to provide AH information and services e.g. counseling in a school. School teachers could provide AH information, and encourage adolescents to visit the health facilities. It was suggested to arrange training on AH for teachers.

> *"School-based campaigns should be increased because most of the adolescent period is spent in schools. In this period, they face many changes and problems. During these hardships, they tend to fall on the wrong paths. That's why school-based campaigns should be increased."*
>
> *Facility Management Committee Member, Tangail*

> *"A male and a female teacher can be assigned in school. They could be given separate training."*
>
> *School authority, Jamalpur.*

"Adolescents are admitted to high school from class six. After that changes started among the children. If a teacher wants they can explain adolescent (student) about these changes, give right direction so that a boy does not go towards the wrong way. Parents cannot tell as much, a teacher can tell that. That's our expectation".

-

Mother of adolescent, Jamalpur

"Teachers are the most important key to promote this (AH) service. If a teacher is trained then she/he can help their students"

An adolescent who did not visit facilities

Trained service providers on adolescent health: H&FP officials and adolescents proposed **to have** trained service providers for adolescents including counsellor, psychiatrist etc.

"Depression is very common among adolescents in this age, but they do not want to share. But if there is an experienced psychiatrist, he/she will find out the problem"

An adolescent who received service, Jamalpur

"Good behaviour is mandatory. Suppose a patient will go to a doctor if she/he gets good behaviour from the doctor. Half of the disease will be cured automatically through good behaviour. Rest of the disease will be cured through treatment".

- *Mother of adolescent, Tangail.*

Gender-matched service provider: A recommendation was given by the facility management committee members about the need of a designated and gender-matched service provider for adolescents to make them comfortable.

BCC materials: Facility management committee members suggested to ensure more BCC materials for adolescents in the facility.

Peer group formation: Adolescents gave emphasis on peer group formation.

Continuous supply of medicine: It was needed to ensure the availability of medicines for adolescents, as suggested by the adolescents themselves, service providers and facility management committee members.

Collaboration among facilities, school, adolescent clubs and NGOs: Respondents thought that collaboration between Government and NGOs regarding referral is important. H&FP official, school authority and service providers felt that collaboration between Government organization and NGOs would be an effective way to strengthen the referral system.

"Referral linkage between the health facility and school should be improved. This could be possible through campaigning or service provider's regular visit to school"

School authority

In addition, collaboration between Government and NGOs, coordination among facilities, schools and adolescent clubs were also important to promote AFHS, according to the school authority and H&FP official.

3.2.2 Initiatives to develop the strategy

Besed on participants' opinion, following initiatives were taken to develop the strategy –

i. Skype meeting: Sharing "1st round" assessment findings, and designing intervention

A skype meeting was held with district-level H&FP officials, Tangail on 13th January 2019. Pre intervention findings were shared with the participants where they also gave their opinions. After that another skype meeting was held with district-level H&FP officials in Jamalpur on 15th January 2019.

ii. Meeting: Sharing pre-intervention assessment findings and designing intervention

After district level skype meeting at national level, another meeting was organized in MCH Service Unit, DGFP, Karwanbazar, Dhaka, Bangladesh with policy makers from the government, researchers and others on 16th January, 2019. During this meeting, "1st round" assessment findings and previous district level meeting feedback were shared.

Picture 4: Meeting at MCH Service Unit, DGFP, Karwanbazar, Dhaka

iii. Workshops in Tangail and Jamalpur

Workshop was held with Health and Family Planning officials, officials from the Ministry of Education and other stakeholders on 5th February, 2019 in Tangail; and on 6th February, 2019 in Jamalpur. 1st round assessment findings and previous meetings' feedback were compiled; and

shared with the workshops participants. To address the barriers/bottlenecks for the implementation of AFHS, participants' shared their opinions. The following initiatives were suggested to address the barriers/bottlenecks for the implementation of AFHS within the existing health system:

In Tangail, community level uthan boithak, para or moholla based establishment of adolescent friendly organization, parents' meeting/ training, leaflet distribution, publicity in religious institutions, para based billboard and orientation of chairman and religious leader about AFHS were suggested to raise awareness among adolescents, parents and the community.. At school level, it was suggested to share AFHS information through student assembly, class room and mothers' meeting. In addition, the names and contact numbers of service providers and a list comprising the nearby facilities should be hanged on a visible place of the school. Besides, trainings on AH should be arranged for teachers, student captains and SCOUT members. Privacy and confidentiality for adolescents should be ensured at facility level. In addition, some initiatives e.g. placing signboards/billboards at more visiable places, well-decorated and well-equipped AFHS room, trained service providers for adolescents and monitoring and supervision of adolescent programs were also suggested.

In Jamalpur, raising awareness among adolescents, parents and community at community level were suggested by sharing AFHS information in courtyard session, arranging health sessions conducted by service providers, disseminating AFHS message at mothers' assembly, distributing posters, leaflet, and adhesive stickers in public places, organizing advocating meetings at union level, establishing local help line, distributing folder for JSC/SSC examinee etc.. At school level, it was suggested to initiate publicity through assembly, facebook, placing AFHS messages on walls etc. In addition, the names and contact numbers of service providers and the list of nearby facilities list should be hanged on a visible place of school. Besides, training on AH should be arranged for teachers. Privacy and confidentiality for adolescents should be ensured at facility level. In addition, that some intitiatives e.g. placing signboards/billboards at common public places e.g. school, well-decorated and well-equipped AFHS room and trained service providers for adolescents were also suggested.

Picture 5: Workshop in Tangail **Picture 6: Workshop in Jamalpur**

iv. Development of draft work plan

After compiling the feedback ofworshops, a list of work plan was prepared for Tangail and Jamalpur. Considering feasibility, timing and budget, research team revised the work plan.

Proposed plan for Tangail: AFHS information can be shared through existing "court yeard session" at community level and through school assemblyat school level. Besides, the list of nearby facilities and service providers' contact numbers will be hanged in the school wall. At facility level, privacy and confidentiality can be ensured through arranging separate service providing room for adolescents, and publicity of facility based AFHS can be done through miking. In addition, there is a planto organize training on AH for service providers.

Proposed tasks for Jamalpur: AFHS information can be shared through existing "court yeard session" at community level and through school assembly at school level. Besides, the list of nearby facilities and service providers' contact numbers will be hanged in the school wall. At facility level, privacy and confidentiality can be ensured through arranging separate service providing room for adolescents, and publicity of facility based AFHS can be done through miking. In addition, there is a plan to organize training on AH for service providers.

Picture 7: Internal Meeting **Picture 8: Study investigators' meeting**

3.2.3 Developing strategies to address the barriers/bottlenecks for the implementation of AFHS:

Considering "1st round" assessment findings, district level and national level policy makers' opinion, time limit, available resources, fesibility etc, IR study research team developed a strategy. It was expected that this strategy would help to address the barriers/bottlenecks for the implementation of AFHS. The strategy was to develop, implement and monitor three interventions. Besides, the process was also observed.

Three interventions were:

I. Sharing AFHS messages in the courtyard sessions
II. Sharing AFHS messages in selected school assemblies
III. Sharing AFHS information through miking

Intervention finalized meeting : To finalize the list of intervention, a meeting was held on 27th March, 2019 in Dhaka. It was decided in the meeting that considering local level recommendation instead of miking, ''Special service day for adolescent at selected health facilities" intervention would be implemented as an IR study intervention. The aim of this intervention was to introduce adolescents with AFHS at the facility.

I. Sharing AFHS messages in courtyard sessions
II. Sharing AFHS messages in selected school assemblies
III. "Special Service Day" for adolescents at the facility

3.2.4 Intervention implementation process

Development of AFHS information related messge:

- IR study team developed a message to share during courtyard session and school assembly.
- Message was revised and approved by the investigators of IR study.
- H&FP officials, education officers and school authority approved the message.

Development of checklist to observe the intervention implementation process:

- Developing draft monitoring checklist
- Sharing with IR study investigators
- Revising the checklist
- Sharing final checklist

Initiation of the implementation of interventions:

- **Innovation areas:** Preparation for the implementation of the selected interventions started from the last week of February 2019; and intervention in 'Schools' and 'Courtyard sessions' was started on 13th March 2019 in Tangail and Jamalpur.

- **Scale-up areas**: Interventions were started from the last week of July 2019 in Khulna and Gazipur.

Implementation of interventions:

❖ ***Sharing AFHS messages during courtyard sessions:*** It was planned to include AFHS information in existing courtyard sessions. After discussing with Health and Family Planning (FP) officials, it was decided that AFHS information would also be shared during courtyard sessions along with the existing topics (from IR study intervention period). ***The objective of 'Sharing AFHS messages in courty***ard session':

- To aware adolescents as well as their parents about the existing AFHS.

- The target audience:
  - Parents of adolescents.
  - Adolescents
- Session observation: FRAs (BSMMU) observed the session using a checklist.

Picture 9: Sharing messages about available AFHS in courtyard sessions

- **Sharing AFHS messages during courtyard sessions in Tangail and Jamalpur:**

- **Place:**
  - Jamalpur: Jamalpur Sadar, Bakshiganj upazila
  - Tangail: Tangail Sadar, Kalihati upazila
- **Session facilitator:** FWV/FWA/FPI/SACMO/HA
- **Participants:** Mostly female (Pregnant mothers, mothers of adolescents and adolescents)

- **Sharing AFHS messages during courtyard sessions in Khulna and Gazipur :**

- **Place:**
  - Khulna: Khulna Sadar, Batiaghata Upazila, Khulna
  - Gazipur: Tongi, Gazipur, Kaliganj Upazila Gazipur
- **Session facilitator:** FWV/FWA/FPI/SACMO/HA
- **Participants:** Mostly female (Pregnant mothers, mothers of adolescents and adolescents)

❖ **Sharing AFHS messages in selected school assemblies*:*** A short message containing information about 'Adolescent Friendly Health Service' was shared in selected schools during assembly.

- The objective of 'Sharing AFHS message in school assembly:
  - To aware adolescents and school teachers about the existing AFHS
  - To develop referral linkage between school and facility

- Place: Selected schools of nearby IR study intervention health facility
- School selection criteria:

- Should be located within 2 KM from the selected health facilities (Facility that was selected for IR study intervention)
- Must be High school

Picture 10: Sharing massage about AFHS in school assembly

Sharing AFHS messages during courtyard sessions in Tangail and Jamalpur:

- **Place:**
  - Jamalpur: Jamalpur sadar, Bakshiganj upazila
  - Tangail: Tangail Sadar, Kalihati upazila
- **Session facilitators:**
  - **Jamalpur:** SACMO/Headmaster/Physical teacher/Assistant teacher
  - **Tangail:** MOMCH-FP/UFPO/SACMO/FPI/HI/FWV/School teacher
- **Total no. of schools covered in Tangail and Jamalpur during IR study intervention period:**
  - **Jamalpur:** 15 schools
  - **Tangail:** 12 schools

Sharing AFHS messages in school assemblies in Khulna and Gazipur

- **Place:**
  - **Khulna:** School Health Clinic Khulna, Batiaghata UHC, MCWC Khulna, Gangarampur UH&FWC, Batiaghata Khulna
- **Gazipur:** Kaliganj UHC, Nagori UH&FWC and Kamarjuri MCWC, Tongi
- **Facilitators:**
  - Khulna: SACMO/Headmaster/Physical teacher/Assistant teacher/Adolescent Counsellor

- Gazipur: Physical teacher/Assistant teacher

- **Total no. of schools that were covered in Khulna and Gazipur during IR study intervention period:**
  - Khulna: 16 schools
  - Gazipur: 9 schools

❖ **Special service day for adolescents in health facilities:** Special service day for adolescents in health facilities was arranged. Service providers of the facility provided services to the adolescents within the service hour.

