

Final Technical Report on

Delivery of training on World Health Organization Bangladesh Package of Essential Noncommunicable Disease Interventions (PEN) for Primary Health Care

September - December 2019

Cox's Bazar, Bangladesh



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– Health Emergency Office
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1. INTRODUCTION

1.1 Background

Approximately one million Rohingya, the forcibly displaced Myanmar nationals (FDMN), are living in the refugee camps of the Cox's Bazar district of Bangladesh. Like other refugee communities in the world, Rohingyas are also facing several health issues, including non-communicable diseases. DHIS2 FDMN data for the weeks 20-29 shows that 55,101 out-patient consultations for non-communicable diseases (NCD) took place (Teknaf and Ukhia combined) and the top 5 NCDs were musculoskeletal problems, hypertension, diabetes mellitus, COPD and Asthma. The Cox's Bazar district is also home of nearly 3 million Bangladeshi population and the burden of NCD and risk factors is on the rise among the Bangladeshi population.

The health sector response for this forcibly displaced population is coordinated by the Directorate General of Health Services (DGHS) and the World Health Organization (WHO). Overall, there are 134 health posts and 29 primary health care centers in the camps along with ten community clinics, six union sub-centers, six health, and family welfare centers, two upazilla health complexes and one district hospital outside the camps providing services to this population. The health sector response is supported by 62 international partners, 49 national NGOs, and 8 UN agencies. For better coordination of overall effort, the health sector has four working groups: i. Mental health and psychosocial support (chaired by IOM and UNHCR), ii. Sexual and reproductive health (chaired by UNFPA), iii. Community health (chaired by UNHCR and CPI), iv. Epidemiology and case management (chaired by the WHO). Given the burden of NCDs, the WHO and other partners also established a non-communicable disease (NCD) core group to foster response to non-communicable diseases and highlighted the need for providing additional training on non-communicable diseases to health care providers. (https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/health_sector_cxb_bangladesh_no.10_final_forpubs.pdf). Moreover, there are 302

government and non-government health facilities in Cox's Bazar District working for the host community. The Directorate General of Health Services (DGHS) of Bangladesh has recently declared Cox's Bazar a model district for the prevention and control of NCD.

Given the burden of NCDs, the WHO and other partners also established a non-communicable disease (NCD) core group to foster responses to NCDs and highlighted the need for providing additional training on NCDs to health care providers. The WHO has also identified the need for proactive, long-term, patient-centered, community-based and sustainable NCD care delivered through primary health care (PHC) teams to achieve impact against NCD at the population scale. To facilitate this, the WHO has developed a package of essential NCD interventions (WHO PEN) for PHC teams in low-resource settings. The package includes a prioritized set of cost-effective lifestyle and pharmacological interventions that can be delivered to prevent and control NCD. The package includes a reduction in tobacco and alcohol consumption, weight regulation, improved diet, increased physical activity, and pharmacological measures for prevention and control of NCD.

A reliable primary health care (PHC) system is essential for delivering effective prevention and control of NCDs (<https://www.who.int/news-room/fact-sheets/detail/primary-health-care>). The PHC systems typically include physicians, allied health professionals (e.g., nurses, midwives, pharmacists, laboratory technicians, medical assistants) and community health workers (CHWs) or Community Health Volunteers (CHVs). Traditionally, in many countries and settings, NCDs have been addressed primarily at the level of physicians and allied health professionals, while CHWs/CHVs have typically focused on maternal and child health. This traditional approach severely limits the effectiveness of care delivery for NCDs in PHC, and also creates significant obstacles for engaging communities in appropriate health promotion measures for prevention and control of NCDs. Considerable research has demonstrated that CHWs can have an active role beyond maternal and child health, and more specifically that they can play a crucial role in prevention, early diagnosis, and community-based

management of NCD. Farzadfar and colleagues from Iran reported that a primary health care system with trained CHW and well-established guidelines could be useful in NCD prevention and management (Farzadfar, Murray, et al. 2012). Studies carried out in Bangladesh, Guatemala, Mexico, and South Africa found that adequately trained CHW can screen for and identify people at high risk of CVD (Gaziano, Abrahams-Gessel, et al. 2015). Investigators from Uganda reported that decentralization of care and shifting of significant clinical management responsibilities to the CHW is a feasible approach that results in improved consistency of access to care for hypertension control (O'Neil, Lam, et al. 2016). A study from India found that CHWs in rural India can be trained to provide health education on hypertension and support hypertensive individuals (Abdel-All, Thrift et al. 2018).

A systematic review of the trials that utilized CHWs for primary prevention or early detection strategy in the management of NCD (Diabetes, CVD, cancers, stroke, Chronic Obstructive Pulmonary Diseases (COPD)) in lower and middle-income countries (LMIC) revealed that using CHWs in health programs have the potential to be effective in LMICs, particularly for tobacco cessation, blood pressure and diabetes control (Jeet, Thakur et al. 2017) compared to standard care. Therefore, the available evidence demonstrates, at least in research trials, that an adequately trained PHC team, along with the CHW, can bridge the provider gap in low-income nations and provide expanded NCD care. One of the steps required to initiate NCD intervention is training of a PHC team including the community health care providers.

Accordingly, WHO Health Emergency Office at Cox's Bazar (RFP/CXB/23/2019) invited institutions to submit a proposal to deliver training on the WHO PEN for primary health care providers and training of community health workers and their supervisors on behavioral interventions. BRAC James P Grant School of public Health (JPGSPH) submitted a proposal and was awarded a grant to impart these trainings.

1.2 Objectives

This training project was implemented to accomplish the following two objectives:

- To increase the capacity and skills of health care providers (doctors/nurses/paramedics) in Cox's Bazar district on the implementation of PEN for primary health care in low resource settings, using a team-based approach.
- To build the capacity of community health volunteer supervisors in Cox's Bazar district on healthy lifestyle promotion related to risk factors for NCDs.

1.3 Activities

In close collaboration with the World Health Organization (WHO), the Noncommunicable Disease Control (NCDC) and Community Health Working Group (CHWG) Cox's Bazar, the BRAC JPGSPH implemented the following activities of the project.

1. Organize an exploratory visit

- Representatives from BRAC JPGSPH and WHO took part in an exploratory visit to the Rohingya camps, UHCs and PHCs to assess the training need of the primary health care providers, community health team. During the visit, the members also explored the NCD situation and the available services.

2. Development of a 4-day training package for the training of doctors, nurses and sub-assistant community medical officer (SACMO)/medical assistants/paramedics working in the Rohingya Camp PHC and Upazilla Health Complexes focused on PEN

- The 4-day training package included training agenda, facilitator's guide, workbook for the trainees, powerpoint presentations, videos, SoPs for physical and biological measurements, case studies, quizzes, OSPE guidelines, session specific evaluation forms, overall evaluation forms etc.

3. Development of a 2-day training of trainers (ToT) package for the supervisors of community health workers (SCHW) focused on behavioral interventions for prevention

and control of NCD

- The ToT package included training agenda, facilitator's guide, workbook for the trainees, case studies, quizzes, session specific evaluation forms, overall evaluation forms etc.

4. Development of a 2-day training package for the community health workers (CHW)

focused on behavioral interventions for prevention and control of NCD

- The package included training agenda, facilitator's guide, workbook for the trainees, case studies, quizzes, session specific evaluation forms, overall evaluation forms etc.

5. Development of training materials for PEN training, ToT of SCHW and training of CHW

6. Development of behavior change communication (BCC) materials (Flipchart) for providing behavioral interventions

- Two versions of flipcharts were developed (one 64-page flipchart for SCHW for the ToT and the other 40-page flipchart for CHW for delivering behavioral change communication). WHO printed the 40-page abridged version of the flipchart for a wider use by the CHW.

7. Organize ToT for the trainers of PEN training

- The ToT was organized at the BRAC JPGSPH, Dhaka. A total of 12 participants attended the ToT. Out of the 10 participants, 4 were from BRAC, 2 were from JICA and the other 6 were from BRAC JPGSPH. There were 3 WHO representatives and 1 BIRDEM representatives to impart the ToT. The ToT took place on 17 and 18 October 2019.

8. Organize ToT for the trainers of the training for SCHW and CHW

- The ToT was organized in Dhaka on 17th November 2019. Ten trainees from BRAC and BRAC JPGSPH took part.

9. Organize a BCC materials finalization workshop

- A BCC materials finalization workshop took place at Cox's Bazar to review the content

of the flipchart. Members of the CHWG attended the workshop. The flipchart was modified based on the recommendations and suggestions from the workshop.

10. Organize a photo shoot trip

- WHO and BRAC JPGSPH organized a photshoot trip to improve the contents of the flipchart. The trip took place on November 2.

11. Providing training to 102 primary health care providers (doctors, nurses and sub-assistant community medical officer (SACMO)/medical assistants/paramedics) and 3 observer participants

- The training was organized in 4 batches. The training took place from 21 October to 14 November 2019.

12. Providing ToT to 127 SCHW

- The training was organized in 6 batches and took place from 19 November to 2 December.

13. Providing training on behavioral intervention to 27 SCHW and 153 CHW

- The training was organized in 7 batches and took place from December 3 to December 31.

14. Develop separate reports on PEN training, ToT of SCHW and CHW

- Three training reports were prepared and submitted to the WHO.

2. PARTICIPATING ORGANIZATIONS

2.1 Organizations participating in PEN training

The following tables (2.1, 2.2, 2.3) list the participating organization of the PEN training, ToT for SCHW and CHWs.

