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# Improving maternal health practices in four countries: insights and lessons learned

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## Acronyms

AHS	Annual Health Survey, India
ANM	Auxiliary nurse midwife
ASHA	Accredited social health activist, India
AWW	<i>Anganwadi</i> (community health care centre) worker, India
DFID	UK Department for International Development
DHS	Demographic and Health Survey
FGD	Focus group discussion
FHW	Frontline health worker
HEW	Health extension worker, Ethiopia
IDI	In-depth interview
IFA	Iron and folic acid supplement
JSY	<i>Janani Suraksha Yojana</i> ('safe motherhood scheme'), a conditional cash transfer scheme in India
MP	Madhya Pradesh state, India
NFHS	National Family Health Service
NGO	Non-governmental organisation
PHCU	Primary healthcare unit
PPS	Probability proportionate to size, a statistical sampling method
PSU	Primary sampling unit
QHW	Qualified health worker
RMNCH	Reproductive, maternal, neonatal and child health
SBA	Skilled birth attendant
TBA	Traditional birth attendant
TIP	Trial of improved practices method

## Executive summary

BBC Media Action's Department for International Development (DFID) funded maternal and child health programmes in Bangladesh, Ethiopia, India and South Sudan use the power of the media to inform audiences and support them to adopt healthier behaviours for maternal, neonatal and child health. Attending antenatal care with a qualified provider and preparing for birth are particularly important aspects of this positive behaviour.<sup>1</sup>

BBC Media Action's approach to broadcast programme-making and to research in health focuses on influencing pathways and drivers of change. Among these drivers are: knowledge, attitudes and beliefs; social norms; self-efficacy<sup>2</sup>; confidence and agency; and interpersonal discussion. These in turn may influence practices.

The report uses qualitative and quantitative research to respond to the following three research questions:

- What have we learned about current practices around key maternal health behaviours in Bangladesh, Ethiopia, India and South Sudan?
- What have we learned about the potential drivers of these health behaviours?
- What have we learned about the cross-cultural measurement of maternal health behaviours and their potential drivers?

This research report presents formative and baseline data from the beginning of BBC Media Action's health projects. In 2012 and 2013, BBC Media Action conducted formative qualitative research in Bangladesh, Ethiopia, Madhya Pradesh and Odisha (formerly known as Orissa) states in India, and South Sudan. It also conducted baseline quantitative research in Ethiopia, Madhya Pradesh and Odisha states in India, and South Sudan.<sup>3</sup> Future research will measure the impact of broadcast programmes on audiences' behaviours and drivers of these behaviours, and will compare midline and endline results against these baseline measures.

Through this research so far – which draws on more than 64 focus group discussions, 139 in-depth interviews (IDIs) and survey interviews with more than 10,800 people – BBC Media Action has learned several important lessons related to communication which are informing the design of its communication programmes. Lessons learned about quantitative measurement are helping the organisation to refine its tools and methods in order to assess the impact of these programmes on audiences effectively.

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<sup>1</sup> “Antenatal care” is defined as four or more check-ups with a qualified health provider and includes checking the mother's health and the growth of the pregnancy, providing iron and folic acid supplementation, and checking the foetus's position before birth. “Birth preparedness” or “birth planning” includes: making arrangements for a skilled birth attendant (SBA) to be present at a delivery, preferably in a health care facility; arranging transportation; saving money to pay for expenses including transportation and any service providers' fees; planning for possible complications; and assuring a clean hygienic environment for the birth and the newborn. See: The Partnership for Maternal, Newborn and Child Health (PMNCH) (2011) *A Global Review of the Key Interventions Related to Reproductive, Maternal, Newborn and Child Health (RMNCH)*. Geneva: PMNCH.

<sup>2</sup> Self-efficacy is the measure of the belief in one's own ability to complete and reach goals.

<sup>3</sup> This report only presents quantitative baseline data for Ethiopia, Madhya Pradesh and South Sudan, as the Odisha baseline data was not available at the time of writing.

## **Current practices around key maternal health behaviours in Bangladesh, Ethiopia, India and South Sudan**

While most women reported attending some antenatal care in Bangladesh, Ethiopia, India and South Sudan, the majority did not attend the recommended four check-ups and did not attend in the first trimester. Most pregnant women across the four countries did not attend until their second trimester. This is as expected based on prior knowledge and external data sources. Uptake of the recommended antenatal care practices is especially poor in Bangladesh and South Sudan. This research study suggests that women in South Sudan mostly receive antenatal care from traditional birth attendants (TBAs), while most women in the other three countries receive antenatal care from a qualified health worker (QHW). Across the four countries, many women cannot afford and/or do not receive support from relatives to reduce their workload or eat a more varied and nutritious diet when pregnant. However, women in Ethiopia were more likely to report being able to do so, as were women living in non-traditional family structures in Bangladesh and India.

As expected, in Bangladesh, Ethiopia and South Sudan most women deliver at home, assisted by either relatives, neighbours and/or a TBA. In Ethiopia and South Sudan the most commonly-made preparations are related to home deliveries, for example, preparing clean cloths and a clean blade to cut the umbilical cord. While a greater number of families in Bangladesh and India make more of the recommended preparations for delivery<sup>4</sup> (such as planning transport to a health facility) than in Ethiopia and South Sudan, preparations are often inadequate. This can lead to a delay in taking pregnant women to the health facility, including when women delivering at home experience complications during labour.

This research study suggests that there is considerable scope for programming to improve practices around antenatal care and birth preparedness across the four countries. The findings enable BBC Media Action to identify which segments of its target audiences report especially poor uptake of practices in order to target programming more effectively.

### **Potential drivers or practices around antenatal care and birth preparedness**

This research has informed BBC Media Action's communication programmes and project design by highlighting what appear to be the drivers of, and key barriers to, behaviour change in relation to antenatal care and birth preparedness.

Overall, although most people in the target audience know that antenatal care is important, there are some key knowledge gaps around the components of antenatal care and the importance of antenatal care early in pregnancy, especially in Bangladesh and South Sudan. Knowledge around antenatal care is generally significantly higher than practice, and findings suggest that unsupportive attitudes and social norms play a major role in preventing early and regular antenatal care attendance across the four countries. This includes the attitude in some communities that pregnancy is a "normal process" and requires no medical intervention, and the norm that women should not disclose their pregnancy outside of their family until the fourth month – or even later in Bangladesh.

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<sup>4</sup> PMNCH (2011) *A Global Review of the Key Interventions Related to Reproductive, Maternal, Newborn and Child Health (RMNCH)*. Geneva: PMNCH.

Uptake of antenatal care has increased in recent years in Ethiopia and India. This is strongly associated with the roll-out of the health extension worker (HEW) scheme in Ethiopia and with the *Janani Suraksha Yojana* (JSY) scheme in India, which offers families financial incentives for registering pregnancies and delivering in a health facility.<sup>5</sup> A key driver of attending antenatal care in all countries is the perceived need to check the baby's health. The mother's health is not given priority when allocating household resources and many people do not make the link that the baby's health is, in fact, dependent on the mother's health.

The research suggests that a good understanding of birth preparedness positively influences practice. However, many families do not make the appropriate preparations, possibly due to the attitude in India that preparations need only be made at the "last minute", and the attitude in Ethiopia, India and South Sudan that planning does not impact outcome. While there was an understanding across the four countries that health facility deliveries reduce risks for the mother and baby, there was a still a strong preference among families for home deliveries for pregnancies where complications had not been identified. In Ethiopia and South Sudan in particular, distance to the health facility and lack of money and/or transport are key barriers to institutional deliveries. Formative research across the four countries suggests that women have low levels of self-efficacy to able to overcome these barriers.

The research identifies communication needs around drivers of antenatal care and birth preparedness for specific audience segments. For example, although men are not always involved in decisions around antenatal care and birth planning, especially in households comprising extended families, men are often involved in decisions about spending money on costs associated with supplies, services and transport related to antenatal care and birth preparedness. As men in many areas consume broadcast media more than women and control household access to it, they are a key target audience for programming.

The research also found that barriers to accessing health services, perceived or otherwise, played a greater role in determining uptake of positive maternal health behaviours than previously thought. People's perceptions around service delivery and the acceptability of health services may differ from reality in important ways that communication can address.<sup>6</sup> However, the ability of programming to influence these is, of course, dependent on the service delivery environments, in other words, the type of health services that are available to the public in a given area.

### **Cross-cultural measurement of maternal health behaviours and their potential drivers**

With regard to current practice and drivers of practice in antenatal care and birth preparedness, the research results were similar to those the researchers anticipated. This expectation was based on a prior understanding of these behaviours within the individual country context. This consistency suggests that the majority of the research measures were effective. Where the research findings differed from those expected, measurement and fieldwork-implementation challenges may have played a role. BBC Media Action's research is applied and practitioner-driven, and this is one of the organisation's first experiences with cross-country research at this scale in health, using standardised

<sup>5</sup> *Janani Suraksha Yojana* (JSY) is a government conditional cash transfer scheme to increase the number of health facility deliveries in India.