- Aim of this intervention
  - To introduce adolescents with AFHS at the facility
- Publicity:
  - Through miking near the facility on the day before program and
  - Informing nearby school authorities
- Free services: A free token was provided to the adolescents from ticket counter.
- Arrangement before receiving services:
  - Adolescents had to wait in the waiting place
  - Adolescents were called by maintaining a serial number
- Register: Adolescent register was filled up properly
- Provided services:
  - Height and weight were measured
  - Services for physical and mental health problems, counseling on nutrition and other AH related issues
  - Counselling was done by using different types of BCC materials
  - Free medicines and sanitary napkins were provided according to the availability and need of adolescents
- Privacy: Privacy for adolescents was ensured
- Referral: If necessary, adolescents were referred to other facilities
- Program monitoring:
  - DH: Superintendent, Assistant Director and Statistician monitored the program
  - UHC: UH&FPO
  - MCWC & UH&FWC: DDFP, ADCC, UFPO
  - BSMMU research team, FRAs

Picture 11: Special Sevice day for adolescents in health facility

Table 6: "Special service day for adolescents at health facility" program in Jamalpur and Tangail:

Jamalpur	Tangail
• District Hospital, Jamalpur	• 250 Bedded General Hospital, Tangail
• MCWC, Jamalpur	• MCWC, Tangail
• Bakshiganj UHC, Jamalpur	• Elenga UH&FWC, Kalihati, Tangail
• Dhanua UH&FWC, Jamalpur	• Kalihati UHC, Tangail

Table 7: "Special service day for adolescents at health facility" program in Gazipur and Khulna:

Gazipur	Khulna
• Kaliganj UHC	• School Health Clinic
• Kamarjhuri MCWC, Tongi	• Khulna MCWC
• Dhanua UH&FWC, Kaliganj	• Batiaghata UHC
	• Gangarampur UH&FWC, Batiaghata

3.2.5 Monitoring of Interventions:

- Checklists (2 checklists were developed to observe interventions)

- Field visit (Observing intervention process by the research team and Field Research Assistants)

3.2.6 Challenges to implement interventions:

- Innovation areas:
    - Sometimes intervention had to be postponded due to exams and vacations.
    - School authority asked for a permission letter from the Ministry of Education for working in school. Research team could not work in a school in Jamalpur that was selected for intervention.
    - Shortage of human resources to organize courtyard sessions was another problem.
- Scale up areas:
    - Occasionally school intervention was hampered in some schools due to rain and floods. Sometimes schools could not perform their assemblies due to rain.
    - In Jamalpur and Khulna, there are some disaster-prone areas. During rainy season, sometimes it was very difficult to arrange courtyard sessions in scheduled time due to flood.
    - Shortage of human resources to organize courtyard sessions was another problem.

3.2.7 How challenges were overcomed:

- Innovation areas:
    - Research team ensured school intervention after exams and vacations.
    - Research team sought help from Health Sanitaion officer of Jamalpur City corporation with the support of DDFP, Jamalpur. Health Sanitaion officer helped the research team implementing school intervention.
    - District Eductaion officer gave permission to work in the schools of Jamalpur. In one school they did not get the permission to work, so they selected another school according to the school selection criteria.
    - To overcome the shortage of human resource, research team did several meetings with District and Upazila level H&FP officials and requested them to give suitable solutions. Field level service providers gave their schedules considering interventions and activities; and cordially implemented it.
- Scale up areas:
    - Due to rain and floods, school assemblies were arranged in some schools . To overcome this, those schools having indoor auditorium performed assemblies

there and those not having auditoriums shared AFHS messages in classroom through class teacher in the first period.

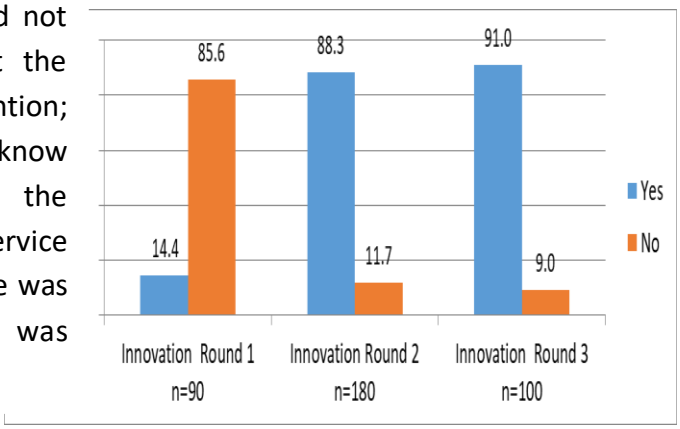
- If courtyard session was postponeddue to flood, service provides tried to reschedule the session.

3.3 Increasing utilization and quality of AFHS

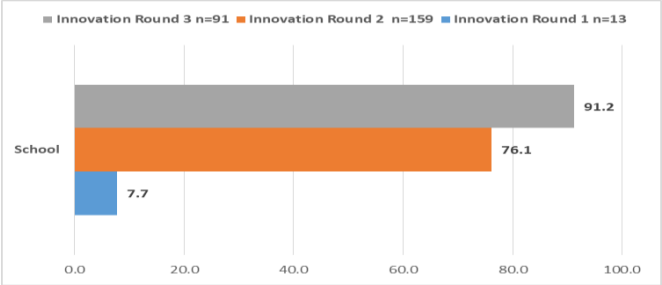
3.3.1 Awareness about Adolescent Friendly Health Services (AFHS) in implementation areas

Figure 3: Awareness about AFHS among adolescents in schools and the sources of information

In Round 1, 86% of the respondents did not know about the services of AFHS but the situation got inverted after the intervention; where 91% of the respondents came to know about the services of AFHS after the intervention. In Round 1, knowledge on service time was 23% and in Round 3, knowledge was 35%. 66% agreed that the service time was convenient for them.



In pre-intervention assessment, 23% of the adolescents got the message of AFHS from service providers; but in post-intervention assessment, 91% of the adolescents got the message from schools.



During Round 1, adolescents were interviewed after receiving services from the facilities. Qualitative findings revealed that adolescents (those who visited facilities) were aware of AFHS. In addition, the adolescents who did not visit facility within one year were also interviewed. From that interview, it was found that they were not aware of AFHS in health facilities.

Study participants came to know about adolescent health and AFHS information from the school; also from the school textbook and school teacher. They were also informed about AFHS from health workers of family planning centre; and also through media (BTV).

In Round 2, qualitative findings revealed that adolescents (who visited facilities) were aware of AFHS in health facilities. On the other hand, some of them (adolescents who did not visit facilities within one year) mentioned that they were aware of AFHS, but they did not go to the facility for AFHS. The reason was that they did not face any pubertal change related problems.

> *"I did not visit the hospital since last one year, I tried to solve my general problems like cold, fever, the flux at home through natural remedies. Thus, I solved my problems by myself and did not visit the hospital." The adolescents who did not use services despite needs, Tangail*

School teachers of Tangail and Jamalpur were aware of AFHS in Round 2. They were well-informed about AFHS in the health facilities. As one of the respondents said,

> *"Actually, to build up a healthy life or healthy growing up, necessary perception and services have been given to adolescents aged between 10 to 19 years from the adolescent corner." (Teacher, Tangail)*

> *"They (adolescent students) went to the facility that day (special service day for adolescents that was organized as a part of IR study intervention). After that program, they (students) went to the facility again. Now they can share their problems easily." Teacher, Jamalpur*

Parents of the adolescents (respondents) in Tangail were more knowledgeable about AFHS compared to Jamalpur. One of the main reasons of awareness was being a mother of an adolescent; she was a teacher of a 'High School' in Tangail:

> *"Through adolescent service, health services for physical problem … for the psychological problem are provided. Counselling is done to aware adolescents about eve-teasing, drug addiction. They (adolescents) are also informed about pubertal changes, menstruation through counselling. Different types of adolescent health services we can get from here (adolescent corner)." Parent of adolescent, Tangail*

Qualitative findings revealed that respondents came to know about AFHS from different sources e.g. friends, parents, schools, adolescent corners and hospitals. Adolescents came to know about AFHS from their friends, parents and adolescent corner. Parents of adolescents heard about AFHS information during a school assembly, parents' meeting in school and hospital.

> *"My family, I mean my father and mother told that if I am not comfortable to share my problems with others; in that case, I can share my problem with the madam (service*

provider) of the facility. I got support from parents and friends, they provided information about the facility." Adolescent received services from a facility, Tangail.

"From my friend I have heard that from this facility, services are provided to women; I mean male and female adolescents. My friend told me where I can share my problem. And she (service provider) will solve my problem. I have also heard from my father. My mother also insists me for coming. She knew about this facility before." Adolescent received services from a facility, Jamalpur.

"I usually get information (about AFHS) from the hospital, school … through media. We also get information from the assembly; we also get these types of information (AFHS) from the meeting." Parent of adolescent, Tangail.

Throughout '**Round 2'** qualitative findings, it was revealed that all adolescents (who visited facilities), parents of adolescents, school teachers from Jamalpur and Tangail were aware of AFHS in the facility.

The adolescents came to know about AFHS information from several sources e.g. school teacher, textbook, service providers from facility, family members, representative from 'Square group', adolescent programs in schools and 'special service day for adolescents in facility' program.

"My mother told me to come here. (Mother told) to go to the 'Ma O Shisu Kallan Kendra (MCWC)' from where treatment has been provided to the adolescents." Adolescent, Tangail

Parents of adolescents were aware of AFHS through courtyard sessions conducted by the "Health and Family Planning Department". They also shared that health workers organized trainings in schools to inform adolescent girls and boys about adolescent health-related issues and available AFHS. After coming back from the training, adolescents shared the information with their family members. The AFHS messages were also shared with UH&FWC and UHC. One of the respondents mentioned that her daughter (adolescent) was a member of the facility management committee member. As a member she also informed others and as a result, most of the parents and adolescents (nearby dhanua FWC, Jamalpur) are now aware of AFHS.