Table 2.1: List of participating organizations of PEN training

<ol style="list-style-type: none">1. International Organization of Migration (IOM)2. Bangladesh Red Crescent Society (BDRCS)3. Dhaka Community Hospital Trust (DCHT)4. Gonoshsthatya Kendra (GK)5. Refugee Health Unit (RHU)6. Relief International (RI)7. Research, Training, and Management (RTM) International8. Terre des hommes (TDH), Bangladesh9. BRAC10. Food for the Hungry (FH), Bangladesh11. Médecins Sans Frontières (MSF)12. Partners in Health and Development (PHD)13. Save the Children International (SCI)14. International Rescue Committee (IRC)15. Management and Training International (MTI)?16. Upazilla Health Complexes of Cox's Bazar

Table 2.2: List of participating organizations of ToT of SCHW

<ol style="list-style-type: none">1. International Organization of Migration (IOM)2. Dhaka Community Hospital Trust (DCHT)3. Gonoshsthatya Kendra (GK)4. Refugee Health Unit (RHU)5. Relief International (RI)6. BRAC7. Partners in Health and Development (PHD)
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8. Save the Children International (SCI)
9. International Rescue Committee (IRC)
10. Management and Training International (MTI)
11. Research Training Management International (RTMI)
12. Mukti Cox's Bazar
13. Bangla German Sampreeti
14. Food for the Hungry and Medical Teams International (FH-MTI)
15. BGS (Bangla German Sampreeti)
16. Health Opportunities for People Everywhere (HOPE)
17. PHD UNICEF
18. PWJ
19. RTMI IOM
20. Medecins Sans Frontieres (MSF-OCA)

Table 2.3: List of participating organizations of training of CHW

1. Gonoshsthaaya Kendra (GK)
2. Refugee Health Unit (RHU)
3. Relief International (RI)
4. BRAC
5. Partners in Health and Development (PHD)
6. Save the Children International (SCI)
7. International Rescue Committee (IRC)
8. Research Training Management International (RTMI)
9. Bangla German Sampreeti
10. BGS (Bangla German Sampreeti)
11. Health Opportunities for People Everywhere (HOPE)
12. PHD UNICEF
13. RTMI IOM
14. Medecins Sans Frontieres (MSF-OCA)
15. World Concern
16. Pulse Bangladesh
17. Dhaka Ahsania Mission (DAM)

18. Whykong UH&FWC
19. Integrated Social Development Effort (ISDE)
20. TDH (Terre Des Hommes)

2.2 Training sessions

Table 2.4-2.6 list the training modules

Table 2.4: List of training modules and sessions of PEN training

Modules	Sessions
A	An overview of the NCD burden and PEN as a primary health care approach
B	Overview of NCDs: Cardiovascular diseases (CVD) and Diabetes Mellitus
C1	Risk factors for non-communicable diseases: Tobacco use
C2	Risk factors for non-communicable diseases: Unhealthy diet
C3	Risk factors for non-communicable diseases: Physical inactivity
C4	Risk factors for non-communicable diseases: Overweight and obesity
D1	Total cardiovascular risk-based approach
E	Assessment and Management of Hypertension
F	Assessment and Management of Type 2 Diabetes
G1	Healthy lifestyle: Basics of counseling
G2	Brief interventions for non-communicable disease risk factors: Tobacco cessation, healthy diet, and physical activity

Table 2.5: List of training sessions of ToT for SCHW

SI No	Sessions
1	Inauguration, introduction, training objective and ice breaking
2	Pre-test
3	Overview of NCD: Five major NCDs and Five major risk factors
4	Primary health care, service availability in the PHC and role of different types of staff involved in community health care
5	Social and behavior change communication (SBCC)
6	Introduction to brief intervention using 5A and 5R and BCC materials
7	Introduction to BCC materials on healthy diet, practice group counseling on healthy diet and practice brief intervention on healthy diet
8	Introduction to BCC materials on tobacco, practice group counseling on tobacco and practice brief intervention on tobacco

9	Introduction to BCC materials on physical inactivity, practice group counseling on physical inactivity and practice brief intervention on physical inactivity
10	Introduction to BCC material on household air pollution and practice of group counseling on household air pollution
11	Introduction to BCC materials on hypertension and practice brief intervention on non-adherence
12	Introduction to BCC materials on diabetes and practice brief intervention on non-adherence
13	Post-test, Evaluation, certificate giving and closing

Table 2.6: List of training sessions of ToT for CHW

SI No	Sessions
1	Inauguration, introduction, training objective and ice breaking
2	Pre-test
3	Overview of NCD: Five major NCDs and Five major risk factors
4	Primary health care, service availability in the PHC and role of different types of staff involved in community health care
5	Introduction to BCC materials on healthy diet
6	Introduction to BCC materials on tobacco
7	Introduction to BCC materials on physical activity
8	Introduction to BCC materials on air pollution
9	Introduction to BCC materials on hypertension
10	Introduction to BCC materials on Diabetes
11	BCC and brief intervention for behavior change (5As and 5Rs approach)
12	Discussion and demonstration on group counseling
13	Tobacco: Group counseling practice using BCC materials
14	Healthy diet: Group counseling practice using BCC materials
15	Physical activity: Group counseling practice using BCC materials
16	Air pollution: Group counseling practice using BCC materials
17	Demonstration on 5A's and 5R's techniques
18	Tobacco: Practice 5A's and 5R's techniques
19	Non-adherence with hypertension medication and advice: Practice 5A's and 5R's techniques
20	Non-adherence with diabetic medication and advice: Practice 5A's and 5R's techniques
21	Post-test, Evaluation, certificate giving and closing

3. TRAINING KNOWLEDGE ASSESSMENT

At the beginning and the end of the training of each batch, participants were offered a test to assess their knowledge on NCDs. The same set of questions was used for both the assessments. For the PEN training, we also conducted an objective structured practical examination (OSPE) at the end of the training to assess the skills and techniques learned throughout the training.

3.1 Result of pre/post-test for PEN training

In the PEN training, the participants underwent a pre- and post-test with 20 questions at the beginning and the end of the training respectively. The objective of this pre- and post-tests was to assess their knowledge on the training subjects before and after their participation at the training sessions (Annex-2). Figure 3.1 and 3.2, 3.3, 3.4 below illustrate a comparison of the average score and absolute score of different types of participants before and after the training. Improvement has been noticed in all groups of participants at the post-test. Out of the a highest possible score of 28, mean (\pm SD) score of the doctors was 14.4 (\pm 3.03) in pre-test and 26.1(\pm 1.49) in post-test, while the nurses scored 12.5 (\pm 1.58) in pre-test and 25.2 (\pm 1.68) in post-test and the paramedics scored 13.1 (\pm 2.10) in pre-test and 24.9 (\pm 2.18). Overall, the mean (\pm SD) score difference for all participants between the post-test and the pre-test was 12.1(\pm 2.69).

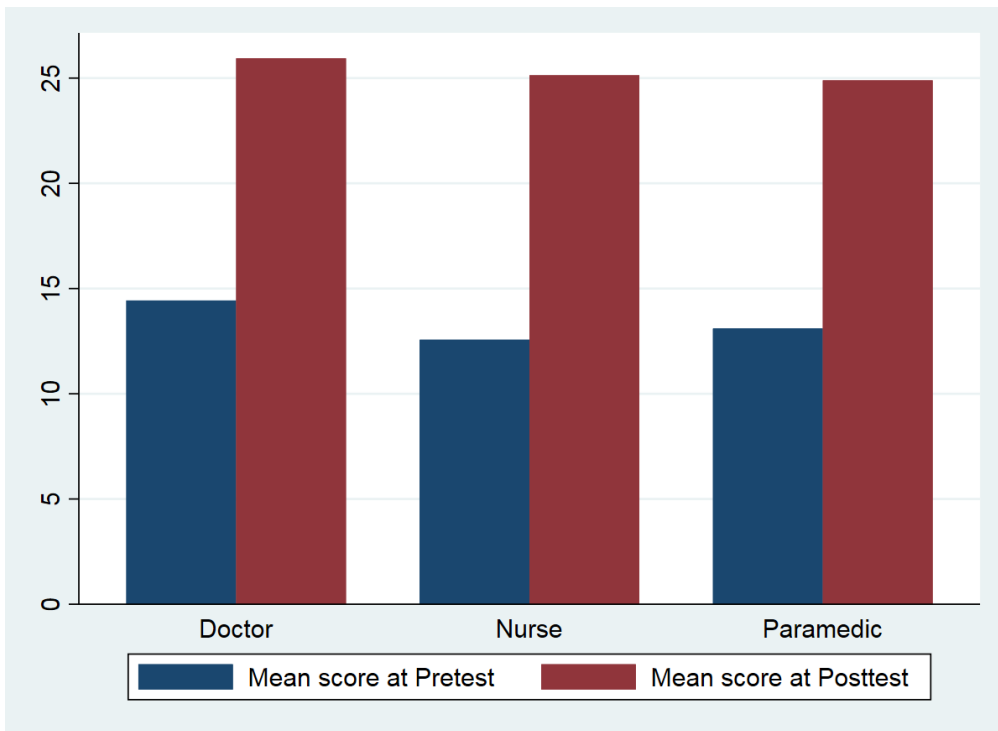


Figure 3.1: Mean score at pre and post-test by type of trainee

Figures 3.2a, 3.2b, and 3.2c above show that all the groups of participants have improved their knowledge through the training as all of them did better in the post-test compared to the pre-test.