<sup>6</sup> Acceptability in this context refers to how acceptable or satisfactory members of the public perceive a health service to be. If acceptability is low, people may be deterred from using the service.

measures. In addition, BBC Media Action is measuring drivers, for example, social norms, for which there is often no standard measures and no consensus on how they should be measured. The overall research findings are therefore encouraging, and researchers will refine their measures and methods in future.

Some drivers of practice are amenable to quantitative measurement with standardised questionnaire items, whereas others – like social norms and attitudes – are less amenable to measurement with standardised questionnaire items. Researchers are developing country-specific measurement items that will be used to create scales of these drivers at country level. BBC Media Action is also using further qualitative research to be able to assess the impact of programming on drivers, in particular on self-efficacy.

Quantitative data collection in post-conflict settings like South Sudan presents particular challenges because it is difficult to assure the quality of the data. The value for money of conducting further quantitative research in these areas is being considered.

## I. Introduction

Millennium Development Goals four and five call for a reduction in child mortality and for maternal health to improve in developing countries. Most maternal, newborn and child deaths can be prevented with available interventions, such as family planning, antenatal care, preventive treatment of malaria, neonatal tetanus protection, delivery with a skilled birth attendant (SBA), early initiation of breastfeeding and postnatal check-ups for new mothers.<sup>7</sup> To avail themselves of many of these interventions, women must interact with qualified health service providers, must know how to do so, and must be able to access the services they need when they need them.

BBC Media Action's health projects in Bangladesh, Ethiopia, India and South Sudan work to inform audiences about maternal and child health and about life-saving interventions during pregnancy, birth and early childhood. This research report describes what BBC Media Action has found and learned about antenatal care and birth preparedness, following the initial stages of research to inform and evaluate the impact of BBC Media Action's broadcast programmes in those countries. The organisation selected antenatal care and birth preparedness as the focus for this research report because these topics are so fundamental to both maternal and child health, and are the common priorities of its programme-making in Bangladesh, Ethiopia, India and South Sudan, as shown in Table 1.<sup>8</sup>

Table 1: Priority health issues by country, September 2013

	<b>Antenatal care</b>	<b>Birth planning</b>	<b>Safe delivery</b>	<b>Essential newborn care</b>	<b>Breastfeeding</b>	<b>Birth spacing</b>
<b>Bangladesh</b>	HP	HP	LP	HP	LP	LP
<b>Ethiopia</b>	HP	HP	HP	HP	HP	HP
<b>India</b>	HP	HP	HP	LP/not covered	HP	HP
<b>South Sudan</b>	HP	HP	HP	HP	HP	HP

HP=high priority

LP=low priority

Drawing on data and comparing results from four countries, this report seeks to respond to three research questions:

<sup>7</sup> Countdown to 2015 (October 2012) *Maternal and newborn health: Taking stock of progress*. Briefing note. Available from: <http://www.countdown2015mnch.org/reports-and-articles/briefing-notes>. [Accessed 28 August 2013].

<sup>8</sup> Antenatal care and birth preparedness were selected from the six common health behaviours across the four countries, which are antenatal care, birth preparedness, safe delivery, essential newborn care, early and exclusive initiation of breastfeeding, and birth spacing.



- What has BBC Media Action learned about current practices around key maternal health behaviours in Bangladesh, Ethiopia, India and South Sudan?
- What have we learned about the potential drivers of these health behaviours?
- What have we learned about the cross-cultural measurement of maternal health behaviours and their potential drivers?

To respond to these three questions, this research report draws upon data collected during formative qualitative research in Bangladesh, Ethiopia, India and South Sudan, and upon data from baseline quantitative research for evaluation in Ethiopia, India and South Sudan.<sup>9</sup>

The following sections describe the project's background and the following section discusses methods used to collect data. The fifth and sixth sections present findings from the research in Bangladesh, Ethiopia, India and South Sudan. The seventh section discusses lessons learned from the research conducted thus far and the implications of these findings for BBC Media Action's programming and for upcoming research. The final section outlines the next steps in terms of further research and refinement of impact measures.

## 2. Background

BBC Media Action designs and implements health communication projects in Bangladesh, Ethiopia, India and South Sudan with funding from the UK government's Department for International Development (DFID). Extensive needs analysis informed the design of the health communication project in each country, as well as research into the communication landscape and preferences of target audiences. The needs analysis identified priority behaviours open to influence, and the communication landscaping informed BBC Media Action how to reach audiences (see box: Programmes and country contexts).

### 2.1. BBC Media Action's approach to health communication

BBC Media Action's approach to health communication projects and research draws on academic and practitioner literature and guidance, and organisational experience in this field. The organisation focuses on pathways and drivers of change in health that are amenable to change through media and communication (see Figure 1). For each of the priority behaviours in the health projects in Bangladesh, Ethiopia, India and South Sudan, researchers prioritised measurement of practices and the following five drivers of change:

- Knowledge
- Attitudes and beliefs
- Social norms
- Self-efficacy, confidence and agency
- Interpersonal discussion

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<sup>9</sup> Baseline quantitative research in Bangladesh is planned for late 2013 and early 2014, and is not included in this report.

BBC Media Action research seeks to understand these pathways and drivers, and to assess programming’s impact upon health practices and their potential drivers. BBC Media Action conducts research at every stage of project delivery to understand and take advantage of the role of media in development. Formative research, pre-testing, monitoring and evaluation research ensure the organisation’s outputs are responsive to audience needs, rooted in local context and have measurable impact.

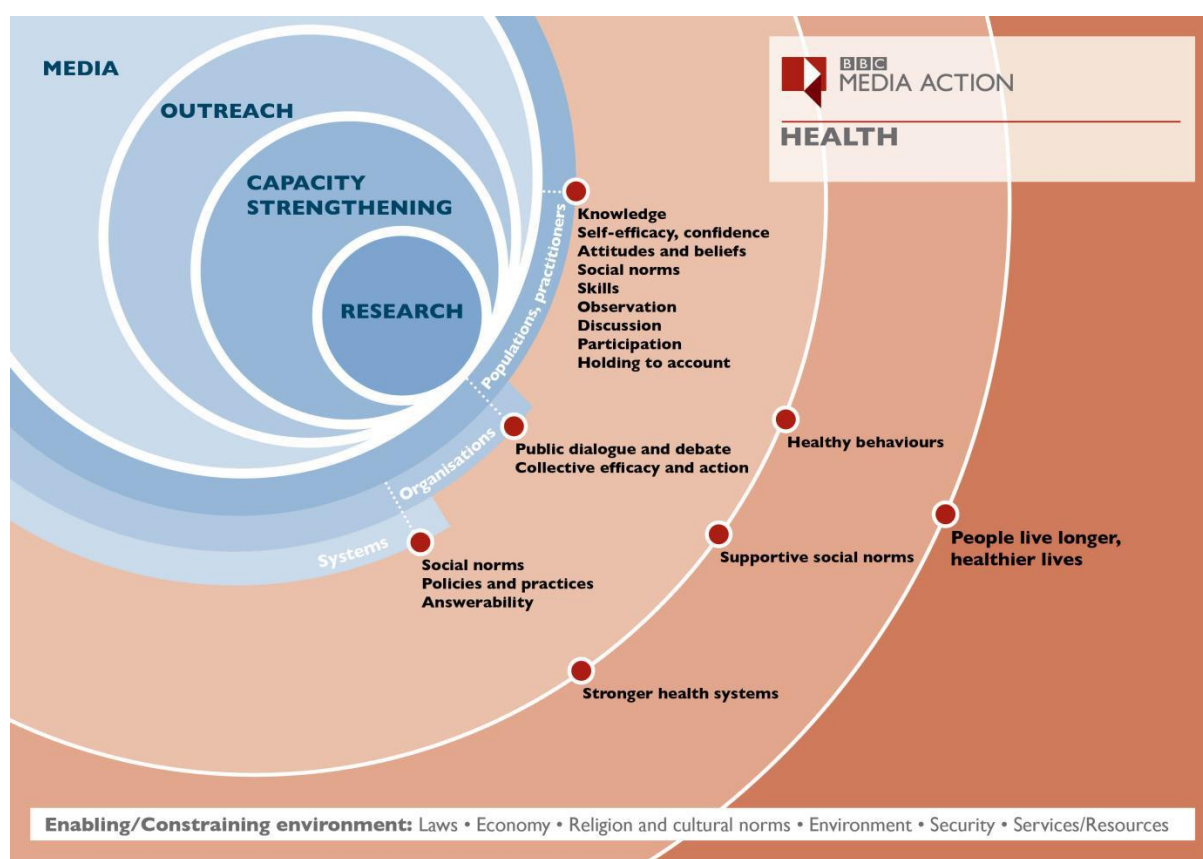


Figure 1: BBC Media Action’s approach to health communication

BBC Media Action combines expertise and skills in creating truly engaging content with an understanding of the theoretical aspects of health communication and extensive research to support people to live longer, healthier lives. Its work addresses some of the most important health challenges faced by poor and vulnerable people. BBC Media Action supports these people to adopt healthier behaviours, while reducing behaviours that put health at risk. The organisation also focuses on social factors that can put people’s health at greater risk, such as stigma and gender inequality, and it contributes to the development of stronger health systems.