"The service provider arranged a meeting in our village laochapra and I was informed about AFHS from there". Parent, Jamalpur

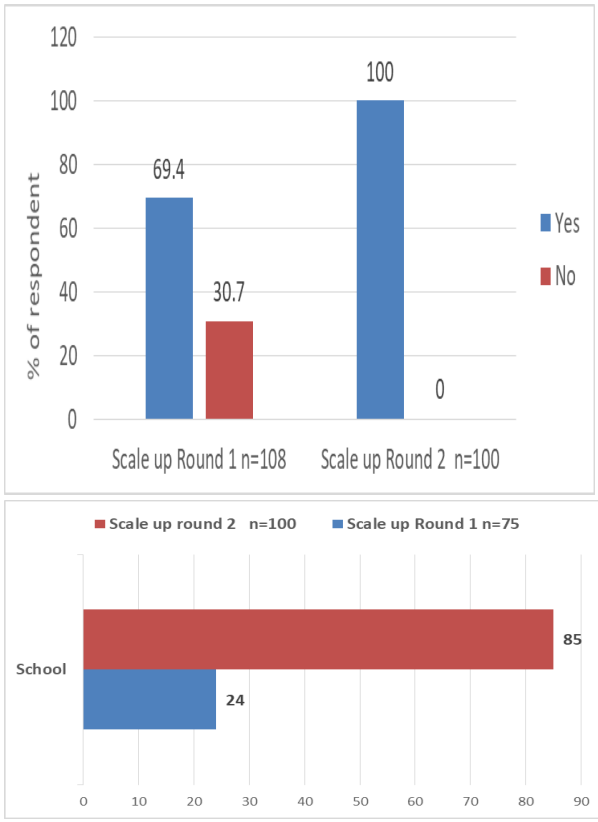
''I heard from courtyard session where service providers counselled people'' Parent, Tangail

"Now maximum people are known about AFHS in our village". Parents, Jamalpur

School teachers heard about AFHS information from a school assembly. AFHS information was shared once or twice a week during the school assembly. In addition, they came to know about AFHS from the service providers of MCWC, from the textbook, from AH seminars and trainings.

3.3.2 Awareness about Adolescent Friendly Health Services (AFHS) in Scale-up research areas

Figure 4: Awareness about the AFHS among the adolescents in school and the sources of information



In Round 1 assessment, 31% of the respondents did not know about the services of AFHS; but it became 0% after the intervention.

In Scale-up round 1 assessment, 85% of the adolescents got the messages from schools. The percentage of getting the messages from service providers and parents became decreased in post-intervention. We can explain it like when adolescents got the information from schools, they didn't need to head towards a second source for information.

Among the respondents who knew about AFHS, 13% of them knew about service time in round 1 and after intervention; it became 34%. Almost 74% of the adolescents agreed that the service time was convenient for them.

During '**Scale up round 1',** adolescents (who received services from a facility in Khulna and Gazipur, and adolescents from the adolescent club in Khulna) were asked about AFHS. All of them were aware of AFHS in the facility.

Regarding awareness, it was found that school friends, mothers and service providers of the health facility played an important role to disseminate AFHS information among adolescents who

received services from the facility. During an interview with adolescents at adolescent's club in Khulna, they mentioned that they got the information of AFHS from the adolescent club.

> *"I have heard about it (AFHS centre) from one of my friends. I went to school; he told me that there is a ….. AFHS in the hospital. Means centre" - Adolescent, Khulna*
> *I have heard about this service (AFHS) from here (health facility)…Ammu (mother of respondent) also told me like this. - Adolescent, Gazipur*
> *I have heard about the AFHS centre from service providers. I knew that this is happening here (AFHS service). Then, when I have visited a health facility, I have seen that there is a corner for adolescents- Adolescents, Gazipur*

'**Scale up Round 2'** qualitative findings revealed that all respondents (adolescents who visited facilities, and adolescents from the adolescent club, parents and teachers) were aware of AFHS in the facility.

The adolescents came to know about AFHS information from several sources e.g., club, school assembly, service providers of health facility, sharing of AFHS information through miking, special service day for adolescent in facility, school program by counsellor from CS office, Khulna,during visiting of health facility for general treatment and senior school student who participated in AH program.
One of the adolescents stated his experience about the source of information regarding the adolescent health care corner as,

> *"This happened once in my own school, the headmaster at the assembly said that there is a health corner for us. When we will go there, we will get different health services." (Adolescent, adolescent club, Khulna))*

> *"There was a program in the health facility, some students from our school joined the program. They (service providers) discussed about the sufferings of the boys and the girls during adolescence period ... after that, they (students joined in the program) shared their experiences with us. We came to know from them. And where they are located or where services are available, they told us about those things. From this, we became known." (Adolescent, Khulna).*

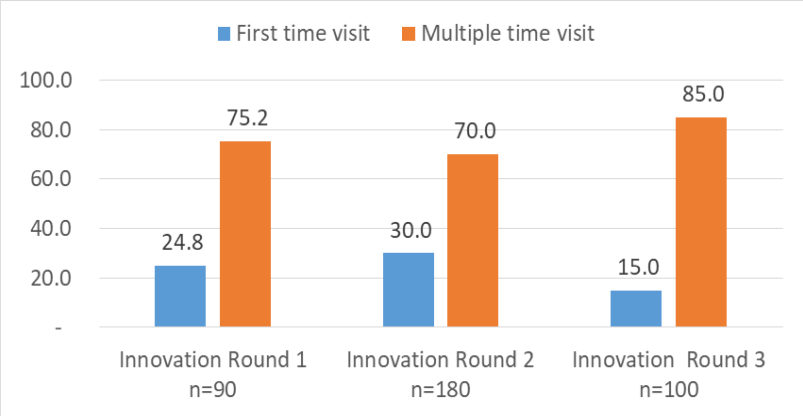
Parents of adolescents were aware of AFHS through service providers during courtyard sessions. One respondent of Gazipur came to know from his daughter. His daughter learnt from the health programs of school.

"As the courtyard sessions are held with mothers and others, everyone came to know that the service (AFHS) is available in the health facility. Now everyone is informed and encouraged to go to the facility." Parent, Gazipur

School teachers heard about AFHS from health workers through visiting the school, school assembly, school managing committee members, miking, textbooks, hospitals, meetings and workshops arranged by UNICEF at UHC in Gazipur.

3.3.3 Health facility visiting status of the respondents in innovation research areas

Figure 5: Adolescents' visiting status in the health facility (first-time visit/multiple or repeated visit)



In Round 1, almost 75% of the adolescents came to the health facility more than once. In Round 2, both the 1st time visit (30%) and repeated visit had (70%) increased as interventions were started. In round 2 & 3, the first visit (15%) got decreased and the repeated visit (85%) got increased.

We can describe it like the interventions continued throughout the study period for the adolescents to come to the facility several times; so the percentage of the first visit decreased at the end.

Table 8: Percent distribution of the adolescents at schools who visited AFHS

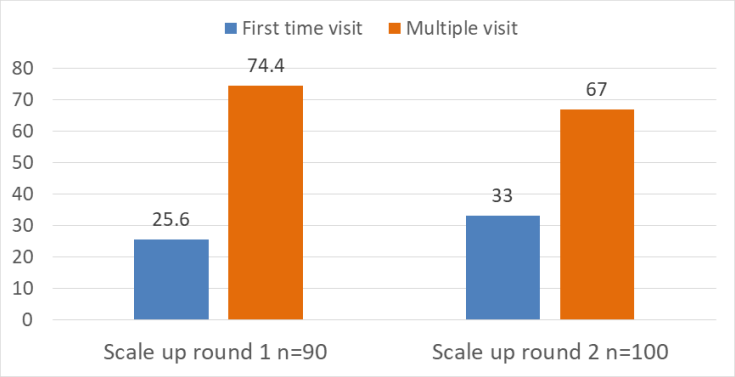
AFHS Visiting Status	Round 1 (n=90)	Round 2 (n=180)	Round 3 (n=100)
Yes	**5.6**	**37.2**	**59**
No	94.4	62.8	41

Almost 6% of the school-going adolescents visited the AFHS centre in Round 1 and 59% in Round 3.

Most of the adolescents went to the health facility for getting treatment of general health problems (89%) in round 1 and only 7.6% went there for adolescent health problems. The

percentages were 76% and 60%, respectively in Round 3. In round 1, only 1% of the adolescents came for couseling which increased up to 21% in round 3.

Figure 6: Health facility visiting status of the respondents in scale-up research areas



In Round 1 assessment, almost 75% of the adolescents came to the health facility more than once. In the post-intervention assessment, first visit (33%) was increased as a result of the intervention.

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Almost 18% of the school-going adolescents visited the AFHS centre in pre-intervention assessment while 43% visited in the post-intervention assessment.

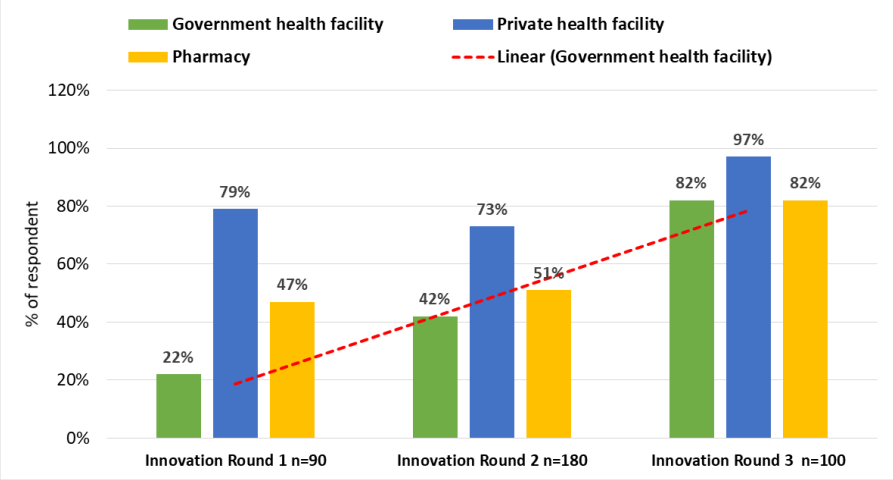
Table 9: Percent distribution of adolescents at school who visited AFHS

Visit AFHS	Pre Intervention n=108 (%)	Post Intervention n=100 (%)
Yes	19(18%)	43(43%)
No	89(82.4%)	57(57%)

Almost 86% of the adolescents visited health facility to get treatment for general health problems where 21% visited for adolescenthealth problems. The percentages were 74% and 53%, respectively in post-intervention. Adolescents visited for counseling increased from 4% to 11% after intervention.