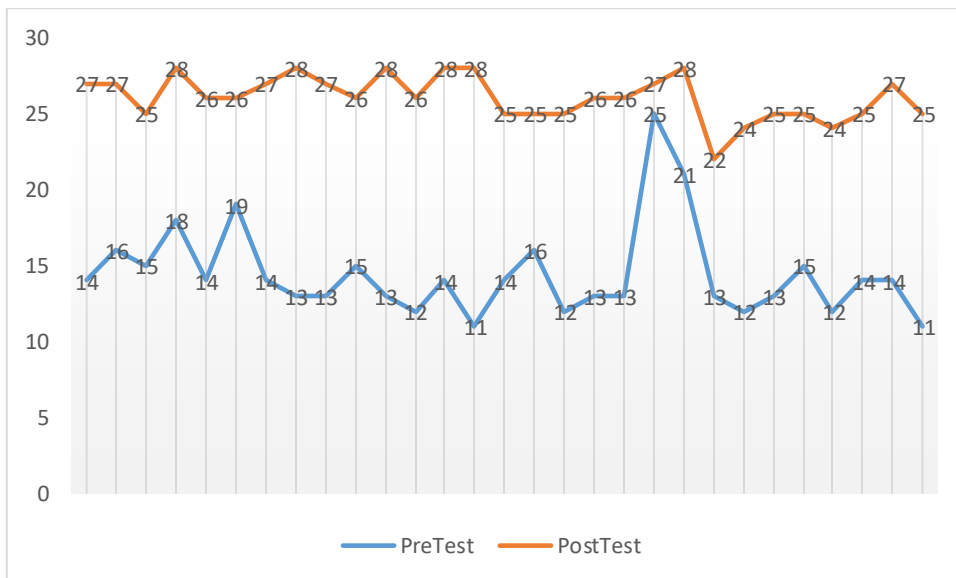


Figure – 3.2: Change of score of the doctors between pre and post test

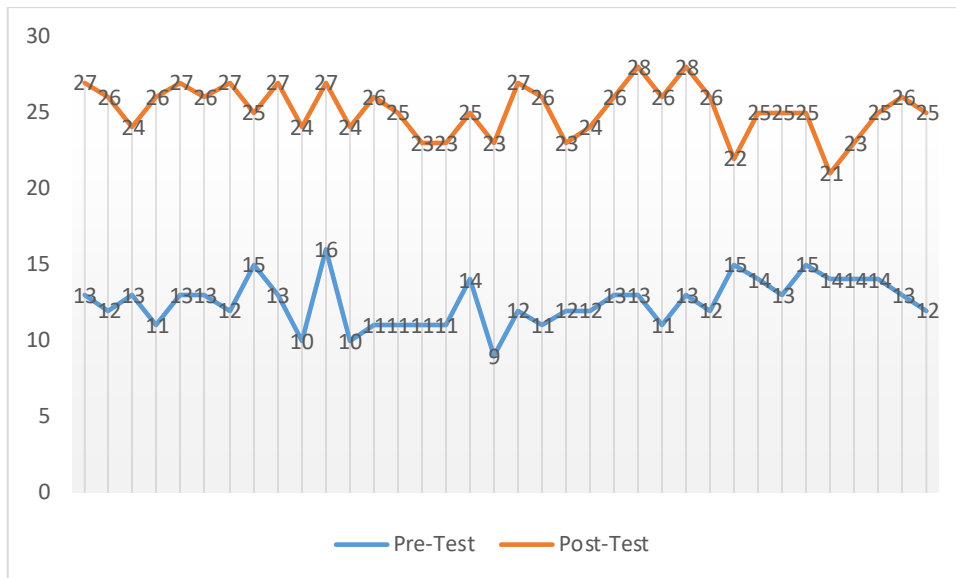


Figure – 3.3: Change of score of the nurses between pre and post test

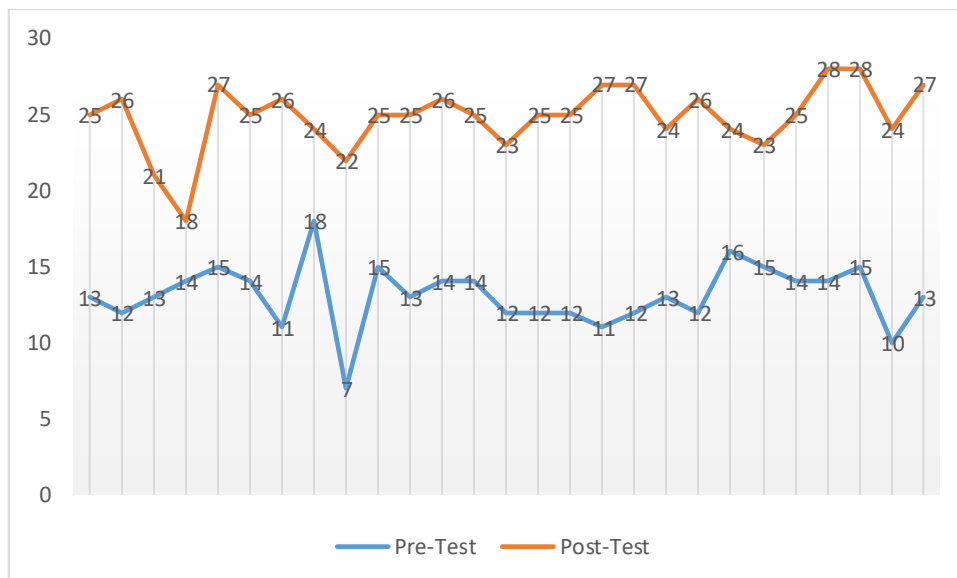


Figure – 3.4: Score changes of the paramedics/medical assistants/SACMO between pre and post test

On the last day of the training, we conducted an objective structured practical examination (OSPE) with five stations to evaluate the acquired techniques and skills of the participants. We prepared four stations for each group of participants. The stations were – a) the measurement of height and weight, and calculation of BMI, b) Use of WHO CVD risk chart, and risk score estimation for patient management,

c) measurement of BP, d) Treatment of hypertension and treatment of diabetes based on two case scenarios. Each participant was given 3 minutes to conduct the activities of a station. There was an examiner to rate their performance in each of the stations. Table 3.1 below compares the performance of each group of participants in the OSPE examination.

Table 3.1: Performance of the participants in the OSPE test

Occupation	Number Participated*	Height Measurement (10)	Weight Measurement (10)	BMI Calculation (5)	BP Measurement (10)	CVD Risk Assessment (10)	Manag. Plan (A) (10)	Manag. Plan (B) (10)	Total (65)
Doctor	32	8.3	8.0	4.6	8.6	8.2	5.8	6.8	50.3
Nurse	35	7.5	8.1	3.8	8.7	7.8	4.1	5.1	45.1
Paramedics	22	8.1	8.1	4.4	8.7	7.9	5.7	5.8	48.7
Overall	89	8.0	8.1	4.3	8.6	8.0	5.2	6.0	48.3

*Rest of the training participants did not take the test

3.2 Result of pre/post-test for ToT of SCHW

In the ToT of SCHW training, the participants underwent a pre- and post-test with 17 questions at the beginning and the end of the training. The objective of this pre- and post-tests was to assess their knowledge on the training subjects before and after their participation at the training sessions (Please see Annex-2 for pre- and post-test questions). Figure 3.5 below illustrates a comparison of the absolute score of each of the training participants before and after the training. Improvement has been noticed in all participants at the post-test. Out of the 127 HCWS, 121 took part both pre- and post-tests. The rest of the participants either joined the training later or had to leave earlier, and as a result, they do not have scores for both pre- and post-test. Out of the highest possible score of 25, the mean (\pm SD) score of the

SCHW was 8.72 (± 3.34) in the pre-test and 21.28 (± 3.57) in the post-test.

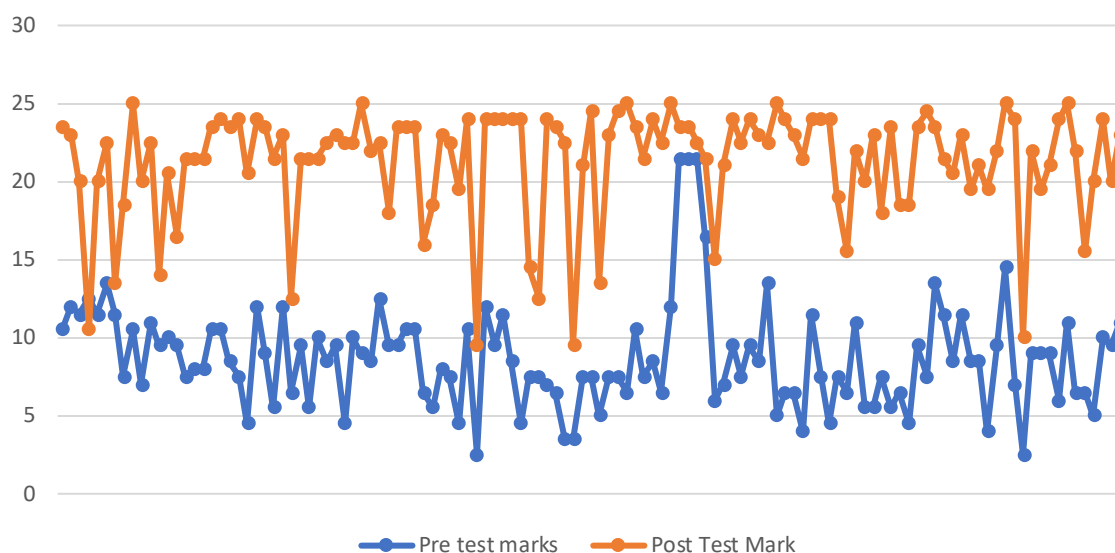


Figure 3.5: Change of score of the SCHW between pre- and post-test

3.3 Result of pre/post-test for training of CHW and SCHW on behavioral interventions

In the training of CHW training, the participants underwent a pre- and post-test with 17 questions at the beginning and the end of the training. The objective of this pre- and post-tests was to assess their knowledge on the training subjects before and after their participation at the training sessions (Please see Annex-2 for pre- and post-test questions). Figure 3.6 and 3.7 below illustrates a comparison of the absolute score of each of the training participants before and after the training. Improvement has been noticed in all participants at the post-test. Out of the 180 CHW and SCHW, 173 took part both pre- and post-tests (27 SCHW, 146 CHW). The rest of the participants either joined the training later or had to leave earlier, and as a result, they do not have scores for both pre- and post-test. Out of the highest possible score of 25, the mean (\pm SD) score of the CHW was 6.16 (± 3.70) in the pre-test and 18.10 (± 5.70) in the post-test. The mean (\pm SD) score of the SCHW was 7.48 (± 2.72) in the pre-test and 20.92 (± 2.82) in the post-test.