BBC Media Action seeks to improve health by enhancing access to information, stimulating discussion and by engaging different population groups about health. It uses a wide range of media formats, including dramas, TV and radio debates, phone-in advice shows and factual magazine shows. Increasingly too, as markets open up with affordable and accessible new forms of communication, the organisation works with mobile technology and social media to connect people and ideas.

As practitioners and researchers in behaviour change have recognised, many factors influence people's practice of healthy behaviours, including individual knowledge, attitudes and social norms, as well as individual and societal access to resources, infrastructure, geography and politics. Media and communication can help to improve health by, for example, increasing knowledge, shifting attitudes and social norms, and increasing people's confidence and motivation to act in the interests of their own health.<sup>10</sup> Media and communication can enable and increase public and interpersonal discussion, which in turn can support the uptake of healthier behaviours as well as greater accountability around health service provision and policy-making. Media and communication activities can also help improve the motivation and performance of health workers.

Among the many health issues that media and communication interventions can address, maternal and neonatal health issues are of particular concern. Despite progress in recent years – including a 47% decline in maternal mortality since 1990 – the number of women who die as a direct consequence of pregnancy, giving birth and unsafe abortion is still unacceptably high, given that many causes are entirely preventable. In 2010, 287,000 women died from maternal causes, with countless others left with life-altering injuries such as obstetric fistula. More than half of these deaths took place in sub-Saharan Africa and a third in Southern Asia. It is anticipated that the Millennium Development Goal of reducing the global maternal mortality ratio by three-quarters by 2015 will not be met.<sup>11</sup>

## 2.2. Research within DFID-funded health projects

BBC Media Action has been supported by DFID to work in two African countries and two Asian countries. BBC Media Action and its partners are producing radio and TV programmes, including family dramas and factual shows, that challenge attitudes, improve knowledge and combat misinformation about health in Bangladesh, Ethiopia, India and South Sudan. Together, these programmes have an anticipated reach of 70 million people over five years. BBC Media Action seeks to aggregate data and insights from its health projects to contribute to the evidence base on the role of media and communication in bringing about health outcomes. The research findings, and where possible the research data, are available in accessible formats to development actors and wider audiences.

This research report focuses on findings and learning thus far from BBC Media Action's work in maternal and neonatal health in Bangladesh, Ethiopia, India and South Sudan, particularly in relation to antenatal care and birth preparedness, including place of delivery.

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<sup>10</sup> Noar, SM (2006) A 10-year retrospective of research in health mass media campaigns: Where do we go from here? *Journal of Health Communication*, 11:1, 21- 42. Bertrand, JT, O'Reilly, K, Denison, J, Anhang, R, & Sweat, M (2006) Systematic review of the effectiveness of mass communication programs to change HIV/AIDS-related behaviours in developing countries. *Health Education Research*, 21:4, 567–597.

<sup>11</sup> United Nations Summit, 20-22 September 2010, New York, High-level Plenary Meeting of the General Assembly. *Goal 5, Improve Maternal Health*. Fact sheet [online] Available from: [http://www.un.org/millenniumgoals/pdf/MDG\\_FS\\_5\\_EN\\_new.pdf](http://www.un.org/millenniumgoals/pdf/MDG_FS_5_EN_new.pdf) [Accessed 30 September 2013]

### 3. Programmes and country contexts

#### 3.1 Bangladesh

In the last two decades, Bangladesh has seen economic growth of over 5% and made good progress in reducing poverty and improving education. However, every day nearly 20 mothers die of pregnancy-related causes and more than 300 children die in their first month. Every year, over 800,000 girls between the ages of 15 and 19 become pregnant.

To help address high rates of maternal and newborn mortality, the Emergency Obstetric Care programme was started in the 1990s. The programme is cited as the largest factor in reducing the maternal mortality rate (MMR) between 2001 and 2010. There are now 11,500 community clinics at the primary level, 3,275 union health and family welfare centres, 397 health complexes at the *upazila* (sub district) level and 59 district hospitals. The proportion of deliveries attended by a skilled attendant has increased from 21% in 2007, to 32% in 2011. However, community-based skilled birth attendants (SBAs) are receiving only six months' theoretical and clinical training in a hospital and then going straight to work. The government of Bangladesh (GoB) 2008 Mid-term Review found that underlying causes for maternal deaths included, "poor access and quality of MNH (maternal and neonatal health) care." Absenteeism among health workers is a problem in rural areas, but even where health services in rural areas exist, those health services are often under-used. This may be because a facility is present but the services are not available, or because the quality of services is very poor. Antenatal care is widely available in Bangladesh at minimal cost in government-run facilities.

In Bangladesh, BBC Media Action is developing an integrated communication project involving TV programmes, public service announcements and training for frontline health workers (FHWs) to address antenatal and newborn care. BBC Media Action's programming will aim to improve knowledge about issues such as danger signs during pregnancy, the importance of regular antenatal check-ups, birth preparedness, safe delivery conditions and the essential care needed by newborn babies. About 74% of people watch TV regularly in Bangladesh, with drama being one of the most popular formats. The primary target audience will be women of reproductive age but the project will also target the mother-in-law, father-in-law and husband in each family, as well as health workers and those with influence in communities. More focus will also be given to groups who have low incomes and poor education, the rural and urban poor, older women and adolescent girls in early marriages.

#### 3.2 Ethiopia

Despite making progress in reducing child mortality over recent years, the number of newborn deaths in Ethiopia remains high. Maternal deaths account for 30% of all deaths of women aged 15-49, which in turn heavily impacts on the mortality of young babies. This high level of mortality is directly related to the low proportion of women delivering at a health facility.

In 1998 the Ethiopian government launched a 20-year Health Sector Development Programme. It introduced a four-tier health system that included a primary health care unit (PHCU) comprising one health centre and four satellite health posts. In 2010 there were: 1,332 PHCUs serving a rural population of approximately 63 million; 12,488 health posts – one for every 4,978 of the population; 82 public hospitals; and 67 private hospitals. More recently, the government has introduced the

health extension worker (HEW) programme. HEWs are community-based health workers who are, theoretically, trained for a year and paid to provide primary health care in areas of the country where access is limited. HEWs may be trained to provide antenatal care as well as information about clean and safe delivery including encouraging families to plan for delivery in a facility. There are currently 34,000 trained HEWs, which correlates to only one HEW for every 500 households. Officially, antenatal care services are free and should be available at all health posts and health centres. The Ministry of Health, the United Nations Children’s Fund (UNICEF) and the United Nations Population Fund (UNFPA) have all stated that antenatal care services are widely available in most parts of the country and that the problem is less to do with supply than with demand. However the low ratio of health professionals tasked with delivering antenatal care to a vast and scattered rural population suggests that there is currently insufficient antenatal care for the size of population.

In Ethiopia, BBC Media Action radio programmes *Biiftuu Jireenyaa* (“Dawn of life” in Afan Oromo) and *Jember* (“Maternal light” in Amharic) reflect the varied preoccupations and rich experiences of the listeners themselves, and address topics such as the demands of making a living in rural areas and the challenges of relationships. The programmes are recorded on location by local producers in Afan Oromo and Amharic, Ethiopian languages spoken by more than two-thirds of the population. Music, proverbs and poetry are also interwoven to reflect Ethiopians’ strong tradition of storytelling. *Biiftuu Jireenyaa* and *Jember* follow similar health themes but pay careful attention to regional differences in their audiences. Formative and baseline research has helped to identify different health-seeking behaviours. Presented by a male and female presenter team, both programmes use interviews, discussion and fly-on-the-wall encounters between health workers and women. People’s stories and experiences directly inspire the programmes’ content. While the primary target audience is women of childbearing age, the programmes also appeal to their husbands, as men tend to have control over the household radio and play a crucial role in either promoting or blocking the family’s access to healthcare. To encourage women’s access to the programmes, the team has included a short spot in each programme encouraging men to share their radio with their wife: “You share food with your wife, so why not share your radio?” it says.