3.3.5 Sources of services taken by the school going adolescents in innovation research areas

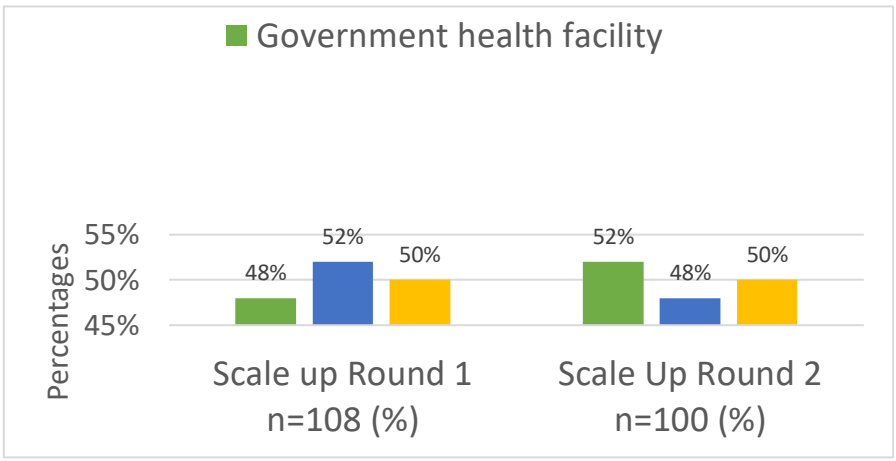
Figure 7: Sources of services taken by the school going adolescents in innovation



Percentage of respondents visiting government health facility was increasinggradually. But a higher number of adolescents also visited the pharmacy for any health-related problems.

3.3.6 Sources of services taken by the school going adolescents in scale-up research areas

Figure 8: Sources of services taken by the school going adolescents in scele up areas

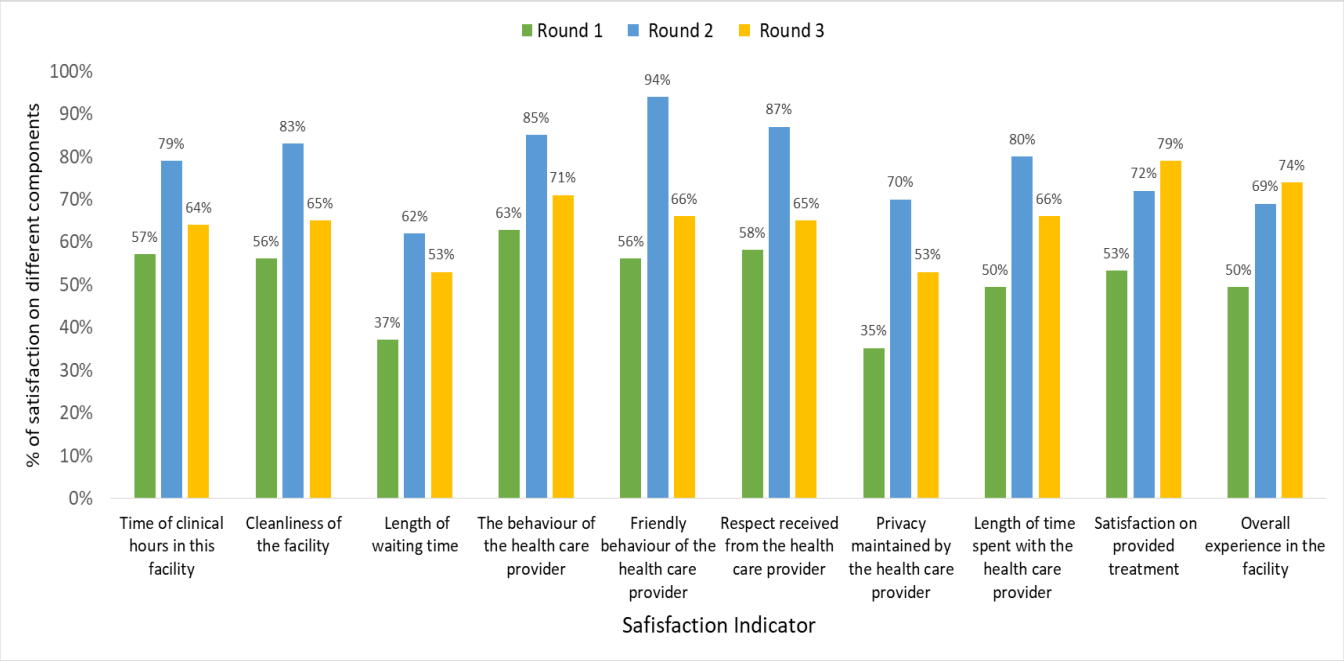


The percentage of visiting Government health facility became increased after intervention; while visiting private facility decreased and visiting pharmacy remained the same.

Almost 86% of the adolescents visited health facility for getting treatment ofgeneral health problems where 21% visited for the adolescent health problems. The percentages were 74% and 53%, respectively in post-intervention. Adolescents visiting for counseling increased from 4% to 11% after intervention.

3.3.7 The satisfaction of adolescents with the services in innovation research areas:

Figure 9: Satisfaction of adolescents with the services received from the health facility in innovation areas



Almost all adolecents were satisfied with the clinic hours of the facility. Percentage of respondents in respect of the length of the waiting time had been increased. There was a good percentage of satisfaction in case of the behaviour and friendliness of the service provider. A considerable percentage of the respondents were satisfied with the level of privacy maintained by the health care providers while the percentage of dissatisfaction is low. A good number of adolescents were highly satisfied with the services of AFHS and then only one reported as dissatisfied after the post-intervention assessment.

Maintaining confidentiality in the health facility had been increased gradually. The presence of any unwanted person at the time of services had been reduced from almost 71% to 25% after intervention.

In innovation areas, round 1 assessment observation was done using an observation checklist. Observation findings revealed that other clients and providers entered into the consultation room at district hospital, MCWC, Bakshiganj UHC, Dhanua UH&FWC, Bakshiganj of Jamalpur; and at District hospital, MCWC, Kalihati UHC, Elenga UH&FWC and Kalihati of Tangail. The voice of adolescent client was audible from outside during consultation or counseling in the facilities of Jamalpur. AFHS was provided from outdoor in district hospital, MCWC, UHC, Bakshiganj, Jamalpur. Adolescent corner was not used during observation time. The voice of adolescent client

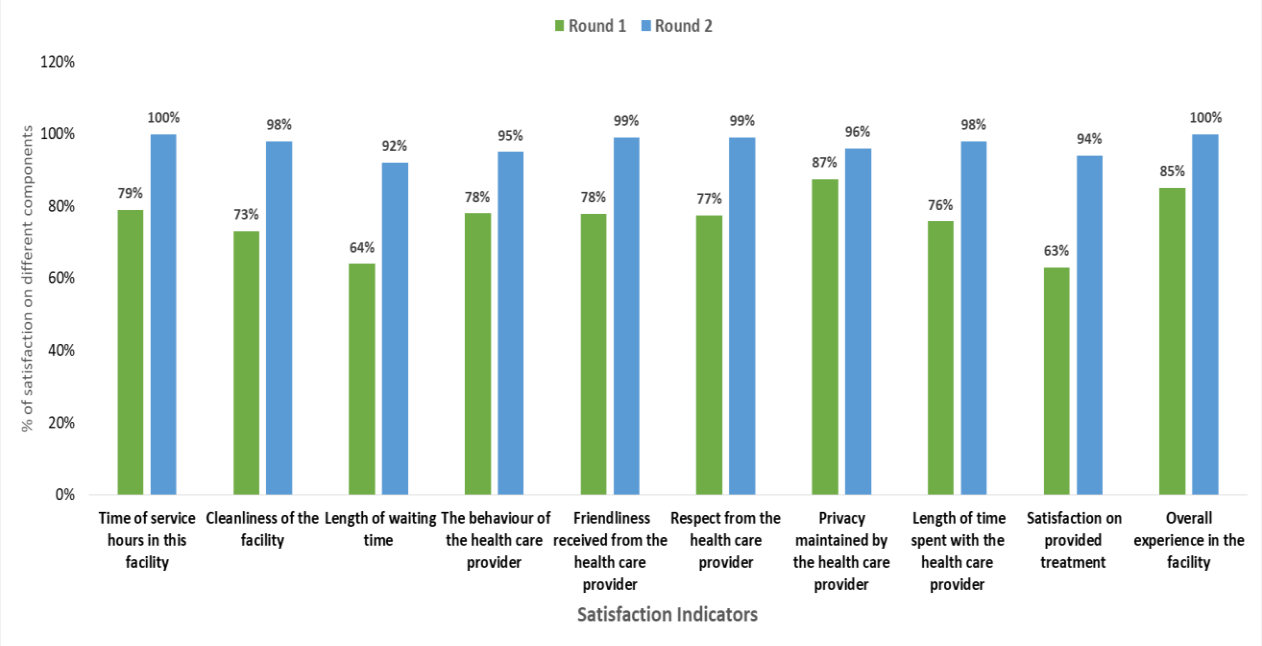
was not audible from outside during consultation or counseling in district hospital and MCWC of Tangail. AFHS was provided from outdoor in UHC, Kalihati, Tangail. Adolescent corner was not used during observation time. In Kalihati UHC and UH&FWC, Kalihati of Tangail, it was observed that the voice of adolescent client was audible from outside during consultation or counseling.

During round 2 assessment, observation findings showed that no other clients as well as providers entered during consultation time in district hospital, MCWC, Jamalpur. The voice of adolescent client was not audible from outside during consultation or counseling in these facilities. AFHS was provided from outdoor in UHC, Bakshiganj and entry of other clients were not restricted during consultation. Adolescent corner was not used during observation time. On the other hand, District hospital, MCWC, and UHC, Kalihati of Tangail showed that no other clients and providers entered in the consultation room. The voice of adolescent client was not audible from outside during consultation or counseling. AFHS was provided from outdoor in UHC, Kalihati, Tangail. Adolescent corner was not used during observation time.

In round 3 observation, it was found that no other clients and provider s entered in the consultation room at district hospital, MCWC, Dhanua UH&FWC, Bakshiganj of Jamalpur; and at district hospital, MCWC, Kalihati UHC, Elenga UH&FWC of Tangail. The voice of adolescent client was not audible from outside during consultation or counseling in these facility. But entry of other clients were not restricted during consultation in Bakshiganj UHC.

3.3.8 The satisfaction of adolescents with services' scale up research areas:

Table 10: Satisfaction of adolescents with services received from health facility in scale up component



Almost all patients were satisfied with the clinic hours of the facility. Percentage of respondents in respect of the length of the waiting time had been increased. There was a good percentage of satisfaction in case of the behaviour and friendliness of the service providers. A considerable percentage of the respondents were satisfied with the level of privacy maintained by the health care providers where the percentage of dissatisfaction was low. A good number of the adolescents were highly satisfied with the services of AFHS and then only one reported as dissatisfied after the post-intervention assessment.

Maintaining confidentiality in the health facility had been increased gradually. The presence of any unwanted person at the time of services had been increased from almost 3% to 14%. A big proportion of the adolescents (86% in post-intervention) reported that the condition had not been changed that much.

