



INNOVATION  
PROGRAMME

# RESEARCH REPORT

## EXPLORING THE CHALLENGES AND OPPORTUNITIES AROUND REPRODUCTIVE HEALTH IN DISASTERS IN BELKUCHI UPAZILA, BANGLADESH

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MARCH 2019



# ACRONYMS AND ABBREVIATIONS

<b>BAPSA</b>	Bangladesh Association for Prevention of Septic Abortion
<b>D&amp;C</b>	dilatation and curettage
<b>DGHS</b>	Directorate General of Health Services
<b>DGFP</b>	Directorate General of Family Planning
<b>IPPF</b>	International Planned Parenthood Federation
<b>IPPF-SAR</b>	International Planned Parenthood Federation- South Asia Region
<b>MCWC</b>	Mother and Child Welfare Center
<b>MR</b>	menstrual regulation
<b>MVA</b>	manual vacuum aspiration
<b>PAC</b>	post-abortion care
<b>PHC</b>	primary health care
<b>RH</b>	reproductive health
<b>RHCC</b>	Reproductive Health kit 8, Capacity building, Community awareness
<b>UHC</b>	Upazila Health Complex
<b>UH&amp;FWC</b>	Union Health & Family Welfare Center
<b>UN</b>	United Nations
<b>UNFPA</b>	United Nations Population Fund
<b>UNISDR</b>	United Nations International Strategy for Disaster Reduction
<b>WHO</b>	World Health Organization

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**Publisher:** IPPF

Printed in London, United Kingdom

**Editing:** Mags Allison **Design:** Sue MacDonald

**Photographs:** The photographs presented in this report were taken by the research team. Therefore, the research and implementing partners hold a shared copyright for these photographs.

**Suggested citation:** Ray-Bennett, N.S., Corsel, D. and Goswami, N. (2019) *Exploring the Challenges and Opportunities Around Reproductive Health in Disasters in Belkuchi Upazila, Bangladesh*. London: IPPF.



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# ACKNOWLEDGMENT

We would like to thank the International Planned Parenthood Federation (IPPF) and IPPF South Asia Region (IPPF-SAR) for funding this research project. Special thanks are due to Aditi Ghosh, Alison Mckinley and Dr Ataur Rahman for their technical advice throughout the research project. Thanks are also due to Daniel McCartney for his advice and support during the publication process of this Report and accompanying Policy Briefs.

Thanks are due to the Advisory Board members in the UK: Professor Peter Jackson from the University of Leicester, Professor Andrew Collins from Northumbria University and the late Dr Vinette Cross from the University of Wolverhampton. Special thanks are due to Professor Peter Jackson and Dr Diane Levine for their comments on the initial draft of this report.

We would like to thank the Government of Bangladesh's Directorate General of Family Planning, the Directorate General of Health Services, the Belkuchi Upazila Health Complex and Belkuchi's Union Health and Family Welfare Centers. Special thanks are also due to Dr Md Mahboob Hossain and Dr Kazi Shamim Hossain for their continuing support. Without their approval, cooperation and support, this research project would not have been realised.

We would like to thank our local research partners, icddr,b and Data Management Aid. In particular, Maqbul Bhuiya, Executive Director of Data Management Aid, for his dedication to this research project.

We would like to thank all the participants in Belkuchi for taking part in the research project. Thanks are also due to all the participants who attended and provided feedback to our research project at the top-level dissemination meeting that took place in Dhaka on 1 March 2018.

Special thanks are due to Dr Paul Lawrence, Dr Adesina Illuyemi, Dr Edris Alam, Arunima Roy, Shrija Bhagat Koiri and the field research assistants in Bangladesh. Their contribution to this research project is invaluable.

We would like to thank Bede Wilson in particular for his editorial work throughout the research project. Last but not least, thanks are also due to Rohan Bokhoree for proofreading the report.

## DEDICATION

For Dr Vinette Cross, in memoriam. Your support for this project will be treasured.

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## STUDY TIMELINE

### FEASIBILITY OF THE RHCC:

October 2015 – April 2017

### INTERVENTION AND IMPLEMENTATION FOR THE RHCC:

January 2017 – November 2017

### EVALUATION OF THE RHCC:

November 2017 – January 2018

## STUDY LOCATION

### BELKUCHI:

Belkuchi is a upazila/sub-district of Sirajganj District in Rajsahi Division of Bangladesh. According to the 2011 census, there were 157 villages, 74,450 households and a total population of 352,835.

### UNIONS:

Belkuchi sub-district has six unions, which are Belkuchi Sadar, Bhangabari, Daulatpur, Bordhul, Dhukuriabera and Rajapur.

### HAZARD/S:

Rajapur, Belkuchi Sadar, Daulatpur, Bhangabari and Bordhul unions are most vulnerable to floods due to low land and being in the floodplain of two rivers: the Jamuna and the Hursagar.



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# SUMMARY OF KEY FINDINGS FOR DECISION-MAKERS

To improve the quality and availability of post-abortion care during a flood, the University of Leicester and International Planned Parenthood Federation South Asia Region (IPPF-SAR), in collaboration with the Government of Bangladesh, developed an integrated intervention package called **RHCC** for Belkuchi in Sirajganj District.

The **RHCC** has three components: **i)** pre-positioning UNFPA's Inter-Agency Reproductive Health Kit 8 prior to flooding; **ii)** Capacity building of health workers; and **iii)** Community awareness raising. This intervention, the first of its kind, introduced the Reproductive Health Kit 8 in three primary health care facilities in Belkuchi during the 2017 flood. Reproductive Health Kit 8 is used "to treat the complications arising from miscarriage (spontaneous abortion) and unsafe induced abortion, including sepsis, incomplete evacuation and bleeding" (UNFPA, 2011).

## FINDINGS

Facility assessments of all the six primary health care facilities in Belkuchi revealed that untrained health workers at the Belkuchi Upazila Health Complex provided menstrual regulation and post-abortion care. These services were unavailable at Belkuchi's Union Health and Family Welfare Centers. As part of the **RHCC**, 100 existing health workers were trained through a basic and refresher course on safe menstrual regulation and post-abortion care and on how to administer the Reproductive Health Kit 8. During the flood of 2017, Reproductive Health Kits 8 were available at the Upazila Health Complex and at two Union Health and Family Welfare Centers in Belkuchi. The Upazila Health Complex was the most popular destination because the clients perceived that this facility assured privacy and anonymity compared to the local Union Health and Family Welfare Centers. Some of the trained family welfare visitors at the Union Health and Family Welfare Centers refused to provide menstrual regulation and post-abortion care due to religious reasons. All the health care facilities in Belkuchi are physically vulnerable during flooding; as such their services were disrupted in the floods of 2016 and 2017.

## LESSONS TO TAKE FORWARD

- To implement the **RHCC** in the primary health care system, it is vital to seek approval from the Directorate General of Family Planning and the Directorate General of Health Services, and collaboration with the Upazila Health Complex management team, the Department of Disaster Management, and community and health workers.
- To raise communities' awareness of the **RHCC**, it is important to target pregnant women and their spouses.
- To make the primary health care system flood resilient, it is important to prepare the system through interventions such as the **RHCC**, among other provisions (e.g. boats and robust physical infrastructure).

## OUTCOMES OF THE PROJECT

- The Reproductive Health Kits 8 benefited 48 women directly during the flood of 2017. The use of these Kits is still ongoing and is able to benefit a further 192 women.
- The **RHCC** improved the skills of 10 health workers (26% of the primary health care staff) in menstrual regulation and post-abortion care and they will continue to provide quality care to the 173,097 female population of Belkuchi in dry and wet seasons.
- Developed behaviour change communication posters and leaflets, context specific tools for the implementation of the Reproductive Health Kit 8 and policy briefs to improve policy and practice.
- Enriched the body of knowledge on the opportunities and challenges in and around the nationwide programme on 'menstrual regulation and post-abortion care' in the context of floods.
- Enhanced relationships between IPPF, IPPF-SAR, University of Leicester, Data Management Aid and the Belkuchi Upazila Health Complex management team for the management and implementation of the research project and for future collaborations.



# EXECUTIVE SUMMARY

## BACKGROUND AND RESEARCH OBJECTIVES

Reproductive health matters are central to general health and human development (UNFPA Guidelines on Reproductive Health, 1995). Reproductive health is directly connected to a mother and child's health and wellbeing (Cohen, 2004), which is part of the UN's Sustainable Development Goal 3 (2015–2030). By providing access to reproductive health services, including menstrual regulation, post-abortion care and family planning, women's chances of surviving pregnancy and birth increase. Tragically, reproductive health problems are a leading cause of women's illness and death worldwide (WHO, 2011a). Reproductive health issues are under-researched in the context of humanitarian settings and especially during natural disasters. As such, our knowledge is limited on the ways internally displaced women cope with pregnancy, miscarriages and unsafe abortions in a disaster environment along with the challenges they face. An UNFPA report estimated that by the end of 2015, 99% of the world's maternal deaths would have occurred in developing countries (UNFPA, 2015a).

Bangladesh is a developing country exposed to natural hazards due to its geographic location (Dilley *et al.*, 2005). Despite severe physical and environmental challenges, Bangladesh is one of the few developing countries to have met its target for Millennium Development Goal 5 by reducing the maternal mortality ratio from 322 deaths per 100,000 live births in 1998–2001 to 176 deaths per 100,000 live births in 2013 (El Arifeen *et al.*, 2014; Gideon *et al.*, 2015; WHO, 2015b). Although this is a remarkable achievement, reducing maternal mortality is still a challenge, as is improving maternal health from unsafe abortions and especially so during disasters (Ahmed *et al.*, 2011; Huda *et al.*, 2013). The UN's Global Strategy for Women's, Children's and Adolescents' Health and the Sustainable Development Goals have both set an ambitious target for all the nation-states of ending preventable maternal deaths by 2030. This means reducing maternal deaths to fewer than 70 per 100,000 live births (UNFPA, 2015b). In order to further reduce maternal mortality and morbidity from miscarriages and unsafe abortions for Sustainable Development Goal 3 during floods, the University of Leicester and International Planned Parenthood Federation South Asia Region (IPPF-SAR) in collaboration with the Government of Bangladesh developed and implemented an intervention package called **RHCC**. The **RHCC** has three components: i) positioning medical equipment and supplies, which are packaged together as UNFPA's Inter-Agency **Reproductive Health Kit 8**, prior to seasonal flooding; ii) **Capacity building** of existing health workers; and iii) **Community awareness raising** with the help of family welfare assistants (see **Figure 1**). This intervention, the first of its kind, introduced Reproductive Health Kits 8 in three public health care facilities in Belkuchi of Sirajganj District during the 2017 flood. Belkuchi sits on the floodplain of two rivers, the Jamuna and the

Hursagar, and gets flooded almost every year. As such, it was an ideal location to conceive and implement the **RHCC**. The overall goal of this research project has been to evaluate whether the **RHCC** has the potential to improve the quality and availability of post-abortion care in Belkuchi during a flood. To address this overall goal, the following research objectives were set:

### OBJECTIVE 1:

To determine whether the **RHCC** could increase skilled management for post-abortion complications at facility level during a flood.

### OBJECTIVE 2:

To assess the referral pattern for seeking menstrual regulation and post-abortion care at the facility from the union to sub-district to district levels.

### OBJECTIVE 3:

To determine the quality of menstrual regulation and post-abortion care in the Upazila Health Complex of Belkuchi sub-district.

### OBJECTIVE 4:

To estimate the cost involved for the **RHCC** in improving the quality of menstrual regulation and post-abortion care during a flood.

### OBJECTIVE 5:

To contribute to the body of knowledge on opportunities and challenges in accessing safe post-abortion in disasters and humanitarian crises.

FIGURE 1: THE RHCC INTERVENTION





The intervention package, **RHCC**, was studied under the ambit of the nationwide ‘menstrual regulation and post-abortion care’ programme. This is because the medicines and the medical devices of the Reproductive Health Kit 8 are also used for menstrual regulation and post-abortion care procedures in Bangladesh. Menstrual regulation is defined as “evacuation of the uterus performed by a trained provider” (Huda *et al.*, 2013:10) within 12 weeks of a missed period using manual vacuum aspiration or a combination of mifepristone and misoprostol medication (Yasmin *et al.*, 2015). Post-abortion care is a medical technique used to reduce injuries and deaths from incomplete and unsafe abortions, as well as any complications that may arise (Ipas, 2018).

The research project was funded under IPPF’s Innovation Programme and IPPF-SAR’s SPRINT Initiative. The research component was led by the University of Leicester and the implementation component was led by IPPF-SAR. To collect data in Bangladesh, the University of Leicester developed a partnership with icddr,b and Data Management Aid. For the implementation of the **RHCC**, IPPF-SAR subcontracted icddr,b, the Bangladesh Association for Prevention of Septic Abortion (BAPSA) and Ipas. Approval and cooperation were sought and received from the Directorate General of Health Services and the Director General of Family Planning in order to use the public health care facilities in Belkuchi. The duration of this research project was 29 months: 15 October 2015 to 31 March 2018. The research project was conducted in three interconnected phases using a combination of quantitative and qualitative methods. **In the first phase** (October 2015 to April 2017), we reviewed five years of disaster data of Sirajganj District, assessed six health care facilities using a structured facility assessment tool (prior to the floods of 2016), and conducted 370 structured interviews and five in-depth interviews with women four months after the floods to understand the quality of services, as well as menstrual regulation and post-abortion-related health-seeking practices during floods. **In the second phase** (January to November 2017), health workers were trained. This included a basic and refresher medical course on safe menstrual regulation and post-abortion care and how to administer the Reproductive Health Kits 8, as well as four half-day orientation programmes. The basic and refresher medical course was provided to one medical officer, three nurses and six family welfare visitors. The orientation programmes were attended by 100 health workers. Four Reproductive Health Kits 8 were procured from UNFPA in Copenhagen and positioned at the Belkuchi Upazila Health Complex and at Daulatpur and Rajapur Union Health and Family Welfare Centers. Three community awareness programmes were conducted during the flood of 2017. **In the third phase**

(November 2017 to January 2018), 29 semi-structured interviews with the clients of Reproductive Health Kit 8, five focus group discussions with the trained health workers and four key informant interviews were conducted to assess the feasibility, utility, acceptability and sustainability of the **RHCC**. The results of this research project were disseminated to national and international stakeholders in the UK, Bangladesh and Mongolia.

## RESEARCH FINDINGS

**Skilled management (Objective 1):** The second component of the **RHCC** promoted skilled management of post-abortion complications at the facility level during floods. An orientation programme for 100 health workers and a basic refresher medical training course for 10 health workers were arranged by BAPSA and Ipas under the technical guidance of icddr,b and IPPF-SAR. The orientation programme was less successful at improving knowledge when compared to the basic and refresher medical course. About 55.6% of the participants of the orientation programme were unable to recall its content and delivery, which indicates a need for more frequent orientation programmes or better quality and tailored programmes the first time round. In contrast, all the participants of the basic and refresher medical course easily recalled the content and delivery. After completing this course, participants rated their level of knowledge and skill achieved as exceptionally high (5 in a scale of 0–5). This confidence measure was supported by the competence tests organized by BAPSA after the completion of the course. These tests measured the participants’ knowledge of menstrual regulation and post-abortion care. All of the participants scored 84% or higher on these tests.

**Referral pattern (Objective 2):** The referral pattern for menstrual regulation and post-abortion care was generally from the Union Health and Family Welfare Centers to the Upazila Health Complex. The flow of this referral pattern from the five Union Health and Family Welfare Centers to the Upazila Health Complex has been at least 3.8 patients on average per month. There were no referrals from the Upazila Health Complex to the District Hospital during the study period. Menstrual regulation and post-abortion care were unavailable in most of the Union Health and Family Welfare Centers due to physical constraints during floods and religious barriers that obstruct menstrual regulation procedures in everyday life.

**Quality of menstrual regulation and post-abortion care (Objective 3):** The facility assessments revealed that the technical quality of menstrual regulation and post-abortion care in the Belkuchi Upazila Health Complex could benefit from some



improvement. The Belkuchi Upazila Health Complex was well equipped (84%) in terms of human resources, medical devices, equipment, medicines and instrument sterilization facilities to carry out menstrual regulation and post-abortion care. However, there was a lack of individual rooms, so privacy was limited. The labour room where most of the menstrual regulation procedures and Reproductive Health Kits 8 were administered merits urgent attention. As part of the **RHCC**, only 10 health workers were trained. Some untrained health workers continued providing menstrual regulation and post-abortion care due to unmet demand, clients' preference for receiving services from health workers they personally know/trust, and clients' preference for cheaper services.

**Cost involved for the RHCC (Objective 4):** The **RHCC** has been an expensive intervention (between US\$105.66 and US\$172.01 per person). The second component, capacity building, was the costliest. Nevertheless, this component improved the quality of menstrual regulation and post-abortion care the most. It increased skilled management by providing medical training to 10 health workers (26% of the health staff from Belkuchi's primary health care system) and an orientation programme to 100 health workers. The knowledge and skills that these health workers developed through this intervention can be applied in other areas of their health care provision. These trained staff are likely to continue to provide quality care to the 173,097 female population of Belkuchi in dry and wet seasons.

**The RHCC has contributed to wider knowledge and practice (Objective 5):** This intervention has contributed to the body of knowledge on opportunities and challenges in accessing safe post-abortion during a flood. It has directly contributed in the improved delivery for the nationwide family planning programme on menstrual regulation and post-abortion care. The **RHCC** has also facilitated the primary health care system to keep up with international conventions, such as Sustainable Development Goal 3 and the Sendai Framework's priorities on 'resilient health systems'.

## RECOMMENDATIONS

**It is recommended** that in order to replicate the **RHCC**, it is important to seek approval from the Directorate General of Family Planning and the Directorate General of Health Services; and collaboration with the Upazila Health Complex management team, the Department of Disaster Management, the local community and health workers.

**It is recommended** that the local government should provide public boat services for health workers to reach health care facilities during floods. Without accessible transport during floods, services will continue to be affected and unavailable to the public.

**It is recommended** that the Ministry of Health and Family Welfare should aim to construct a disaster resilient health infrastructure for the primary health care system. Without robust physical infrastructure, reproductive health services will struggle to function causing increased ill health and poverty among the affected community.

**It is recommended** that the Ministry of Health and Family Welfare should train both the old and new family welfare visitors, nurses, aiyas and nursing supervisors, among others. This will increase and diversify services for post-abortion care complications during a flood. The training should also focus on value clarification attitude transformation (VCAT) and counselling in order to tackle religious sentiments that hinder menstrual regulation procedures.

**It is recommended** that the Ministry of Health and Family Welfare and the Department of Disaster Management promote coordination and cooperation between sub-district-level health protection committees, emergency preparedness and response programmes and the Upazila Health Complex management team. Coordination and cooperation among these actors will promote effective governance for a disaster resilient primary health care system in Belkuchi and beyond in Bangladesh.



# INTRODUCTION

Reproductive health matters are central to general health and human development (UNFPA Guidelines on Reproductive Health, 1995) because they are directly connected to a mother and child's health and wellbeing (Cohen, 2004). Reproductive health<sup>1</sup> implies "[...] the right of men and women to be informed and to have access to safe, effective, affordable and acceptable methods of family planning of their choice, as well as other methods of their choice for regulation of fertility [...]" (UNFPA, 1995). By providing access to reproductive health services, including menstrual regulation, post-abortion care and family planning, women's chances of surviving pregnancy and birth increase. Tragically, reproductive health problems are a leading cause of women's illness and death worldwide. According to a study conducted by WHO and the Guttmacher Institute in 2008, there were 21.6 million unsafe abortions worldwide; 21.2 million of these occurred in developing countries (WHO, 2017). The percentage of maternal deaths due to unsafe abortions remained close to 13% (WHO, 2011a).

Reproductive health issues are under-researched in the context of humanitarian settings and especially during natural disasters (Koblinsky *et al.*, 2016). Our knowledge of the ways that internally displaced women cope with pregnancy, miscarriages, unsafe abortions and the challenges they face is limited. A report by UNFPA (2015a:1) noted that the "number of maternal deaths in the 35 countries currently affected by humanitarian crisis or fragile conditions is estimated at 185,000 in 2015, which is 61 per cent of the global estimate of maternal deaths (303,000). This equates to an estimated ratio of 417 maternal deaths per 100,000 live births, which is 1.9 times higher than the global estimate of 216." It was estimated that by the end of 2015, 99% of the world's maternal deaths would have occurred in developing countries (UNFPA, 2015a).