### 3.3 India (Madhya Pradesh and Odisha)

Madhya Pradesh and Odisha (formerly known as Orissa) are two of the poorest states and have some of the worst maternal and child health indicators in the country. Thousands of women die each year in childbirth – maternal mortality rates are higher than the national average, with 310 per 100,000 live births for Madhya Pradesh and 277 per 100,000 for Odisha according to the latest Annual Health Survey (AHS) estimates.<sup>12</sup> Infant mortality rates in both the states are much higher than the national average of 47 per 1,000 live births, with current levels as per the Sample Registration System Statistical Report (SRS) 2010 of 62 per 1,000 live births in Madhya Pradesh and 61 per 1,000 live births in Odisha.<sup>13</sup>

<sup>12</sup> Office of Registrar General, India, Ministry of Home Affairs (August 2011), *Annual Health Survey Bulletin 2010-11*. [online] Available from: [http://censusindia.gov.in/vital\\_statistics/AHSBulletins/files/AHS%20bulletinppt.pdf](http://censusindia.gov.in/vital_statistics/AHSBulletins/files/AHS%20bulletinppt.pdf) [Accessed 30 September 2013]

<sup>13</sup> Ibid.

In India there is a complex matrix of national and state government organisations with a stake in reproductive, maternal, neonatal and child health (RMNCH) issues. There are three main types of frontline health workers (FHWs) who operate at the community level: accredited social health activists (ASHAs), auxiliary nurse midwives (ANMs) and *Anganwadi* (community health care centre) workers (AWWs). According to national guidelines, there is supposed to be one ASHA and one AWW for every 1,000 people. However, government records indicate the actual numbers are often significantly lower. ASHAs are community-based health workers whose role is to create greater awareness of key health issues and to increase the use of existing health services. Among other things, they counsel women on antenatal care and the importance of receiving antenatal care check-ups. There are more than 50,000 ASHAs in Madhya Pradesh and around 34,000 in Odisha. ANMs are skilled birth attendants who work closely with ASHAs to motivate pregnant women to attend antenatal check-ups and to take the full course of iron and folic acid supplements (IFAs). ANMs may also counsel on and provide basic antenatal care services. The number of ANMs in Madhya Pradesh and Odisha is 12,000 and 6,800 respectively. AWWs are community workers who deliver health and nutrition education to families. The number of AWWs in Madhya Pradesh and Odisha is 79,000 and 40,000, respectively.

In India, the BBC Media Action Global Grant project focuses on increasing healthy behaviours relating to maternal child health and nutrition in Madhya Pradesh and Odisha. Over the last few years, central and state governments have demonstrated a commitment to improving health outcomes with the introduction of schemes such as the Reproductive and Child Health Programme and *Janani Suraksha Yojna* (JSY) promoting institutional deliveries. However, low awareness of government schemes, inappropriate household practices, negative social norms, lack of access to basic health information and low self-efficacy, limits the impact of these programmes. In order to achieve its project objectives, BBC Media Action has adopted a 360-degree approach to communication. The components of the 360-degree approach, namely mass media through TV and radio, community mobilisation, street theatre and mobile van activity, and interpersonal communication aim to reach all the different audience segments in the two states. The project is built on the premise of leveraging government funds, expertise and infrastructure to scale up activities across both states, and correlates closely with an existing project running in Bihar that is funded by the Gates Foundation.

### **3.4 South Sudan**

South Sudan is the world's newest country. Its two devastating civil wars ended in 2005 with the Comprehensive Peace Agreement. At independence on 9 July 2011, it was one of the world's poorest countries with 80% of the population living on less than US\$1 a day. More than 60 different languages are spoken around the country.

According to UNFPA, "a 15-year-old girl in South Sudan has a greater chance of dying in childbirth than of finishing school". According to the most recent statistics from the United Nations Development Programme (UNDP), South Sudan's maternal mortality rate is 2,054 per 100,000 live

births – meaning that a woman has a one in seven lifetime risk of dying from pregnancy-related causes.<sup>14</sup>

During the Second Sudanese civil war that ran from 1983 to 2005, 80% of healthcare services in South Sudan were provided by non-governmental organisations (NGOs), which continue to play a big role in healthcare delivery. Health services at the county level are mainly catered for by a government infrastructure of 1,377 primary healthcare units (PHCUs) and 270 primary health care centres. Each PHCU is expected to provide basic preventive and curative care and promote healthy behaviours for a catchment population of 15,000. South Sudan has 26 hospitals overall. There is a large service and quality gap between the essential services the hospitals are supposed to provide and what they actually do provide, and many patients receive only basic care. The main reasons for this service and quality gap are lack of qualified staff, insufficient equipment and supplies, and generally poor management. There is an enormous shortage in human resources for health. The current health workforce is made up of predominantly poorly trained, low-level professional and auxiliary staff. According to UNFPA (2012) there is currently less than one nurse-midwife per 100,000 of the population. In reality, most rural women only have access to traditional birth attendants (TBAs), some of whom have received various levels of training from NGOs.

In South Sudan, BBC Media Action produces two radio programmes: *Our Tukul*, a magazine-format programme that went on air in January 2013, and *Life in Lulu*, a drama that went on air in April 2013. Both programmes are produced in English (South Sudan's official language) and Simple Arabic, the most widely understood language, and are broadcast nationally in South Sudan through partnerships with 16 radio stations. *Life in Lulu* focuses on the welfare of Lulu's women and babies and explores people's beliefs about pregnancy, childbirth, death and child-rearing, and what happens when people make good (and bad) decisions about their health. *Life in Lulu* echoes the experience of ordinary people in villages across the country. Recognising the lack of radio drama experience in South Sudan, BBC Media Action has worked in partnership with a local group called *Woyee Film and Theatre Industry* to help build their skills so they can branch out into radio drama production.

*Our Tukul* packages interviews, opinion and expert advice from around the country into an entertaining and interactive radio magazine programme that provides information, explores social beliefs and aims to increase people's confidence to keep their families and children healthy. A *tukul* in South Sudan is a traditional circular mud dwelling with a thatched roof – the kind of home that is recognisable across the country. BBC Media Action trained staff from partner radio stations from the Catholic Radio Network to conduct field interviews and feed these back into the programme, which is broadcast in all 10 states in South Sudan. *Our Tukul* will also spin off into local language discussion programmes produced at partner radio stations, which will reach the most rural and vulnerable populations who do not speak either English or any form of Arabic.<sup>15</sup>

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<sup>14</sup> Government of South Sudan, Ministry of Health (March 2011) *Transforming the Health System for Improved Services and Better Coverage: Health Sector Development Plan 2011 – 2015*. Government of South Sudan.

<sup>15</sup> Research by Internews in 2011 reported high levels of engagement of women in particular with local language radio stations.

## 4. Methods

This section describes the methods used to collect and analyse data in the formative research in Bangladesh, Ethiopia, India and South Sudan, and the methods used to collect and analyse data for the baseline quantitative research in Ethiopia, India and South Sudan. The research was designed to describe and measure health behaviours, and the drivers of health behaviours, including:

- Knowledge
- Attitudes and beliefs
- Social norms
- Self-efficacy, confidence and agency
- Interpersonal discussion

It also measures barriers to accessing health services.

### 4.1 Formative research

The formative research studies across Bangladesh, Ethiopia, India and South Sudan were designed to look at knowledge, attitudes and practices around some common reproductive, maternal and neonatal child health (RMNCH) issues. The designs were, however, driven by specific country contexts and the need to inform media production and were therefore not standardised across countries. In total, this research report draws on qualitative findings from more than 106 focus group discussions (FGDs) and 192 in-depth interviews (IDIs), as well as expert interviews, community mappings and trials of improved practices (TIPs).<sup>16</sup> For more detail, please see Table 2 on p16.

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<sup>16</sup> A trial of improved practices (TIP) is a participatory research methodology based on market research to learn about motivators and barriers to behaviour change.



Table 2: Formative research methodology

	<b>Bangladesh</b>	<b>Ethiopia</b>	<b>India</b>	<b>South Sudan</b>
<b>Target groups</b>	Women of reproductive age, husbands, older female influencers, TBAs, FHWs, doctors and other key informants working in RMNCH.	Women of reproductive age, husbands, older female influencers, health workers and TBAs.	Women of reproductive age, husbands, older female influencers, fathers, community leaders, FHWs, health service providers, teachers and religious leaders.	Women of reproductive age, husbands, older female influencers, TBAs, community health workers, hospital or health centre staff, other key informants such as opinion leaders and Ministry of Health staff.
<b>Locations</b>	Nine districts with high neonatal mortality rates (urban and rural areas) and three districts with low neonatal mortality rates (urban and rural areas).	Amhara and Oromia regions (peri-urban and rural areas).	Madhya Pradesh (tribal and non-tribal areas) and Odisha (coastal and non-coastal areas).	Western Bahr el Ghazal, Lakes, Western Equatoria State and Central Equatoria (state capitals and rural areas).
<b>Fieldwork dates</b>	February to December 2012.	March to June 2012.	July to September 2012.	March to May 2012.
<b>Methods</b>	FGDs, community assessments, health services mobility mapping.	FGDs and IDIs.	Participatory rural approach (PRA), <sup>17</sup> activist participatory groups (APG), <sup>18</sup> IDIs, FGDs, diads, <sup>19</sup> triads, <sup>20</sup> immersion <sup>21</sup> and TIPs.	FGDs and IDIs.