In Scale up areas, round 1 assessment observation was done using an observation checklist. Observation findings revealed that no one entered in the consultation room in Batiaghata UHC, Gangarampur UH&FWC, school health clinic of Khulna. But it was difficult to maintain privacy in MCWC because of using it as an entrance of another room. The voice of adolescent client was not audible from outside during consultation or counselling.

Except Tongi MCWC, other facilities e.g. Kaliganj UHC, Nagori UH&FWC and Kaliganj of Gazipur maintained privacy during consultation period. However, it was found that maintaining privacy was a little bit difficult after adolescent flow had become huge in Kaliganuj UHC. The voice of adolescent client was not audible from outside during consultation or counselling in these facilities except Tongi MCWC.

In "Round 2" observation, findings revealed that Batiaghata UHC, Gangarampur UH&FWC, school health clinic of Khulna; and Tongi MCWC, Kaliganj UHC and Nagori UH&FWC of Gazipur maintained privacy. No one entered in the consultation room during observation. But the situation remained similar in MCWC, because AFHS providing room was the entrance of another room. The voice of adolescent client was not audible from outside during consultation or counselling.

3.3.8 Positive shifting: Adolescents' flow in the facility was more than before in innovation research areas

During **"Round 2"** assessment, service providers mentioned that IR study intervention played an important role to increase adolescents' flow in the facility. One of the service providers mentioned that:

> *"A message was shared during school assembly. Sir (head master) shared that adolescent friendly health services had been provided from the nearby health facility. Here is the phone number of the facility. You will go and take services. It (this initiative) helped a lot."Service provider, Jamalpur*

Teachers from Tangail stated that people from UH&FWC and BSMMU team visited schools and made them aware of AFHS.

> *"We already provided information on adolescent friendly health services from the school. Our assembly started at 10 A. M. We have decided that we will share AFHS information during assembly once in a week. And they (service provider) came from UH&FWC once. They delivered the message. They requested us to discuss this (AH topic) at least once in a week." School authority, Tangail*

> "We did not have any idea about this service (AFHS facility) in Elenga, AFHS is provided from here. Before that there was no publicity. May be services (AFHS) are provided here previously. But due to lack of publicity, we did not send them (student) before. Recently we have started to send students. We are getting services." *School authority, Tangail*

Parent of Tangail was informed about IR study intervention.

> *"Physical instructor… most of the time teachers, headmaster also share information… we know about AFHS from them (BSMMU representatives)" Parent, Tangail*

H&FP officials shared that 'special service program for adolescents in facilities' was organized by BSMMU and supported by UNICEF, which helped to aware adolescents about the available AFHS in facilities.

"Round 3" assessment also indicated that sharing AFHS information during assembly in schools played an important role to increase adolescents' flow in the facility. School teachers in Tangail and Jamalpur mentioned that adolescents had been more aware about AFHS recently; and became interested to go to the facility. During KII with school teachers, they mentioned that adolescents had been going to the facility then, and getting services easily (e.g. getting services within short waiting period etc.). These things gradually increased adolescents' presence in the facilities. They appreciated the initiative of "Special Service day for adolescents in the facility". From their point of views, adolescents themselves experienced and observed AFHS through this initiative. Later that would have helped to increase adolescents' visit in the facility.

The key informants (H&FP officials) mentioned about several influential factors for increasing adolescents' flow in the facility. Main influential factors were school programs. Besides, "sharing AFHS information in courtyard session" and "Special service day for adolescents in the facility" program played an important role to increase the participation of adolescents in the facility.

During IDIs with service provides, it was found that AFHS related message sharing in school assembly and courtyard sessions were helpful in increasing adolescents' flow in the facility. School teachers encouraged their students to visit the facility. Those who visited the facility informed other students later on. As a result, adolescents are coming more than before. Furthermore, it was found that sharing AFHS information during courtyard sessions was effective in increasing adolescents' presence. According to service providers, sharing AFHS message through miking was beneficial also. "Special service day for adolescents in facility" program helped to disseminate available facilities for adolescents.

> *"8 to 10 girls were present in courtyard session, facilitator of courtyard session informed more than 8 to 10 girls. They are benefited by these courtyard sessions…. We are sharing AFHS massages. In fact, those who are coming if they get good services, then they are coming back with their friends." Service provider, Tangail*

> *"For example in school assembly, there is a bunch of adolescents there. Massages are being delivered to a group of adolescents at a time. Sometimes they do not want to come*

alone, they feel shy. Then if 4/5 adolescents come together, they feel more comfortable." Service provider, Jamalpur

The successful elements generated in the innovation research areas were extended in another new Upazila of Jamalpur and Tangail. After introducing three interventions in Delduar Upazila Health Complex, Delduar, Tangail and Elasin UH&FWC, Delduar, Tangail; and Islampur Upazila Health Complex, Islampur, Jamalpur, and UH&FWC Pathorshi, Islampur, Jamalpur; service providers selected from these facilities were interviewed. They were also discussed about the situation after introducing IR study interventions.

According to the service providers, AFHS message sharing sessions in school assembly was one of the most important initiatives through which a huge number of adolescents had been receiving AFHS messages at a time. Another initiative called "sharing AFHS information in courtyard sessions" in the local community was also appreciated.. Arranging "special service day for adolescent in facility" program was a new and innovative initiative to inform adolescents, school teachers and guardians of adolescents regarding AFHS in a facility. On the day of program, adolescents came with their mother or relatives; while some of them came with friends, peers and neighbours.

"It helped to make more publicity. Many adolescent boys and girls came from different areas". Service Provider, Tangail

The courtyard sessions played an important role in increasing the flow of adolescents in the facility. The parents of adolescents were being aware of their children's health. It was observed that many parents had brought their adolescent boys or girls in the corner.

"Through the courtyard session, adolescent is getting information. And miking has been done, they are getting information through miking. And it turns out that the number of adolescents is actually increasing. And if this continues at a widespread rate, I am sure that it will increase". Service provider, Jamalpur

Miking before special service day helped to reach mass people and create awareness among them. This was an effective way through which local people got information about AFHS from residence, market, streets or elsewhere. The service provider of Tangail said,

"During a special service day, there were so many people that we could not let them sit here. Even there was no place to stand. Everyone understood that Miking was a good initiative here. Everyone welcomed it and came here. And everyone accepted our messages well." Service provider, Tangail

3.3.9 Positive shifting: Adolescents' flow in the facility was more than before in scale-up research areas

During "round 1" assessment, H&FP officials mentioned that health education program in the school level, meeting with the teachers, ADOHEARETS program by UNICEF and activities of Rupantor played an important role to increase the presence of adolescents in Khulna government facilities.

School assembly program named "sharing AFHS information during assembly" was run through SACMO, where FWV helps to increase the presence of adolescents in health facility; as mentioned by H&FP official. FP office organized a two-days awareness program for teachers at the Upazila level in Gazipur. After completing workshop, teachers visited the adolescent centres with their students that made a positive change about AFHS among the teachers as well as the students. In addition, that "sharing AFHS message in courtyard session" played an important role in increasing adolescents' flow at the facility level. Furthermore, collaboration among Social welfare and Education department; and support from UNICEF played an important role. Gazipur DDFP office communicated with Jubo Unnoyon authority to involve adolescents in their training programs. They also communicated with the Islamic Foundation to involve Imam to promote AH program. Furthermore, they tried to involve local elite person e.g.e media person, teachers, freedom fighters and priest with the support of UNICEF to promote adolescent-friendly health program.

During ***"Round 2"*** assessment, H&FP officials mentioned about several potential factors to increase the flow of adolescents in the facility to get AFHS. From the facility, they tried to motivate community people especially the families of the adolescents, conduct school programs, form peer groups communicate with local clubs and local government e.g. members of union *Parishad*. Besides, the "courtyard session" played an important role to increase the participation of adolescents in the facility. One key informant stated regarding the importance of courtyard session as:

> *"I can give an example that, in courtyard session, it is not only discussed on 'adolescence friendly health service', but also discussed on 'adolescence motherhood' and social protection… several classes of people are present here, so, this issue (adolescence friendly health service) should be thrown. As a result, if any parent was hesitated or reluctant once to send their children (adolescents) to adolescence friendly health service corner, they will be influenced by this."* H&FP official, Khulna

"Special service day for adolescents in facility" program played an important role to increase the adolescents' flow; as thought by the H&FP officials. The key informants explained as:

"Here, the main matter is to get the information appropriately. Many do not know their problems, or, is it a problem or not? When they come here during a special day, they found it as a problem. They got treatment, we did counseling… Thus, they are being encouraged." H&FP officials, Khulna

According to the service providers, sharing AFHS messages in school assembly was a good way to share information. They also thought that courtyard sessions had helped to create awareness among adolescents and their parents. They also mentioned that "special day for adolescents in facility" program and announcement of AFHS information through miking were good initiatives.

"Yes, teachers are saying during the assembly. Not everyone is coming, but it is increasing slowly." Service provider, Khulna

School teachers shared that most of the adolescents did not know about AFHS services or corners before. After sharing AFHS messages in school assembly, all students are now aware of the AFHS corner. Even before the intervention, the school teacher thought that the AFHS corner was only for female. Though a teacher did not go to the AFHS corner, he added what he had heard from his colleague that the corner was properly adolescent-friendly. Privacy and confidentiality of the adolescent problems were strictly maintained there.

3.4 Improving the referrals and linkages between community and health facilities for increased uptake of AFHS

To increase adolescents' flow in the facility, collaboration was needed among facility, school and community. Based on research findings, stakeholders' meeting and workshop feedback, the possible way to develop and increase referral linkage was to intervene in the school and community. School and community interventions helped to create and increase awareness among adolescents, parents and community. Finally that helped to increase the adolescents' flow for AFHS in the facility.

3.4.1 Improving the referrals and linkages between community and health facilities for increased uptake of AFHS in innovation research areas:

Round 1 data (facility observation) revealed that there was no register with the information of referred cases and referral options in selected facilities (study facilities) of Tangail and Jamalpur. The facility does not provide referral cards or sheets mentioning client conditions, addresses of referral facility, timing and cost of services to adolescent client. The facility only provides a prescription to the adolescents.

After introducing IR study interventions in round 2, it was found that the register with information of referred cases and referral facilities was used in DH, UHC, Kalihati and UH&FWC,

Kalihati of Tangail. Although proper referral system for adolescents was not established in Jamalpur, however, Facility Management Committee member of Tangail informed that there had been a coordination among schools and facilities regarding the referral. There is a NGO named SETU in Tangail, they refer adolescents from the community to the facility.

> *"There are 3 schools in our union. Every school has a link with the facility. From Facility Management Committee, we communicate with the schools, and they also communicate with us. If any problem arises, we communicate through mobile. Sometimes teachers call us." Facility Management Committee member, Tangail*

Service providers from both districts mentioned that they had been using their sealed writing pad as referral slip; although very few cases were needed to refer. Service provider of Jamalpur referred the adolescents to Upazilla health complex and service provider of Tangail referred the adolescents to District Hospital for visiting child specialist and medicine specialist. School teachers or Madrassa teachers (Islamic educational organization) send their students (adolescents) to the facility, but they do not use any referral slip.