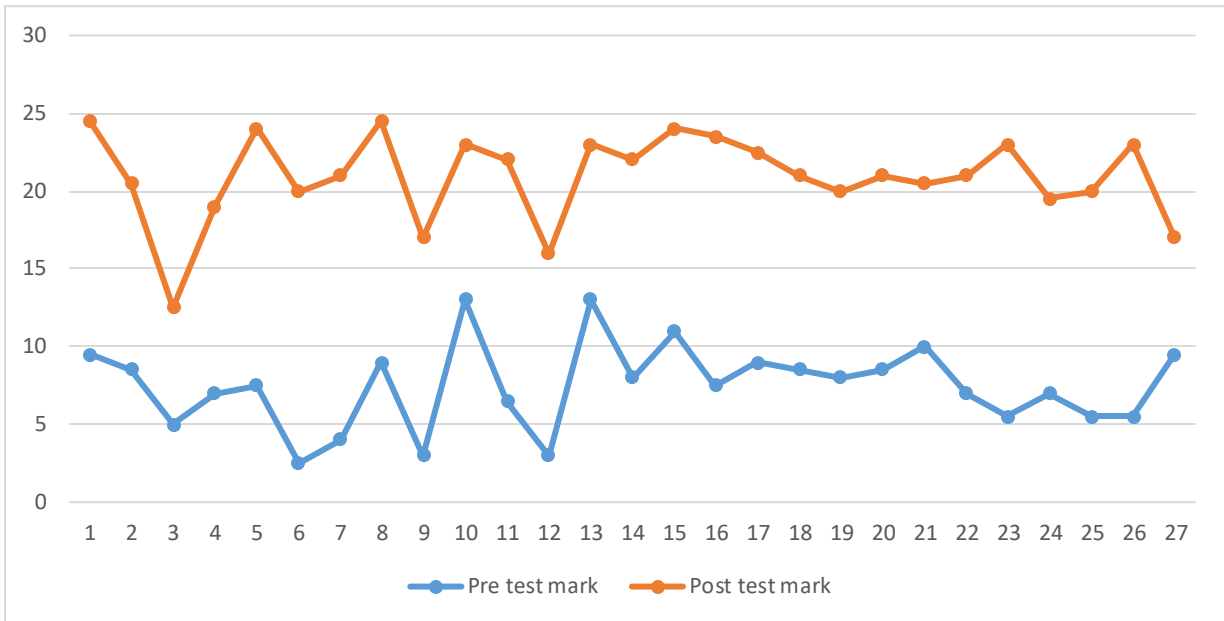


Figure 3.6: Change of score of the SCHW between pre- and post-test

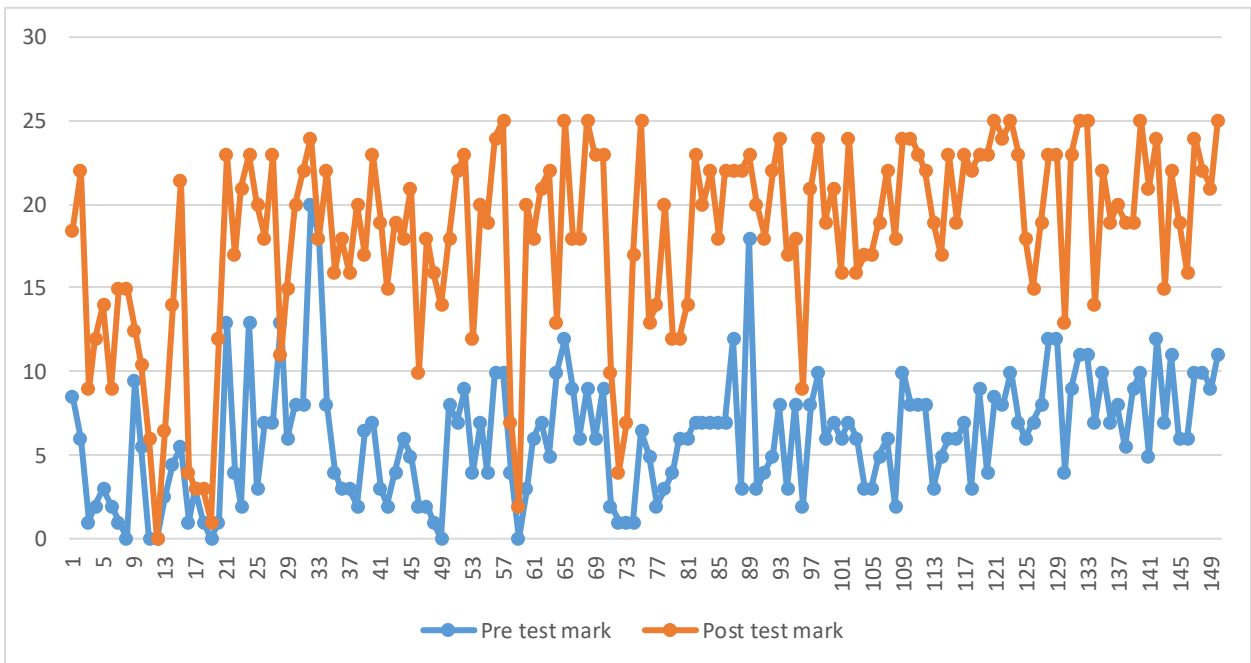


Figure 3.5: Change of score of the CHW between pre- and post-test

3.4 Training Evaluation by the participants

At the end of each session during and on the last day of each batch, participants were requested to complete the prescribed evaluation form. Below are some glimpses from the evaluation of the training by the participants. As the training for the SCHW was ToT, we did not analyze these evaluation data for them.

Table 3.2: Overall Evaluation of Training by the PEN Training Participants (% of the participants)

Question	**Somewhat confident	Confident	Very confident
Confidence to apply 5A and 5R method to counsel patients	3.7	56.8	39.5
How confident to use WHO risk prediction chart	2.5	45.7	51.9
How confident to manage hypertensive patients using national guidelines?	3.7	35.8	60.5
How confident to manage diabetic patient using national guideline?	1.2	42.0	56.8
How much the training met your expectations?	2.5	53.8	43.8

*Evaluation was not done by 3rd batch due to time constraints (n=81)

** Nobody evaluated any question as “not much confident” or “a little confident”

Table 3.3: Overall Confidence of Training by the Participants of CHW and CHWS Training on Behavioral Interventions (% of the participants)

Question	Not much Confident	A little Confident	**Somewhat confident	Confident	Very confident
Confidence to apply 5A and 5R method to counsel individuals	0%	2%	6%	22%	70%
Confidence to use the BCC materials or flip chart	0%	2%	4%	40%	54%
Confidence to help hypertensive patients based on the training	0%	1%	5%	22%	72%
Confidence to help diabetic patients based on the training	0%	2%	2%	20%	76%

n=172

3.5 Qualitative feedback from the trainees

As per the comments from the participants at the end of the sessions, most of the training sessions were excellent and helpful for the participants, but there was some problem with time management and too much interruption made by the other facilitators while the key facilitator assigned for the session was facilitating. Below are some specific issues expressed by the participants:

Table 3.4: General comments by the PEN trainees

Time management <ul style="list-style-type: none">• Time management could be improved.• The time for some sessions should be shortened or can be divided into two more sessions• Extra sessions can be taken for the practice before dinner as the training in residential
Venue <ul style="list-style-type: none">• The training venue was OK• Staff were helpful despite some mismanagement at the beginning of the first batch
Contents <ul style="list-style-type: none">• Four days of training is excellent with a little bit more planning with the schedule• Most of the participants said that engagement, clarity, and coverage of the topics were superior and unique.• Sessions need to be more practical.• The training was found useful for all health service providers.• Need refresher training and regular follow-up• Some sessions were overly loaded with too much information

Table 3.5: General comments by the trainees of ToT for SCHW

Time management <ul style="list-style-type: none">• Time management was OK. However, the contents of the training were too much to grasp within two days.• If possible, the time for the training should be increased to 3-days so that there is time for more practice.• Sometimes, the time allocated for lunch was shortened.
Venue <ul style="list-style-type: none">• The training venue was OK• The staff of the training venue and the support staff from BRAC JPGSPH were helpful• The use of powerpoint was helpful

Contents

- Contents, engagement of the trainees, facilitation, clarity, coverage of the topics were excellent.
- There is a need for refresher training and regular follow-up
- The flipchart worked well. In the future, video-clips can also be developed to help the SCHW and tablet computers can be given to the CHW

Facilitation:

- ❖ Facilitation was excellent
- ❖ Opportunity to practice more and involvement of the previous trainees as facilitators could have made them more confident to impart training.

Table 3.6: General comments by the CHW and SCHW attending training on behavioral interventions

Time management

- Time management was OK. However, the contents of the training were too much to grasp within two days.
- If possible, the time for the training should be increased to 3-4 days so that there is time for more practice.
- Sometimes, the time allocated for lunch was not adequate. There was no time for tea breaks too.
- The training did not include any fun games for entertainment.

Venue

- The training venue was relatively better except for the first batch.
- The CHW seldom receive training in closed door environment
- The staff of the training venues were not always helpful. In most of the instances they did not open the training venue in the morning. Sometimes, the trainees and trainers needed to wait outside for 30 minutes to 1 hour.
- The use of powerpoint should have been helpful.

Contents

- Contents, engagement of the trainees, facilitation, clarity, coverage of the topics were good.
- There is a need for refresher training and regular follow-up
- The flipchart worked well. In the future, video-clips can also be developed to help the CHW and tablet computers can be given to the CHW

Facilitation:

- ❖ Facilitation was excellent
- ❖ Opportunity to practice more and involvement of the previous trainees as facilitators could have made the trainees more confident.

4. Conclusion

It was a landmark-training program for the prevention and control of NCDs in Bangladesh. The program was based on the WHO Bangladesh Training Package for PEN, which was in turn based on the SEARO training modules. Imparting the training also demonstrated that it was necessary to nurture a productive partnership among different organizations including the government. Because of this partnership, the training program was enriched, and its quality was maintained, and it should be continued while implementing training programs in other districts of Bangladesh.

Inviting different categories of PHC workers in a team was a challenge; however, we did not observe adverse reactions from any corner. Instead, the training created understanding among the participants that delivery of essential NCD services from PHC facilities, they need to work together and help each other. This new idea was reflected in the patient flow discussion and planning exercise: each hospital team proposed a feasible NCD service delivery model including management of NCD corner and divided tasks and responsibilities of each category of staff considering the existing resource limitations. The participants were requested to report back and finalize this NCD service delivery model at their hospitals for initiation of PEN.

Arranging training in the ISCG/CIC camps hub was a challenge as the hubs were located far away from the city. The trainees and facilitators needed to commute a long way. The training was physically demanding for the facilitators as they needed to travel early in the morning and be back late in the evening. The trained SCHW may need additional support to prepare themselves to be fully ready to train the respective CHWs on risk factors and behavioral interventions on non-communicable disease

(NCD) as there was less time for practice by the SCHW as facilitators of the training. The trained CHW may need additional support to prepare themselves to be fully ready to implement behavioral interventions on non-communicable disease (NCD) as there was less time for practice by the CHW. However, the support from the ISCG hub and CIC Officer was praiseworthy.