Bangladesh is a developing country exposed to natural hazards due to its geographic location. The World Bank report on *Natural Disaster Hotspots* highlighted that Bangladesh is on the list of the top 60 countries of the world that are highly prone to two or more hazards (flood, cyclone, storm and drought) (Dilley *et al.*,

2005). It is estimated that approximately 97.1% of Bangladesh's total area is at risk of two or more hazards, putting 97.7% of the population at risk. This estimate puts Bangladesh as the number one country in the world relative to mortality risk from two or more hazards. Additionally, due to climate change, Bangladesh is predicted to experience natural disasters more frequently and an inundation of 10% of the land mass due to rising sea levels (WHO, 2012). This is likely to cause: a loss of agricultural land; an increase in homelessness and displacement; and tremendous pressure on human health and health infrastructure (WHO, 2012). An increase in the frequency of disasters due to global warming and climate change, and their anticipated deleterious effects on poor nations such as Bangladesh, is likely to create a complex and challenging environment for all in the coming years.

Despite these tremendous physical and environmental challenges, Bangladesh is one of the few developing countries to have met its target for Millennium Development Goal 5 by reducing the maternal mortality ratio from 322 deaths per 100,000 live births in 1998–2001 to 176 deaths per 100,000 live births in 2013 (El Arifeen *et al.*, 2014; Gideon *et al.*, 2015; WHO, 2015b). Although this is a remarkable achievement, reducing maternal mortality is still a challenge, coupled with the concern for improving maternal health from unsafe abortions (Ahmed *et al.*, 2011; Huda *et al.*, 2013) and during disasters in particular. The UN's Global Strategy for Women's, Children's and Adolescents' Health and the Sustainable Development Goals have now both set an ambitious target for all nation-states of ending preventable maternal deaths by 2030, which means reducing maternal deaths to fewer than 70 per 100,000 live births (UNFPA, 2015b; Koblinsky *et al.*, 2016). In order to further reduce maternal mortality and morbidity from miscarriages and unsafe abortions for Sustainable Development Goal 3 during floods, IPPF South Asia Region (IPPF-SAR) and the University of Leicester in collaboration with the Government of Bangladesh have developed an intervention package called **RHCC**.

<sup>1</sup> According to WHO (2008), reproductive health is "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and to its functions and processes."



FIGURE 1: THE RHCC INTERVENTION

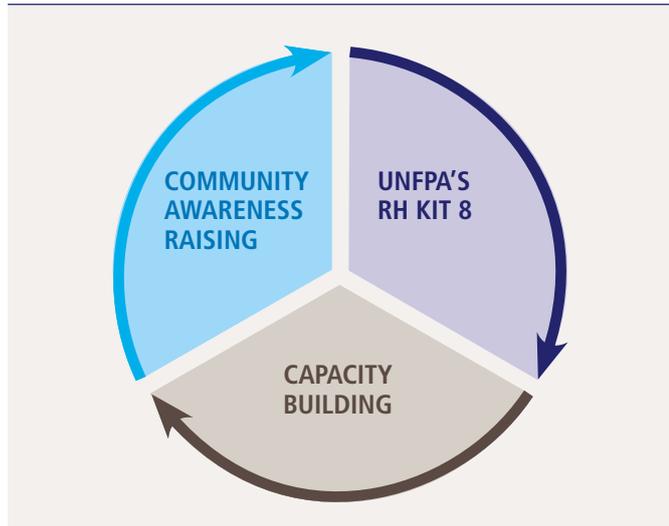


FIGURE 2: MAP OF BELKUCHI

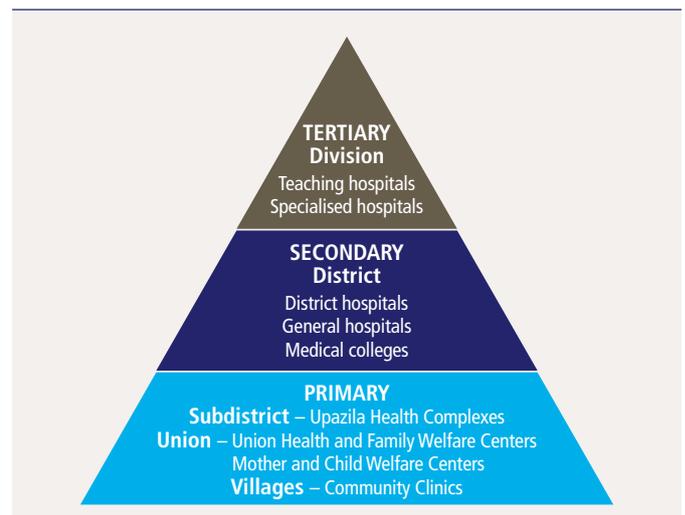


(Adopted from Banglapedia, 2014)

The **RHCC** included UNFPA's Inter-Agency **R**eproductive **H**ealth **K**it 8, **C**apacity building of health workers and **C**ommunity awareness (see **Figure 1**). This intervention, the first of its kind, introduced UNFPA's Inter-Agency Reproductive Health Kits 8 in three primary health care facilities in Belkuchi during the 2017 flood. Belkuchi is a sub-district or upazila of Sirajganj District, which falls under the Rajshahi division. According to the 2011 census, there were 157 villages, 74,450 households and a total population of 352,835 in Belkuchi. Belkuchi has six unions, which are Belkuchi Sadar, Bhangabari, Daulatpur, Bordhul, Dhukuriabera and Rajapur. Belkuchi sits on the floodplain of two rivers, the Jamuna and the Hursagar (see **Figure 2**) and gets flooded almost every year. As such, it was an ideal location to assess the feasibility, utility, acceptability and sustainability of the **RHCC**.

Bangladesh has eight divisions and 64 districts (Bangladesh National Portal, 2018). Districts are divided into sub-districts called 'upazilas' for local governance. Sub-districts are the second lowest tier of the administration. In total, there are 491 sub-districts in Bangladesh. Unions and villages in rural areas and municipalities and city corporations in urban areas are the lowest tier of the administrative structure. Parallel to this administrative structure, the health systems are divided into tertiary, secondary and primary levels (Kouam *et al.*, 2014; WHO, 2015b) (see **Figure 3**). The tertiary level serves the divisions (for instance Rajshahi in the context of this research) and consists of teaching hospitals/institutes. At the secondary level, there are general hospitals and medical colleges that serve the districts. At the primary level, Upazila Health Complexes serve the sub-districts; Union Health and Family Welfare Centers and Mother and Child Welfare Centers serve the unions; and Community Clinics serve the villages (Kouam *et al.*, 2014). This research project focused on the primary health care system, which included one Upazila Health Complex and five Union Health and Family Welfare Centers in Belkuchi.

FIGURE 3: HEALTH CARE SYSTEM IN BANGLADESH





Floods<sup>2</sup> can be extremely disruptive, costly and painful for the affected communities because they destroy houses, cause displacement and affect human insecurities (Ray-Bennett, 2009; Modh, 2010; Ray-Bennett *et al.*, 2010; Azad *et al.*, 2013). Therefore, flooding was an important natural hazard to consider in this research for the pre-positioning of the Reproductive Health Kit 8. In Bangladesh, flooding is one of the country's main concerns as it tends to occur annually during the wet season and it negatively impacts people's lives, livelihoods, food security, drinking water and health (Azad *et al.*, 2013). As mentioned earlier, it is predicted that Bangladesh will experience an increase in the frequency and severity of flooding due to climate change and rising sea levels and this is likely to place tremendous pressure on human health and health infrastructure (WHO, 2012). It is imperative that reproductive health services are strengthened to mitigate the impact of disasters (Noji, 1997; Ray-Bennett, 2013; Masys *et al.*, 2014; Ray-Bennett *et al.*, 2015).

In this light, the overall goal of this study was to evaluate whether the integrated intervention package, which included pre-positioning of the Reproductive Health Kit 8, capacity building of existing health workers and raising community awareness, altogether called **RHCC**, has the potential to improve the quality of post-abortion care in Belkuchi sub-district during a flood. The specific research objectives were:

#### OBJECTIVE 1:

To determine whether the **RHCC** could increase skilled management for post-abortion complications at facility level during a flood.

#### OBJECTIVE 2:

To assess the referral pattern for seeking menstrual regulation and post-abortion care at the facility from the union to sub-district to district levels.

#### OBJECTIVE 3:

To determine the quality of menstrual regulation and post-abortion care in the Upazila Health Complex of Belkuchi sub-district.

#### OBJECTIVE 4:

To estimate the cost involved for the **RHCC** in improving the quality of menstrual regulation and post-abortion care during a flood.

#### OBJECTIVE 5:

To contribute to the body of knowledge on opportunities and challenges in accessing safe post-abortion care in disasters and humanitarian crises.

The intervention package, **RHCC**, was studied under the ambit of the nationwide menstrual regulation and post-abortion care programme. This is because the medicines and the medical devices of the Reproductive Health Kit 8 (see **Appendix 1**) are also used for menstrual regulation and post-abortion care procedures in Bangladesh. These medicines and medical devices are already available in public health care facilities, private clinics and pharmacies. But the novelty of this Kit is that all these components are assembled in one package so that they can be used during emergencies and disasters. Menstrual regulation is defined as 'evacuation of the uterus performed by a trained provider' (Huda *et al.*, 2013:10) within 12 weeks of a missed period using manual vacuum aspiration or a combination of mifepristone and misoprostol<sup>3</sup> medication (Yasmin *et al.*, 2015; Guttmacher Institute, 2017). Post-abortion care is a medical technique used to reduce injuries and deaths from incomplete and unsafe abortion, as well as any complications that may arise (Ipas, 2018). According to Ipas (2018), post-abortion care includes five essential elements: i) treatment, ii) counselling, iii) contraceptive and family planning services, iv) reproductive and other services, and v) community and service provider partnerships.

Menstrual regulation is a nationwide family planning programme, which was first introduced by the Government of Bangladesh in 1974 within government clinics in an attempt to reduce the rate of maternal mortality and morbidity due to complications from septic abortion (Kay and Kabir, 1988; WHO, 2015a). By 1979, the Government approved menstrual regulation as an 'interim method of establishing non-pregnancy' (Yasmin *et al.*, 2015) and it was integrated into the national family planning programme. Menstrual regulation is legal in Bangladesh up to 12 weeks (UN, 2001; Guttmacher Institute, 2017) and these services are provided through a partnership between the Directorate General of Family Planning and a key group of non-governmental organizations. Post-abortion care services are provided under the ambit of the Directorate General of Health Services and the

2 For the purpose of the research, 'flood' is understood "as the condition that occurs when water overflows the natural or artificial confines of a stream of other body of water, or accumulates by drainage over low-lying areas. A flood is a temporary inundation of normally dry land with water, [...] overflowing of rivers [...]" (Sivakumar, 2005:3).

3 According to Ipas (2009), mifepristone is a "medication that stops a pregnancy from developing and softens the cervix (the opening to the womb)" and misoprostol is a "medication that causes the cervix to soften and the uterus to contract." Misoprostol can be "used to prevent and treat postpartum haemorrhage, treat incomplete abortion or miscarriage, induce abortion (by itself or with mifepristone), and induce labor" (Ipas, 2009).



Directorate General of Family Planning facilities (Biswas *et al.*, 2013; Biswas *et al.*, 2017). Although there is an administrative division between the menstrual regulation and post-abortion care, they are both provided at the Upazila Health Complex through its two wings: the family planning wing for menstrual regulation and the health wing for post-abortion care (Biswas *et al.*, 2013; Huda *et al.*, 2015). We engaged with both the wings in order to implement the **RHCC**.

A plethora of studies have investigated and evaluated the challenges and opportunities related to the availability, accessibility (Nasreen *et al.*, 2010; Biswas, *et al.*, 2013; Huda *et al.*, 2013; Yasmin *et al.*, 2015) and quality of this nationwide family planning programme (Kay and Kabir, 1988; Vlassoff *et al.*, 2012; Huda *et al.*, 2015; WHO, 2015b). There are also several reliable national data sets that provide a clearer picture of menstrual regulation and unsafe abortion based on health facility surveys (Vlassoff *et al.*, 2012; Guttmacher Institute, 2017). Researchers have also studied the role of social networks (Gyen and Raeside, 2007; Gyen and Raeside, 2010), decision-making at household levels (Story and Burgard, 2012) and voucher programmes (Nguyen *et al.*, 2012) to promote the use of these services. Research studying the challenges and opportunities related to menstrual regulation and post-abortion care during disasters, including floods in Bangladesh, is lacking. As such, this research project is both novel and timely.

Previous interventions in Bangladesh have aimed at improving the uptake of services by: introducing the provision of menstrual regulation using two medicines (mifepristone and misoprostol) instead of manual vacuum aspiration (Reichenbach, date unknown); redefining the concept of quality care by going beyond medical intervention to include interpersonal relationships and respect for patients (Kay and Kabir, 1988); integrating menstrual regulation, post-abortion care and family planning services across six Directorate General of Health Services and Directorate General of Family Planning facilities by training providers on woman-centred abortion care and adding family planning services at sites offering post-abortion care (Biswas *et al.*, 2017); mobile phone intervention to improve post-menstrual regulation contraceptive uptake and continuation (Reiss *et al.*, 2017), among others. This research project, the first of its kind, introduces an intervention package called **RHCC** to improve the quality and availability of post-abortion care in primary health care facilities during a flood.

## PRIMARY HEALTH CARE SYSTEM

The focus of this research project is on the primary health care system. Originally, the meaning of primary health care meant 'grass-roots' health services (Walt and Vaughan, 1982). Over time the mandate for primary health care has expanded. At the International Conference on Primary Health Care in 1978, the Declaration of Alma-Ata conceived primary health care as the "essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain" (WHO, 1978:1-2). More recently, WHO (2018) highlighted primary health care as being "about caring for people, rather than simply treating specific diseases or conditions." The core principles of primary health care include: i) universal access; ii) community participation in defining and implementing health agendas; iii) intersectoral approaches to health; and iv) commitment to health equity (WHO, 2013). Many scholars and institutions have developed and added to these principles. For instance, VON Canada (2018) has adopted the first three core principles and added 'appropriate use of technology' and 'health promotion'. Fundamentally, all principles indicate that primary health care involves making essential health care services available to everyone, including the poor and vulnerable, in the community (Kendall, 2008; Salvage, 2009; VON Canada, 2018; WHO, 2018). Primary health care is then the first point of contact that people have with the health system. This care is integral for a community's wellbeing. It is also important that everyone can access this health system for the services they require (Bryar, 2000; Kendall, 2008; VON Canada, 2018; WHO, 2018). This is because the Alma-Ata Declaration affirms that access to health care is a matter of human rights and it is through the provision of primary health care that this can be achieved (WHO, 1978; Kendall, 2008).

Bangladesh has signed up to the Alma Ata Declaration and included the primary health care approach in the nation's First Five Year Plan (1972–1978). It implemented this Declaration by establishing Upazila Health Complexes (WHO, 2008; WHO, 2015b). As discussed earlier, Bangladesh has a decentralised health care system (see **Figure 3**) in order to make services available to everyone (Kouam *et al.*, 2014; WHO, 2015b). The primary health care system in Bangladesh consists of: Upazila Health Complexes, Union Health and Family Welfare Centers and Community Clinics (Kouam *et al.*, 2014; WHO, 2015b). This decentralised system is dubbed as an efficient system because these facilities are the first point of contact for rural communities and they cover the entire spectrum of health care services. They often fulfil similar roles to district hospitals (Abbas and Routray, 2013). This was observed in our research location while studying the referral patterns from union to sub-district to district levels. Studies in Bangladesh and elsewhere have also confirmed the



vital role that primary health care facilities play during floods (Abbas and Routray, 2013), as well as in reducing mortality and morbidity in order to meet the nation's target for Millennium Development Goal 5 through the provision of family planning services, contraception and basic essential health care services (El Arifeen *et al.*, 2014; Gideon *et al.*, 2015; WHO, 2015b).

Despite the above achievements, there are concerns about the outreach of primary health care in rural areas in Bangladesh (Islam and Biswas, 2014). Proponents argue that primary health care is not adequately integrated into the national health care system because government-run hospitals are "often inaccessible, crowded, understaffed and lacking medicines" (WHO, 2008). They are underfunded and facilities are poorly stocked with medical instruments, devices and supplies (WHO, 2015). In the context of our study, this also extends to a shortage of skilled staff. The Union Health and Family Welfare Centers in the remote and *chor*<sup>4</sup> locations also deserve special attention. They require more funding, a steady supply of medicines and skilled staff (Huda *et al.*, 2013).

As previously mentioned, Bangladesh is vulnerable to natural hazards such as floods, droughts and cyclones (WHO, 2012; Azad *et al.*, 2013) and thus, in turn, primary health care facilities are exposed to natural hazards and disasters (WHO, 2011b). The physical vulnerability of the health care facilities is of great concern as it can hinder or even cease the delivery of essential health care services (WHO, 2011b). For instance, flooding can cause structural failures (such as damage to infrastructure, medical equipment, power supplies, communication means, transportation methods and water supplies), which can inhibit the health facility from functioning (Axelrod *et al.*, 1994; Phalkey *et al.*, 2012; Van Minh *et al.*, 2014). Therefore, it is important that the primary health care system is prepared to address the Sendai Framework for Disaster Risk Reduction's Global Target 4: "promote disaster resilient health system by 2030"<sup>5</sup> (UN, 2015).

A resilient primary health care system should aim to continue to provide services (including reproductive health) in disaster situations, with minimal disruption. However, developing a resilient health system is a challenge for countries with 'overstretched-staff and weak governance' (Koblinsky *et al.*, 2016). According to Koblinsky *et al.* (2016: 2311):

Resilience demands mechanisms to ensure essential health services are delivered, regardless of the stress on the system; and must include the capacity to address the special needs of women, adolescents [...]. At a *minimum*, the building of resilient and strong health systems requires an emphasis on *increasing and optimizing the health workforce* and *improving facility capability* [our emphasis].

Although 'increasing and optimizing health workforce' and 'improving facility capability' demands multiple interventions from multiple actors and long-term financial commitment from the Government of Bangladesh and international donors, this research project, the first of its kind, aimed at promoting 'minimum' resilience of three facilities in Belkuchi for service delivery during a flood. The minimum resilience was driven by the three components of the **RHCC**. These components, discussed in detail below, involve: improving access to essential medicines and health care equipment through the Reproductive Health Kit 8; developing new and current skills and knowledge of existing health workers; and raising community awareness in order to encourage community participation.

4 *Chor* is the Bengali word for an area of land surrounded by water, such as a lake, stream, river and/or the ocean.

5 The Sendai Framework's Global Target 4 is to: "Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030" (UN, 2015). The Priority for Action 3 is: "Investing in disaster risk reduction for resilience" and clause 30i, 31e and 33c directly emphasise the importance of enhancing and building the resilience of health systems and infrastructure (UN, 2015).



## COMPONENT ONE: UNFPA'S INTER-AGENCY REPRODUCTIVE HEALTH KIT 8

The Inter-Agency Reproductive Health Kit 8 consists of:

1. Medicines: analgesics, antibiotics, anaesthetics, oxytocin, misoprostol;
2. Renewable medical supplies such as gloves and syringes;
3. Stationery and treatment guidelines; and
4. Medical equipment, such as manual vacuum aspiration set and dilatation and curettage set (UNFPA, 2011). See **Figure 4** and **Appendix 1** for details.

The Reproductive Health Kit 8 is used “to treat the complications arising from miscarriage (spontaneous abortion) and from unsafe induced abortion, including sepsis, incomplete evacuation and bleeding” (UNFPA, 2011:27). The components (1–4) of the Reproductive Health Kit 8 are already available in Bangladesh’s Upazila Health Complexes, Mother and Child Welfare Centers, district hospitals, private clinics and pharmacies (except for the manual vacuum and dilatation and curettage sets). The novelty of this Reproductive Health Kit 8 is that all these components are assembled in one package so that it is ready to be used and administered quickly during emergencies and disasters in order to manage miscarriage and post-abortion complications (UNFPA, 2011; UNFPA, 2014). Four Reproductive Health Kits 8 were procured by IPPF-SAR from Copenhagen and positioned at the Belkuchi Upazila Health Complex. These Kits were adjusted based on a request from the Upazila Health Complex management team. The dilatation and curettage sets and misoprostol tablets were removed and donated to the Family Planning Association of Bangladesh.