<sup>17</sup> Participatory rural approach (PRA) is a research methodology in which a local community studies an issue that concerns the population, prioritises problems, and evaluates options for solving the problem.

<sup>18</sup> Activist participatory groups (APGs) are a form of focus group discussion. The participants are people involved in action in the community and they can provide for the balance between insider and outsider opinion on issues. An APG integrates three basis aspects of work – participation in the process being studied, action (involvement with issues in a day-to-day basis) and experience based on participation and action.

<sup>19</sup> Diad interviews are of a qualitative nature consisting of a moderator and two participants.

<sup>20</sup> Triad interviews are of a qualitative nature consisting of a moderator and three participants.

<sup>21</sup> Immersion is a research method whereby the researcher immerses themselves into the setting, living among the participants for months or years. The researcher aims to get an in-depth and longitudinal understanding of the subject.

<b>Sample</b>	30 FGDs, 60 IDIs, 15 expert interviews and four community assessments.	56 IDIs and 15 FGDs (total of 118 respondents).	14 PRAs, 16 APGs, 22 IDIs, 18 triads, 13 diads, 42 FGDs, 8 TIPs and 16 immersions.	19 FGDs (with a total of 120 respondents) and 23 IDIs.
<b>Fieldwork challenges</b>	<ul style="list-style-type: none"> <li>• As a sensitive issue, some respondents were reluctant to discuss female reproductive health.</li> <li>• In some areas, it was difficult for the researchers to understand the local dialects and freelance researchers had to be recruited.</li> <li>• Plans for fieldwork were changed frequently due to the volatile political situation in Bangladesh.</li> </ul>	<ul style="list-style-type: none"> <li>• Initially there were some difficulties gaining permission to conduct research in Oromia but these were resolved by local researchers.</li> <li>• Fieldwork began at the start of the rainy season, which caused some difficulties in accessing more isolated kebeles<sup>22</sup> in Oromia.</li> </ul>	<ul style="list-style-type: none"> <li>• Challenges recruiting currently pregnant to the study.</li> <li>• Difficulties for respondents answering questions using projective techniques.<sup>23</sup> Guides were adapted so that questioning was more direct.</li> <li>• Female respondents were uncomfortable talking about family planning and birth spacing in FGDs. IDIs were thus conducted on these issues.</li> </ul>	<ul style="list-style-type: none"> <li>• Poor infrastructure and on-going security issues meant that the most remote communities were under-represented in the sample.</li> <li>• Local translators were hired to conduct research in local languages. Although training was conducted with translators and transcripts checked, it is possible some of the nuances of the language may not always have been captured.</li> </ul>

## 4.2 Baseline quantitative research

BBC Media Action developed quantitative baseline questionnaires with standardised measures for socio-demographic characteristics, media consumption and measures of health practices that were common to the four countries, as well as measures of potential drivers of practices and barriers to practices. Some non-standardised, country-specific survey items were also developed to measure indicators of interest to the individual country project. While researchers aimed for comparable data across the three countries, the primary aim of samples was to represent the target populations for broadcast interventions. This meant that samples differed in their demographic characteristics. Due to programming going on air in Bangladesh in April 2014, the Bangladesh baseline will be conducted

<sup>22</sup> A *kebele* is the smallest administrative unit of Ethiopia similar to a neighbourhood. Each *kebele* consists of at least five hundred families, or the equivalent of 3,500 to 4,000 persons.

<sup>23</sup> Projective techniques are indirect methods of investigation that use projection of respondents for inferring motives, urges or intentions that are challenging to ascertain through direct questioning.

in late 2013 or early 2014. Specifics of the individual baseline surveys in Ethiopia, India and South Sudan, including details of quality control, can be found in Table 3.

Table 3: Quantitative research methodology

	<b>Ethiopia</b>	<b>India</b>	<b>South Sudan</b>
<b>Target groups</b>	<ul style="list-style-type: none"> <li>• Women with an infant aged 0-9 months who listened to the radio at least once a month.<sup>24</sup></li> </ul>	Women with an infant aged 0-11 months. Currently pregnant women. Women with an infant aged 0-5 years. Mothers-in-law. <sup>25</sup> Husbands of currently pregnant women/women with an infant aged 0-11 months.	<ul style="list-style-type: none"> <li>• Women with an infant aged 0-9 months.</li> </ul>
<b>Locations</b>	Amhara and Oromia (rural and urban).	Madhya Pradesh and Odisha (rural and urban).	Yambio (Western Equatoria state), Torit (Eastern Equatoria state), Rumbek (Lakes state).
<b>Fieldwork dates</b>	December 2012 to February 2013.	October 2012 to January 2013 (Madhya Pradesh), February to May 2013 (Odisha).	Yambio October to November 2012, Torit March to April 2013, Rumbek May 2013.
<b>Sample size</b>	2,044 respondents.	7,114 respondents (including 2,977 women with an infant aged 0-9 months).	1,649 respondents.
<b>Sampling strategy (including screening)</b>	<ul style="list-style-type: none"> <li>• A self-weighting cluster sampling approach was used, reflective of both states (Amhara and Oromia).<sup>26</sup></li> <li>• 120 primary sampling units (PSUs) – kebeles were considered as PSUs.</li> <li>• PSUs were selected using probability</li> </ul>	<ul style="list-style-type: none"> <li>• A multi-stage, self-weighting cluster sampling approach was used.</li> <li>• 530 PSUs (urban and rural) were selected using PPS.</li> <li>• PSUs for rural areas were villages or a cluster of villages.<sup>29</sup> PSUs for urban areas were wards.<sup>30</sup></li> <li>• A complete household listing was conducted to</li> </ul>	<ul style="list-style-type: none"> <li>• Sampling was complicated by lack of census sampling frame.</li> <li>• Three clusters surrounding urban centres were purposely selected based on security considerations.<sup>31</sup></li> <li>• Payams<sup>32</sup> were</li> </ul>

<sup>24</sup> In Ethiopia, researchers excluded “media-dark” areas and screened for monthly radio listenership to ensure sufficient women exposed to programming at midline and endline to be able to effectively assess impact.

<sup>25</sup> Mothers-in-law were selected based on this criteria: either a mother-in-law of a woman with 0 parity, or a mother-in-law of a woman with children 0-2 years, or a mother-in-law of a woman with children 0-5 years.

<sup>26</sup> Four separate sampling frames were used: Amhara urban, Amhara rural, Oromia urban and Oromia rural.

	<p>proportionate to size (PPS).</p> <ul style="list-style-type: none"> <li>• PSUs were stratified according to size<sup>27</sup> and these strata were used to allocate a target number of respondents.<sup>28</sup></li> <li>• HEWs, kebele leaders and female representatives were consulted to list local women with a young infant. Women were randomly sampled from this list and screened for (1) having an infant aged 0-9 months and (2) listening to the radio at least once a month. Suitable respondents were then interviewed.</li> </ul>	<p>create separate sampling frames for the various study groups.</p> <ul style="list-style-type: none"> <li>• Eligible respondents within each group were selected using random systematic sampling.</li> </ul>	<p>considered as PSUs. Within each cluster all accessible payams within 25km of the urban centre were selected.<sup>33</sup></p> <ul style="list-style-type: none"> <li>• Population estimates for payams were used to determine the number of observations collected in each PSU to attempt a self-weighting sampling approach at this level.<sup>34</sup></li> <li>• Following this, all bomas<sup>35</sup> within payams were sampled. Population statistics did not provide population size for bomas therefore sample was distributed equally.</li> <li>• Within each PSU, households were</li> </ul>
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<sup>29</sup> The average size of a cluster or PSU was approximately 245 households. Larger villages were segmented and smaller villages were combined.

<sup>30</sup> Because of the non-availability of new revised data on census enumerators' books (CEBs), after selecting the ward (administrative boundary) it was divided on the basis of natural boundary – obstructions which prevent crossing land – because wards are large in size and there were no maps available.

<sup>31</sup> Each cluster comprised 1-2 counties and covered a radius of 25km from the urban centre.

<sup>32</sup> A payam is an administrative geographic unit in South Sudan, between the County and the boma.

<sup>27</sup> Kebeles were classified as large, medium or small, depending on their population size according to the 2007 census data.

<sup>28</sup> The target survey population (women with an infant aged 0-9 months who listen to the radio at least once a month) are up a small proportion of the population in Amhara and Oromia. If the target number of respondents for each PSU was the same, it would have been difficult to achieve the target numbers in smaller PSUs.