The trainings had several limitations. The preparation time was too short. Despite those difficulties, the outcomes of the training were deemed satisfactory. However, the real outcomes will depend on how all the PHCs and UHCs implement the PEN. It is anticipated that there will be a trial and error and implementation challenges in the hospital which demand timely support from the government and WHO level to overcome. The NCDC and WHO Bangladesh should be committed to providing such supports with regular communication and encouragement. The James P Grant School of Public Health of BRAC University will also be committed to work with the government and WHO Bangladesh in future.

5. Way forward

In future, the training program will require continuous revision and iteration depending on the context and need. The WHO is promoting a 5X5 approach (5 diseases; CVD, COPD, T2D, Cancer and Mental Health disorders, and 5 risk factors: unhealthy diet, tobacco consumption, alcohol consumption, physical inactivity and air pollution) and the future training program should also incorporate ways to strengthen PHC teams to deliver services for all these diseases and risk factors. Providing training on CVD risk—based approach and hypertension and diabetes is a good start but there is a need for a continued education program so that the health care providers are well supported and do not feel isolated. Job aids, use of digital technologies for continued education can be considered in this regard. The SCHW and CHWs need to be supported to address the problems faced by them while implementing the learning from the training programs. Moreover, for better participation, the trainees should be informed

of the training dates at least 1 week before the training so that they can be prepared.

The implementation challenges will be different in different settings. To overcome the challenges, the PHCs and UHCs may need resource support for all the building blocks of the health system. There can also be subtle differences in the implementation models and these models need to be documented along with the outcomes of the training with respect to delivery of NCD services and impact of the services. The implementation models with accumulated lessons learned needs to be analyzed and used as examples while imparting training in other districts. There is a need for proper monitoring and evaluation of the NCD programs so that the lessons learned from the training can be evaluated. Without a proper monitoring and evaluation system in place, there is a chance that the trainees will soon forget their skills. As NCD programs are relatively new, it will take consistent support and resources to make a meaningful change, and this training can be regarded as a start point aimed towards this goal. Implementation of the lessons learnt from the training will also depend on the willingness of the mid-level and top-level managers of each organization. Therefore, WHO and CHWG need to arrange orientation programs on NCD for the mid-level and top-level managers. For this purpose, high-level commitment and support of the Ministry of Health and Family Welfare, WHO and other development partners, research institutes, academic institutes, NGOs are indispensable.

7. Appendices:

Appendix – 1: Name of the facilitators

a. PEN training

Name of the session	Name of the facilitators, Organization
A. Overview of NCD burden and PEN as a primary health care approach to organize and deliver essential NCD services through a team-based approach at primary health care setting	Batch 1: Farzana Dorin, WHO
	Batch 2: Rina Paul, BRAC JPGSPH Farzana Dorin, WHO
	Batch 3: Rina Paul , BRAC JPGSPH
	Batch 4: Farzana Dorin, WHO
B. Overview of NCDs: Cardiovascular diseases (CVD) and Diabetes Mellitus	Batch 1: Ali Ahsan Hemel, BRAC JPGSPH
	Batch 2: Ali Ahsan Hemel, BRAC JPGSPH
	Batch 3: Ali Ahsan Hemel, BRAC JPGSPH
	Batch 4: Ali Ahsan Hemel, BRAC JPGSPH
C1. Risk factors for non-communicable diseases: Tobacco use	Batch 1: Farzana Dorin, WHO
	Batch 2: Nushrat Jahan Urmy, BRAC JPGSPH
	Batch 3: Rina Paul, BRAC JPGSPH
	Batch 4: Farzana Dorin, WHO
C2. Risk factors for non-communicable diseases: Unhealthy diet	Batch 1: Runa Laila, BRAC Rina Paul, BRAC JPGSPH
	Batch 2: Rina Paul, BRAC JPGSPH
	Batch 3: Rina Paul, BRAC JPGSPH
	Batch 4: Rina Paul, BRAC JPGSPH
C3. Risk factors for non-communicable diseases: Physical inactivity	Batch 1: Rina Paul, BRAC JPGSPH
	Batch 2: Nushrat Jahan Urmy, BRAC JPGSPH
	Batch 3: Nazma Sultana, BRAC Rina Paul, BRAC JPGSPH
	Batch 4: Abdur Razzaqul Alam, JICA
C4. Risk factors for non-communicable diseases: Overweight and obesity	Batch 1: Abdur Razzqul Alam, JICA
	Batch 2: Rina Paul, BRAC JPGSPH
	Batch 3: Rina Paul, BRAC JPGSPH
	Batch 4: Rina Paul, BRAC JPGSPH
D1. Total cardiovascular risk-based approach	Batch 1: Malay Mridha, BRAC JPGSPH Farzana Dorin, WHO
	Batch 2: Ali Ahsan Hemel, BRAC JPGSPH

	Farzana Dorin, WHO
	Batch 3: Ali Ahsan Hemel, BRAC JPGSPH Malay Mridha, BRAC JPGSPH
	Batch 4: Syed Mahfuzul Huq, WHO
D2. Measurement of total cholesterol and test of urine using urine strips	Batch 2: Rina Paul, BRAC JPGSPH
E. Assessment and Management of Hypertension	Batch 1: Ali Ahsan Hemel, BRAC JPGSPH
	Batch 2: Rina Paul, BRAC JPGSPH Ali Ahsan Hemel, BRAC JPGSPH
	Batch 3: Rina Paul, BRAC JPGSPH Ali Ahsan Hemel, BRAC JPGSPH
	Batch 4: Khaleda Islam, JICA
F. Assessment and Management of Type 2 Diabetes	Batch 1: Ali Ahsan Hemel, BRAC JPGSPH
	Batch 2: Ali Ahsan Hemel, BRAC JPGSPH Rina Paul (How to use glucometer)
	Batch 3: Ali Ahsan Hemel, BRAC JPGSPH Rina Paul (How to use glucometer)
	Batch 4: Bishwajit Bhowmik, BIRDEM
G1. Healthy lifestyle: Basics of counseling	Batch 1: Farzana Dorin, WHO
	Batch 2: Rina Paul, BRAC JPGSPH Farzana Dorin, WHO
	Batch 3: Rina Paul, BRAC JPGSPH
	Batch 4: Farzana Dorin, WHO
G2. Brief interventions for non-communicable disease risk factors: Tobacco cessation, healthy diet and physical activity	Batch 1: Abdur Razzul Alam, JICA Farzana Dorin, WHO
	Batch 2: Farzana Dorin, WHO
	Batch 3: Rina Paul, BRAC JPGSPH
	Batch 4: Farzana Dorin, WHO
Develop and present team-based approach of implementing PEN intervention in existing health facility	Batch 1: Malay Mridha, BRAC JPGSPH Raisul Islam, WHO
	Batch 2: Farzana Dorin, WHO Rina Paul, BRAC JPGSPH
	Batch 3: Malay Mridha, BRAC JPGSPH Raisul Islam, WHO
	Batch 4: Raisul Islam, WHO

	Rina Paul, BRAC JPGSPH
OSPE	Facilitators from BRAC JPGSPH (mainly) Farzana Dorin and Raisul Islam from WHO also assisted

b. ToT for SCHW

Sl no	Sessions/Lectures	Facilitators (Training Batch)*
1	Overview of NCD: Five major NCDs and Five major risk factors	Dr. Malay Kanti Mridha (1) Dr. Rina Paul (2, 3,4,5) Dr. Ali Ahsan Hemel (6)
2	Primary health care, service availability in the PHC and role of different types of staff involved in community health care	Dr. Malay Kanti Mridha (1) Dr. Rina Paul (2, 3,4,5) Dr. Nushrat Jahan Urmey (6)
3	Social and behavior change communication (SBCC)	Dr. Malay Kanti Mridha (1) Dr. Rina Paul (2, 3,4,5) Dr. Nushrat Jahan Urmey (6)
4	Introduction to brief intervention using 5A and 5R and BCC materials	Dr. Rina Paul (1,2, 3, 4,5) Dr. Nushrat Jahan Urmey (6)
5	Introduction to BCC materials on healthy diet, practice group counseling on healthy diet, and practice brief intervention on healthy diet	Dr. Rina Paul (1, 2, 3,4, 5) Dr. Nushrat Jahan Urmey (6)
6	Introduction to BCC materials on tobacco, practice group counseling on tobacco, and practice brief intervention on tobacco	Dr. Rina Paul (1) Dr. Nushrat Jahan Urmey (2,3,4,5,6)
7	Introduction to BCC materials on physical inactivity, practice group counseling on physical inactivity and practice brief intervention on physical inactivity	Dr. Rina Paul (1) Dr. Nushrat Jahan Urmey (2,3,4,5,6)
8	Introduction to BCC material on household air pollution and practice of group counseling on household air pollution	Dr. Rina Paul (1) Dr. Nushrat Jahan Urmey (2,3,4,5,6)
9	Introduction to BCC materials on hypertension and practice brief intervention on non-adherence	Dr. Ali Ahsan Hemel (1, 2,3,4,5,6)
10	Introduction to BCC materials on diabetes and practice brief intervention on non-adherence	Dr. Ali Ahsan Hemel (1, 2,3,4,5,6)