**FIGURE 4: CONTENTS OF THE REPRODUCTIVE HEALTH KIT 8**



## COMPONENT TWO: CAPACITY BUILDING

Since UNFPA’s Reproductive Health Kits 8 are developed to speed up the provision of reproductive health services in disasters, emergencies and refugee situations, trained and qualified health workers are required to administer them (UNFPA, 2011; UNFPA, 2014). In Bangladesh menstrual regulation and post-abortion care are administered by family welfare visitors (up to 6–10 weeks) at Union Health and Family Welfare Centers and Upazila Health Complexes, and by medical officers (up to 10–12 weeks) at Upazila Health Complexes, Mother and Child Welfare Centers and District Hospitals (Yasmin *et al.*, 2015). IPPF-SAR in collaboration with icddr, Ipas<sup>6</sup> and the Bangladesh Association for Prevention of Septic Abortion (BAPSA)<sup>7</sup> provided a basic and refresher medical course on menstrual regulation and post-abortion care to one medical officer, six family welfare visitors and three nurses. They organized four half-day orientation programmes for 100 participants, which included medical officers, sub-assistant community medical officers, health assistants, health inspectors, assistant health inspectors, family welfare visitors, family planning inspectors, family welfare assistants and nurses of Belkuchi. During this orientation programme, the participants were trained to disseminate messages at the community level and make them aware of the availability of safe menstrual regulation and post-abortion care at the Belkuchi Upazila Health Complex.

<sup>6</sup> Ipas is a global non-profit organization that works around the world to eliminate deaths and injuries from unsafe abortion and increase women’s ability to exercise their reproductive rights.

<sup>7</sup> BAPSA is a non-political, non-profit and private social welfare organization established in early 1982. Current activities of BAPSA include: reproductive health care services and prevention of unsafe abortion and complication management.



## COMPONENT THREE: COMMUNITY AWARENESS

Three community awareness programmes were held at the Belkuchi Upazila Health Complex, the Bhangabari Union Health and Family Welfare Center and the Daulatpur Union Health and Family Welfare Center. The community awareness programmes focused on the Reproductive Health Kit 8, service referrals, hygiene and general health issues. Products like umbrellas and bags were developed for the health personnel (including health inspectors, family planning inspectors, health assistants, family welfare visitors and family welfare assistants) to raise awareness for this project. Please see **Table 1** for the message that was conveyed through the umbrellas and bags.

**TABLE 1: THE MESSAGE CONVEYED THROUGH UMBRELLAS AND BAGS**

“During Flood Visit Nearby Health Facilities To Receive Health Services For Adolescent Girls and Women

Emergency Contact Points:

- Upazila Nirbahi Office
- Upazila Health Complex
- Fire Stations
- Natural Help Desk: 999”



**FIGURE 5: HANDLOOMS IN BELKUCHI**

Handlooms is a cottage industry in Belkuchi sub-district.





# METHODOLOGY

The research project was funded under IPPF's Innovation Programme and IPPF-SAR's SPRINT Initiative.<sup>8</sup> IPPF and IPPF-SAR identified from their previous work in Bangladesh and elsewhere that there was a need to improve access to life-saving post-abortion care in humanitarian crises and disasters.

One inherent requirement of the Innovation Programme was therefore to **use the Reproductive Health Kit 8** during a disaster in Bangladesh.

After winning the competitive bid for this Innovation Programme project, the research component was led by the University of Leicester and the implementation component by IPPF-SAR. To conduct the field research in Bangladesh, the University of Leicester developed a research partnership with icddr,b in 2015. Due to "a shift in [icddr,b's] research direction under changed circumstances"<sup>9</sup> the research partnership between the University of Leicester and icddr,b was terminated on 30 April 2017. A new subcontract was developed between the University of Leicester and Data Management Aid for the period 1 September 2017 to 31 March 2018 in order to complete the final research activities.

IPPF-SAR subcontracted icddr,b to conduct the implementation of the **RHCC** from July 2016 to February 2018. Icddr,b provided technical advice on the training for the health workers in collaboration with BAPSA and Ipas, stored the Reproductive Health Kits 8 at icddr,b's warehouse prior to positioning them at the Upazila Health Complex and organized community awareness programmes during the time of the flood in 2017.

In order to use the primary health care facilities in Belkuchi, approval and cooperation were sought from the Government of Bangladesh's Directorate General of Health and Director General of Family Planning on 24 July and 16 August 2016, respectively. The research objectives were collectively developed and agreed upon by icddr,b, IPPF-SAR and the University of Leicester at the Co-ordinating Innovation Project Meeting organized by IPPF-SAR in New Delhi from 22–23 August 2016. The intervention package, **RHCC** was developed and implemented in collaboration with the Upazila Health Complex management team.

The duration of this research project was 29 months: 15 October 2015 to 31 March 2018. The research process and design were underpinned by a 'theory of change'<sup>10</sup> (De Silva and Lee, 2014). The framework for the theory of change assisted the research and implementation teams with the development of the **RHCC**

and identification of the relevant actors for implementation and indicators for evaluation. Although we were unable to use this framework to its full potential due to limited time and resources, it helped the research team understand the logical links between the inputs and outputs, as well as the assumptions behind these. The research design was flexible, collaborative, bottom-up and dynamic. The research design is explained through the three interrelated phases that the research project went through (see **Table 2**). Please see **Figure 9** at the end of this chapter for the timeline of the research project.

## FIRST PHASE: FEASIBILITY OF THE RHCC (OCTOBER 2015 – APRIL 2017)

To develop the **RHCC** and assess its feasibility, acceptability, utility and sustainability, the University of Leicester and icddr,b conducted a number of activities, which are referred to here as the baseline research. These activities are as follows:

**First**, to maximize the chance of experiencing disasters within the project's timeframe, we selected flooding as the project's anticipated disaster and Belkuchi of Sirajganj District as the project's research location. The research location was chosen after consulting with the former Director of the Comprehensive Disaster Management Program and the Disaster Management Response Specialist from the Department of Disaster Management of Bangladesh.<sup>11</sup> We reviewed five years of disaster data from the Belkuchi sub-district and Sirajganj District in order to confirm the likelihood of experiencing two floods during the lifetime of the research project. The purpose of the first flood was to document the challenges around menstrual regulation and post-abortion care during a flood so that this evidence could be used in the development of the intervention package. The second flood was required for the intervention of the **RHCC** to take place. The review of disaster data suggested that Belkuchi has been flooded every year but the severity varies; for instance, the floods of 1988, 1998, 2004 and 2007 were remarkably worse (Upazila Disaster Management Committee, 2014). Floods and river erosion adversely affect the livelihoods of the people within the Belkuchi unions (Upazila Disaster Management Committee, 2014).

**Second**, in Belkuchi, the Upazila Health Complex is the only designated public facility for obstetric and gynaecological care. There are also five Union Health and Family Welfare Centers designed to cater for menstrual regulation and post-abortion care. All these government-run facilities were selected for assessment. Approval was sought from the Directorate General of Family Planning and the Directorate General of Health Services, which are under the ambit of the Ministry of Health and

8 The Innovation Programme funds novel practices that facilitate under-served populations. The SPRINT Initiative ensures access to essential life-saving reproductive health services for women, men and children in times of crises, a time when services are most needed, yet are not prioritized or recognized by key humanitarian responders.

9 Reference to the Termination Letter dated 6 June 2017 from the Executive Director of icddr,b.

10 According to De Silva and Lee (2014:3), 'theory of change' is an "approach to developing, implementing and evaluating programmes of development, and has been applied across a wide range of programmatic contexts."

11 The Department of Disaster Management, which is under the Ministry of Disaster Management and Relief, was set up in November 2012 following the enactment of the Disaster Management Act 2012.



Family Welfare of Bangladesh. The approval from the two wings of the Ministry of Health and Family Welfare secured cooperation from the Belkuchi Upazila Health Complex and the Union Health and Family Welfare Centers to undertake the facility assessments as well as implementation for the **RHCC**. The assessments were conducted by icddr,b on 23 and 24 July 2016, the day after the monsoon season started (Reliefweb, 2016), and so any changes that had occurred in these facilities since our assessments are not reflected. The quality of the six designated menstrual regulation and post-abortion care public facilities were assessed using a structured assessment tool, which included reviewing: i) human resources; ii) menstrual regulation and post-abortion care management within the facility; iii) menstrual regulation and post-abortion care service delivery performance; iv) logistics and medical equipment; v) essential drugs/solutions for post-abortion care; and vi) needs assessment for menstrual regulation and post-abortion care training. The information on these facilities was also gained by consulting with 10 health workers. This included one resident medical officer, five sub-assistant community medical officers and four family welfare visitors.

**Third**, to understand the quality of services, including menstrual regulation and post-abortion health-seeking practices during floods, structured interviews were conducted. From July to August 2016, Belkuchi experienced heavy rainfall and riverine flooding (Dhaka Tribune, 2016a). The floods created immense challenges, especially for vulnerable pregnant women (Dhaka Tribune, 2016b). Four months after the flood (January–February 2017) structured interviews were conducted by icddr,b in three out of the six unions in Belkuchi. The three unions were: Belkuchi Sadar, Bhangabari and Daulatpur. To conduct these interviews and other fieldwork activities, ethical approval was sought from the University of Leicester's Ethics Sub-Committee for Media and Communication and School of Management and from icddr,b's Research Review Committee and Ethical Review Committee in Dhaka.

Eight thousand eight hundred and sixty-two (8,862) women were screened in Belkuchi Sadar, 9,905 women in Bhangabari and 9,809 in Daulatpur. In total 28,576 women were screened, of which 372 women met the interview selection criteria. The structured interviews were deliberately conducted four months after the 2016 flood in order to give the community some time to recover from the flood and any medical procedures they may have had. Furthermore, it was important to wait for the streets and houses to dry for the convenience of the fieldworkers to conduct the structured interviews. Muddy and waterlogged streets and alleys in between houses and neighbourhoods become impassable immediately after a flood.

The participants for the structured interviews were selected through a multi-stage criterion-based sampling strategy. First, this included selecting three out of the six unions in Belkuchi based on physical convenience. Belkuchi Sadar, Bhangabari and Daulatpur unions were purposively selected because of their close proximity

to each other. Second, the three sampled unions were divided into 68 clusters having a more or less equal population size, of which 41 were randomly selected for structured interviews. Third, six female field research assistants made door-to-door visits to create a list of all of the women residing in the 41 clusters in order to screen participants. Since record keeping of menstrual regulation and post-abortion care was poor at the facilities, it was necessary to select participants through door-to-door home visits. The screening criteria were: i) women aged 15-49 years; ii) currently married; iii) were staying in this area during the flood in 2016; and iv) received menstrual regulation and post-abortion care during the last flood. In total, as mentioned above, 28,576 women were visited, of which 372 met the screening criteria. Of the 372 women, two did not consent; hence, 370 were interviewed using a structured questionnaire. The questionnaire of the structured interview was translated into Bengali and included the following sections: i) Socio-economic characteristics of our population (age, religion, education, residence, occupation, marital status, self-reported financial situation); ii) Hazards, risks and vulnerability; iii) Knowledge of menstrual regulation and post-abortion care; iv) Care-seeking patterns for menstrual regulation and post-abortion care; v) Perceived quality of care; and vi) Self-reported morbidities occurring during the flood. Although the questionnaire for the structured interview consisted of closed questions, there were a few open-ended questions in order to gain more detailed information. To complement the structured interviews, five in-depth interviews were also conducted with women to assess the quality of services. These participants were interviewed at the Upazila Health Complex in February 2017 after receiving menstrual regulation and post-abortion care on the day of the interview.

The six facility assessments, 370 structured and five in-depth interviews were triangulated to inform the development of the intervention package called **RHCC**.

## SECOND PHASE: INTERVENTION AND IMPLEMENTATION FOR THE RHCC (JANUARY – NOVEMBER 2017)

Based on the findings of the facility assessments, six family welfare visitors, three nurses and one medical officer were in need of medical training. The training for these health workers was done by BAPSA and Ipas under the technical guidance of icddr,b and IPPF-SAR. This training included a basic and refresher medical course on safe menstrual regulation and post-abortion care and how to administer the Reproductive Health Kit 8. The training was conducted in two batches: the first batch from 7 to 21 January 2017 with only family welfare visitors and the second batch from 28 January to 4 February 2017 with the medical officer, nurses and one family welfare visitor. Ipas provided technical assistance for the training by providing manuals and behaviour change communication (BCC) materials. BAPSA provided the staff to conduct the training programme. All the family welfare visitors received the training for the first time and

were also informed about basic concepts with regards to value clarification and attitudinal transformation (VCAT).

From 13 to 14 February 2017, IPPF-SAR and icddr,b organized four half-day orientation programmes for a total of 100 different health workers. This included family welfare visitors, family welfare assistants, medical officers, sub-assistant community medical officers, health assistants, health inspectors, assistant health inspectors, family planning inspectors and nurses to raise awareness on safe and unsafe reproductive health practices. This orientation programme included a combination of capacity building and raising awareness on the Reproductive Health Kit 8.

IPPF-SAR procured four Reproductive Health Kits 8 from UNFPA in Copenhagen on 26 October 2016 and positioned them at Belkuchi Upazila Health Complex on 6 April 2017 (prior to the monsoon season). Each Kit can cater for the estimated needs of a population size of 30,000 for three months (UNFPA, 2011). If the Kit is optimised, then according to UNFPA (2011), four Reproductive Health Kits 8 could benefit 240 women directly. The Upazila Health Complex was chosen to position the Reproductive Health Kits 8 because the facility assessment revealed that this health care facility was fully equipped and had the capacity to host the Kits according to UNFPA's guidelines. The structured interviews with 370 women also confirmed that the Upazila Health Complex was the most popular destination for menstrual regulation and post-abortion care compared to the five Union Health and Family Welfare Centers. A contingency plan was developed to address any unanticipated emergencies that might arise for the clients of Reproductive Health Kits 8 (e.g. if the Upazila Health Complex was flooded or any complications occurred while administering the Kit). This included a referral or transfer of patients from the Upazila Health Complex to the district hospital, which is 21.9 kilometres away, and the necessary transport arrangements by IPPF-SAR and icddr,b should the need arise.

From June to August 2017, Sirajganj District was flooded once again due to heavy and continuous monsoon rainfall. This monsoon flooding affected eight million people in 32 districts, caused 145 deaths and destroyed 103,855 houses. During the peak of the flood, the offices of the Directorate General of Family Planning and the Directorate General of Health Services in Belkuchi Sadar requested the implementation team to distribute the Reproductive Health Kits 8 in three Union Health and Family Welfare Centers, which were Dhukuriabera, Bordhul and Bhangabari.<sup>12</sup> The former two unions are *chor* (island due to river siltation) areas and were severely affected by floods. Although there was a need, we were unable to distribute the Reproductive Health Kits 8 in these two health centres due to a lack of trained health staff. There were no medical officers or family welfare visitors at the Bordhul Union Health and Family Welfare Center.

However, one Reproductive Health Kit 8 was positioned at both Daulatpur and Bhangabari Union Health and Family Welfare Centers on 24 August. Once the Kits were positioned, we were informed that there was a lack of trained staff to administer the Kit at Bhangabari. Through further exploration, it was found that at Bhangabari there was only one trained family welfare visitor and she was reluctant to administer the Reproductive Health Kit 8 for religious reasons.<sup>13</sup> Therefore, on 19 September the Reproductive Health Kit 8 was transferred from Bhangabari to Rajapur Union Health and Family Welfare Center.

The administration of the Reproductive Health Kits (see **Figure 6**) started on 24 August 2017. The contents of the Kits are still being used at all of the three health care facilities as the contents have not run out during the study period. For the purpose of the research project, the **Intervention Phase** was defined to be from 24 August to 28 November 2017. This was because a

**FIGURE 6: DAULATPUR UNION HEALTH AND FAMILY WELFARE CENTER (REPRODUCTIVE HEALTH KIT 8)**



12 During flood, reaching the Upazila Health Complex is a challenge due to lack of boat services and also due to the danger of boats capsizing.

13 Bangladesh is predominantly a Muslim country. Menstrual regulation procedures or other family planning measures often conflict with anti-abortion/menstrual regulation sentiments in rural villages and unions.



three-month intervention phase meets the criterion identified by UNFPA and also because the University of Leicester and its research partner Data Management Aid required at least two months to analyze the collected data prior to submitting the end-of-project report to the funder. Furthermore, the floods also receded by the end of our intervention phase.

During this **Intervention Phase**, all the contact details of the clients who received care with the use of the Reproductive Health Kits 8 were systematically recorded by a research assistant at the Upazila Health Complex, Daulatpur and Rajapur Union Health and Family Welfare Centers.

Three community awareness programmes were held by iccdr,b at the Upazila Health Complex on 22 August, Bhangabari Union Health and Family Welfare Center on 21 August, and Daulatpur Union Health and Family Welfare Center on 5 October 2017. The programmes were attended by the village women, nurses, family welfare assistants and family welfare visitors (see **Figure 7**). These community awareness programmes focused on reproductive health, the Reproductive Health Kits 8, service referrals, hygiene and general health issues. Originally, these programmes were planned to take place prior to the 2017 floods but due to organizational constraints at iccdr,b and IPPF-SAR, this was not achieved and thus, they were held during the flood.

### THIRD PHASE: EVALUATION OF THE RHCC (NOVEMBER 2017 – JANUARY 2018)

**Semi-structured interviews:** The original research design involved conducting endline structured interviews after the floods of 2017 in order to compare the data with the findings of the baseline structured interviews. Due to the termination of the collaboration agreement held between the University of Leicester and iccdr,b, it was not possible to replicate the structured interviews. iccdr,b was unable to share the listing of women's households that were used for the baseline structured interviews with the University of Leicester due to constraints within their ethics and data protection protocols. Moreover, it was not possible to initiate listing of households again in the final year of the project due to time and budget limitations. Therefore, the plan to conduct the endline structured interviews was abandoned. In order to replicate the baseline data, our original plan also involved conducting five in-depth interviews with the clients of the Reproductive Health Kits 8. Since the endline survey was abandoned, we expanded the sample size for the interviews by including all the clients of the Reproductive Health Kits 8 during the floods of 2017. These interviews were semi-structured in nature with few open-ended questions. The sample for the semi-structured interviews was from all six unions of Belkuchi. By interviewing these participants, we evaluated the quality of and access to services provided by the trained health workers.

**FIGURE 7: AWARENESS PROGRAMME**



During the **Intervention Phase** of three months, 48 women (20% of the total number of women that could benefit from the four Kits) directly benefited from the Reproductive Health Kits 8. Of these 48 clients, we were able to interview 29. Seven women did not want to be interviewed, four could not be traced as they had supplied incorrect contact details and eight had left Sirajganj District. (Often pregnant women return to their parents' house during their pregnancy and leave afterwards.) Therefore, 29 semi-structured interviews were conducted at the women's houses by fieldworkers from Data Management Aid from 29 November to 20 December 2017. The interview guideline was developed based on the literature review and from the data that was collected during the project's first phase.

**Focus group discussions:** From 13 to 26 November 2017, Data Management Aid organized five focus group discussions with three nurses, six family welfare visitors and 18 family welfare assistants who were involved with the capacity building and community awareness raising programmes. The nurses and family welfare visitors were asked specific questions regarding the medical training they had received, the Reproductive Health Kit 8 and their experiences of administering menstrual regulation and post-abortion care during the **Intervention Phase**.

**Key informant interviews:** From 2 to 5 January 2018, four key informant interviews were conducted with the Deputy Director of Family Planning, the Family Planning Officer, the Residential Medical Officer and the Medical Officer in order to hear their opinions on the **RHCC** and seek advice on the solutions for post-abortion complications that were identified through the structured and semi-structured interviews. We also asked for their opinions on how the current menstrual regulation and post-abortion care could be improved.