<sup>33</sup> Researchers originally intended to randomly select only a fraction of the payams, but when the field realities became evident, random selection no longer became an option. To visit roughly the same number of payams in each location and meet target numbers, they had to visit every payam that was accessible. Therefore, the payams were not randomly sampled.

<sup>34</sup> The sampling frame was not stratified by rural and urban, as all areas within the clusters were judged to be in reality peri-urban or rural. Informal geographic information system (GIS) data was obtained from the National Bureau of Statistics to determine the percentage of the physical area of each payam located within 25km of the city centre and population statistics were drawn from the 2010 South Sudan Statistical Yearbook. See: Southern Sudan Centre for Census, Statistics and Evaluation. *Statistical Yearbook for Southern Sudan 2010* [online] Available from: <http://ssnbs.org/storage/Statistics%20Year%20Book%202010%20.pdf> [Accessed 30 September 2013]

<sup>35</sup> A boma is the smallest administrative geographic unit in South Sudan.

			selected using a random walk method. Selected households were screened for suitable respondents, who were then interviewed. <sup>36</sup>
<b>Fieldwork challenges</b>	<ul style="list-style-type: none"> <li>• In some PSUs in Amhara, radio listenership was found to be very low and the target sample size in these PSUs could not be achieved.</li> </ul> <p>Thus, additional samples were done in areas where there was better access to radio within the route taken by the fieldwork team.</p> <ul style="list-style-type: none"> <li>• In some parts of Amhara respondents spoke Afan Oromo rather than Amharic and enumerators were unable to conduct the interview in this language. A team from Oromia was sent to these kebeles to conduct the fieldwork.</li> <li>• Sampled kebele replaced due to ongoing conflict in area.</li> </ul>	<ul style="list-style-type: none"> <li>• Initial difficulties in gaining permission to conduct the survey in Odisha led to a delay of several months in going to field.</li> <li>• Limited availability of mothers of children aged 0-11 months in the PSUs.</li> <li>• Difficult to interview men, particularly in rural areas, as they were often not at home during the day.</li> <li>• Challenging to interview mothers and pregnant women because family elders constantly accompanied them, particularly in rural areas.</li> </ul>	<ul style="list-style-type: none"> <li>• Difficulties in recruiting skilled enumerators, especially in Rumbek, and difficulties in translating survey items.</li> <li>• In the first location, Yambio, enumerators struggled with skip patterns and both enumerators and respondents had difficulties understanding some of the survey items, particularly the social norms questions. Therefore, for fieldwork in Torit and Rumbek, researchers cut out a number of survey items from the tool<sup>37</sup> and used electronic data collection using mobile phones with Open Data Kit.</li> <li>• Respondents often had difficulties in conceptualising time and differentiating between different types of health workers.</li> </ul>

<sup>36</sup> If no suitable woman was found in the household, the enumerators reverted back to the random walk method until a suitable household was found.

<sup>37</sup> Deletions included the social norms items.

### 4.3 Next phases of data collection

BBC Media Action plans to measure the impact of programming in each country with cross-sectional surveys conducted at midline and endline. Midline and endline data will enable analysis of shifts in outcomes – such as knowledge of healthy behaviours – and differences in outcomes among women exposed to the programming as compared to those not exposed over time. Researchers intend to conduct dose-response analysis to explore the differential effects on women who are exposed to different levels of programming.<sup>38</sup> They will analyse the relationship between behavioural outcomes and the potential drivers to better understand the drivers of maternal and newborn health behaviours.

As outlined in section 7 BBC Media Action is using retrospective testing to refine the priority measures for the midline quantitative data collection. It also plans to conduct additional qualitative research with the target population to help understand impact and provide contextual information at country-level on how these drivers might impact behaviours.

## 5. Insights from the research: Antenatal care, birth preparedness and safe delivery

This section presents some of the findings from the formative qualitative research conducted in Bangladesh, Ethiopia, India (Madhya Pradesh and Odisha states) and South Sudan. It also presents findings from the baseline quantitative research conducted in Ethiopia, Madhya Pradesh state in India and South Sudan. Quantitative data from South Sudan should be interpreted with caution due to the methodological challenges encountered there (covered further in section 7). Quantitative data from Bangladesh and Odisha state in India is not included, as it was not available at the time of writing. The quantitative baseline data presented for Ethiopia, Madhya Pradesh state in India and South Sudan is for the primary survey population of interest: women with an infant aged 0-9 months.

The first section presents findings related to antenatal care and the second section presents findings related to birth preparedness. Provision of services and barriers to accessing services are also discussed. The research was designed, and the findings below are presented, in relation to practices and five prioritised drivers of practice in BBC Media Action's health approach and conceptual model: knowledge, attitudes and beliefs, social norms, self-efficacy and interpersonal discussion.

As discussed in the previous section on methods, the quantitative research was designed using common questions to enable comparison of findings across countries. The qualitative research, however, followed a bespoke design in each country to inform programming in that country, and was not designed with comparison in mind. Nevertheless, cross-country comparisons have been made using both the quantitative and qualitative data, wherever possible.

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<sup>38</sup> Dose response analysis examines the effect of changes in doses of exposure on the outcome under investigation.

## 5.1 Antenatal care

### 5.1.1 Antenatal care – practices

#### a. Formative qualitative findings

Qualitative research explored a number of desirable practices related to antenatal care. These included: going for at least four antenatal care visits with a qualified health worker (QHW), attending antenatal care during the first trimester of pregnancy, receiving antenatal care from a QHW rather than a TBA, eating a more varied and nutritious diet during pregnancy and reducing workload.

In all research locations, qualitative research revealed that few women went for four or more antenatal care check-ups with a QHW when pregnant, and most waited until their second trimester to attend their first check-up. Going to a TBA for antenatal care was not uncommon in South Sudan, and to a lesser extent, in rural Bangladesh. Eating nutritious food and reducing workload was often not possible due to financial constraints and lack of support from family members. In India, Ethiopia and South Sudan, however, research respondents reported an increase in women attending antenatal care check-ups, and in India they reported an increase in women registering pregnancy and taking IFA tablets. There were further nuances to the findings within each country.

In both rural and urban Bangladesh, pregnant women generally only attended early and regular antenatal care check-ups if complications had been identified or if the woman felt ill. In rural areas attendance at antenatal care generally stopped as soon as the woman felt better. Otherwise, attendance at antenatal care for most women in Bangladesh was limited to a visit in the fifth month to check the position of the baby using a sonogram, followed by a visit in the last trimester to again check the position of the baby to determine whether the baby could be delivered at home. In remote rural areas with no access to health centres, pregnant women sometimes visited the local TBA to check the position of the baby.

In Ethiopia, research respondents reported higher uptake of antenatal care in recent years due to the roll-out of the HEW scheme. The qualitative research found that most women attended two to four check-ups, although the first check-up was usually not until the fourth month of pregnancy. Some women did report eating a more nutritious diet and reducing their workload when pregnant, although not necessarily throughout the whole of their pregnancy. Other women were, however, unable to eat a more nutritious diet or reduce workload during pregnancy because they lacked the financial resources to buy certain foods or to employ somebody else to assist them with work.

In India, respondents reported that in recent years there had been an increase in women registering their pregnancy with ASHAs, attending antenatal care check-ups and taking IFA tablets. Many women now registered their pregnancy by the fourth or fifth month. Respondents attributed these positive trends to the *Janani Suraksha Yojana* (JSY) scheme and exposure to mass media campaigns.<sup>39</sup> Few pregnant women reported going for regular (four or more) check-ups, however, and in many cases

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<sup>39</sup> In 2005, the government of India launched the JSY scheme to incentivise women of low socioeconomic status to give birth in a health facility. JSY is implemented through community-level health workers such as ASHAs. See Lim, SS, Dandona, L, Hoisington, JA, James, SL, Hogan, MC, & Gakidou, E (2010) India's Janani Suraksha Yojana, a conditional cash transfer programme to increase births in health facilities: an impact evaluation. *Lancet*, 375, 2,009-2,023

antenatal care only meant collecting IFA tablets and registering pregnancy. In Madhya Pradesh, women sometimes preferred to have the *dai* (TBA) confirm pregnancy, as the *dai* is trusted not to disclose the pregnancy to anyone else. Finally, although pregnant women were often advised by friends and family to rest more and eat more, they were generally not given any support to enable them to do this and – with the exception of not lifting heavy items – they continued to eat and work the same as before.

In South Sudan, health workers who participated in the qualitative research reported that attendance at antenatal care check-ups was increasing and that antenatal care was the most popular and well-attended of all RMNCH services. Pregnant women did not, however, generally attend the recommended four check-ups and often missed appointments. In urban/peri-urban areas most women reported attending antenatal care at a health centre or a hospital, and in rural areas a number of women reported receiving antenatal care from a QHW. BBC Media Action researchers sensed, however, that in reality, this meant visiting the TBA or traditional healer to have the baby's position checked. They also observed a general perception that women should rest more, avoid heavy lifting and eat more nutritious foods when pregnant and that this was considered to be the responsibility of the husband. However, in practice, most women lacked the financial resources or the support to be able to do this.