c. Training of CHW and SCHW on behavioral interventions

Sl no	Sessions/Lectures	Facilitators (Training Batch) *
1	Inauguration, introduction, training objective and ice breaking	Dr. Malay Kanti Mridha (2, 7) Dr. Rina Paul (1, 3,4,5, 6)
2	Pre-test	Dr. Nushrat Jahan Urmy (1, 2, 3, 4, 5, 7) Dr. Rina Paul (6)
3	Overview of NCD: Five major NCDs and Five major risk factors	Dr. Malay Kanti Mridha (2, 7) Dr. Rina Paul (1, 3,4,5, 6)
4	Primary health care, service availability in the PHC and role of different types of staff involved in community health care	Dr. Malay Kanti Mridha (2, 7) Dr. Rina Paul (1, 3,4,5, 6)
5	Introduction to BCC materials on healthy diet	Dr. Rina Paul (1,3,4, 5, 6) Dr. Nushrat Jahan Urmy (2,7)
6	Introduction to BCC materials on tobacco	Dr. Rina Paul (1,3,4, 5, 6) Dr. Nushrat Jahan Urmy (2,7)
7	Introduction to BCC materials on physical activity	Dr. Rina Paul (1,3,4, 5, 6) Dr. Nushrat Jahan Urmy (2,7)
8	Introduction to BCC materials on air pollution	Dr. Rina Paul (1,3,4, 5, 6) Dr. Nushrat Jahan Urmy (2,7)
9	Introduction to BCC materials on hypertension	Dr. Rina Paul (1,3,4, 5, 6) Dr. Nushrat Jahan Urmy (2,7)
10	Introduction to BCC materials on Diabetes	Dr. Rina Paul (1,3,4, 5, 6) Dr. Nushrat Jahan Urmy (2,7)
11	BCC and brief intervention for behavior change (5As and 5Rs approach)	Dr. Malay Kanti Mridha (2, 7) Dr. Rina Paul (1, 3,4,5, 6)
12	Discussion and demonstration on group counseling	Dr. Malay Kanti Mridha (2, 7) Dr. Rina Paul (1, 3,4,5, 6)
13	Tobacco: Group counseling practice using BCC materials	Dr. Rina Paul (1,3,4, 5, 6) Dr. Nushrat Jahan Urmy (2,7)
14	Healthy diet: Group counseling practice using BCC materials	Dr. Rina Paul (1,3,4, 5, 6) Dr. Nushrat Jahan Urmy (2,7)
15	Physical activity: Group counseling practice using BCC materials	Dr. Rina Paul (1,3,4, 5, 6) Dr. Nushrat Jahan Urmy (2,7)
16	Air pollution: Group counseling practice using BCC materials	Dr. Rina Paul (1,3,4, 5, 6) Dr. Nushrat Jahan Urmy (2,7)
17	Demonstration on 5A's and 5R's techniques	Dr. Malay Kanti Mridha (2,7)

		Dr. Nushrat Jahan Urmy (1-7) Dr. Rina Paul (1, 3-6)
18	Tobacco: Practice 5A's and 5R's techniques	Dr. Nushrat Jahan Urmy (1-7) Dr. Rina Paul (1, 3-6)
19	Non-adherence with hypertension medication and advice: Practice 5A's and 5R's techniques	Dr. Malay K Mridha (1,7) Dr. Nushrat Jahan Urmy (1-7) Dr. Rina Paul (1,3-6)
20	Non-adherence with diabetic medication and advice: Practice 5A's and 5R's techniques	Dr. Malay K Mridha (1,7) Dr. Nushrat Jahan Urmy (1-7) Dr. Rina Paul (1, 3-6)
21	Post-test, Evaluation, certificate giving and closing	Dr. Nushrat Jahan Urmy (1-5, 7) Dr. Rina Rani Paul (1,6)

Appendix – 2: List of the participants

a. PEN Training

SI.No.	Name	Organization	Participant (1 = Doctor, 2 = Nurses/Midwife, 3 = SACMO/MAs/Paramedics)	Batch
1	Dr. Farhana Akter Doli	RTMI	1	1st
2	Dr. Md Arif Morshed Talukder	RTMI	1	1st
3	Dr. Tayabur Rahman Chowdhury	RHU	1	1st
4	Dr. Md. Abdul Mohsen Howlader	TDH	1	1st
5	Dr. Bhulu Charan Barua	BDRCS	1	1st
6	Dr. Fahim Islam	DCHT	1	1st
7	Dr. Anisuzzaman	DCHT	1	1st
8	Dr. Nazia Sultana	RI	1	1st
9	Dr. Rajib Das	IOM	1	1st
10	Dr. Md. Atiqur Rahman Molla	GK	1	1st
11	Md. Siddikur Rahaman	TDH	2	1st
12	Tandra Mandal	DCHT	2	1st
13	Shariful Islam	BDRCS	2	1st
14	Jannatul Ferdushi	RTMI	2	1st
15	Md. Jobair Hossain	RI	2	1st
16	Momtaj Parvin	DCHT	2	1st
17	Urme Khatun	GK	2	1st
18	Rumana Sarwar	RTMI	2	1st
19	Sahadul Islam	IOM	2	1st
20	Sabbir Ahmed Bhuiyan	BDRCS	2	1st
21	Md. Arman Uddin Juwel	TDH	3	1st
22	Abdul Bashir	GK	3	1st
23	Sagor Hossan	DCHT	3	1st
24	Israt Jahan Keya	DCHT	3	1st
25	Md. Shohel Rana	RI	3	1st
26	Md. Nurul Anwar	RTMI	3	1st
27	Mst. Molidia Khatun	RTMI	3	1st

28	Animesh Biswas	RHU	3	1st
29	Hasan Ahmed	RHU	3	1st
30	Mohammed Imam Hossain	IOM	3	1st
31	Dr. Md. Rashedul Islam	SCI	1	2nd
32	Dr. Asif Ahamed Hredoy	GK	1	2nd
33	Dr. Md. Shariful Islam	PHD	1	2nd
34	A.S.M. Ashrafuzzaman Shaheen	IOM	1	2nd
35	Dr. Md. Shariful Islam	BRAC	1	2nd
36	Dr. Moomtahin Sultana	FH	1	2nd
37	Dr. Tarek Ul Islam	RTMI	1	2nd
38	Dr. Abdur Rahman Md. Somayal	MSF	1	2nd
39	Romana Afroze	PHD	2	2nd
40	Tahamina Khatun Nipa	PHD	2	2nd
41	Nasir Uddin	SCI	2	2nd
42	Sharmin Akter	GK	2	2nd
43	Mst. Rita Akther	RTMI	2	2nd
44	Nurth Shafa	RTMI	2	2nd
45	Kanij Faiema	IOM	2	2nd
46	Md. Robayet Hossain	MSF	2	2nd
47	Taslima Raihan	BRAC	2	2nd
48	Tawhida	FH	2	2nd
49	Joyonto Kumar Biswas	SCI	3	2nd
50	Md. Nurun Naby Naim	IOM	3	2nd
51	Md. Delowar Hosain	GK	3	2nd
52	Md. Rasel Alom	BRAC	3	2nd
53	Md. Waly Ullah	MSF	3	2nd
54	Dr Anwar Parvej	MTI	1	3rd
55	Dr Marium Binte Hasan	BRAC	1	3rd
56	Dr Md Atiqur Rahman Bhuiyan	RTMI	1	3rd
57	Dr Nobarun Chakma	IOM	1	3rd
58	Dr Proyon John Gomes	MSF	1	3rd
59	Dr Fahad Bin Akhter	GK	1	3rd
60	Dr. Mohammad Omar Faruq	RHU	1	3rd

61	Dr Fahmida Sultana	RTMI	1	3rd
62	Dr Syed Md. Muhaiminur Rahman	IRC	1	3rd
63	Dr Saiful Islam	RTMI	1	3rd
64	Dr Syed Rashel Bayezid Zilany	IOM	1	3rd
65	Maliha Jebin	MTI	2	3rd
66	Sirina Begum	BRAC	2	3rd
67	Sharmin Akter	RTMI	2	3rd
68	Nasima Akter	IOM	2	3rd
69	Muhammed Nur Uddin	MSF	2	3rd
70	Kamrun Naher	GK	2	3rd
71	Md Khalid Hasan	MSF	2	3rd
72	Krishna Priya Das	IOM	2	3rd
73	Md Arju Sarker	BRAC	3	3rd
74	M.A.B Azadi Bin Mostufa	RTMI	3	3rd
75	Md. Shamim Reza	IOM	3	3rd
76	Md. Harun-Ar Rashed	IRC	3	3rd
77	Omma Salma Sayma	GK	3	3rd
78	Md Alauddin	RHU	3	3rd
79	Tusher Chakraborty	RHU	3	3rd
80	Konok Parves	IRC	3	3rd
81	Dr. Md. Shah Reer Reza	Government	1	4th
82	Dr Santanu Ghosh	Government	1	4th
83	Dr. Md. Shamim Rashel	Government	1	4th
84	Dr. Mahabub Ara Abbasi	Government	1	4th
85	Dr. Mst. Kamolika	Government	1	4th
86	Mst. Maksuda Khatun	Government	2	4th
87	Salah Uddin	Government	2	4th
88	Fatima Tuzzuhura Farhana	Government	2	4th
89	Suparna Barua	Government	2	4th
90	Most. Shafa Khatun	Government	2	4th
91	Deloara	Government	2	4th
92	Nahia Zannatul Irin	Government	2	4th
93	Babi Aktar	Government	2	4th
94	Pallabi Roy	Government	2	4th

95	Anuching Marma	Government	2	4th
96	Hanna Rudra	Government	2	4th
97	Parag Shil	Government	3	4th
98	Delwar Hossain	Government	3	4th
99	Md Rahamat Ullah	Government	3	4th
100	Jasmin Sultana	Government	3	4th
101	Sumati Sen	Government	3	4th
102	Nurul Hamid	Government	3	4th

b. ToT of SCHW

SI.No.	Name	Organization	Designation	Batch
1	A.S.M Muktadul Islam	GK	CHW Supervisor	1st
2	Jesmin Sultana	RTMI	Mentor & trainer	1st
3	Rasheda Begum	SCI	CHW Supervisor	1st
4	Nasima Akter	GK	CHW Supervisor	1st
5	Martha Chakma	SCI	CHW Supervisor	1st
6	Jannatul Naima	RTMI	Mentor & trainer	1st
7	Milinda Tanchangya	SCI	CHW Supervisor	1st
8	Mahbuba Akter	SCI	CHW Supervisor	1st
9	Sree Nandita Barua	SCI	CHW Supervisor	1st
10	Md. Saidul Islam	RTMI	Field Supervisor	1st
11	Md. Salman Kawsar Tasib	GK	CHW Supervisor	1st
12	Jalal Uddin	GK	CHW Supervisor	1st
13	Abdullah Al Numan	RTMI	Field Supervisor	1st
14	Kamil Ahmed	RTMI	Field Supervisor	1st
15	Nargis Sultana	SCI	CHW Supervisor	1st
16	Jaheda Begum	SCI	CHW Supervisor	1st
17	Helal Uddin	GK	CHW Supervisor	1st
18	Rabeya Begum	SCI	CHW Supervisor	1st
19	Himangshu Deb Datta Roy	SCI	Community Health Coordinator	1st
20	Humaun Kabir Ripon	GK	CHW Supervisor	1st
21	Aye Sen Nu	PHD	CHW Supervisor	2nd
22	Usongbai Marma	PHD	CHW Supervisor	2nd
23	Jentle Chakma	GK	health & Nutrition Supervisor	2nd