> *"Those who visit us two to three times regarding white discharge or wet dreams problem. We tried to counsel them, and when we could not motivate them, we referred them to Sadar Hospital. There are child specialist, senior doctor, medicine specialist to whom we referred. We do not have any referral slip but we have sealed official writing pad. We send adolescents with it."*
>
> *Service provider, Tangail*

H&FP officials from Tangail and Jamalpur mentioned that after providing services, patients are referred from UH&FWC to UHC, MCWC and other facilities if needed considering their problems.

> *"We have an adolescent corner, adolescents are referred to the corner from the ticket counter. There is a counsellor, he/she listens to their (adolescents') problems and counsel them. After that, based on their (adolescent) need, they are referred to doctors, usually male service provider."*
>
> *H&F official, Tangail*

School authorities' (respondents) mentioned that adolescents normally get primary treatment in school; and after that they are sent to a clinic or hospital along with school teacher or peon based on the situation. They verbally request the health service providers to provide treatment; because they have a good relation with service providers.

Interventions were continued, and **post Intervention (Round 2)** observation findings revealed that the register with information of referred cases and referral facilities was used in the district

hospital, MCWC, Kalihati UHC, Elenga UH&FWC, Kalihati of Tangail, and district hospital, MCWC, Dhanua UH&FWC of Jamalpur. Although Bakshiganj UHC of Jamalpur did not use register with information of referred cases and referral facilities during observation period.

According to the respondent (school teacher, Tangail), school maintained a referral linkage with health facility. If any student becomes ill, teachers either go to the facility with them or inform service providers.

> *"If any problem arises we call them (service providers of MCWC). Or sometimes we (School teachers) go there (the health centre) with our boys and girls to make an arrangements. Yes, this is how I prefer. Take them or tell them". A Schoolteacher, Tangail*

According to the school teachers of Jamalpur (respondent), two teachers are assigned for adolescents in their school. The school has first aid box with some iron tablets and sanitary napkins in school managed by the hospital authority. After that, based on the necessity adolescents' are referred to the district hospital. They do not use any referral slip or form, and they do not maintain any list of the referred students.

During IDI, service providers shared that pregnant adolescents had been referred from Ellenga UH&FWC to district hospital or MCWC. They do not use any referral form/card. However they write down the particulars of patient in a paper with a signature and then refer them. They also added that students also came from schools accompanied by teachers.

> *"We refer to the clinic, for example, we told them that we are sending them to district hospital. If they said that they will not go district hospital, then according to their priority, we send them." Service provider, Tangail*

In Round 1, no adolescent was referred from school but in Round 3, 46% was referred from schools. On the other hand, 60% of adolescents were referred by their parents in Round 1; but it became 15% in Round 3. The reason behind this may be they were already referred by schools and became self-motivated (25%) due to the interventions in school assembly. . So, there was no need for the parents to refer them.

Figure 10: Percent distribution of the adolescent from school who visited AFHS and were referred by

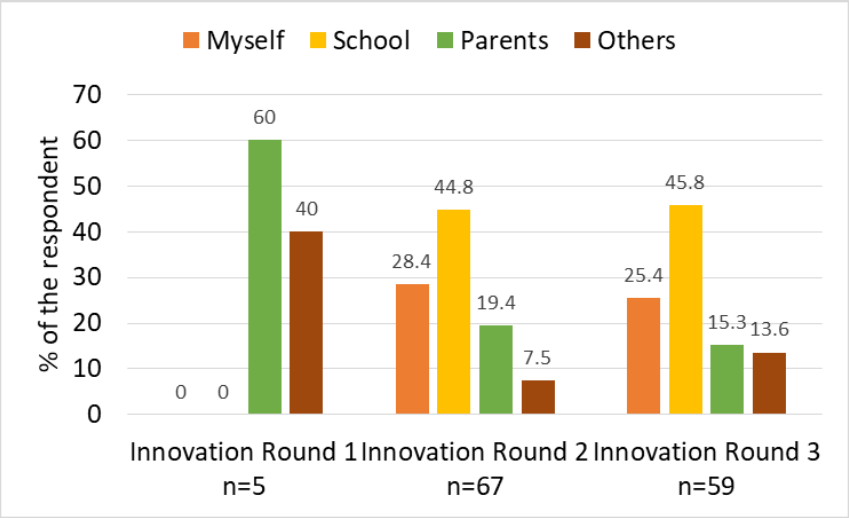
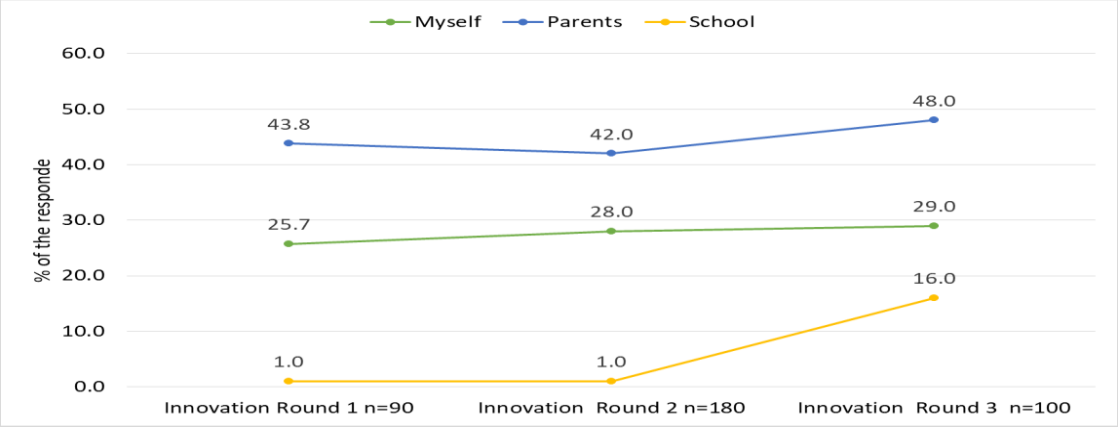


Figure 11: Referral status of the respondents who came to the health facility for getting services



The adolescents were asked who referred them to come to this health facility. Most of the adolescents were referred by their parents (42%), and the second factor was their own interests. It indicated that parents were more aware of sending their adolescent children to the health facility after getting "Health massage on AFHS" in courtyard sessions.

3.4.2 Improving the referrals and linkages between community and health facilities for increased uptake of AFHS in scale–up research areas:

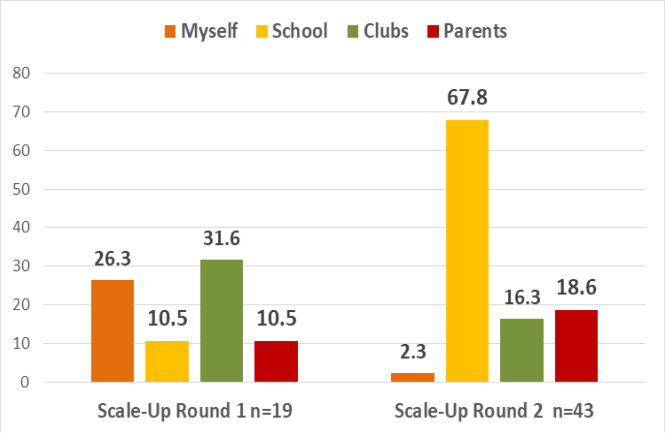
In Scale Up areas during **"Round 1"** assessment, observations revealed that MCWC, UHC, Nagori UH&FWC, Kaliganj of Gazipur and MCWC, Batiaghata UHC, Gangarampur UH&FWC of Khulna were using registers with the information of referred cases and referral facilities. But the facility does not provide referral card/sheet to the clients mentioning client conditions, addresses of the referral facility, timing and cost of services. The facility only provides prescriptions during observation time.

At the same time during KII with H&FP officials, they shared that there had not been any recognized referral system for adolescents in Khulna and Gazipur. Usually, health facilities and schools refer adolescents through their own management systems. They also added that community clinics used to have its own referral slip for adolescents. In Gazipur, sometimes school authority sent students to the facility through mobile communication. Service provider of Khulna shared that although there was no proper referral system for adolescents in his facility, they used their sealed writing pads as referral slips. Most of the time they referred adolescents to the child specialists, medicine specialists or senior doctors of the district hospital based on the need of those adolescents.

Program manager along with the adolescents of the adolescent club in Khulna mentioned that there was no proper referral system between clubs and facilities. If needed, club authority would sendadolescents to the facility; and during that time they did not use any referral slip. But when they referred the adolescents to a facility, services providers gave proper services to them.

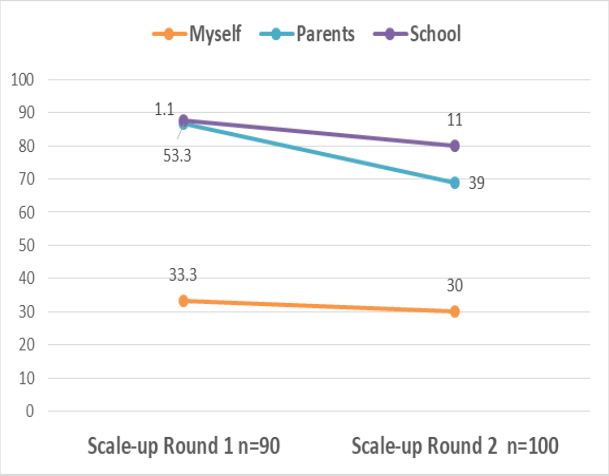
In Round 1 assessment, 11% of the adolescents were referred from school but after the intervention assessment, it became 68%. On the other hand, 11% of the adolescents were referred by their parents in Round 1 assessment; but it became 19% in round 2. The reason might be that they were already referred by schools and there were interventions in the school assembly; so, there was no need for their parents to refer them. This is also the cause of decreased referrals from the club.

Figure 12: Percent distribution of the adolescents from school who visited AFHS through referrals



Referral status of the adolescents who came to the health facility for getting services was assessed in the scale-up section. Most of the adolescents were referred by their parents (39%) and the second option was their own interest.

Figure 13: Referral status of the respondents who came to the **health facility** for receiving services



After introducing and continuing of interventions, **round 2** assessment was done**.** During qualitative interviews, adolescents (from adolescent club, Khulna) mentioned that service providers referred them either to other service providers or other facilities based on their needs, but they had not used any referral slip or form. However, the peer leader of the club took the adolescents to the facility sometimes.

School teachers referred the students to the facilities of Khulna and Gazipur. Although they did not use any referral slip or card, school authority always tried to maintain a good relationship with the authority of the facility.