**Dissemination:** The preliminary research findings were shared at The Impact of Hazard, Risk and Disasters on Societies Conference at Durham University on 20 September 2017 and at a top-level dissemination meeting organized in Dhaka by the University of Leicester and Data Management Aid on 1 March 2018. The dissemination meeting at Dhaka was attended by 28 representatives from UNFPA, UN Women, BAPSA, Ipas, World Vision, icddr,b-Chakaria, Karmaneer, the British High Commission, University of Dhaka, Chittagong University and the Government of Bangladesh (see **Figure 8**).

**FIGURE 8: DISSEMINATION MEETING IN DHAKA**





The summary of the research findings was shared with Belkuchi's Upazila Health and Family Planning Officer on 3 March 2018 in order to seek feedback. On 3–4 March, meetings were also conducted with the supervising nurses and trained family welfare visitors at Rajapur and Daulatpur Union Health and Family Welfare Centers and at the Upazila Health Complex by the first two lead authors in order to seek further advice on this research project. The lead authors also visited the Community Clinic at Rajapur in order to seek deeper insight into the flood-prone locations. Feedback from these meetings and visits is included as part of this end-of-project report. The final research findings were presented at the Asian Ministerial Conference in Disaster Risk Reduction in Ulaanbaatar, Mongolia (3–6 July 2018) and a poster presentation at the International Family Planning Conference in Kigali, Rwanda (12–15 November 2018).

The findings from the **Intervention Phase** were featured by the UNISDR's PreventionWeb in light of the International Day for Disaster Reduction on 10 October 2017.<sup>14</sup> Behaviour change communication (BCC) posters and leaflets and policy briefs have also been produced to inform the community and policymakers. Two peer-reviewed journal articles are currently in progress in order to inform the wider national and international academic and research communities.

**TABLE 2: PHASES OF THE RESEARCH DESIGN**

PHASE	DATE	DETAILS
1. Feasibility of the RHCC	October 2015 – April 2017	Review of disaster data Assessment of six facilities Ethical approval sought and received 370 structured interviews Five in-depth interviews
2. Intervention and Implementation for the RHCC	January 2017 – November 2017	Training of one medical officer, three nurses and six family welfare visitors Orientation programme for 100 health workers Positioning of Reproductive Health Kits 8 Three community awareness programmes at the Upazila Health Complex, Bhangabari and Daulatpur Union Health and Family Welfare Centers
3. Evaluation of the RHCC	November 2017 – January 2018	29 semi-structured interviews with Reproductive Health Kits 8 clients Focus group discussions with three nurses, six family welfare visitors and 18 family welfare assistants Four key informant interviews

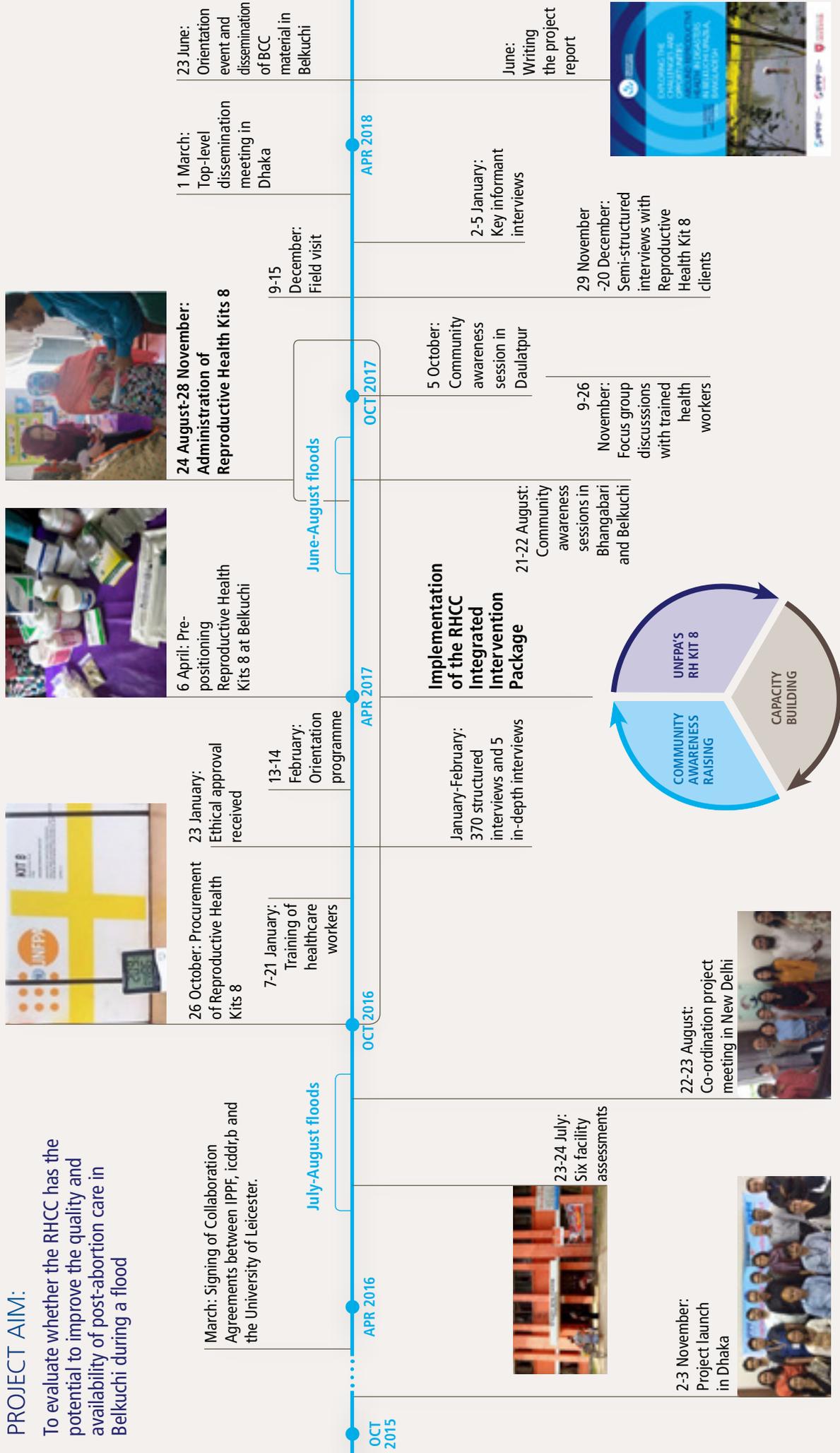
FIGURE 9: TIMELINE OF THE PROJECT

# REPRODUCTIVE HEALTH IN DISASTERS IN BELKUCHI UPAZILA

15 OCTOBER 2015–30 JUNE 2018

## PROJECT AIM:

To evaluate whether the RHCC has the potential to improve the quality and availability of post-abortion care in Belkuchi during a flood





# FINDINGS

## OBJECTIVE 1: TO DETERMINE WHETHER THE RHCC COULD INCREASE SKILLED MANAGEMENT FOR POST-ABORTION COMPLICATIONS AT FACILITY LEVEL DURING A FLOOD.

The degree of skill increase was evaluated as part of the second component of the **RHCC: Capacity building**. This included the basic and refresher medical training course and four half-day orientation programmes between January and February 2017.

### BASIC AND REFRESHER MEDICAL TRAINING

Six family welfare visitors, three nurses and one medical officer received the basic and refresher medical training course. Of the six family welfare visitors, one was from Belkuchi Upazila Health Complex and one from Rajapur, two from Daulatpur and two from Dhukuriabera Union Health and Family Welfare Centers. The three nurses and the medical officer were all positioned at Belkuchi Upazila Health Complex. **The facility assessments** (conducted on 23 and 24 July 2016) revealed that there were a total of 16 medical officers, nine family welfare visitors and 13 nurses positioned at Belkuchi's Upazila Health Complex and its five Union Health and Family Welfare Centers. Thus, 26% of the health staff from Belkuchi's primary health care system were trained.

Competence tests were organized by BAPSA after the basic and refresher training in order to measure the 10 trained health workers' knowledge of menstrual regulation and post-abortion care. The test consisted of 26 questions. All of the participants scored 84% or higher on these tests (see **Table 3**).

**TABLE 3: COMPETENCE MEASURE OF HEALTH WORKERS' KNOWLEDGE OF MENSTRUAL REGULATION AND POST-ABORTION CARE**

COMPETENCE RATING POST-TRAINING MARKS		
	MARK OUT OF 26	PERCENTAGE (%)
Medical officer (n=1)	25	96
Family welfare visitors (n=6)	25–26	96–100
Nurses (n=3)	22–24	84–92

**The focus group discussions** with the trained three nurses and six family welfare visitors<sup>15</sup> revealed that, after the training, all the participants rated their own level of skill as 5 (on a scale of 0 to 5, 5 being the highest) (see **Table 4**). The participants mentioned that the training had also improved their knowledge and skills in other areas, such as when providing counselling and

recommendations on family planning methods. Please see **Table 5** for some of the participants' comments on the training.

**TABLE 4: LEVEL OF SKILL FOR MENSTRUAL REGULATION AND POST-ABORTION CARE AS RATED BY THE PARTICIPANTS DURING THE FOCUS GROUP DISCUSSIONS**

CONFIDENCE RATING BETWEEN 0–5, WITH 5 BEING THE HIGHEST			
	PRIOR TO TRAINING	AFTER TRAINING	PERCENTAGE
Family welfare visitors (n=6)	0–2	5	100%
Nurses (n=3)	2	5	100%

**TABLE 5: SOME OF THE PARTICIPANTS' COMMENTS ON THE TRAINING**

"Now we can say that we were raw hand before and now we are skill hand." (nurse)

"We learnt about many things and became able to judge ourselves and began to work with new experience by this training." (family welfare visitor)

"We have learnt about MR [menstrual regulation], we didn't know about it. We had idea about PAC [post-abortion care] and normally use D&C [dilation and curettage][...]. Through the training we can do PAC by MVA [manual vacuum aspiration] from now." (family welfare visitor)

"The training was very helpful. We had bad idea about MR, we thought that MR was scary and bad in the eyes of Islam. There the trainers taught us that MR could save a mother's life." (family welfare visitor)

"We saw and learned how to give counselling. We have learned better how to give counselling in MR and after MR situation. We use this counselling in other services." (family welfare visitor)

"After getting that training we are so improved that now we can do counselling and do every step and can share with the patient. The patient are now so satisfied." (nurse)

The interviews with four key informants further confirmed that the training had been beneficial (see **Table 6**).

15 The medical officer that was trained was not included in the focus group discussions but instead he was interviewed as part of the key informant interviews.

**TABLE 6: COMMENTS FROM THE KEY INFORMANT INTERVIEWS REGARDING THE TRAINING**

“The training helped me to learn more about MR [menstrual regulation] and PAC [post-abortion care]... [and it] has enhanced my knowledge and skills in particular to deliver MR and PAC services.” (medical officer 1 at Belkuchi Upazila Health Complex)

The training has been beneficial to Belkuchi Upazila Health Complex because “now we have trained staff to provide MR and PAC services effectively.” (medical officer 2 at Belkuchi Upazila Health Complex)

“I have heard, a few number of our nurses have been trained and obviously they are now more capable to provide MR and PAC services in an effective manner.” (residential medical officer at Belkuchi Upazila Health Complex)

#### FOUR HALF-DAY ORIENTATION PROGRAMME FOR 100 HEALTH WORKERS

The focus group discussions on the orientation programme revealed that only 10 out of the 18 participants (55.6%) were able to recall this orientation programme or distinguish it from other programmes/meetings they have had, but they were unable to remember its content. Some of the family welfare assistants were unable to remember any type of training, while others remembered the training but were not sure when it took place. Some of the family welfare assistants mentioned that the orientation programme covered the use of misoprostol. This is rather interesting as misoprostol was removed from the Reproductive Health Kit 8 on the request of the Upazila Health Complex management team. The orientation programme did not focus on misoprostol. However, the family welfare assistants, nurses and family welfare visitors who remembered the orientation programme agreed that the programme had increased their knowledge and improved their understanding on the differences between ‘safe’ and ‘unsafe’ menstrual regulation and post-abortion care. They also agreed to share what they had learnt with the community.

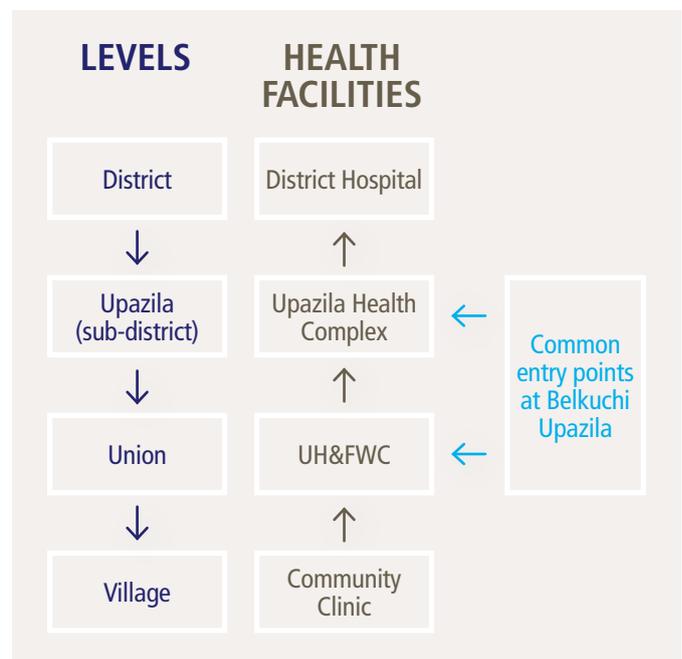
Focus group discussions were also conducted with the three nurses and six family welfare visitors who had been trained and had attended the orientation programme. Some of these participants considered the orientation programme to be part of their training, while others misunderstood the interviewer’s question and interpreted the orientation programme to be the community awareness programme.

#### OBJECTIVE 2: TO ASSESS THE REFERRAL PATTERN FOR SEEKING MENSTRUAL REGULATION AND POST-ABORTION CARE AT THE FACILITY FROM THE UNION TO SUB-DISTRICT TO DISTRICT LEVELS.

In Belkuchi, there are 37 Community Clinics, one Upazila Health Complex and five Union Health and Family Welfare Centers (Upazila Disaster Management Committee, 2014). Out of the six public health facilities, the Upazila Health Complex is the only designated basic emergency obstetric care facility. The five Union Health and Family Welfare Centers are under the family planning wing. There are also two rural dispensaries under the health wing of the Ministry of Health and Family Welfare. Antenatal care, post-natal care and family planning services are provided from all the Union Health and Family Welfare Centers but the delivery services are only provided from two of the five Union Health and Family Welfare Centers. The two rural dispensaries provided general health care services to the community.

The referral pattern for seeking menstrual regulation at the facility level from the union to sub-district to district levels can be seen in **Figure 10**. The first entry point for a client can either be a Community Clinic, the Union Health and Family Welfare Centers or the Upazila Health Complex. The client decides the entry point.

**FIGURE 10: REFERRAL PATTERN AT FACILITY LEVELS**

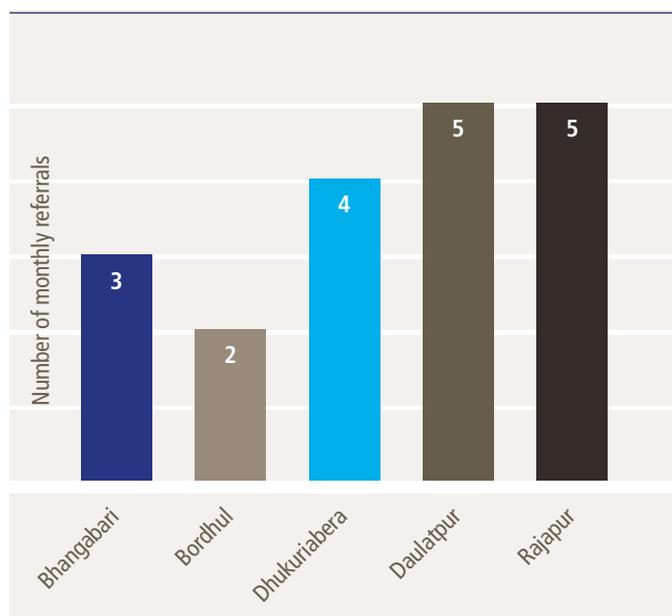




The resident medical officer and the family planning officer at Belkuchi Upazila Health Complex mentioned that a client can be referred from Union Health and Family Welfare Centers to the Upazila Health Complex and then to the District Hospital. However, referrals from the Upazila Health Complex to the District Hospital are infrequent because the Upazila Health Complex is able to manage all the patients' issues. According to a medical officer, when a client decides to seek services at the Upazila Health Complex, "[a]t first patients visit outdoor service, we provide counselling and medicine. If we found that the patient needs to get indoor service, then we refer them to indoor of the hospital" (January 2018, Belkuchi).

**The facility assessments** (conducted on 23 and 24 July 2016) of Daulatpur and Rajapur Union Health and Family Welfare Centers revealed that health workers referred at least five patients per month, while Dhukuriabera referred four, Bhangabari referred three and Bordhul referred two patients per month to the Belkuchi Upazila Health Complex (**Figure 11**).

**FIGURE 11: MINIMUM REFERRAL NUMBER FOR MENSTRUAL REGULATION AND POST-ABORTION CARE**



From the interviews with the family welfare visitors during the facility assessments, it was discovered that menstrual regulation and post-abortion care are generally not provided at the five Union Health and Family Welfare Centers for three reasons:

- v. Absence of trained family welfare visitors. Except for Bordhul, the other five Union Health and Family Welfare Centers had newly appointed family welfare visitors. They were untrained and as such incapable of providing menstrual regulation and post-abortion care.
- vi. Religious beliefs deterred the performance of menstrual regulation procedures. One family welfare visitor stated: "We perform MR [menstrual regulation], our tickets to Jahannam [hell] is ready because we are killing jans [fetuses]."
- vii. Motivation to increase the uptake of family planning methods acted as a barrier to menstrual regulation. Family welfare visitors often show reluctance to provide menstrual regulation over and above family planning methods in order to increase uptake. According to a family welfare visitor: "Many women prefer MR rather than taking pills regularly. Their uterus become vulnerable due to having repeated MR. This also increases the chance of maternal morbidity and mortality. I counsel women to use contraceptive methods and discourage to perform MR."

The facility assessments revealed that the catchment area for Belkuchi Upazila Health Complex is the whole Belkuchi sub-district and covers an area of 164.31 km.<sup>2</sup> The total population of Belkuchi was 352,835 (Upazila Disaster Management Committee, 2014). The catchment areas for the Union Health and Family Welfare Centers are smaller (see **Table 7**).

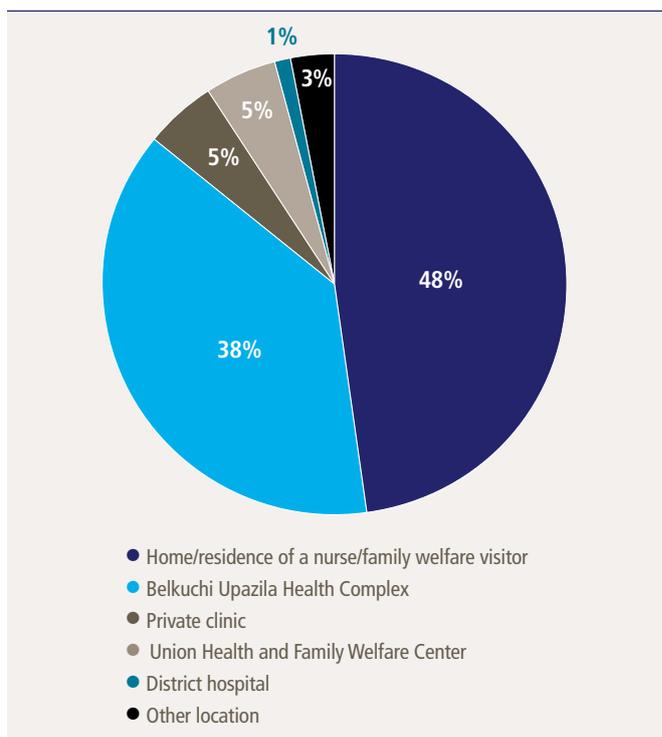
**TABLE 7: CATCHMENT AREA OF MENSTRUAL REGULATION AND POST-ABORTION CARE CLIENTS**

HEALTH FACILITY	CATCHMENT AREA (VILLAGES)	
Belkuchi Upazila Health Complex	The entire Belkuchi Upazila	
Bhangabari Union Health and Family Welfare Center	South Baniagathi Adachaki	Tamai Deluakandi
Bordhul Union Health and Family Welfare Center	Kidrochapri Goschapri Chorbhel	Bordhul Kirtonkhola (chor area)
Dhukuriabera Union Health and Family Welfare Center	Dhukuriabera Kallyanpur Vennagachi Khamarullah para	Goynakandi Kolagachi Satlathi
Daulatpur Union Health and Family Welfare Center	Atardok Pestok	Ajugara
Rajapur Union Health and Family Welfare Center	Konabari Randhonibari chor	Akuria chor Berakharua chor

Bordhul and Dhukuriabera are farthest from the Upazila Health Complex because they are 'hard-to-reach' locations. Bordhul is a *chor* in the basin of the Jamuna River and thus, during floods, this area becomes almost inaccessible. Of all the primary health facilities available, women of all unions seek menstrual regulation and post-abortion care in the Upazila Health Complex both in wet and dry seasons. This was confirmed by the 370 structured and 29 semi-structured interviews with the women of Belkuchi – details provided below.