24	Thasin Akter	RI	CHW Educator	2nd
25	Mostafa Kamal	RI	CHW Educator	2nd
26	Amir Khan	RI	CHW	2nd
27	Md Faisal	RI	CHW Educator	2nd
28	Golam Tareque	RI	CHO	2nd
29	Babla Kumar Dhar	RTMI	Field Supervisor	2nd
30	Potila Barua	RTMI	CHW Supervisor	2nd
31	Farjana Sharmin	Mukti Cox's Bazar	Field Supervisor	2nd
32	Maghna bala Shil	Mukti Cox's Bazar	CHW Supervisor	2nd
33	Jesmin Akter	Mukti Cox's Bazar	CHW Supervisor	2nd
34	Rafrafa Sadia	RTMI	CHW Supervisor	2nd
35	Md Juhar	RI	CHW Educator	2nd
36	Yeasmin Akter	RI	CHW Educator	2nd
37	Saifuzzaman	RI	CHO	2nd
38	Shimla Biswas	RTMI	CHW Supervisor	2nd
39	Mong Thing Hla	PHD	CHW Supervisor	2nd
40	Ismat Ara	Mukti Cox's Bazar	CHW Supervisor	2nd
41	Farida yeasmin	Mukti Cox's Bazar	CHW Supervisor	2nd
42	Ahamed Al Sharif	RTMI	Field Supervisor	2nd
43	Md Ashaduzaman	RTMI	Field Supervisor	2nd
44	Ratna Akter	RTMI	Mentor	2nd
45	Md Kabil Uddin	RTMI	Field Supervisor	2nd
46	Pijuel Ghagra	Bangla- German Sampreeti	Field Supervisor	3rd
47	Mostafa Badruddoza	Bangla- German Sampreeti	Field Supervisor	3rd
48	Kaniz Fatema Bilkis	PHD	CHW (Team leader)	3rd
49	Riya Barua	PHD	CHW (Team leader)	3rd
50	Sami or Rashid	GK	Community outreach officer	3rd
51	Beauty Barua	PHD	PHD team leader	3rd
52	Md. Farid Ahmed	IRC	Dispatch & Referral unit manager	3rd
53	Osin Marma	PHD	Supervisor	3rd
54	Suchona Barua Gipshi	RHU	Health Counsellor	3rd
55	Ushe Khin	PHD	Supervisor	3rd
56	Ismat Jahan Munni	Mukti Cox's Bazar	Field Supervisor	3rd

57	Murshida	PHD	CHW (Team leader)	3rd
58	Sufia Akter	Mukti Cox's Bazar	Supervisor	3rd
59	Abu Darda Md. Osman	PHD	Supervisor	3rd
60	Mahaboba Khanm	Mukti Cox's Bazar	Supervisor	3rd
61	Jesmin Akter	PHD	CHW (Team leader)	3rd
62	Sony Barua	PHD	CHW (Team leader)	3rd
63	Kadiza Begum	Mukti Cox's Bazar	Supervisor	3rd
64	Mina Akther	PHD	Supervisor	3rd
65	Jaitun Akter Rina	PHD	CHW (Team leader)	3rd
66	Tarjia Akter	PHD	CHW (Team leader)	3rd
67	Khaleda Akter	Mukti Cox's Bazar	Supervisor	3rd
68	Md. Mahmudul Hasan	FH-MTI	CSW program officer	4th
69	Farjana Ahmed Ani	FH-MTI	CSW program officer	4th
70	Rejea Sultana Jenny	FH-MTI	CSW Educator	4th
71	Abu Zafar	BGS	Supervisor & Monitor	4th
72	Md. Twohid Miah	BGS	Supervisor & Monitor	4th
73	Golam Kibria	RTMI	Program Officer	4th
74	Sourav Majumder	PHD	Supervisor	4th
75	Mohammad Tauhidul Islam	PHD	Field Coordinator	4th
76	Md Al Amin	PHD	Field Coordinator	4th
77	Abdul Al-Syed Shakil	PHD	supervisor	4th
78	Sadia Yeasmin	BGS	CHW team leader	4th
79	Md. Atiqul Wazed	RTMI	MIS officer	4th
80	Barnali Barua	RTMI	Outreach Supervisor	4th
81	Md. Rabiul Islam	RTMI	Outreach Supervisor	4th
82	Md. Rezaul Karim Munna	RTMI	Outreach Supervisor	4th
83	Md. Jamsadul Islam Solaimani	RTMI	CHW Supervisor	4th
84	Khair Ullah	PHD	Supervisor	4th
85	Subrata Kumar Biswas	RTMI	Outreach Supervisor	4th
86	Najia Jahan Aziza	PHD	CHW team leader	4th
87	Taslima Akter	FH-MTI	CHW Educator	4th
88	Rukia Begum	FH-MTI	CHW Educator	4th
89	Md Al Amin Kayser Plabon	PHD	Supervisor	4th
90	Md. Rezaul Haque	RI	Community Health Officer	4th
91	Afrin Sultana Juli	HOPE	CHW	5th

92	Syed Mostafa	HOPE	Supervisor	5th
93	Wahida Akter	HOPE	CHW	5th
94	Nur E Jannat	DCHT	CHW	5th
95	Naznin Sultana	DCHT	Midwife	5th
96	Md. Amin Ullah	HOPE	CHW	5th
97	Anwar Islam Rubel	HOPE	Field Supervisor	5th
98	Santa Rani Biswas	DCHT	field officer	5th
99	Mommea Habiba	HOPE	CHW	5th
100	Nazma Sultana	HOPE	CHW	5th
101	Abdul kaium Mamun	HOPE	FF	5th
102	A.K.M Saiduzzaman	PHD	MIS officer	5th
103	Md. Kamrul Hasan	PHD	Community Health Coordinator	5th
104	Mohammed Mizanur Rahman	PHD	Supervisor	5th
105	Abu Hanif	PHD	Supervisor	5th
106	Md. Shahadat Hossain	PHD	Supervisor	5th
107	Mohammad Sarif Helali	PHD	Supervisor	5th
108	Maung Khin Jaw	PHD	Supervisor	5th
109	Emran Khan	PHD	Supervisor	5th
110	Atika Sultana	PHD	CHW	5th
111	Zia Uddin	HOPE	Field Supervisor	5th
112	Wafi Al Hasan Adnan	PHD- UNICEF	Community Health Coordinator	6th
113	Md. Ziaul Haque	BRAC	Supervisor	6th
114	Tipu Prova Barua	FH-MTI	CHW educator	6th
115	Sabina Akter	PHD- UNICEF	CHF	6th
116	Shimu Chakma	PWJ	Field Officer	6th
117	Aysha Akter	PWJ	CHW	6th
118	Md. Mosharaf Hossain	DCHT	Community Paramedics	6th
119	Md. Mahatab Hossain	BRAC	PO	6th
120	Md. Bablur Rahman	BRAC	PO	6th
121	Mst. Nasrin Khatun	RTMI-IOM	Vaccinator	6th
122	Farida Yesmin	PHD- UNICEF	CHF	6th
123	Marjina Akter Rekha	PHD- UNICEF	CHF	6th
124	Rajmin Farhana	FH-MTI	CHW Program officer	6th

125	Shahnawaz Islam Shifat	RTMI	Field Supervisor	6th
126	Md. Saiful Islam	MSF-OCA	Vaccination Team Supervisor	6th

*We are missing one name

c. Training for CHW and SCHW on behavioral interventions

SI.No.	Name	Organization	Designation	Batch
1	Susmita Sharma	PHD	CHW	1st
2	Nosrat Jahan	PHD	CHW	1st
3	Morijan	World Concern	CHW	1st
4	Md. Rafique	World Concern	CHW	1st
5	Md. Rahim	World Concern	CHW	1st
6	Formin	RTM-05	CHW	1st
7	Majida	RTM-05	CHW	1st
8	Mukarama	PHD	CHW	1st
9	Roksana Akter	PHD	CHW	1st
10	Lima	RTMI	CHW	1st
11	Nur Begum	RTMI	CHW	1st
12	Sofika	RTMI	CHW	1st
13	Jannatara	RTMI	CHW	1st
14	Afsara Akter	RTMI	CHW	1st
15	Taslima Akter	RTMI	CHW	1st
16	Nasrin Azad	PHD	Team leader	1st
17	Jobaida Khanam	PHD	Team leader	1st
18	Rahana Akter	World Concern	Team leader	1st
19	Nor fatema	RTMI	CHW	2nd
20	Khaleda	RTMI	CHW	2nd
21	Rokeya	RTMI	CHW	2nd
22	Hamida	RTMI	CHW	2nd
23	Anuwara	RTMI	CHW	2nd
24	Munni akther	World concern	CHW	2nd
25	Huson johar	Pulse- Bangladesh	Youth educator	2nd
26	Md rofik	Pulse- Bangladesh	Youth educator	2nd
27	Sofiya	World concern	CHW	2nd
28	Jannat ullah	Pulse- Bangladesh	Youth educator	2nd
29	Bashir ahmed	Pulse- Bangladesh	Youth educator	2nd