#### b. Baseline quantitative findings

Findings from the quantitative research conducted in Ethiopia, Madhya Pradesh and South Sudan largely corroborated findings from the qualitative research (with some exceptions in South Sudan). Most women in Ethiopia, Madhya Pradesh and South Sudan had not attended the recommended four antenatal care check-ups with a QHW during their last pregnancy, nor had they attended their first antenatal care check-up with a QHW in their first trimester (see Figure 2).<sup>40</sup>

Specifically, the quantitative research in Ethiopia, Madhya Pradesh and South Sudan found that most women reported attending their first antenatal care check-up in their second trimester. Thirty-five per cent of women in both Ethiopia<sup>41</sup>, 24 % in Madhya Pradesh, and 48% of women in South Sudan reported receiving four or more antenatal care check-ups with a QHW (see Figure 2), while 20% of women in Ethiopia, 12% of women in Madhya Pradesh and 16% of women in South Sudan reported receiving no antenatal care at all for their last pregnancy.

Less than 1% of women in each country reported receiving antenatal care from a TBA, despite this being a common finding of the qualitative research in South Sudan.<sup>42</sup> Quantitative and qualitative

<sup>40</sup> In each country, different types of health workers are considered as “qualified health workers”.

<sup>41</sup> The definition of qualified health worker used here for provision of antenatal care in Ethiopia includes health extension workers. The Ethiopian government recommends that while health extension workers are qualified to provide antenatal care, at least one antenatal care check-up in a pregnancy should be with a nurse, midwife or doctor at a health centre. The figure of 35% may therefore be overestimating the proportion of pregnant women who followed the recommended practice.

<sup>42</sup> In Ethiopia, 42% received antenatal care in a government health centre, 29% at a health post and 7% at a hospital. In South Sudan, 60% received antenatal care in a government hospital and 19% at a government health centre. In Madhya Pradesh, the most commonly reported locations were government hospital (41.7%) and private hospital or clinic (23.4%). The most common providers in Madhya Pradesh were doctors (45%), nurses (19.2%) and community health workers (10.4%). In Ethiopia, the most common providers were nurses (36.5%),



findings are therefore inconsistent in South Sudan. Possible explanations for this discrepancy are outlined in section 7.

### Antenatal care practices in Ethiopia, Madhya Pradesh and South Sudan

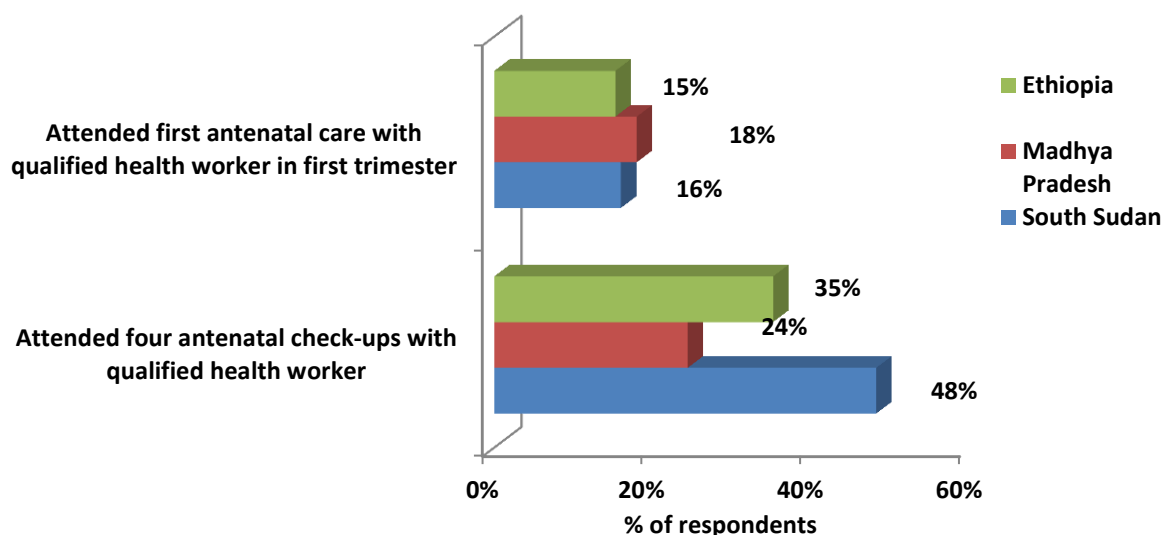


Figure 2: Antenatal practices in Ethiopia, Madhya Pradesh and South Sudan, according to baseline data

#### 5.1.2 Antenatal care – knowledge

##### a. Formative qualitative findings

In most research locations, qualitative research revealed general knowledge that pregnant women should receive antenatal care. However, this knowledge was often incomplete in four respects: first, many women did not have an accurate understanding of what antenatal care was; second, they often lacked knowledge about how many visits were required and when these visits should begin; third, they sometimes lacked knowledge of the signs of pregnancy itself; and fourth, they often lacked knowledge about who was qualified to give antenatal care. There was generally some knowledge of home-based care behaviours, however. Across the board, knowledge seemed to be better in Ethiopia and India than in Bangladesh and South Sudan.

Lack of knowledge of what comprises antenatal care was most common in Bangladesh and South Sudan. The qualitative research in Bangladesh and South Sudan found that understanding of the importance of attending antenatal care was often linked to the perceived need to check the position of the baby later in the pregnancy, and this was what most respondents in the two countries understood by the term ‘antenatal care’. In Bangladesh, urban respondents and women who had previously been pregnant reported a higher understanding of the requirements for antenatal care, but this did not necessarily increase attendance, possibly because of attitudes prevalent in Bangladesh

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health extension workers (28.7%) and midwives (11%). And in South Sudan the most common providers were midwives (70%), doctors (31.1%) and nurses (23.5%).

(discussed in section 5.1.3, Antenatal care – attitudes and beliefs,). In Ethiopia and India, there was generally a better understanding of the appropriate components of antenatal care such as tetanus toxoid injections, iron tablets and blood tests, and women reported receiving these interventions as part of their antenatal care. However, in India some older women thought that IFA tablets could lead to miscarriages, stillbirth and physical deformities in the baby.

“IFA tablets do not suit every woman’s body. Sometimes it can impact the health of the child and may lead to miscarriage.”

Mother-in-law, mainland village, Odisha, India

Across all four countries many women did not know how many antenatal care visits were required or when to start attending. Most respondents in the qualitative research did not understand the importance of attending four or more antenatal care check-ups and attending the first check-up during their first trimester. Overall, respondents did not link the timing of antenatal check-ups to the stages of pregnancy and the different interventions required. There was, however, an understanding of the need for early and regular uptake of antenatal care in some urban areas in Bangladesh, Ethiopia and South Sudan, and among some younger women in India. In Ethiopia the vast majority of respondents in the formative research understood the need to attend several antenatal care check-ups with a QHW, although respondents did not generally indicate that women should attend at least four check-ups or attend as early as possible.

One potential barrier to early and regular uptake of antenatal care was delayed confirmation of pregnancy, which was partially due to lack of understanding of the early signs of pregnancy. In India and South Sudan in particular, women were sometimes unable to recognise the early signs for first pregnancies. Women in Ethiopia and some women in Bangladesh reported higher levels of knowledge.

Finally, some women did not know who was qualified to give antenatal care. In South Sudan, there was an especially poor understanding of the specific implications of using or not using a health service, which may be linked to the lower levels of availability of these services. In Ethiopia, however, there is a general understanding that TBAs are not qualified to provide adequate antenatal care services.

Women largely knew about home-based care behaviours. Most respondents in Ethiopia, India and Bangladesh understood the importance of home-based care behaviours during pregnancy, for example, avoiding strenuous activity and stress, resting more and eating more nutritious food. However, in rural Bangladesh respondents reported that women only need to reduce their workload from the fifth or sixth month of pregnancy, or sometimes even later.

#### b. Baseline quantitative findings

The baseline quantitative findings confirmed that people recognised the importance of antenatal care, but in other respects they did not entirely corroborate the qualitative findings. In Ethiopia and South Sudan in particular, the quantitative baseline data suggested better knowledge around the need for early and regular attendance at antenatal care than the qualitative data (see Figure 3).