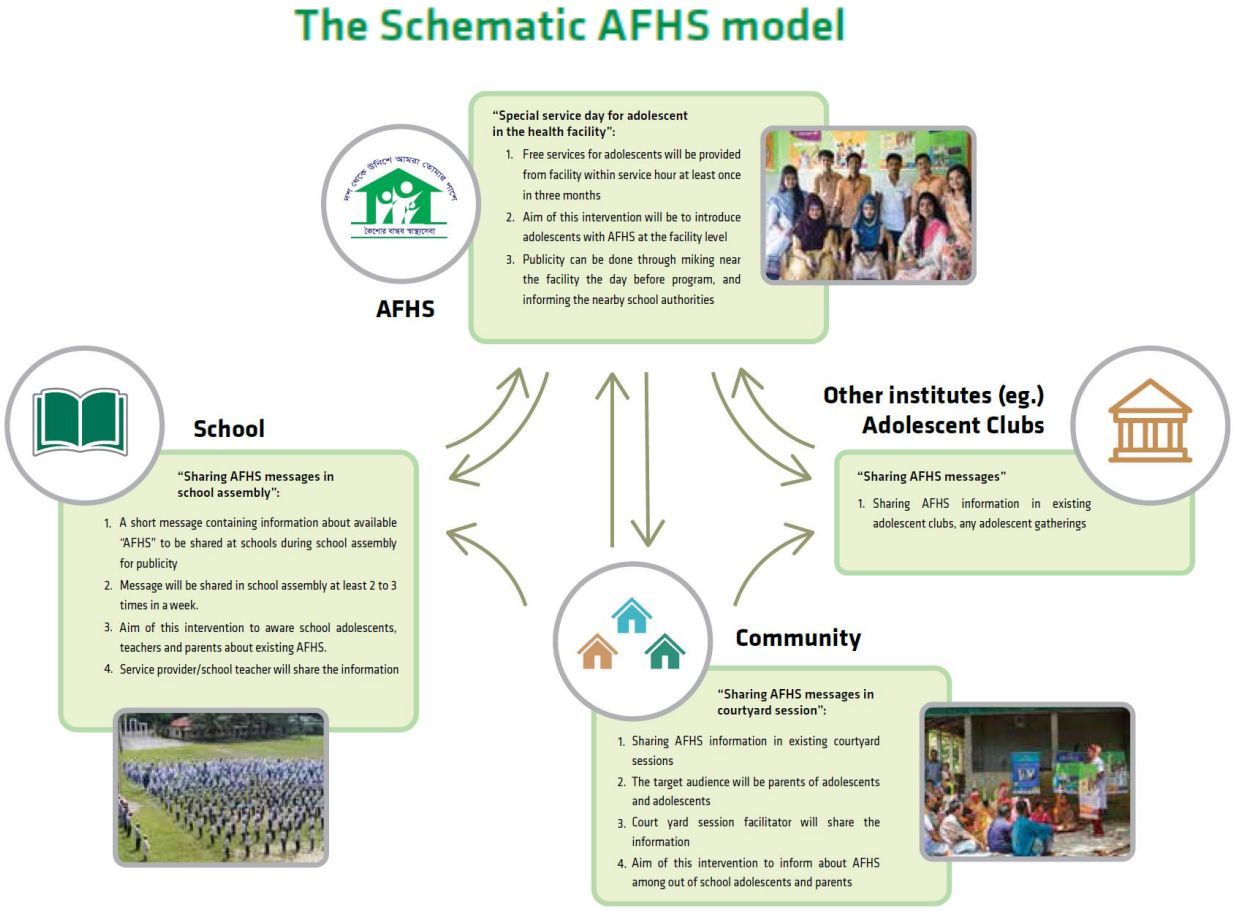
> *"We send the adolescents to the facility through teachers or supporting staffs and try to solve the problem." Schoolteacher, Khulna*

There was a referral system for the adolescents in the facility, as mentioned by the H&FP officials. At first, the paramedics screened them for referring to the graduate or specialist doctors. In addition, adolescents were referred from schools and e adolescent clubs (Khulna) to the facility. Service providers' phone numbers had been circulated to all the schools.

According to the service providers of Khulna and Gazipur, they referred adolescents from one facility to another in need. Some adolescents were referred by the school teachers. During school visits, service providers encouraged the teachers to send their students especially the adolescents more and more to visit the facility.

CHAPTER 4: PROPOSED MODEL TO ENHANCE FACILITY BASED ADOLESCENT FRIENDLY HEALTH SERVICES

The model has been designed to understand the key interventions required among different stakeholders to enhance the uptake of adolescent health services in the context of Bangladesh. Among many interventions revealed by the health managers at local level, key interventions showed significant improvement in client flow at AFHS with improved satisfaction and increase awareness among adolescents.



"Sharing AFHS messages in school assembly", "Sharing AFHS messages in courtyard sessions", and "Special service day for adolescent in the health facility" interventions showed an encouraging trend where AFHS increased its in the study sites.

Raisingawareness drives to sensitize the adolescents about the utilization of AFHS through these three interventions. It also helps to establish a linkage among schools, communities and AFHS centers.

It is a simple, acceptable and sustainable intervention that can be scaled up in other health settings.

"Sharing AFHS messages in school assembly":

- A short message containing information on available "AFHS" will be shared at schools during school assembly for publicity
- Message will be shared in the school assembly for at least 2 to 3 times in a week.
- School selection criteria: Must be high school
- Service providers/school teachers will share the information

"Sharing AFHS messages in courtyard sessions":

- Sharing AFHS information in the existing courtyard sessions
- The target audience will be the adolescents as well as their parents
- Facilitator of the courtyard session will share the information

"Special service day for adolescents in the health facility":

- Free services for the adolescents will be provided from the facility within the service hour for at least once in three months
- Aim of this intervention will be to introduce the adolescents with AFHS at facility level
- Publicity can be done through miking near the facility on the day before the program; and also through informing the nearby school authorities

CHAPTER 5: DISCUSSION, CONCLUSION AND RECOMMENDATION

Discussion:

In 2006, WHO Regional Meeting exerted one important recommendation which was to develop strategies to address the challenges of extensive capacity building of service providers, community and the families of adolescents (WHO, 2006). The current implementation research has the objectives of developing, implementing and scaling up different strategies in schools and health facilities at community level.

Specific Objective 1: To identify the enabling & hindering factors for successful implementation of the adolescent health services at district, sub-district and union level facilities in Bangladesh.

The qualitative findings of this implementation research revealed the behaviors of service providers that played an important role to motivate the adolescentsfor visiting adolescent friendly health facilities. Convenience for reaching the health facility to receive AFHS was another cause to select a specific facility. This was similar to earlier studies which reported that the location of AFHS within nearbyphysical distance had been an enabling factor for adolescents to visit the facility (Pandey et al. 2019; Bam et al. 2015). Family members, school teachers and friends were the motivators for receiving health care services by the adolescents from the centers. Studies revealed that adolescents did depend on the decision of family members for seeking health care services from health facilities (Shahabuddin et al. 2016). Like an operational research conducted in 2004 (Haseen et al. 2004), this study also found that before accomplishing any reproductive health programme for adolescents, the community needed to be informed and involved at every stage of its implementation.

IR study identified that the less the publicity of AFHS, the less theutilization of AFHS. Before IR study intervention, 91 percent of the adolescents from 'innovation area' did not know about AFHS; but after intervention, the percentage decreased to 17 percent. During interview with parents, programme managers, school authority and facility management committee members, it was found that lack of awareness among adolescents and parents regarding AFHS contributed to the low utilization of AFHS. That was also reported in earlier study which told that the information about AFHS became scarce in communities and therefore, adolescents came to know about the services (Pandey et al. 2019).

Service providers and adolescents (who visited facilities) said during the interview that the shortage of trained human resources on adolescent health had been one of the bottlenecks to provide quality AFHS. Both male and female service providers were trained on adolescent health; however, during study period, trained health workforces in study sites of Jamalpur and Tangail were engaged in other responsibilities or were transferred to other districts. The findings are in consistent with some other study findings that shortage of trained human resources and overburden of service providers are the institutional barriers of AFHS. Most of the service

providers are overtaxed with several responsibilities including administrative works. Consequently, they had limited time to provide services to adolescents (Pandey et al.2019).

In different studies, it was mentioned that age and gender of the service providers also affect the visits of the adolescents in the facility. They feel uncomfortable talking to a service provider of opposite gender specially on sexual and reproductive health issues (Pandey et al.2019; Shahabuddin et al. 2018). Likewise, our study had also found a relationship between gender matched service provider and the presence of adolescents in a facility. Qualitative interviews with the adolescents identified that due to the absence of a gender matched service provider, they did not feel comfortable to visit health facilities. Insufficient logistics and inadequate medicine supply for adolescents in some facilities were identified as obstacles to provide AFHS by the adolescents and service providers.

Service providers and adolescents put special emphasis on raising awareness about AFHS among parents. Another recent study found similar findings in Bangladesh (Islam et al. 2017). This observation reconfirmed different study findings by saying that the improvement of knowledge on AFHS can establish a positive impact (Hoopes et al. 2016; Huq et al. 2012). Huge publicity is needed to raise awareness on AFHS, as suggested by the facility management committee members, adolescents and parents. H&FP officials, facility management committee members, adolescents and parents proposed to provide AH and AFHS related information and services e.g. counseling in a school through school teachers. They can encourage the adolescents to visit nearby health facilities. H&FP officials, school authorities and service providers felt that the collaboration between government organizations and NGOs would be an effective way to strengthen the referral system. Some other studies also suggested that the awareness on adolescent health should be increased where the teachers should be included in the awareness programs (Yunus et al. 2017)

Specific Objective 2: To identify the strategies to address the barriers/bottlenecks for the implementation of AFHS within the existing health system

To identify the strategies for addressing the bottlenecks for the implementation of AFHS, several meetings and workshops were organized with stakeholders. Those discussions not only helped to develop intervention, but also supported to develop linkage among facilities, schools and community. AFHS information were shared once or twice in a week during the school assembly to aware the adolescents as well as the school authority. Sharing AFHS messages in schools was found as one of the effective ways to raise awareness on AFHS. In pre-intervention assessment, 23% of the adolescents got AFHS information from service providers; but in post-intervention assessment, 91% of them got information from schools. School intervention helped to aware the adolescents as well as school teachers, which helped to develop a referral system between schools and facilities later on. Before intervention, no adolescent was referred from school but after intervention, it was observed that adolescents were referred to the facilities from schools, like 46% of the adolescents were referred from schools.

Specific Objective 3: To improve the referrals & linkages between community & health facilities for increased uptake of adolescent health services.

In addition to sharing AFHS message in schools, the information was also shared among the parents of adolescents in courtyard sessions which affected the referral linkage. Nearly 60% of the adolescents were referred to facility by their parents. The adolescents were asked how they were referred. In response to that question, 42% of the adolescents mentioned that they were referred by their parents; and the second factor was their own interests. It indicated that parents were more aware of sending their adolescent children to the health facility after sharing AFHS information in courtyard sessions. 'Special service day for adolescent in the health facility' intervention was helpful to introduce adolescents with AFHS at the facility. Post intervention assessment confirmed that this intervention supported to familiarize available AFHS to adolescents, teachers, parents and other community members.