**The structured interviews (n=370)** after the floods of 2016 revealed that the majority of our participants (48%) received the menstrual regulation procedure from the home/residence of a nurse or family welfare visitor followed by 38% from Belkuchi Upazila Health Complex (see **Figure 12**).

**FIGURE 12: LOCATION FOR RECEIVING MENSTRUAL REGULATION DURING THE 2016 FLOODS**



Only 66 participants out of 370 (17.8%) answered the question: "Who suggested that you go to a health facility for menstrual regulation and/or post-abortion care?" Of the participants 56.1% mentioned 'I decided myself'; 21.2% mentioned due to 'husband', 'family members' (15.2%), 'friend/neighbor' (6.1%) and 'others' (1.4%). It was found that the outcome of the participants' most recent pregnancy was 53% self-diagnosed 'spontaneous abortion' and 47% 'menstrual regulation'.

**The semi-structured interviews** with the Reproductive Health Kit 8 clients after the floods of 2017 revealed (n=29) that the majority (96.6%) of the participants went to the Upazila Health Complex, while 3.4% went to the Union Health and Family Welfare Centers to receive health care for their spontaneous abortion or menstrual regulation induced abortion during the **Intervention Phase**. Of the participants, 58.7% were encouraged by their husbands, 13.8% decided on their own, 6.9% were encouraged by their sister-in-law, 6.9% by their neighbour, daughter (3.4%), a nurse (6.9%) and a family welfare assistant (3.4%). It was found that the outcome of the participants' most recent pregnancy was 10.3% self-diagnosed 'spontaneous abortion' and 89.7% 'menstrual regulation'.



### OBJECTIVE 3: TO DETERMINE THE QUALITY OF MENSTRUAL REGULATION AND POST-ABORTION CARE IN THE UPAZILA HEALTH COMPLEX OF BELKUCHI SUB-DISTRICT.

To fulfil the Sustainable Development Goals by 2030 (UNFPA, 2015b), there is a renewed sense of commitment to achieve not only universal access to reproductive health, but also access to *quality* reproductive health services. Providing *quality* reproductive health services, such as menstrual regulation and post-abortion care, is important but determining the *quality* being provided is challenging. *Quality* of health care is a subjective term as there are different ways of defining and analysing it (World Bank, 2005). It depends on the perspectives, opinions and expectations of the person defining it. For the purpose of this research project, this objective was addressed by studying both the technical quality<sup>16</sup> and perceived quality<sup>17</sup> of menstrual regulation and post-abortion care. To do so, the situation was assessed at different points of the study. The technical quality was first assessed through a structured facility assessment of the Upazila Health Complex and five Union Health and Family Welfare Centers. The findings of these assessments were complemented by the structured and semi-structured interviews and the key informant interviews. The perceived quality of care was understood under two themes: i) the quality of service and care that the clients experienced; and ii) the quality of the health workers' interpersonal relations and continuity of care that the clients received.

#### TECHNICAL QUALITY OF BELKUCHI UPAZILA HEALTH COMPLEX

The facility assessments revealed that the capacity of the Belkuchi Upazila Health Complex has been expanded to accommodate 50 indoor beds (from 31 beds) due to the addition of a new building (inaugurated in July 2017). Within Belkuchi, the only emergency obstetric care trained personnel were four nurses at the Upazila Health Complex. The Upazila Health Complex provided a number of family planning measures, such as oral contraceptive pills, condoms, intrauterine devices, injections, implants and the emergency contraceptive pill. The supply of all misoprostol medicines was withheld for the previous three months for unknown reasons. Of the 31 important pieces of equipment related to menstrual regulation and post-abortion care (see **Appendix 3**), the Upazila Health Complex was rated 84% equipped and the Union Health and Family Welfare

Centers in Bhangabari 70.9%, Daulatpur 67.7%, Rajapur 67.7%, Dhukuriabera 45.2% and Bordhul 19.4% equipped. The operation theatre lights were not functioning both at the Upazila Health Complex and at Rajapur Union Health and Family Welfare Center during the time of the assessments. General counselling was provided at the Upazila Health Complex and the five Union Health and Family Welfare Centers. Post-menstrual regulation/post-abortion contraceptive counselling was available in all the facilities, except in Bordhul.

The structured interviews revealed that the locations where the participants received menstrual regulation or post-abortion care during the 2016 floods did not all have basic facilities (**Table 8**).

**TABLE 8: PARTICIPANTS' PERCEPTION ON THE AVAILABLE FACILITIES WHEN RECEIVING MENSTRUAL REGULATION OR POST-ABORTION CARE (n=370)**

FACILITIES	ANSWERED YES	ANSWERED NO	NO ANSWER
Taken to a separate examination room	33.8 %	5.7 %	60.5 %
Clean room	37.3 %	2.7 %	60.0 %
Toilet facilities	32.4 %	2.2 %	65.4 %
Clean water supply	33 %	6.5 %	60.5 %

The semi-structured interviews revealed that the Upazila Health Complex and the Union Health and Family Welfare Centers where the clients received care generally had basic facilities (see **Table 9**). This is consistent with the facility assessment results. However, 20% of the participants reported that they were not taken to a separate examination room and that toilet facilities were lacking.

**TABLE 9: REPRODUCTIVE HEALTH KITS 8 CLIENTS' PERCEPTION ON THE AVAILABLE FACILITIES (n=29)**

FACILITIES	ANSWERED YES	ANSWERED NO	NO ANSWER
Taken to a separate examination room	79.3 %	20.7 %	00.0 %
Clean room	100.0 %	00.0 %	00.0 %
Toilet facilities	69.0 %	20.7 %	10.3 %
Clean water supply	65.5 %	6.8 %	27.7 %

<sup>16</sup> For this project, technical quality is defined as the degree to which Belkuchi Upazila Health Complex's physically measurable attributes (infrastructure, facilities and services) met acceptable standards.

<sup>17</sup> For this project, perceived quality is defined as the clients'/patients' perception of the overall quality of the service they received.

**The key informants confirmed** that there is “*lack of separate room/spaces*” at the Upazila Health Complex (the Resident Medical Officer). “*Infrastructures are old. Spaces are small, ventilation facilities in all health centres are not sufficient*” (the Deputy Director of Family Planning of Sirajganj). “*There is no separate room/space for menstrual regulation and post-abortion care services. Delivery section is used for these services*” (the Medical Officer). Lastly, “*shortage of instrument, shortage of supply, sometimes hygiene is not maintained properly*” according to the Family Planning Officer.<sup>18</sup>

During their visit in March 2018, the first two lead authors observed that the hygiene at the Upazila Health Complex was lacking. There were dogs and cats in the ground floor and cows and goats roaming the outside grounds of the Upazila Health Complex. Privacy for patients was scarce. Refrigeration facilities were available for medicines but there was no assigned room for the administration of the Reproductive Health Kit 8. Sometimes it was administered in the labour room, while at other times care was given in other rooms or even hallways according to the supervisory nurse. The labour room was in very poor condition and required immediate intervention (see **Figure 13**).

### PERCEIVED QUALITY OF SERVICE AND CARE

**The structured interviews revealed** that the 62% of the participants felt the health worker did not assure them that the information they shared would be kept confidential. On the other hand, the majority of participants (93%) felt they were treated with respect (see **Table 10**). There was a high non-response rate (62%) for the question “if they had any questions about the procedure.”

**FIGURE 13: LABOUR ROOM AT BELKUCHI UPAZILA HEALTH COMPLEX**



**TABLE 10: PARTICIPANTS’ PERCEPTIONS OF ACTIONS TAKEN BY THE HEALTH PROVIDER (n=370)**

ACTIONS TAKEN	ANSWERED YES	ANSWERED NO	NO ANSWER
Asked if they had any questions about the procedure	12.2 %	26.2 %	61.6 %
Tried to make them more comfortable (emotional support)	30.8 %	7.0 %	62.2 %
Assured them that the information shared would be kept confidential	21.1 %	62.0 %	16.9 %
Treated them with respect	93.0 %	7.0 %	00.0 %

**The semi-structured interviews** revealed that the actions taken by the health worker were perceived positively (see **Table 11**): 96.6% felt they were treated with respect; 79.3% were assured that their information would be kept confidential.

**TABLE 11: REPRODUCTIVE HEALTH KITS 8 CLIENTS’ PERCEPTION OF ACTIONS TAKEN BY THE HEALTH PROVIDER (n=29)**

ACTIONS TAKEN	ANSWERED YES	ANSWERED NO	NO ANSWER
Asked if they had any questions about the procedure	13.8 %	86.2 %	00.0 %
Tried to make them more comfortable (emotional support)	82.8 %	17.2 %	00.0 %
Assured them that the information shared would be kept confidential	79.3 %	20.7 %	00.0 %
Treated them with respect	96.6 %	3.4 %	00.0 %

<sup>18</sup> Permission from the key informants has been obtained to quote the statements they made during the interviews.



## PERCEIVED QUALITY OF THE CONTINUITY OF POST-ABORTION CARE

**The structured interviews revealed** that only 44.6% of the participants were told when to return to the health facility again for a follow-up; 51.9% were not told, while 1.4% said that they could not remember whether they were told or not.

Of the participants, 13.5% were given a phone number to call where they could receive information on what to do if they had any problems after leaving the health facility or if they wanted to learn about something.

Only 54.3% of the participants were told about the types of complications or symptoms that they may experience after receiving care and which ones were a cause for alarm and required immediate care at the nearest health facility or hospital.

Of the participants, 41.1% received information about family planning methods from the health provider, while 52.7% did not receive information (6.2% of the participants did not answer the question).

Out of the 41.1% of the participants that did receive information about family planning methods, it was said that the health workers provided the following: discussions on the various options for family planning and contraceptive methods; the possibility to come back for the next contraceptive method; an explanation of where to seek family planning methods; and talks about sexually transmitted infections, infection prevention and the emergency contraceptive pill.

**The semi-structured interviews revealed** that 69% of the participants were told when to return to the health facility again for a follow-up, while 31% were not told.

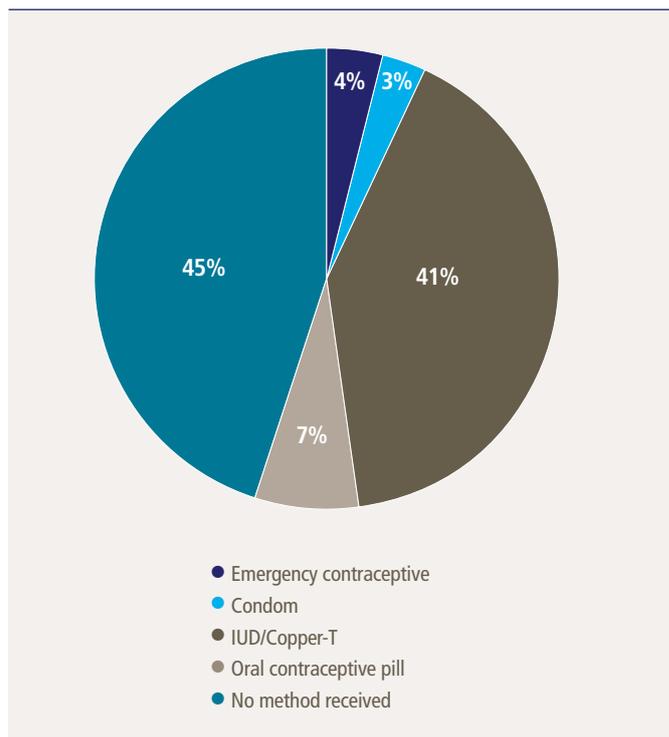
Of the participants, 69% were given a phone number to call where they could receive information on what to do if they had any problems after leaving the health facility or if they wanted to learn about something.

Of the participants, 79.3% were told about the types of complications or symptoms that they may experience after receiving care and which ones were a cause for alarm and required immediate care at the nearest health facility or hospital, while 20.7% were not told.

Of the participants, 82.8% received information about family planning methods from the health provider, while 17.2% did not receive information. The information covered various types of family planning and contraceptive methods along with where the methods could be accessed. Subsequently, 55.2% of the participants received a family planning method from the same facility (see **Figure 14**).

Out of the 82.8% of participants that did receive information about family planning methods, it was said that the health workers provided the following: discussions on the various options for family planning and contraceptive methods; the possibility to come back for the next contraceptive method; and an explanation of where to seek family planning methods.

**FIGURE 14: TYPE OF FAMILY PLANNING METHOD RECEIVED**



## OBJECTIVE 4: TO ESTIMATE THE COST INVOLVED FOR THE RHCC IN IMPROVING THE QUALITY OF MENSTRUAL REGULATION AND POST-ABORTION CARE DURING A FLOOD.

In order to estimate the cost involved for the **RHCC** in improving the quality of menstrual regulation and post-abortion care, a simplistic breakdown of the costs has been provided.<sup>19</sup> This includes the three components Reproductive Health Kit 8, capacity building and community awareness, as well as the management of implementing the **RHCC** (please see **Table 12**). The total cost for the **RHCC** is US\$94,777.

**TABLE 12: ESTIMATED COSTS OF THE RHCC**

COMPONENT	DETAILS	COST (US\$)
1. Reproductive Health Kit 8	Pre-positioning, purchasing and procurement of four Reproductive Health Kits 8.	5,376
2. Capacity building	Training of 10 health workers by BAPSA and Ipas under the technical guidance of icddr,b and IPPF-SAR in January–February 2017 and the orientation programme for 100 health workers in February 2017.	19,511
3. Community awareness	Three community awareness raising activities at the Upazila Health Complex and Bhangabari and Daulatpur Union Health and Family Welfare Centers.	7,991
4. Management of 1, 2 and 3	The cost involved to oversee the implementation, such as staff salaries, monitoring and evaluation, and travel.	61,899
	<b>Total:</b>	<b>94,777</b>

To estimate the cost involved for implementing the **RHCC**, we have looked at the cost (US\$) per the number of people benefiting from the **RHCC**. People that have benefited from the **RHCC** include the Reproductive Health Kit 8 clients (48), the trained health workers (100) and the community that attended the awareness raising activities (403) (see **Table 13**). When looking at the overall cost of the **RHCC** (US\$94,777) and comparing it to the total number of people that have benefited (551) and the total number of people that will potentially benefit (897), it is projected that the cost involved for the **RHCC** in improving quality of menstrual regulation and post-abortion care is between US\$105.66 and US\$172.01 per person. However, when only comparing the cost of **Component One: Reproductive Health Kit 8** and the number of people directly benefiting from the Reproductive Health Kit 8, it is estimated that the cost involved of the **RHCC** in improving quality of menstrual regulation and post-abortion care is between US\$5.99 and US\$9.67 per person. The **Component Two: Capacity Building** of the **RHCC** has been the costliest component of all (see **Table 12**).

**TABLE 13: NUMBER OF PEOPLE BENEFITING PER EACH COMPONENT**

COMPONENT	NUMBER OF PEOPLE BENEFITING DURING THE INTERVENTION	POTENTIAL NUMBER OF PEOPLE THAT WILL BENEFIT
1. Reproductive Health Kit 8	48 (20% of potential number)	240
2. Capacity building	100 (39% of potential number)	254
3. Community awareness	403 (100% of potential number)	403
<b>Total:</b>	<b>551 (61% of potential number)</b>	<b>897</b>

<sup>19</sup> We acknowledge that an intensive cost-benefit analysis may have been useful but this has not been the objective of this research project. This objective was led by the implementing partner: IPPF-SAR. For further details, IPPF-SAR can be contacted.



**FIGURE 15: CHILDREN PLAYING IN THE MUSTARD FIELD, BELKUCHI**





# DISCUSSION

**Skilled management (Objective 1):** The four half-day orientation programme and the two two-week basic and refresher medical training courses were designed to improve the knowledge and skills of management for post-abortion complications at facility level during a flood. From the data presented in the previous chapter, it can be suggested that the orientation programme has been less successful compared to the basic and refresher medical course in improving skills and knowledge. The focus group discussions were conducted almost a year after the orientation programme. Of the orientation programme participants, 44.4% were unable to recall its content and delivery. This indicates a need for frequent orientation programmes. On the other hand, the medical course was easily recalled by all 10 trained health workers. After completing the course, they rated their level of knowledge and skill achieved as exceptionally high (5 on a scale of 0–5). The positioning of the Reproductive Health Kits 8 also created an enabling environment to increase these health workers' skills and practice during floods and also in their everyday health delivery practices. However, the data on skilled management is self-assessed by the participants and as such could be biased. Mindful of this bias, the level of skilled management could be further assessed through close monitoring of the trained staff, which we were unable to do. This is explained through the words of the Upazila Health and Family Planning Officer:

*What are they doing now? How much learning did they apply in their practice? In case of complications during the procedures, are they following up? What are they doing? A detailed information on these after the training will lead to good practice and application of lessons learnt. One training is not enough. There are malpractices. They are not treating clients adequately. There are no records, as such, they are not noticeable. Yet, it is sure, that these clients are living a life of morbidity. There has to be a follow-up procedure performed by the nurse and other trained staff. (Upazila Health Complex, 3 March 2018)*

**Referral pattern (Objective 2):** The facility assessments revealed that the referral pattern for menstrual regulation and post-abortion care is generally from the Union Health and Family Welfare Centers to the Upazila Health Complex. The flow of this referral pattern for seeking menstrual regulation and post-abortion care has been very low, at least 3.8 patients on average per month. Clients tend to visit the Upazila Health Complex directly. This is because menstrual regulation and post-abortion care are unavailable in most of the Union Health and Family Welfare Centers in Belkuchi due to physical constraints during floods and religious barriers that obstruct the menstrual regulation procedures in everyday life.<sup>20</sup> The health workers also noted that clients avoid seeking menstrual regulation and

post-abortion care from the Union Health and Family Welfare Centers because they are too close to their neighbourhoods and as such they perceive that they are not a safe place to maintain privacy and anonymity. There were no referrals recorded from the Upazila Health Complex to the District Hospital during the study period.

Of the participants of the structured and the semi-structured interviews, 38% and 96.6% respectively also confirmed that they received their menstrual regulation and post-abortion care from the Upazila Health Complex. Therefore, it can be suggested that the Upazila Health Complex is the most popular health facility in Belkuchi for menstrual regulation, miscarriages and post-abortion care. The participants' decision to visit this facility was largely influenced by their own agency or self-decision (56%), followed by husbands' support (21%) according to the participants of the structured interviews. In the semi-structured interviews, it was noted that the husband's support was reported largely (58.6%) by the participants, followed by their own decision (13.8%). The referral pattern among the clients therefore indicates that women's preference in collaboration with their husbands' is vital when it comes to their health-seeking patterns. As such, reproductive health programmes, including menstrual regulation and post-abortion programmes, should aim to include both women and their husbands.

The structured interviews also revealed that there was a high rate of self-diagnosed 'spontaneous abortions' (53%). Although it was not possible to establish whether the spontaneous abortions were due to flooding or other causes (e.g. a virus, an accident, intimate partner violence), they are a cause for concern. Spontaneous abortion can lead to a subsequent miscarriage if an underlying infection is not treated and managed (Griebel *et al.*, 2005). It can also contribute to chronic illness and reduced quality of life. Therefore, there is a need to investigate the conditions under which spontaneous abortions take place during a flood as well as to educate pregnant women on how to treat and manage spontaneous abortion through self- and medical care.