30	Md Haron	Pulse- Bangladesh	Youth educator	2nd
31	Md juhar	World concern	CHW	2nd
32	Sami ullah abir	RHU	CHW	2nd
33	Rustom ali	RHU	CHW	2nd
34	Abul hossain	RHU	CHW	2nd
35	Md saruwar	KRC Refugee Health Unit	CHW	2nd
36	Md yeasin arafat	KRC RHU	CHW	2nd
37	Alamgir	RHU	CHW	2nd
38	Shomzida	RTMI	CHW	2nd
39	Koshmida	RTMI	CHW	2nd
40	Zannat ara	RTMI	CHW	2nd
41	Sodul amin	Pulse- Bangladesh	Youth educator	2nd
42	Monjur alam	RHU	CHW	2nd
43	Md shakhawat hossain	GK-UNHCR	CHWS	2nd
44	Md jashim uddin	RTMI	Field supervisor	2nd
45	Nobi hussein	Pulse- Bangladesh	Team leader	2nd
46	Satya Brata Chakma	SCI	CHW	3rd
47	Rubi Akter	SCI	CHW	3rd
48	Korima	PHD	CHW	3rd
49	Bijya Barua Munni	SCI	CHW	3rd
50	Naima Akter	DAM	CHW	3rd
51	Abdul Baset	DAM	CHW	3rd
52	Halima Begum	RI	CHW	3rd
53	Nur Hayes	SCI	CHW	3rd
54	Md. Rofiq	RI	CHW	3rd
55	Sha Alom	RI	CHW	3rd
56	Hamidullah	RI	CHW	3rd
57	Sumie Akter	RI	CHW	3rd
58	Md. Firoz Kabir	DAM	CHW	3rd
59	Jahid Alom	RI	CHW	3rd
60	Mohammad Hamim	RI	CHW	3rd
61	Md Jubair	RI	CHW	3rd
62	Mahmud Hasan	DAM	CHW	3rd
63	Md. Rokibul Hasan	DAM	CHW	3rd
64	Yeasin Akther	RI	CHW	3rd

65	Ayesha	SCI	CHW	3rd
66	Jannat Begum	PHD	Team leader	3rd
67	Atiqur Rahman	IRC	Outreach team leader	3rd
68	Noor Islam	RI	CHWS	3rd
69	Md. Ediris	GK	CHW	4th
70	Mujibur Rahaman	GK	CHW	4th
71	Nurul Islam	GK	CHW	4th
72	Abdul Alam	GK	CHW	4th
73	Sahed Hossen	HOPE Foundation	CHW	4th
74	Monuara Khanam	Whykong UH&FWC	CHW	4th
75	Md Saad	GK	CHW	4th
76	Noor Khan	GK	CHW	4th
77	Josna Akter	HOPE Foundation	CHW	4th
78	Akhi Akter	GK	CHW	4th
79	Abdul Karim	GK	CHW	4th
80	Yeasmin Akter	GK	CHW	4th
81	Rujina Akter	GK	CHW	4th
82	Hasina	GK	CHW	4th
83	Md. Rofique	GK	CHW	4th
84	Romana Akter	HOPE Foundation	CHW	4th
85	Jannat Ara	HOPE Foundation	CHW	4th
86	Yeasmin Akter	HOPE Foundation	CHW	4th
87	Baby Barua	Mukti Cox's Bazar	CHW	4th
88	Josna Akter	Mukti Cox's Bazar	CHW	4th
89	Khelada Akter	Mukti Cox's Bazar	CHW	4th
90	Rujina Akter	Mukti Cox's Bazar	CHW	4th
91	Sabina Akter	Mukti Cox's Bazar	CHW	4th
92	Yeasmin Fatema	GK	CHW	5th
93	Hasina Begum	GK	CHW	5th
94	Robina	GK	CHW	5th
95	Sabida	GK	CHW	5th
96	Sayed Ullah	GK	CHW	5th
97	Md Ayub	GK	CHW	5th
98	Sha Oli Ullah	GK	CHW	5th
99	Hamid Hussein	GK	CHW	5th

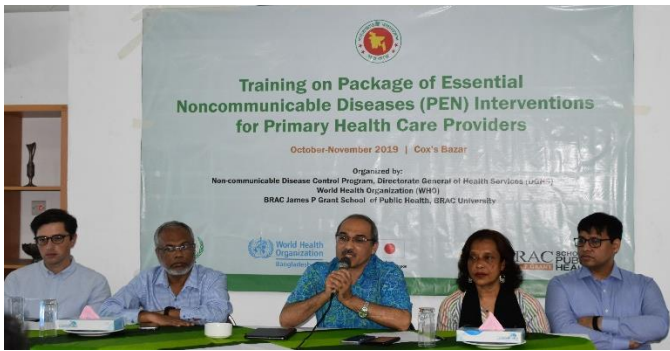
100	Md. Alkas	MSF-OCBA	CHW	5th
101	Mohammed Omar	MSF-OCBA	CHW	5th
102	Mostak	GK	CHW	5th
103	Salma Akter	GK	CHW	5th
104	Arosi	GK	CHW	5th
105	Amina	RTMI	CHW	5th
106	Laila	RTMI	CHW	5th
107	Jamil Ahammed	GK	CHW	5th
108	Mohammed Sabair	GK	CHW	5th
109	Abdul Wahnef	GK	CHW	5th
110	Md Yakub	GK	CHW	5th
111	Md Rofique	GK	CHW	5th
112	Toslima	GK	CHW	5th
113	Zannat Ara	RTMI	CHW	5th
114	Toyoubu	RTMI	CHW	5th
115	Somuda	RTMI	CHW	5th
116	Muhammed Sajed	GK	CHW	5th
117	Abdul Khalek	GK	CHW	5th
118	Noor Kaida	RTMI	CHW	5th
119	Sourav Das	RTMI	Outreach supervisor	5th
120	Md Abul Kalam	MSF-OCBA	Team leader	5th
121	Masud Rana	BGS	FSM	5th
122	Md. Ibrahim	MSF-OCBA	Team leader	5th
123	Asif Nur Hasnat	ISDE BD	Project officer	5th
124	Sha Jahan Alom	RTMI	Outreach supervisor	5th
125	Kawsear Akter	BGS	CHW	6th
126	Sabnor	BGS	CHW	6th
127	Jesmin kowsar	SCI	CHW	6th
128	Arefa Akter	SCI	CHW	6th
129	Farhana Akter	SCI	CHW	6th
130	Majeda Begum	SCI	CHW	6th
131	Md. Raihan	SCI	CHW	6th
132	Ahsanul Hoque	SCI	CHW	6th
133	Nurul Absar	SCI	CHW	6th
134	Nurul Hossain	SCI	CHW	6th
135	Muhammod Yunus	SCI	CHW	6th

136	Nasmin Akter	SCI	CHW	6th
137	Laila Begum	BGS	CHW	6th
138	Humaira Akter	BGS	CHW	6th
139	Sabina Yeasmin	SCI	CHW	6th
140	Ruhul Amin	SCI	CHWS	6th
141	Abdur Rahman Sikdar	BRAC	CHWS	6th
142	Istiaq Ahmed	PHD	CHWS	6th
143	Majharul Islam	PHD	CHWS	6th
144	Oshit Boral	BRAC	CHWS	6th
145	Kohinoor Akter	GK	CHW	7th
146	Ashika Begum	TDH	CHW	7th
147	MD. Harun	PHD	CHW	7th
148	Sabbir Ahmod	TDH	CHW	7th
149	Shamima Akter	RTMI	CHW	7th
150	Ruzina	RTMI	CHW	7th
151	Harsa Bibi	TDH	CHW	7th
152	Hozaifa	GK	CHW	7th
153	Shamima Akter	BGS	CHW	7th
154	Shahida Akter	BGS	CHW	7th
155	Asma Bibi	IDH	CHW	7th
156	Jamida Akter	BGS	CHW	7th
157	Jurul Hoque	MSF	CHW	7th
158	Sayed Mohammad	GK	CHW	7th
159	Md Solim	TDH	CHW	7th
160	Md. Saleh	TDH	CHW	7th
161	Ahsanul Hoque	GK	CHW	7th
162	Noor Kaida	TDH	CHW	7th
163	Md Parvez	TDH	CHW	7th
164	Md Masud	TDH	CHW	7th
165	Mohammad Ibrahim Adnat	TDH	CHW	7th
166	Amir Khan	TDH	CHW	7th
167	Khurishi	TDH	CHW	7th
168	Md. Helal Uddin	TDH	CHW	7th
169	Abdul Hai	TDH	CHW	7th
170	Nurul Hossain	TDH	CHW	7th

171	Taslima Johar	TDH	CHW	7th
172	Anwara Akter	PHD	CHW Teamleader	7th
173	Kamal	MSF	Team leader	7th
174	Yeasmin Akter	PHD	Team leader	7th
175	Ayat Ullah	PHD	Team leader	7th
176	Kefayet Ullah	MSF	Team leader	7th
177	Saima Yeasmin Koli	PHD	Team leader	7th
178	Faruque	TDH	Community outreach coordinator	7th
179	Muhammod Ziaul Hossain	TDH	CHWS	7th

Appendix -3: Important moments of the training captured in photographs

Please, see the next pages.



Professor A.H.M. Enayet Hussain, Line Director, NCDC: speaking in the opening session



Dr. Hasan Shahriar Kabir, Chattogram Divisional Director (Health): speaking on the closing session



Dr. Khalid El Tahir, Incident Manager, WHO Emergency Sub-office, Cox's Bazar speaking on the closing session



Dr. Egmond Evers, Public Health Officer, WHO Bangladesh speaking in the opening session



Dr. Malay K. Mridha, Associate Professor, BRAC JPGSPH



Dr Syed Mahfuzul Huq, NPO, WHO Bangladesh



Dr. Farzana Dorin, National Consultant, WHO



Dr. Rina Paul, Consultant, BRAC JPGSPH



Dr. Raisul Islam, NCD Officer, WHO Bangladesh



Dr. Ali Ahsan, Clinical Medical Officer, BRAC JPGSPH



Participants with the CVD Risk Assessment Charts



A batch of participants showing their certificates



Healthy snacks



Practicing height measurement



Demonstration of BP measurement



Demonstration of Blood sugar measurement



Dr. Khaleda Islam, Consultant, JICA



Civil Surgeon, Cox's Bazar Dr. Md. Abdul Matin



Dr Bishwajit Bhowmik, BADAS



Facilitators from the WHO and BRAC JPGSPH



Facilitators meeting



Case presentation



Certificate distribution (3rd Batch)



Batch-4 participants with training certificates



Participants are attending pre-training evaluation



Participants are listening to the session



Mock session by two participants



Group work by the participants



A group work session



Group work presentation



Certificate distribution ceremony



A batch of participants with certificates