Specific Objective 4: To increase the quality and utilization of health services provided to the adolescent population in Bangladesh.

The current study reveals that almost all adolescents were satisfied with the service hour of the government health facility. Satisfaction in respect of the length of the waiting time of AFHS was increased after intervention. Due to linkage between facility and school after intervention, service providers tried to visit the adolescents as soon as possible. There was also an increase in the percentage of satisfaction in case of behavior and friendliness of the service providers. A considerable percentage of the respondents were satisfied with the level of privacy maintained by the health care providers; while the percentage of dissatisfaction was low after intervention. During intervention period, giving more importance in maintaining privacy and arranging training for service providers helped to improve the environment of the facility and also service quality. Although other studies mentioned, the rights of adolescents to confidentiality still remains a challenge (Haseen et al 2004).

IR study found that the percentage of respondents visiting to government health facility had increased gradually after intervention. But a higher number of adolescents also visited the pharmacy for any health-related problems throughout the study. The reason behind this could be the easy accessibility of the pharmacy. In some studies, adolescents showed lower satisfaction with government health facilities. They said that non-government health facility is better than the government onesin case of less waiting time, more confidentiality, well behavior of service providers (Yunus et al. 2017; Moore et al.2007). However, other studies revealed that clients had been satisfied by the services provided by government health care providers (Sarker et al.2018). Rural adolescents are more likely to visit pharmacy and poor adolescents mostly visit government facility whereas urban adolescents mostly visit to non-government facility (Kabir et al.2014). In other studies, it was found that maintaining privacy and confidentiality were important factors for service utilization by adolescents (Bam et al. 2015; Huq et al. 2012).

In pre intervention assessment, during facility observation, it was found that few facilities (study facilities) of Tangail and Jamalpur were not using registers containing information of referred cases and referral options. After introducing IR study interventions, it was found that registers with the information of referred cases and referral facilities were used in DH, UHC, Kalihati,

UH&FWC, Kalihati of Tangail. Service providers' trainings helped to provide AFHS in an organized way.

Findings from this study should be viewed in the light of certain limitations. Data were obtained from four districts, and from four to six facilities of each district, and schools nearby the facilities. However, this study provides important findings and has already proposed a model of AFHS, on which the future planning on AFHS can be built.

Chapter 5: Conclusion and recommendation

The present study concluded that the increased sustainability of acquired knowledge over time may enhance the capacity for the AH program. This implementation research provides important insights into what is working well and where are the areas of improvements in the expansion of AFHS.

Coordination between the Ministry of Health and Family Welfare and the Ministry of Education: Health and education sector have a positive relationship among themselves. Linkages between the Ministry of Education and the Ministry of Health and Family Welfare will help to implement "School based intervention"in an effective way.

- **Collaboration among facility, school, adolescent club and community:** To ensure the sustainability of AH program, collaboration is needed among facility, school, adolescent club, community, local leaders and other gatekeepers. Collaboration with local schools will help to increase awareness about AFHS and disseminate information on AFHS. If adolescents are provided health education in schools and shared AFHS information through service providers and school teachers, they will be more aware of themselves; which in turn will improve their overall health. Now adolescents are getting different services from the adolescent clubs. Collaboration among educational institutions, adolescent clubs and facilities would be an effective way to reach a wider adolescents in an organized way. Finally, it will help to establish a referral linkage among facility, club and school.

- AFHS information can be shared through school assembly and courtyard sessions. In addition to increasing awareness on AFHS, differents programs e.g. “special service day for adolescents in the facility” can be arranged. All types of adolescents including school-going adolescents, adolescents dropped out from schools, married adolescents; also educated and uneducated parents, schools teachers and other stakeholders can be reached through courtyard sessions, school assemblies and special service programs in the facility.
- “Special service program for adolescents” at facility level can be included in the action plan.
- Sharing “AFHS messages in courtyard sessions” activity should be included in job descriptions of the health workers
- Adolescent issue must be an agenda in monthly meeting discussions
- There should be a clear guidance for the school authority regarding referral e.g. how and where the adolescents can be referred.

CHAPTER 6: REFERENCES

Abajobir AA, Seme A. 2014. 'Reproductive health knowledge and services utilization among rural adolescents in east Gojjam zone, Ethiopia: a community-based cross-sectional study', BMC health services research,vol.14, no. 1:1.

Ainul S, and Ehsan I, et al. 201. Population Council Adolescent Friendly Health Corners (AFHCs) in Selected Government Health Facilities in Bangladesh: An Early Qualitative Assessment.

Amin, S. et al. 2014. 'From Evidence to Action: Results from the 2013 Baseline Survey for the BALIKA Project.' New York: Population Council.

Bam K, Haseen F, Bhuiya I et al. Perceived Sexual and Reproductive Health Needs and Service Utilization among Higher Secondary School Students in Urban Nepal. American Journal of Public Health, 2015, February Vol. 1.

Desmond Tutu TB Centre, Department of Paediatrics and Child Health, Faculty of Medicine and Health Sciences, Stellenbosch University International Union Against Tuberculosis and Lung Disease 2013. 'Operational Research to Improve Health Services; A guide for proposal development'.

Haseen F, Islam SS, et al. 2017. 'Baseline Survey of ADOHEARTS Program Areas', Bangabandhu Sheikh Mujib Medical University (BSMMU).

Haseen F, Larson CP, Nahar Q, Huq NL et al. Evaluation of a School-based Sexual and Reproductive Health Education Intervention among adolescents in Rural Bangladesh. ICDDR,B Working Paper No. 160. 2004.

Hoopes AJ, Agarwal P, Bull S and Chandra-Mouli. Measuring adolescent friendly health services in India: A scoping review of evaluations. Reproductive Health (2016) 13:137.

Izugbara CO, Ngilangwa DP. 2010, 'Women, poverty and adverse maternal outcomes in Nairobi, Kenya', BMC women's health, vol. 10 no. 1:1.

Lloyd CB. 2005, 'Growing up global: the changing transitions to adulthood in developing countries', Washington, D.C., The National Academies Press.

Michelle J Hindin, Charlotte S C, B Jane Ferguson 2012, 'Setting research priorities for adolescent sexual and reproductive health in low- and middle-income countries', Research: Research priorities for adolescent sexual and reproductive health.

Moore A, Haseen F, Aboud F et al. Rapid assessment of young people's perspectives on government, NGO and private health services. Rapid Assessment Research Summary. GFATM research series. 2007.

Nahar, Q., S. Amin, R. Sultan, et al. 1999, 'Strategies to Meet the Health Needs of Adolescents: A Review', Operations Research Project, Health and Population Extension Division. Dhaka: iccdr,b.

Nair M, Valentina Baltag, Krishna Bose, et al. 2015, 'Improving the Quality of Health Care Services for Adolescents, Globally: A Standards-Driven Approach', Journal of Adolescent Health, vol. 57.

National Institute of Population Research and Training (NIPORT), Mitra and Associates, and ICF International. 2014. Bangladesh Demographic and Health Survey (BDHS) 2014. Dhaka, Bangladesh, and Rockville, Maryland, USA: NIPORT, Mitra and Associates, and ICF International.

Noni E, MacDonald, 2003, Paediatr Child Health, Vol. 8.

Pandey PL, Seale H, Razee H, Exploring the factors impacting on access and acceptance of sexual and reproductive health services provided by adolescent-friendly health services in Nepal. PLOS ONE. https://doi.org/10.1371/journal.pone.0220855. August 8, 2019.

Pathak PK, Singh A, Subramanian S. 2010, 'Economic inequalities in maternal health care: prenatal care and skilled birth attendance in India', 1992–2006', PloS one, vol. 5, no. 10.

Patton GC, Sawyer SM. 2016. Our future: a Lancet commission on adolescent health and wellbeing. Lancet; 387: 2423–78.

Raven M, Doran K, Kostrowski S, Gillespie C, Elbel B. 2011, 'An intervention to improve care and reduce costs for high-risk patients with frequent hospital admissions: a pilot study. BMC Health Serv Res', vol. 11 no. 270.

Shahabuddin Asm. NoÈ stlinger C, TheÂ rèse Delvaux T., et al. Exploring Maternal Health Care-Seeking Behavior of Married Adolescent Girls in Bangladesh:A Social-Ecological Approach PLOS ONE | DOI:10.1371/journal.pone.0169109 January 17, 2017.

Salam RA, Das JK, Lassi ZS, Bhutta ZA. 2016, 'Adolescent Health Interventions: Conclusions, Evidence Gaps, and Research Priorities', The Journal of Adolescent Health. Vol. 59, no. 4 Suppl:S88-S92. doi:10.1016/j.jadohealth.2016.05.006.

Simoes PP, Almeida RM. 2011,'Geographic accessibility to obstetric care and maternal mortality in a large metropolitan area of Brazil', International Journal of Gynecology & Obstetrics, vol. 112, no. 1, pp. 25-9.

UNICEF, April 2012, Progress for Children A report card on adolescents, vol.10, https://www.unicef.org/media/files/PFC2012_A_report_card_on_adolescents.pdf Accessed on July 2017.

WHO. Adolescents: health risks and solutions, 5 February 2018 http://www.who.int/news-room/fact-sheets/detail/adolescents-health-risks-and-solutions accessed on 25th May, 2018.

WHO. 2015. 'Global Standards for Quality Health-Care Services for Adolescents. Standards and criteria; A Guide To Implement a Standards-Driven Approach to Improve The Quality of Health-Care Services for Adolescents'. Vol. 1.

WHO. 2015. Service Availability and Readiness Assessment (SARA). A methodology for measuring health systems strengthening.

World Health Organization (WHO), 2011, Sixty-fourth World Health Assembly. Resolution WHA 64.28: Youth and health risks. Geneva. http://apps.who.int/gb/ebwha/pdf_files/WHA64/A64_R28-en.pdf, accessed on 7 December, 2017

WHO. Health Sector Response to the Prevention and Care of HIV and AIDS among Young People Report of the Meeting of UN Country Focal Points WHO/SEARO, New Delhi, 6-10 March 2006.

WHO, 2006, Consent and Confidentiality: Increasing Adolescents' Access to Health Services for HIV and Sexual and Reproductive Health Report of the Regional Consultation New Delhi, India, 25-27 July 2006.

Yunus S, Sharmin S, Huq NL, Haseen F et al. Expectation of adolescents to receive reproductive health information from health service system: A qualitative study in Bangladesh. South East Journal of Public Health. 2017; 7(2).

Ziraba AK, Madise N, Mills S, Kyobutungi C, Ezeh A. 2009, 'Maternal mortality in the informal settlements of Nairobi city: what do we know', Reproductive health. Vol. 6, no. 1:1.