### **Quality of menstrual regulation and post-abortion care**

**(Objective 3):** The facility assessments revealed that the technical quality of menstrual regulation and post-abortion care in the Upazila Health Complex is adequate but not all of the physically measurable attributes meet acceptable standards. There is significant room for improvement. Access to these services and other reproductive health services is "not just a matter of facilities and infrastructure. Access is a matter of rights" (Grijns, 2018). From the facility assessments it was observed that the Upazila Health Complex infrastructure is expanding and their facilities are catering to the public's demand. For instance, a new building with the capacity for 50 indoor beds was inaugurated in July 2017. It was also noted when assessing the referral pattern for seeking menstrual regulation and post-abortion care that

<sup>20</sup> One of this project's limitations is that we did not engage with community leaders, including religious and political leaders.



the Upazila Health Complex does not often refer patients to the District Hospital because the facility is capable of managing all the patients' issues. The facility assessments revealed that the Upazila Health Complex was well equipped (84%) in terms of human resources, medical devices, equipment, medicines and sterilization facilities to carry out menstrual regulation and post-abortion care and had a range of family planning measures. Compared to Bhangabari (70.9%), Daulatpur (67.7%) and Rajapur (67.7%) Union Health and Family Welfare Centers, Dhukuriabera (45.2%) and Bordhul (19.4%) Union Health and Family Welfare Centers were the least equipped. These two health facilities are the farthest from the Upazila Health Complex and are in *chor* areas. They get severely affected by floods. These facilities deserve special attention from the Ministry of Health and Family Welfare through funding and investment in developing the number of skilled staff.

The Upazila Health Complex had counselling services, including post-menstrual regulation and post-abortion contraceptive counselling. This is very important to maintain the overall quality of the menstrual regulation and post-abortion care and to reduce future complications or reoccurrences. However, there are a few areas of concern at the Upazila Health Complex that reduce the quality of menstrual regulation and post-abortion care and that require attention:

- i. there is a lack of separate rooms, so privacy is limited. The labour room where most of the menstrual regulation procedures or Reproductive Health Kit 8 were administered merits urgent attention in terms of improving the quality of the infrastructure;
- ii. hygiene is sometimes not maintained properly in the area/ room where menstrual regulation and post-abortion care are provided. This can cause infections, spread of diseases/ bacteria, and increase in morbidity;
- iii. untrained health workers continue to provide menstrual regulation and post-abortion care and this malpractice has a huge consequence in decreasing patient safety, satisfaction and good practices;
- iv. shortage of medical supplies and medical devices; and
- v. some trained health workers charged their clients money to receive the Reproductive Health Kit 8 (discussed later).

The perceived quality of menstrual regulation and post-abortion care in the Upazila Health Complex based on clients' experiences of receiving care indicates that the health workers have good interpersonal relations with their patients, generally treat them with respect, share information with them and provide continued care as needed, including care in the form of counselling and sharing mobile numbers. These are all positive aspects. The negative perceptions prevailed largely in relation to providing

emotional support and comfort. For instance, the structured and semi-structured interviews revealed only 12.2% and 13.8% of the participants respectively were asked by their health workers if they had any questions about the procedure. The non-response rate for this question was exceptionally high (61%) among the participants of the structured interviews compared to none (0%) in the semi-structured interviews. Although reasons for this high non-response rate are unclear, it is suggested that this could have been due to a top-down health structure coupled with a culture that does not encourage patients/clients to question health experts. This suggests that there is room to improve the interpersonal communications between health experts and clients by promoting a culture of transparency, respect and hospitality.

Regarding the continuity of post-abortion care, the structured interviews revealed 51.9% of the participants were not told by the health workers 'when to return to the health facility again' compared to 31% of participants of the semi-structured interviews. About 52.7% of the participants of the structured interviews did not receive information on 'family planning methods from the health provider' compared to 82.8% participants of the semi-structured interviews. The structured interviews were conducted after the floods of 2016 and the semi-structured interviews after the floods of 2017. Although the data collection was done at a different point in time and sample sizes are different, it is evident from the data that there is certainly room for improvement for the post-abortion care. That said, there is a significant improvement in interpersonal communication between the clients and trained health workers in 2017 (e.g. 69% of the clients were told 'when to return to the health facility again' and 82% 'received information on family planning method'). However, it also indicates that counselling (to identify and respond to women's emotional and physical health needs) and providing information on family planning services (to help women prevent future unwanted pregnancies and abortions), as per Ipas's (2018) recommended five essentials for post-abortion care (treatment, counselling, contraceptive and family planning services, reproductive and other services, and community and service provider partnerships), still require further work and attention in Belkuchi.

**Cost involved for implementing the RHCC (Objective 4):** The RHCC has been an expensive intervention. The direct cost of the intervention is **US\$94,777**. However, set against these direct costs are the benefits of the number of women's lives saved and an improvement in their health status (such as infection, reduced quality of life, ability to continue with household chores and so on). In order to evaluate these benefits, it would be necessary to calculate the net present value of the lifetime income of each woman's life saved. The total benefit would be the number of lives saved multiplied by the net present value of lifetime income.



It is our expectation that the total value of the benefits will exceed the total direct cost of the intervention. A more accurate estimation of the net present value would require a major study in its own right.

The second component of capacity building had been the costliest. However, it is suggested that this component improved the quality of menstrual regulation and post-abortion care most because it increased skilled management by providing medical training to 10 health workers (26% of the health staff) and an orientation programme to 100 health workers. The knowledge and skills honed through this training can be applied in other areas of their health care provision. These trained staff are likely to continue providing quality care to the 173,097 female population of Belkuchi.

In Bangladesh, there is likely to be an imminent shortage of trained health workers for the delivery of menstrual regulation (Vlassoff *et al.*, 2012; Islam and Biswas, 2014). The old family welfare visitors are retiring and the new family welfare visitors are not being trained. Training a different cadre of health carers will help to diversify knowledge of menstrual regulation and post-abortion care in the existing health system. The **RHCC** contributed to this national gap by training three different cadres of health workers (medical doctors, nurses and family welfare visitors) for menstrual regulation and post-abortion care. This will have a long-lasting effect in promoting patient safety, increased client satisfaction and increased confidence and competence of the trained health workers. This was put succinctly by the trained nurse and family welfare visitor, respectively: *“Now we can say that we were raw hand before and now we are skill hand.” “We learnt about many things and became able to judge ourselves and began to work with new experience by this training.”*

**Contribution of the RHCC to the wider knowledge and practice (Objective 5):** It is suggested that the **RHCC** has contributed to the wider body of knowledge and practice related to menstrual regulation and post-abortion care during a flood. Three contributions are emphasised here in an interconnected way.

**First**, the **RHCC** directly contributed to the nationwide programme on menstrual regulation and post-abortion care. This nationwide family planning programme was first introduced in government clinics in 1974 by the Government of Bangladesh in an attempt to reduce the rate of maternal mortality and morbidity due to complications from septic abortion. It is argued that the widespread use of family planning to prevent unwanted pregnancies, as well as the provision of safer and more accessible menstrual regulation services, have had an impact on reducing abortion-related maternal mortality by reducing the likelihood of high-risk traditional methods used in the past to induce abortion (WHO, 2015a). Abortion-related maternal deaths have fallen in

Bangladesh from 5% in 2001 to only 1% in 2010. Nevertheless, the provision of menstrual regulation still involves serious challenges with regard to its popularity, knowledge and use (Vlassoff *et al.*, 2012). In 2011, 30% of married women reported not being aware of menstrual regulation (Vlassoff *et al.*, 2012). Knowledge of menstrual regulation also declined from 81% among married women to 70% between 2007 and 2011 (Huda *et al.*, 2013). This indicates that there is a need for information sharing and the involvement of communities to raise awareness. The third component of the **RHCC** (community awareness) directly addressed this challenge by organizing three community awareness programmes during the flood of 2017. More than 400 adolescent girls and boys, women and men were provided with necessary information on reproductive health issues, including menstrual regulation and family planning in Belkuchi.

A study by the Guttmacher Institute (Vlassoff *et al.*, 2012), which relied on health facility surveys, estimated that 653,100 menstrual regulation procedures were performed in Bangladesh in 2010. The public sector provided almost two-thirds of all menstrual regulations, followed by non-governmental organization providers, who accounted for 28%, while the private sector accounted for 9%. In the public sector, Union Health and Family Welfare Centers contributed to 46% of menstrual regulation services; while the other public facilities, including Mother and Child Welfare Centers, Upazila Health Complexes, District Hospitals, and medical college hospitals, provided 17% of the services in Bangladesh (Vlassoff *et al.*, 2012). In our research location Belkuchi, the Union Health and Family Welfare Visitors had low uptake compared to the Upazila Health Complex. As such, the Upazila Health Complex has been the most popular destination for rural women residing in Belkuchi. Developing the capacity of the Upazila Health Complex is therefore vital to make reproductive health services available and accessible to the poor and women before, during and after disasters. The first two components of the **RHCC** (positioning of the Reproductive Health Kit 8 and capacity building of the health workers prior to the monsoon season) are succinct in this context. By training health workers and by supplying the Reproductive Health Kit 8 with quality medicines and equipment (which are often in short supply at public facilities (WHO, 2015b)), the **RHCC** developed the capacity of three primary health care facilities. In doing so, the **RHCC** contributed directly to improving the quality of this nationwide menstrual regulation and post-abortion programme.

Menstrual regulation services are expensive for poor women (Mahmud *et al.*, 2015) despite the fact they are to be provided free of cost in public health facilities (Huda *et al.*, 2013; Johnston *et al.*, 2010). Reasons for this are many. As observed in this research and elsewhere (Vlassoff *et al.*, 2012; Huda *et al.*, 2013), many family welfare visitors refuse to administer the procedure



because it conflicts with their religious anti-abortion beliefs. Although menstrual regulation is legal, it is the social stigma attached to the procedures that is widespread (Huda *et al.*, 2015). There is also a shortage of medical personnel to provide menstrual regulation (Vlassoff *et al.*, 2012). Older cohorts of family welfare visitors, who were trained to provide menstrual regulation, are retiring and there have not been enough new workers trained to replace them (Vlassoff *et al.*, 2012; Huda *et al.*, 2013). Unavailability of services at the Union Health and Family Welfare Centers often drives up the cost of menstrual regulation for poor women because they have to travel to the Upazila Health Complex during floods or in dry seasons. Travel along with service costs make menstrual regulation services often very expensive for poor women. Costs are especially higher for those residing in 'hard-to-reach locations', such as *chor*, haor and hill tracts of Bangladesh (Huda *et al.*, 2013). To offset some of the costs, the intention of this research project was to deliver the Reproductive Health Kit 8 free of cost to clients. However, the semi-structured interviews with the Reproductive Health Kit 8 clients revealed that almost one-third of the participants (31%) paid for the services they received. This is an unanticipated outcome and needs further investigation as to why this was the case.

Also, our intervention: **RHCC** was limited in its ability to offset the deep-seated religious beliefs of many family welfare visitors, who are not providing menstrual regulation and post-abortion care. Despite these limitations, the **RHCC** was able to contribute to this nationwide family planning programme by developing the capacity of 10 health workers who were in need of training for menstrual regulation and post-abortion care. With this much-needed training, it is anticipated that the health workers will continue to provide safe and quality care, and in doing so, they will safeguard the national programme through further reduction in maternal mortality and morbidity in Belkuchi. In collaboration with the Upazila Health and Family Planning Officer, another 203 health workers were orientated about the **RHCC** and post-abortion complications on 23 June 2018, prior to the monsoon season. The purpose of this event was to increase the uptake for the Reproductive Health Kit 8 if there is another flood throughout July to September 2018. The evaluation of this event revealed that all the participants 'learnt new information' such as: "*reproductive health and its risks during the disaster period*", "*learnt about the use of Health Kit 8*", "*how the kit will be used [...] during disaster*", "*awareness about risks of pregnant mothers in flood-affected areas*", "*learnt about difference of MR [menstrual regulation] and abortion*" and "*about complexities of post-MR period*". Of the participants, 97% agreed that 'their knowledge on post-abortion complications has been improved'. Participants also demanded 'more training/workshops similar to the orientation event'. This orientation programme therefore

raised awareness about this nationwide programme among grassroots health workers; in turn, they will increase awareness in their catchment areas.

**Second**, the **RHCC** has facilitated the primary health care system to keep up with international conventions, including the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) and its optional protocol, the Sustainable Development Goals and the Sendai Framework for Disaster Risk Reduction. The Government of Bangladesh has ratified all these international conventions. CEDAW and its optional protocol is a legally binding treaty whereas the Sustainable Development Goals and Sendai are voluntary. In March 2010, the Committee on the Elimination of Discrimination against Women submitted a country report to the UN monitoring bodies. This report emphasised "the inadequate attention to women's reproductive healthcare services" and urged the government "to strengthen efforts to provide family planning and contraceptives services to all women, particularly those in rural areas and also to increase access to reproductive health facilities and services" (quoted in Huda *et al.*, 2013:7). Emphasis is also given to the need for education and awareness raising programmes on the importance of contraceptives, the risk of unsafe abortion and women's reproductive rights (Huda *et al.*, 2013). The three components of the **RHCC** are fitting in the context of CEDAW's recommendation. It built the capacity of health workers, supplied quality medicine and equipment and raised community awareness. Most importantly, three primary health care facilities offered access to life-saving menstrual regulation and post-abortion care during the time of flood in 2017. These services were unavailable at the Union Health and Family Welfare Centers before. Access to life-saving reproductive health care services is also an important agenda for the UN's Sustainable Development Goal 3 (ensure healthy lives and promote well-being) in order to reduce maternal mortality, morbidity and unsafe abortion. The **RHCC** is then a step towards the realization of CEDAW and Sustainable Development Goal 3 in the flood-prone facilities of Belkuchi.

In 2015, the Government of Bangladesh ratified the UN's Sendai Framework for Disaster Risk Reduction (successor of the Hyogo Framework for Action). According to this Framework, national governments are urged to promote a 'disaster resilient health system' in order to mitigate the effect of risks from natural hazards (UN, 2015). Bangladesh is highly prone to natural hazards due to its physical and geographical characteristics and Belkuchi is a case in point. Despite this, the processes and intervention to develop disaster resilient primary health care system are lacking in Bangladesh due to a lack of political will and investment from the Government – among other reasons. The **RHCC** highlighted some of the gaps in Belkuchi through the lack of trained staff, religious barriers, and irregular supply of



medicines and equipment – among others. Most importantly, the inability to continue with the delivery of health care services at the facility level during flooding demonstrated the physical vulnerability of the Union Health and Family Welfare Centers. Reducing the physical vulnerabilities of the Upazila Health Complex and the Union Health and Family Welfare Centers deserves urgent attention from the Government of Bangladesh in order to keep up with the Sendai goals (specifically Global Target 4 and Priority for Action 3). Lack of trained health staff in the two Union Health and Family Welfare Centers in *chor* areas hindered the distribution of the Reproductive Health Kits 8 despite there being a clear demand for the RHCC. To overcome the challenges related to lack of trained staff and infrastructure, urgent attention is also required from the government for the *chor* areas. Without additional interventions on family planning, counselling, reproductive health and post-abortion care, the primary health care system cannot be ‘disaster resilient’ in Bangladesh.

**Third**, we found that social stigma and a culture of silence around reproductive health is widespread in our research location. This is consistent with another study in Bangladesh (WHO, 2012). During our structured interviews, it was observed that the participants were only willing to talk about menstrual regulation and post-abortion care privately and that some of them considered it a sin. The field research team found that talking about these topics was difficult because they were

emotive. Being *chup* (silent) or not responding to the questions was common. Field research assistants honoured these silences without exerting pressure for answers in order to be consistent with our ethical policy of respecting participants’ choices/voices. As such, there was a very high non-response rate. Only 66 women out of 370 (18%) openly mentioned their health-seeking patterns for menstrual regulation and post-abortion care during the flood of 2016. Research methods such as participant observation and in-depth interviews *in situ* are likely to increase women’s participation and in doing so, this might provide a better insight into the challenges rural women experience during a flood. Ethnographic research could offer a further insight to interpret women’s silences and non-responses. Interpretation of silences can lead to understanding the challenges of not only married women but also of unmarried girls and women who often become victims of honour killing and suicides due to pregnancies out of wedlock in Bangladesh (Fauveau and Blanchet, 1989; World Bank, 2005). Research is also required to understand the ways family welfare visitors can be motivated to perform menstrual regulation procedures at the Union Health and Family Welfare Centers. Ethnographic research in these aspects will directly contribute to the body of knowledge (sociology of health and illness, social anthropology, sociology, health and development) as well as improving the planning and practice for the nationwide programme on menstrual regulation and post-abortion care during a flood.



**FIGURE 16: DAULATPUR UNION HEALTH AND FAMILY WELFARE CENTER**

Taken in March 2018  
during the dry season



Taken in July 2016 at  
the start of the flooding



# RECOMMENDATIONS

Before presenting the recommendations for this research project, the feasibility, acceptability, utility and sustainability of the **RHCC** is discussed.

**Feasibility:** The implementation of the **RHCC** was successfully carried out in Belkuchi, which indicates the feasibility of this intervention and research. Seeking approval and cooperation from the Directorate General of Family Planning and the Directorate General of Health Services to use the primary health care facilities has been pivotal for the feasibility of this research project. From the empirical data, it can be deduced that the project's design, process and evaluation of the immediate outcomes were positive. As such, the **RHCC** model can be replicated and carried out elsewhere on a wider scale. Despite the **RHCC** being an expensive intervention (between US\$105.66 and US\$172.01 per person), the expenses are economically justifiable when considering the number of people directly benefiting from it. This intervention was implemented on a small scale. If it were to be implemented on a larger scale, then the cost per number of people benefited would decrease.

**Acceptability:** The successful implementation of an intervention such as the **RHCC** depends on "the acceptability of the intervention to both intervention deliverers and recipients" (Sekhon *et al.*, 2017). At the outset, the intervention deliverers of the **RHCC** were the facilities and the trained health workers, while the recipients were the Reproductive Health Kit 8 clients. A more nuanced view indicates that the health workers, health facilities and the Reproductive Health Kit 8 clients were the actual recipients of this intervention. Overall, there was acceptability among both the intervention deliverers and the recipients. The four key informants who were part of the Upazila Health Complex management team acknowledged the value of this intervention. According to them, the intervention increased "the service delivery and flow of patients" at the Upazila Health Complex. They recommended that the **RHCC** should be expanded into other unions, especially remote *chor* areas, and that further (new and refresher) medical training should be provided. During the time of flood in 2017, the management team also asked the implementing partners to distribute the Reproductive Health Kits 8 in two flood-affected Union Health and Family Welfare Centers. This also confirms the acceptability of the **RHCC**.

The perspectives of the trained health workers were positive too. According to these participants, the Reproductive Health Kit 8 component was very useful as it contained all the medical equipment and devices required for them to treat patients. One of the trained nurses stated that the Reproductive Health Kit 8 "works well. Clients flow has increased. It increases services delivery." The trained health workers will continue to

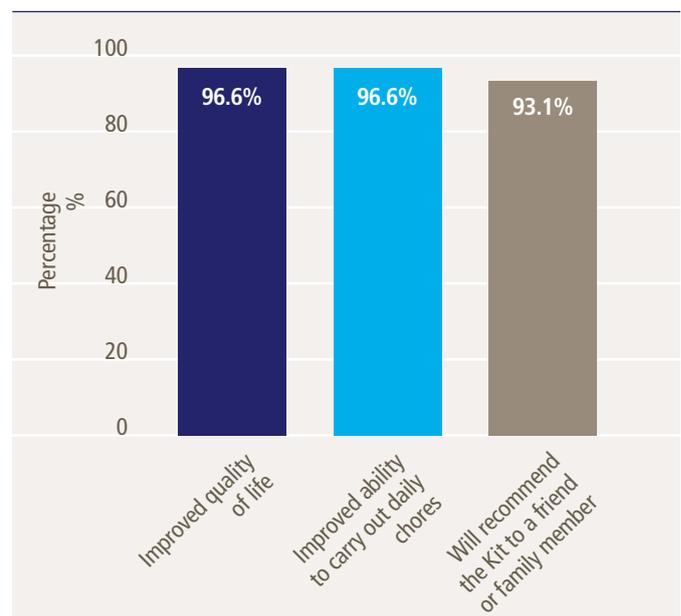
administer the Reproductive Health Kits 8 beyond the lifecycle of this research project because not all of the Kits were used throughout the three-month **Intervention Phase**. It is anticipated that this will be especially useful during the upcoming monsoon season in 2018.

From the semi-structured interviews with the clients of the Reproductive Health Kits 8, it was revealed that 75.9% of the clients did not find receiving care from the Reproductive Health Kits 8 painful, while 24.1% did find it painful. For instance, one of the clients said: "This is my 2nd time MR. I got less pain this time. I did not find any problem."

Another client mentioned: "I had not much pain using the RH Kit. It was found safe to use. I have no complication after MR".

Furthermore, 89.7% of the clients thought that their local Union Health and Family Welfare Center would benefit by having the Reproductive Health Kit 8 available during future floods. The majority of the clients were pleased with the care they received with the use of the Reproductive Health Kit 8 (see **Figure 17** for the clients' opinions). However, it is important to be wary of bias in the clients' responses. The clients do not have anything to compare the Kit to and they might have answered the questions based on what they thought the interviewer wanted to hear.

**FIGURE 17: OPINIONS OF THE REPRODUCTIVE HEALTH KITS 8 CLIENTS**





Although the Reproductive Health Kits 8 were to be administered free of cost by the trained health workers at the three facilities, the semi-structured interviews with the clients revealed that nine out of 29 (31%) had to pay between 0 to 2,000 Taka (approximately US\$0 to US\$25 at the time) for this service. Some stated that this amount was for medicines that were prescribed, while others said it was for the cost of receiving menstrual regulation and the Reproductive Health Kit 8. Free of cost for menstrual regulation and post-abortion care in public health facilities is consistent with national policy. Likewise, the provision of the Reproductive Health Kits 8 was on the basis that they would be administered free of cost. The clients would not have to pay for the service and the trained health workers would not receive payment from the project. In practice, health workers charge for this service in Bangladesh (World Bank, 2005; Marlow *et al.*, 2015). The **RHCC** intervention was also unsuccessful in eliminating this cost. The fact that the clients (31%) had to pay for the Reproductive Health Kit 8 merits further study to understand why this was the case. As advised by the Upazila Health and Family Planning Office, close monitoring of the trained health staff could be a useful way to study this and to stop anyone from eliciting unauthorised fees.

**Utility:** We are unable to establish whether the **RHCC** increased the utilization rate of menstrual regulation and post-abortion care in our sampled locations. We were unable to conduct the endline structured interviews due to the termination of the collaboration agreement held between the University of Leicester and icddr,b (as discussed in the Methodology chapter). However, the facility assessments revealed that the Union Health and Family Welfare Centers were not providing menstrual regulation and post-abortion care in everyday life and during floods in particular. Due to the positioning of the two Reproductive Health Kits 8 in the Rajapur and Daulatpur Union Health and Family Welfare Centers, these facilities were able to provide menstrual regulation and post-abortion care for the first time during the flood in August 2017.

Throughout the research project's three-month **Intervention Phase** (24 August to 28 November 2017), 45 clients at the Upazila Health Complex and three clients at Rajapur Union Health and Family Welfare Center had received care with the use of the Reproductive Health Kit 8. There were no clients at Daulatpur Union Health and Family Welfare Center. Therefore, it can be suggested that the Union Health and Family Welfare Centers were underused, especially in comparison to the Upazila Health Complex. The semi-structured interviews with the Reproductive Health Kits 8 clients and the focus group discussions with the family welfare visitors and nurses who administered the Kits provided a number of reasons for this: i) the public was unaware that the Daulatpur and Rajapur Union

Health and Family Welfare Centers were now able to provide menstrual regulation and post-abortion care, as well as help with treating the complications arising from miscarriage and from unsafe induced abortion; ii) women preferred to go to the Upazila Health Complex for menstrual regulation and post-abortion care; they feel embarrassed to visit their local Union Health and Family Welfare Center in case someone in their community sees them; and iii) the Union Health and Family Welfare Centers, especially Daulatpur,<sup>21</sup> were inaccessible during the time of flood due to heavy rains and also being located in *chor* areas.

Low uptake is not beneficial for the sustainability and cost-effectiveness of the intervention. However, it is worth noting that the initial plan was designed to position the Reproductive Health Kits 8 at the Belkuchi Upazila Health Complex only. Following a request from the management team, the Kits were positioned at the Union Health and Family Welfare Centers when the flood was at its peak. As such, it was not possible to raise awareness prior to the flooding. Three community awareness programmes were held with the intention of raising awareness and notifying the public that these services were available at the two Union Health and Family Welfare Centers, but this was also done during the flood. It was challenging for the public to attend these due to widespread inundation. Timely and targeted information prior to the flooding could have potentially increased the uptake of these services during the flood.

We also asked the four key informants to explain why the utilization rate was low and what could be done to improve it. The responses indicated two interesting opinions. Two informants believed that the low utilization rate reflected the facilities positively because: *"If the family planning programme works well, then it contributes to reduce the rate of unexpected pregnancy and abortion"* and *"Here, patients flow is more compared to other Upazila Health Complexes."* Another response indicated that the low utilization rate was due to the society's religious beliefs about menstrual regulation and post-abortion care. However, all the participants agreed that awareness building was required at community level in order to improve the utilization rate, either through a mass awareness building programme or orientation of health assistants to

21 Daulatpur Union Health and Family Welfare Center is located off the main road. It has a pond in the front and it is in a very low-lying area (see **Figure 16**). During the rainy season and flooding it is challenging for the staff to reach the facility, as there is no provision of a boat or a raft to cross the pond. Recently, the Government has built a concrete path from the main road to the facility, but the middle of the path appears to have already sunk because the soil on both sides has eroded. During the time of flood, health workers provide services either sitting under a tree (adjacent to the main public road) or in a neighbour's house.

reach the community, or through local radio, television and advertisements.

**Sustainability:** The project was designed and implemented in a manner so that its outcomes and lessons are sustainable.<sup>22</sup> To achieve this, partnerships were developed with the Government of Bangladesh and the primary health care facilities. This partnership has been pivotal in developing and implementing the **RHCC** in Belkuchi, which serves a rural population of more than 352,835. Following a needs assessment, 10 health workers were trained. These workers constituted 26% of the health staff from Belkuchi's primary health care system. The knowledge and skills gained by these workers will continue to improve the quality of the menstrual regulation and post-abortion care beyond the lifecycle of this research project.

The structured interviews documented the complications that women experience after post-abortion care during floods. These findings led to the development of behaviour change communication (BCC) posters and leaflets on how to treat post-abortion complications (see **Appendix 2 – Bengali and English versions**). The BCC poster was developed by consulting with a family planning officer, medical officers, nurses and family welfare visitors from the Sirajganj District Hospital and Belkuchi Upazila Health Complex. These solutions were triangulated with information from the UK's National Health Service (NHS) website. In collaboration with the Upazila Health and Family Planning Officer, the BCC posters were distributed to the 60 health care facilities and leaflets were distributed to 203 health workers in Belkuchi on 23 June 2018. The BCC materials will continue to raise awareness and knowledge among the health workers and the community on how to treat post-abortion complications in Belkuchi and other sub-districts of Sirajganj District beyond the lifecycle of this research project.

Two policy briefs have been developed to inform on how to replicate the **RHCC** and how to make the nationwide family planning programme on menstrual regulation and post-abortion care flood resilient. The policy briefs will be shared with the Ministry of Health and Family Welfare, the Directorate General of Health Services, the Directorate General of Planning, the Upazila Family Planning Officer, Upazila Civil Surgeon and the Department of Disaster Management, among others. It is anticipated that the policy briefs will motivate policymakers and practitioners to promote the **RHCC** or the use of Reproductive Health Kit 8 in flood-prone primary health care facilities in Sirajganj District and beyond.

Based on the experience of positioning and implementing the Reproductive Health Kit 8, we have gathered evidence to contribute to UNFPA's *Reproductive Health Kits Management Guidelines for Field Offices* (UNFPA, 2014). Our evidence led to the development of two tools: **structured assessment tool** (see **Appendix 3**) and a **two-step checklist tool** for the Reproductive Health Kit 8 (see **Appendix 4**). The structured assessment tool (based on 31 pieces of equipment related to menstrual regulation/abortion and post-abortion care) will help in assessing facilities prior to positioning the Reproductive Health Kit 8. This tool can be used in other flood-prone health care facilities in Bangladesh or in other disaster-affected countries to assess the capacity of a facility to host the Reproductive Health Kit 8. The two-step checklist tool, which is based on UNFPA's guideline and information from our trained health workers, is complementary to the structured assessment tool. The two-step checklist tool will consume less time. This is a stand-alone tool and can be applied without conducting the structured assessment of a facility. In an emergency or in humanitarian crisis situation, this slimmed-down two-step checklist tool based on '**essentials and desirables**' can expedite the process of assessing whether a facility is fit for the Reproductive Health Kit 8. It can also act as a guide to setting up reproductive health care facilities in emergency situations where facilities are non-existent or lacking for the Reproductive Health Kit 8. It is recommended not to compromise the 'absolute essentials' of the two-step checklist tool to administer the Reproductive Health Kit 8.

A dedicated webpage for the project,<sup>23</sup> a blog<sup>24</sup> and a Facebook page<sup>25</sup> were developed to promote and raise awareness on reproductive health in disaster situations. These mediums have been successful at raising awareness through a broad audience in 45 different countries. The mediums have active engagement with the general public and they will continue to live beyond the lifecycle of the research project.

Last but not least, without further lobbying and advocacy it is unlikely that the Reproductive Health Kits 8 will be procured by the Government of Bangladesh's Ministry of Health and Family Welfare to improve reproductive health care during floods in Belkuchi or other Union Health facilities. Hence, the sustainability of this intervention is highly dependent on the willingness and commitment of the Government and international funders such as IPPF and IPPF-SAR to continue with funding, attention, follow-up training and community involvement.

22 The Minimum Initial Service Package outlines the importance of transitioning from the acute to comprehensive phase (IAWG, 2018). This intervention has been designed in such a way that the Reproductive Health Kit 8 can be used and administered by our trained health workers even after the project period.

23 Webpage: <http://www.le.ac.uk/health-bangladesh>

24 Blog: <https://reproductivehealthindisasters.wordpress.com/>

25 Facebook: <https://www.facebook.com/reproductivehealthindisasters>



## RECOMMENDATIONS FOR THE RHCC

- 1. For replicating the RHCC, collaborations and partnerships are essential:** To implement the RHCC in the primary health care system, it is vital to seek approval from the Directorate General of Family Planning and the Directorate General of Health Services, and collaboration with the Upazila Health Complex management team, the Department of Disaster Management, the community, local community leaders and health workers.
- 2. For replicating the RHCC, community awareness raising is required:** It is recommended that improving the community's awareness prior to the floods is essential. It is recommended that the awareness raising programmes are streamlined to target pregnant women and their spouses through Community Clinics and courtyard sessions in order to increase the use of the Reproductive Health Kit 8. It is also important to raise communities' awareness by engaging with community leaders, religious figureheads and political leaders in order to ensure that the community understands the purpose of the Reproductive Health Kit 8 and that it can be legally used.
- 3. For replicating the RHCC, continuous training is highly recommended:** Refresher training and follow-ups are important for trained health workers. It is crucial to invest in continuous professional development courses and value clarification attitude transformation (VCAT) training for the different cadres of health workers in order to challenge deep-seated religious beliefs, which currently hinder menstrual regulation procedures in the Union Health and Family Welfare Centers. It is also important that the Upazila Health Complex management team creates a culture of reporting, one in which the existing family welfare visitors, family welfare assistants, nurses and other health workers can come forward to report their reservations about the menstrual regulation procedures so that an effective referral system can be put in place. This referral system should help patients to find a suitable health worker or a different health facility with no extra cost.
- 4. For replicating the RHCC, close monitoring is required:** Close monitoring of the trained health staff would greatly assist with exploring whether skilled management has increased as a result of the RHCC. It would also ensure that the services are provided as intended (i.e. safely, hygienically, privately and free-of-cost). Additionally, a periodic stock account of the existing medicines and menstrual regulation equipment should be conducted by the Directorate General of Family Planning and the Directorate General of Health Services to ensure that the medicines and equipment do not run out during the flood season.

## RECOMMENDATIONS FOR POLICYMAKERS

- 1. Work towards providing resources prior to floods:** It is extremely important that the local government provides relief, safe drinking water, chlorine and paracetamol tablets free of cost, builds gender-sensitive flood shelters and deploys boat services for the mobility of the disaster-affected communities. Public boat services are also required for health workers to reach their health care facilities in order to deliver reproductive health services. Without public conveyances during floods, services will continue to be affected and unavailable to the public.
- 2. Work towards constructing a disaster resilient primary health care system:** The Ministry of Health and Family Welfare should aim to make the primary health care facilities flood resilient in order to mitigate the effect of climate change and increasing natural hazards in Bangladesh. Without robust physical infrastructure, health and reproductive health services will struggle to function causing increased misery, ill health and poverty among the affected community.
- 3. Work towards achieving the Minimum Initial Service Package<sup>26</sup> for Reproductive Health:** Given the flood risks in Bangladesh, the Ministry of Health and Family Welfare should consider subscribing to the Minimum Initial Service Package for Reproductive Health, the Inter-Agency Field Manual on Reproductive Health in Humanitarian Settings and Reproductive Health Kits 8 in primary health care facilities, especially those that are hard to reach. The Minimum Initial Service Package is part of the Sphere Minimum Standards in Humanitarian Response and its aim "is to improve the quality of humanitarian response in situations of disaster and conflict, and to enhance the accountability of the humanitarian system to disaster-affected people" (The Sphere Project, 2011:ii).
- 4. Work towards making reproductive health services available during floods:** Multilateral organizations, such as UNFPA, WHO and the UN, and international donors such as IPPF and DFID, should all contribute by setting up a contingency fund for governmental and non-governmental organizations in order to subscribe to the objectives of the Minimum Initial Service Package (IAWG, 2018) for disaster-prone areas so that reproductive health services are available during a flood or other disasters. By doing so, a more proactive (instead of reactive) approach will contribute to preventing the consequences of sexual violence, reducing transmission of HIV, reducing post-abortion complications, preventing maternal and infant mortality and integrating a plan for comprehensive reproductive health services into primary health care (UNFPA, 2015c).

26 The Minimum Initial Service Package "is a series of crucial actions required to respond to reproductive health needs at the onset of every humanitarian crisis. The MISIP is not just kits of equipment and supplies; it is a set of activities that must be implemented in a coordinated manner by appropriately trained staff." (UNFPA, 2015c).



- 5. Work towards providing continuous training and improved knowledge of health workers:** The Ministry of Health and Family Welfare should aim to train the old and new cadres of health workers at the Union Health and Family Welfare Centers to overcome religious concerns, as well as increase the number of health cadres for safe menstrual regulation procedures. This will increase and diversify services for post-abortion care complications in both wet and dry seasons.
  - 6. Work towards increased community awareness about the services that health facilities offer:** The Ministry of Health and Family Welfare and its two wings, the Directorate General of Health and the Directorate General of Family Planning, should communicate clear and concise messages to the health workers and to the community that menstrual regulation and post-abortion care are free of cost in public health facilities.
  - 7. Work towards mainstreaming reproductive health matters:** The Ministry of Health and Family Welfare should spearhead the mainstreaming of reproductive health matters into other developmental plans, policies and programmes. This includes the Government of Bangladesh's Strategic Plan for Health, Population and Nutrition Sector Development Program, the Emergency Preparedness and Response Program and the National Plan for Disaster Management. Currently integration between these plans and programmes are lacking. The sub-district-level health protection committees in collaboration with the management team of the Upazila Health Complex can act as focal points to enforce the disaster-development-reproductive health interfaces. Without acknowledging and enforcing these interfaces, the primary health care system cannot be made resilient to disasters and crises in Bangladesh.
  - 8. Work with the Community Clinics to investigate spontaneous abortions during flood:** Self-diagnosed spontaneous abortions during a flood require further investigation. To understand the circumstances for spontaneous abortion in order to put appropriate measures in place, it is important to work with the Community Clinics as they are at the grassroots level and they have contact with women throughout their pregnancies.
- ## RECOMMENDATIONS FOR IPPF AND THE INNOVATION PROGRAMME
- 1. Similar projects should have collaboration agreements and clear understandings:** Collaboration agreements or memorandums of understandings between all research and implementation partners are highly recommended. These agreements should include clear details of IPPF's roles and responsibilities and those of the research project and implementing partners.
  - 2. Similar projects should have a longer duration:** The duration of a research project that involves development of an intervention, implementation and evaluation requires more time. Two years is too short. A minimum of three years or more is recommended in order to factor in the occurrence of natural disasters, time to develop rapport with participants and key stakeholders, and time to produce, distribute and evaluate BCC materials to understand impact.
  - 3. Similar projects should benefit from more and clearly allocated funding:** A dynamic and bottom-up research project, such as the **RHCC**, requires more funding in order to bolster both the implementation and research components. It is recommended that there be a specifically allocated fund for any setbacks or unforeseen complications. A separate fund is also recommended for media, attendance at international conferences, project promotion products (e.g. leaflets, posters, short film) and for open-access journal publication fees.
  - 4. Similar projects require increased communication:** It is recommended that there are annual or six-monthly face-to-face meetings between researchers, implementing partners and IPPF. It is recommended that there is a designated project coordinator to facilitate the communication and sharing of information, as well as to set out clear communication strategies in collaboration with all partners. This is especially important as working with partners at long distance is challenging.
  - 5. Similar projects would benefit from having multiple partners with clear roles:** An external partner for monitoring and evaluation is recommended, as this will allow the research and implementation to stay on track to enable the research project to be objective. It is recommended to have separate research and implementation partners. It is important that none of the partners undertakes a double role (e.g. as both an implementation and research partner) as this can lead to a reduction of scientific objectivity, monopoly, a lopsided relationship and being overwhelmed with responsibilities/tasks.
  - 6. Similar projects would benefit from collaborative work with the Government and local partners:** In countries such as Bangladesh where IPPF does not have a Member Association it is recommended that IPPF should aim to work closely with government – here the Government of Bangladesh's Ministry of Health and Family Welfare. Collaborative agreement with the Government is likely to ensure sustainability of the **RHCC**.
  - 7. Similar projects would benefit from exploring other reproductive health kits:** It is recommended that IPPF uses other UNFPA Reproductive Health Kits.<sup>27</sup> However, the need for an appropriate Kit can be determined through bottom-up exercises by engaging local women and relevant stakeholders.

27 UNFPA has 13 Reproductive Health Kits.



FIGURE 18: BELKUCHI UPAZILA HEALTH COMPLEX





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# APPENDICES

## APPENDIX 1: REPRODUCTIVE HEALTH KIT 8 AND ITS CONTENTS

### KIT 8

#### MANAGEMENT OF MISCARRIAGE AND COMPLICATIONS OF ABORTION

- Use:** To treat the complications arising from miscarriage (spontaneous abortion) and from unsafe induced abortion, including sepsis, incomplete evacuation and bleeding.
- Instructions:** Equipment should be used only by health personnel who have been trained to manage miscarriages and the complications of abortion, including performing uterine evacuation.
- Target population:** The contents of this Kit are based on the assumption that an additional 20% of pregnant women may have a miscarriage (spontaneous abortion) or suffer complications of unsafe abortion (20% of 300 = 60).

#### Contents:

<b>Medicines</b>	
Doxycycline hydrochloride, tablet, 100 mg	1000
Metronidazole, tablet, 250 mg	2000
* Misoprostol, tablet, 0.2 mg (200 mcg)	180
** Sodium dichloroisocyanurate tablets, containing 1.67g NaDCC, box of 200	2
Ibuprofen, tablets, 400 mg, 2 tablets per woman (1 prior to discharge, 1 to take home)	120
*** Oxytocin, injection, 10 IU/ml, 1-ml ampoule	100
Lidocaine hydrochloride, injection, 10 mg/ml (1%), 20-ml ampoule	50
Atropine sulfate, solution for injection, 1 mg/ml, 1-ml ampoule	30
Water for injection, 10-ml ampoule	10
Chlorhexidine gluconate, detergent solution, 4% (Hibiscrub), bottle, 500 ml	3
Chlorhexidine gluconate, concentrated solution, 5%, bottle, 1000 ml	10
<b>Medical devices, renewable</b>	
Gloves, surgical, size 8, sterile, single use, pair	50
Gloves, surgical, size 7, sterile, single use, pair	50
Gloves, examination, medium, single use, box of 100	1
Syringe, luer, 10 ml, sterile, single use	100
Syringe, luer, 2 ml, sterile, single use	200
Needle, luer, 21G (0.8 x 40 mm), sterile, single use	300
Compress, gauze, 10 x 10 cm, sterile, single use, pack of 5	240
Bag (envelope), plastic, for drugs, approx. 10 x 15 cm, pack of 100	1
Safety box, for used syringes and needles, capacity 5 litres	3
<b>Stationery</b>	
Leaflet for women: <i>Post-procedure information. How to take care of yourself.</i>	60 English 60 French



<b>Treatment guidelines</b>	
<i>Gynecological aspiration system, for uterine aspiration/uterine evacuation in obstetrics and gynecology patients.</i> Chapel Hill, NC, IPAS, multilingual	1
<i>Performing uterine evacuation with the Ipas MVA Plus® Aspirator and Ipas EasyGrip® cannulae: instructional booklet.</i> Chapel Hill, NC, IPAS, 2008	1 English 1 French
Manual vacuum aspiration. Extract from: <i>Managing complications in pregnancy and childbirth.</i> Geneva, WHO, 2000	1 English 1 French
<i>Misoprostol for treatment for incomplete abortion and miscarriage.</i> Instructions for use. Gynuity Health Projects, 2008	1 English 1 French
<b>Medical devices, equipment</b>	
<b>Manual Vacuum Aspiration (MVA) Set (adapted from IPAS set 2 x IA18)</b>	
MVA plus with 2cc silicone	4
Accessory kit for MVA Plus, including (1) O-ring, (1) collarstop, (1) cap, (1) 2cc silicone	2
2cc silicone packaged in bags of 10	6
Cannula, Easygrip, 6 mm, integrated base	8
Cannula, Easygrip, 7 mm, integrated base	8
Cannula, Easygrip, 8 mm, integrated base	8
Cannula, Easygrip, 9 mm, integrated base	4
Cannula, Easygrip, 10 mm, integrated base	4
Cannula, Easygrip, 12 mm, integrated base	4
Dilators, Denniston, polymer, set of 5	4
<b>Dilatation &amp; Curettage Set (adapted from UNICEF ref: 9910002)</b>	
Basket, sterilizing, approx. 120 x 250 x 60 mm	1
Forceps, dressing, Cheron, 250 mm	1
Forceps, uterine, Museux, 240 mm, curved	1
Retractor, vaginal, Doyen, 45 x 85 mm	1
Retractor, vaginal, Auvard, 38 x 80 mm	1
Scoop, uterine, Simon, 6 mm, sharp	1
Curette, uterine, Sims, 7 mm, sharp	1
Curette, uterine, Sims, 8 mm, blunt	1
Curette, uterine, Sims, 9 mm, sharp	1
Curette, uterine, Sims, 12 mm, sharp	1
Sound, uterine, Martin, 320 mm	1
Speculum, vaginal, Graves, 95 x 35 mm	1
Bowl, stainless steel, 180 ml	1

\* *Misoprostol: for incomplete abortion treatment is a single dose of 600 mcg orally, OR a single dose of 400 mcg sublingually*

\*\* *NaDCC: each effervescent tablet releases 1g of available chlorine when dissolved in water.*

\*\*\* *Oxytocin must be kept cool during transport and storage. It is therefore packed and sent separately.*

#### Remarks

Encourage (manual) vacuum aspiration rather than sharp curettage.

This kit does not include sterilizing equipment. It is usually ordered in conjunction with Kit 6 A (Clinical Delivery Assistance), which includes a steam sterilizer. If Kit 8 is ordered without Kit 6A, sterilizing equipment should be procured separately.

(Copied verbatim from UNFPA (2011: 27-28))



## APPENDIX 2: BCC POSTER AND LEAFLET IN ENGLISH AND IN BENGALI

### What Do I Do If I Experience Complications After Receiving Post Abortion Care ...

#### Self-Care

Increased pain in lower abdomen	Take painkillers and antacids, but if it lasts for more than a day, please seek medical advice.
Bleeding more than normal menstrual bleeding	Take iron supplements, and if needed please seek medical advice.
Weakness	Take vitamin supplements, an iron supplement and other appropriate personal healthcare.
Vertigo	Take medicines for vertigo and if it persists, please seek medical advice.
Fever	Take paracetamol, make sure to take rest and if you do not recover with the help of medicine, please seek medical advice.
Irregular menstrual cycle	Some irregularity is normal but if it is excessive or persists, then please seek medical advice.
Headache	Take medicine for headaches, make sure to take rest and if you do not recover with the help of medicine, please seek medical advice.
Nausea/vomiting	Take medicine for frequent vomiting and take rest.

#### Make Appointment with a Specialist

Severe or increased pain in lower abdomen	If it lasts for more than a day and cannot be controlled with painkillers, please seek medical advice.
Bleeding more than normal menstrual bleeding	If the bleeding lasts for more than 14 days, see a Gynae Specialist.
Weakness	If the weakness maintains for a longer period, please seek medical advice.
Prolonged fever	Please seek medical advice.
Headache	If you have a headache, feeling hot or are having a fever of 38 degree Celsius or above, you might have an infection so it is important to see a doctor.
Nausea/vomiting	Please seek medical advice, especially if you are vomiting within 2 hours of taking any medication. If you have vomited up any of the medication, you will need to return to the clinic for a second appointment.

#### See Doctor Immediately

Excessive bleeding for more than 2 weeks	Immediately see a doctor.
Nausea/vomiting	If you had medical vacuum aspiration and you have been vomiting for two hours, immediately see a doctor.
Excessive pain	If it lasts more than a day and cannot be controlled with painkillers, immediately see a doctor.

Poster produced by: University of Leicester and Data Management Aid

As part of the research project: "Exploring Challenges and Opportunities for Reproductive Health in Disasters in Bangladesh"

Funded by: IPPF's 'Innovation Programme' and IPPF-SARCO's 'SPRINT Initiative'

The complications related to menstrual regulation and post abortion care were identified after interviewing 370 women in January-February 2017 and 29 women in November-December 2017 in Belkuchi Upazila. Solutions to these complications were derived by consulting with a Family Planning Officer, Medical Officers, Nurses and Family Welfare Visitors from Sirajganj Hospital and Belkuchi Upazila Health Complex in January 2018.



## আপনি ঋতু নিয়মিতকরন বা অনিয়ন্ত্রিত গর্ভপাতের পরবর্তী সেবা গ্রহণের পরে যদি নিম্নবর্ণিত জটিলতাগুলো অনুভব করেন তবে কি করবেন...

### নিজের যত্ন

তলপেটে ক্রমবর্ধমান ব্যথা : ব্যথার ঔষধ সেবন করুন এবং সাথে এন্টাঙ্গিট গ্রহন করুন। কিন্তু এটি যদি একদিনের বেশি সময় স্থায়ী থাকে তবে চিকিৎসকের পরামর্শ নিন।

সাধারণ মাসিকের তুলনায় : আয়রন ট্যাবলেট সেবন করুন ও চিকিৎসকের পরামর্শ নিন।

বেশী রক্তপাত

দুর্বলতা : ভিটামিন জাতীয় ঔষধ গ্রহন করুন, আয়রন ট্যাবলেট সেবন করুন এবং সেই সাথে ব্যক্তিগত স্বাস্থ্যের পরিচর্যা করুন।

মাথা কিম্বা কিম্বা/দুর্ভোগ : মাথা কিম্বা/দুর্ভোগের ঔষধ গ্রহন করুন এবং চিকিৎসকের পরামর্শ নিন।

জ্বর : প্যারাসিটামল ঔষধ সেবন করুন এবং বিশ্রাম নিন। যদি ঔষধে আপনার অসুখ ভাল না হয় তাহলে চিকিৎসকের পরামর্শ নিন।

অনিয়মিত মাসিক : কিছু কিছু ক্ষেত্রে অনিয়মিত মাসিক একটি সাধারণ ব্যাপার। যদি এটি অতিমাত্রায় হয় এবং চলতেই থাকে তাহলে চিকিৎসকের পরামর্শ নিন।

মাথা ব্যথা : মাথা ব্যথার ঔষধ গ্রহন করুন এবং বিশ্রাম নিন। যদি ঔষধে আপনার অসুখ ভাল না হয় তাহলে চিকিৎসকের পরামর্শ নিন।

বমি/বমি ভাব/বমি : বমি অতিরিক্ত হলে ঔষধ গ্রহন করুন এবং বিশ্রাম নিন।

### একজন স্বাস্থ্য বিশেষজ্ঞ - এর সাথে অ্যাপয়েন্টমেন্ট করুন

তলপেটে জীঘন বা ক্রমবর্ধমান ব্যথা : এটি যদি এক দিনের বেশি সময় ধরে স্থায়ী থাকে এবং যদি ব্যথামাশক ঔষধে উপশম না হয় তবে চিকিৎসকের পরামর্শ নিন।

সাধারণ মাসিকের তুলনায় : যদি ১৪ দিনের বেশী ট্রিভিং হয় তাহলে গাইনী বিশেষজ্ঞের পরামর্শ নিন।

বেশী রক্তপাত

দুর্বলতা : দুর্বলতা যদি দীর্ঘস্থায়ী হয় তবে চিকিৎসকের পরামর্শ নিন।

১ দিনের বেশি সময় ধরে : চিকিৎসকের পরামর্শ নিন।

যদি জ্বর থাকে

মাথা ব্যথা : যদি আপনার মাথা ব্যথা থাকে, গরম অনুভূত হয় অথবা ১০০ ডিগ্রী ফারেনহাইট বা তার উপরে জ্বর থাকে, তবে দ্রুততর হলে কোথাও সংক্রমণ রয়েছে এবং চিকিৎসকের পরামর্শ নিন।

বমি/বমি ভাব/বমি : ঔষধ বা চিকিৎসা নেওয়ার ২ ঘণ্টার মধ্যে বমি হলে চিকিৎসকের পরামর্শ নিন। কোনো ঔষধ খাওয়ার ফলে বমি হলে পুনরায় সেই একই চিকিৎসকের পরামর্শ নিন।

### অবিলম্বে ডাক্তার দেখান

দুই সপ্তাহের বেশী সময় ধরে : অতিসত্বর চিকিৎসকের পরামর্শ নিন।

অতিরিক্ত রক্তপাত

বমি/বমি ভাব/বমি : যদি আপনি মেডিকেল ডায়েলিটিস অ্যাসপাইরেশন পেয়ে থাকেন এবং যদি ২ ঘণ্টা ধরে বমি হতে থাকে তবে অতিসত্বর চিকিৎসকের পরামর্শ নিন।

অতিরিক্ত ব্যথা

: যদি এটি একদিনের বেশী সময় ধরে চলতে থাকে এবং ব্যথা মাশক ঔষধে নিয়ন্ত্রণ না হয়, তাহলে অতিসত্বর চিকিৎসক দেখান।

বাংলাদেশে সুর্বেগিকালীন সময়ে প্রজনন স্বাস্থ্যের খুঁকি ও সুযোগ বিধক একটি গবেষণা প্রকল্পের অংশ হিসেবে এই পোস্টারটি প্রস্তুত করেছেন: ইউনিভার্সিটি অফ লিচেস্টার এবং ডাটা ম্যানেজমেন্ট এইড

অর্থায়নে: আইপিপিএফ-এর 'উন্নয়ন প্রকল্প' এবং আইপিপিএফ এসএআরও-এর 'শিশু উন্নয়ন' মহিলাদের মাসিক ঋতুক্রম এবং অনিয়ন্ত্রিত গর্ভপাত পরবর্তী জটিলতার সেবা সম্পর্কিত তথ্য বেলজুটি উপজেলায় পত্র জারুয়া-সেন্ট্রাল, ২০১৭ সময়ে ৩৭০ জন এবং নতখর-ডিসেম্বর, ২০১৭ সময়ে ২৯ জন মহিলাকে জিজ্ঞাসা করে তৈরি করা হয়েছে। স্বাস্থ্য খুঁকির সমাধানগুলো দিরাঙ্গাল জেলা হাসপাতাল এবং বেলজুটি উপজেলার স্বাস্থ্য কমপ্লেক্স-এর পরিবার পরিকল্পনা কর্মকর্তা, স্বাস্থ্য কর্মকর্তা, নার্স এবং পরিবার কল্যাণ পরিবর্ধিকা গণের নিকট হতে নেয়া হয়েছে।

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The poster and leaflet were designed with the analogy of a traffic light system in mind. When a woman experiences one of the complications in the green box, they can 'go on' with their normal life and self-care. When a woman experiences one of the complications in the orange box, it means that it is time to 'slow down' and make an appointment. When a woman experiences one of the complications in the red box, they should 'stop' and immediately see a doctor.



## APPENDIX 3: STRUCTURED FACILITY ASSESSMENT TOOL

### GENERAL SERVICE INFORMATION OF FACILITIES

Distance from Union Health facility and Upazila Health Complex:  
\_\_\_\_\_

Number of indoor beds for submission: \_\_\_\_\_

Direct control of:  DGHS/relevant Health Department  
 DGFP/relevant Health Department

Outdoor service open days:

Mon  Tue  Wed  Thur  Fri  Sat  Sun

Opening times: \_\_\_\_\_

Emergency service:  Available  Not available

Catchment area: \_\_\_\_\_

### HUMAN RESOURCES (NUMBER OF:)

Consultants – Obs & Gynae: \_\_\_\_\_

Consultants – Anaesthesia: \_\_\_\_\_

EOC trained obstetricians: \_\_\_\_\_

EOC trained anaesthesiologists: \_\_\_\_\_

EOC trained nurses/paramedics: \_\_\_\_\_

EOC trained lab technicians: \_\_\_\_\_

Medical officers: \_\_\_\_\_

MIS Person/Statistician/Record Keeper: \_\_\_\_\_

Other nurses: \_\_\_\_\_

Senior family welfare visitors: \_\_\_\_\_

Family welfare visitors: \_\_\_\_\_

Sub-assistant community MO: \_\_\_\_\_

Pharmacist: \_\_\_\_\_

Aya/Cleaner: \_\_\_\_\_

Driver: \_\_\_\_\_

Other personnel: \_\_\_\_\_

### MENSTRUAL REGULATION AND POST-ABORTION CARE FACILITIES

Manual vacuum aspiration (MVA):  Available  Not available

Electrical vacuum aspiration (EVA):  Available  Not available

Dilation and curettage (D&C) :  Available  Not available

Misoprostol:  Available  Not available

General counselling:  Available  Not available

Post-menstrual regulation and  
Post-abortion contraceptive  
counselling:  Available  Not available

### CONTRACEPTIVE METHODS

Oral contraceptive pills:  Available  Not available

Condoms:  Available  Not available

IUD:  Available  Not available

Injectable:  Available  Not available

Implants:  Available  Not available

Emergency contraceptive pills:  Available  Not available

### EQUIPMENT

Functioning sink:  Available  Not available

Adequate lighting:  Available  Not available

Adequate water supply:  Available  Not available

Stethoscope:  Available  Not available

BP machine:  Available  Not available

Thermometer:  Available  Not available

Gynaecology exam instruments  
(specula, sponge forceps etc.):  Available  Not available

Post-abortion IUD insertion/  
removal kits:  Available  Not available

Operating table:  Available  Not available



- MVA (single valved):  Available  Not available
- MVA (double valved):  Available  Not available
- EVA equipment:  Available  Not available
- D&C equipment:  Available  Not available
- Instrument trays:  Available  Not available
- Instrument table:  Available  Not available
- Revolving tool:  Available  Not available
- Basins, kidney tray:  Available  Not available
- OT light:  Available  Not available
- Reusable masks:  Available  Not available
- Container for storing sterilized/  
disinfected instruments:  Available  Not available
- Oxygen tank:  Available  Not available
- Decontamination bucket:  Available  Not available
- Safe needle and syringe:  Available  Not available
- Sharp disposal box:  Available  Not available
- Screen (for privacy):  Available  Not available
- Drapes:  Available  Not available
- Sanitary pads:  Available  Not available
- Gloves:  Available  Not available
- Linens:  Available  Not available
- Refrigerator:  Available  Not available
- Store room:  Available  Not available

## MEDICINES AND SOLUTIONS FOR POST-ABORTION CARE

- Doxycycline hydrochloride, tablet, 100 mg:  Available  Not available
- Metronidazole, tablet, 250 mg:  Available  Not available
- Misoprostol, tablet, 0.2 mg (200 mcg):  Available  Not available
- Sodium dichloroisocyanurate tablets:  Available  Not available
- Ibuprofen, tablets, 400 mg:  Available  Not available
- Oxytocin, injection, 10 IU/ml, 1-ml ampoule:  Available  Not available
- Lidocaine hydrochloride, injection:  Available  Not available
- Atropine sulfate, solution for injection:  Available  Not available
- Water for injection, 10-ml ampoule:  Available  Not available
- Chlorhexidine gluconate, detergent solution, 4% (Hibiscrub):  Available  Not available
- Chlorhexidine gluconate, concentrated solution, 5%, bottle:  Available  Not available

## STERILIZATION KITS/EQUIPMENT

- Stove, kerosene, single burner, pressure:  Available  Not available
- Sterilizer, steam, approx. 39 litres, w/access:  Available  Not available
- Timer, 60 minutes:  Available  Not available
- Drum, sterilizing, approx. 165 mm diameter:  Available  Not available
- Drum, sterilizing, approx. 260 mm diameter:  Available  Not available
- Drum, sterilizing, approx. 290 mm diameter:  Available  Not available
- Forceps, artery, Kocher, 140 mm, straight:  Available  Not available



# APPENDIX 4: TWO-STEP CHECKLIST TOOL TO ASSESS IF A HEALTH FACILITY CAN ACCOMMODATE THE REPRODUCTIVE HEALTH KIT 8

## ESSENTIAL HUMAN RESOURCES

- Health personnel (family welfare visitors, family welfare assistants, nurses, doctors) who have been trained to manage miscarriages and the complications of abortion, including performing uterine evacuation.

## ESSENTIAL EQUIPMENT

- An autoclave or a sterilizing machine to sterilize equipment (or the procurement of Kit 6A).
- Refrigerator
- Store room

## DESIRABLE EQUIPMENT

- Contraceptive methods are available
  - Oral contraceptive pill
  - Condoms
  - IUD
  - Injectable
  - Implants
  - Emergency contraceptive pill
- Functioning sink
- Adequate lighting
- Adequate water supply
- Thermometer
- Stethoscope
- Operating table
- Decontamination bucket
- Screen (for privacy)
- Pain medication
- Gloves

## ESSENTIAL OTHERS

- An assessment of the local situation to determine the need for the Reproductive Health Kit 8.
- A referral hospital in the area, not more than 10kms away that is able to perform emergency obstetric procedures.
- A cold (15–25 degree Celsius) well ventilated storage warehouse available at the health care facility with the means of storing some of the boxes in 2–8 Celsius. Additionally, the Kits can be stored as per their storage guidelines (e.g. at least 10cm off the floor; at least 30 cm away from the walls; no more than 2.5 m high, etc. – see UNFPA, 2014).
- A stand-by electric generator to maintain electricity and the required temperatures for the Kits.
- Fire extinguisher.
- Careful and cold (2–8 degree Celsius) transportation.
- Reference and training materials are shared with the health care facility.
- A person to monitor and keep records of the Reproductive Health Kits.<sup>28</sup>

28 According to UNFPA (2014:12), three types of records need to be retained for informed decision-making: "i) stock keeping records, which contain information about the number of Reproductive Health Kits in storage; ii) transaction records, which contain information about Reproductive Health Kits being moved; and iii) consumption records, which contain information about the consumption or usage of Reproductive Health Kits items."



# NOTES



# NOTES