In keeping with the qualitative data, the quantitative data showed high proportions of women in Ethiopia, Madhya Pradesh and South Sudan knew women should have antenatal care for all pregnancies (97% in Madhya Pradesh and Ethiopia, 90% in South Sudan). However, in Ethiopia and South Sudan, a few women reported that women should only have antenatal care if they have complications (2% in Ethiopia and 7% in South Sudan).<sup>43</sup>

Of those who reported that a pregnant woman should have antenatal care, however, the majority of women in Ethiopia (74%) and South Sudan (77%) reported that a pregnant woman should have at least four antenatal care check-ups (although this was lower in Madhya Pradesh, at 31%). Just over half of respondents in Ethiopia and South Sudan reported that pregnant women should attend their first antenatal care check-up in the first trimester.<sup>44</sup> This indicates a much higher knowledge of timing of antenatal care check-ups in Ethiopia and South Sudan than found in the formative research. Possible explanations for this discrepancy will be discussed in section 7.

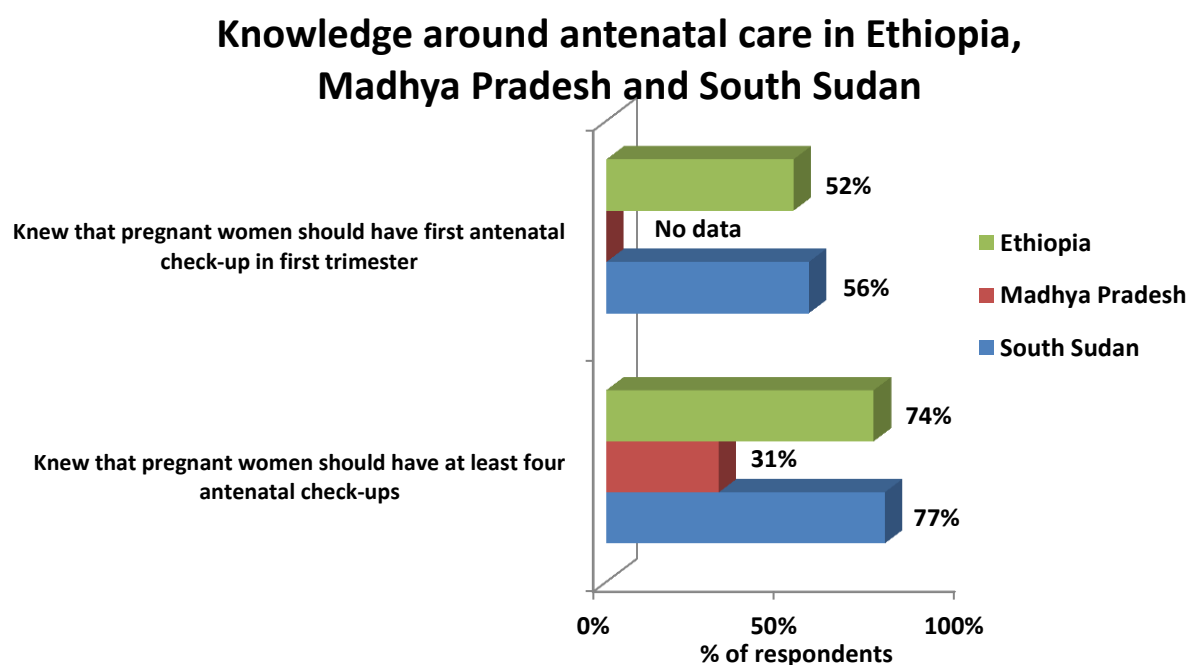


Figure 3: Knowledge around recommended practices for antenatal care in Ethiopia, Madhya Pradesh and South Sudan, according to baseline data

### 5.1.3 Antenatal care – attitudes and beliefs

#### a. Formative qualitative findings

Data on attitudes and beliefs is only available from the qualitative research. This is because standardised measures of attitudes related to antenatal care did not perform well cross-culturally, as outlined in section 7). The qualitative research revealed that even where respondents knew what antenatal care was required, certain attitudes and beliefs may have had an impact on women’s attendance. In particular, there were superstitions around revealing pregnancy in the early months,

<sup>43</sup> This was not a response option in Madhya Pradesh, India.

<sup>44</sup> This measure was not included in the questionnaire in Madhya Pradesh.

and a belief that birth is a “natural” process, so that regular antenatal care check-ups are only required for first pregnancies or if a woman experiences complications with the current pregnancy or has done with a previous pregnancy. There were also myths about eating and resting too much during pregnancy.

There was a belief in all countries that disclosing a pregnancy in the first months brings bad luck, which meant that the vast majority of women would not disclose their pregnancy outside of their family until the fourth month, or even the fifth or sixth month in India. This could prevent early uptake of antenatal care.

There was a belief among some people, in particular in India, Ethiopia and urban Bangladesh, that antenatal care is only required for a woman’s first pregnancy, and a perception that women are more likely to attend for first pregnancies. It was unclear as to what extent actual practice reflects this belief.

There was a minority attitude across all countries that antenatal care is unnecessary for any pregnancy. In all countries except South Sudan this attitude was mostly restricted to older respondents, although this attitude was also observed among a few younger women in South Sudan. These women were also less likely to report attending any antenatal care at all. Most respondents across the four countries, however, felt it was important for pregnant women to attend some form of antenatal care.

In India, Bangladesh and South Sudan, especially among older respondents in India, pregnancy was generally perceived as a “natural process”, and one that required minimal medical intervention unless a woman has complications. This attitude may prevent both uptake of regular antenatal care and women being able to eat a more nutritious diet and reduce their workload.

In India, older women were instrumental in promoting and propagating particular beliefs, including myths and misconceptions, around pregnancy-related care. This included the belief that too much rest for a pregnant woman can lead to a fat and unhealthy baby, and women should therefore continue their household tasks throughout their pregnancy.

Also, in Bangladesh, India and South Sudan, antenatal care was generally understood as a check of the baby’s health rather than that of the mother. The unborn baby’s health was not clearly linked to its mother’s health.

#### **5.1.4 Antenatal care – social norms**

##### **a. Formative qualitative findings**

Like attitudes and beliefs, information on social norms is only available from the qualitative research (the challenges of quantitatively measuring social norms cross-culturally are highlighted in section 7.) The qualitative research revealed that, in all countries, social norms could both positively and negatively influence uptake of antenatal care and home-based care behaviours, especially in terms of determining the level of support a woman might receive, how household resources were allocated and who made the decisions around these behaviours. There was some evidence, however, that

social norms were changing, in particular in Ethiopia and South Sudan, and as a result some pregnant women were receiving more support.

Social norms negatively influenced practice most in families where the pregnant woman had little say in decision-making, that is, where the husband was the key decision-maker. In all countries, men were generally key decision-makers for any practices that required some level of financial expenditure, and in India and Bangladesh men were often only involved in decisions around antenatal care when expenditure was involved. In South Sudan, women reported the lack of husband's consent as a barrier to attending antenatal care, largely because they required their husband's consent to be able to obtain the funds to attend. This was also reported by a minority of respondents in Ethiopia. In both countries, men generally made these decisions around antenatal care by weighing up the potential costs and benefits of antenatal care. Perceived social norms influenced what they perceived as benefits.

The family size and structure determined the type of support that a husband provided to his pregnant wife in India and also whether the pregnant woman stayed at her maternal home, where she had more time to rest.

“In the ninth month the lady goes to her father's house where they take care of her, give [her] proper food, rest and prohibit lifting heavy weight. Women generally deliver their first child in their maternal home only.”

Woman, mainland village, Odisha, India

In extended families in Bangladesh it was the norm for a pregnant woman to continue to do all of her household work, and some women reported being scolded by their mothers-in-law when they tried to follow the doctor's advice by avoiding heavy work. Within extended families in both countries, it was often the mother-in-law who made these decisions, and when the final decision rested with the husband, the mother-in-law's knowledge and advice determined the outcome.

Based on their own experiences, mothers-in-law in Bangladesh and India were generally unsupportive of regular antenatal care attendance for their daughters-in-law, and unsupportive of them eating a more nutritious diet and reducing their workload. In such a way, the mother-in-law's strong preference for keeping with tradition significantly influenced social norms in some communities, and the mother-in-law seemed to propagate her beliefs as the perceived social norm. The traditional family structure often dictated that a young woman must follow her mother-in-law's advice, so even if the pregnant woman's knowledge or attitude differed, she did not attempt to act against her mother-in-law's advice out of fear of defying the social norm.

“If our mother-in-law says that it is good to continue with daily work during pregnancy then we have to do it. What else can we do? We can't say no.”

Woman, mainland village, Odisha, India

Women living in less traditional family structures in Bangladesh and India, that is, without a mother-in-law, were more likely to report going for regular antenatal care check-ups and following the health worker's advice.

Norms around traditional gender roles not only constrained women's decision-making powers but also appeared to prevent women from receiving the care and services they required during pregnancy. In Bangladesh, for example, the norm for pregnant women to be confined during their first trimester may also have impeded early attendance of antenatal care. In Ethiopia, a few men reported that they would not help their pregnant wives with their housework as it was “women's work”.

Despite the fact that early and regular uptake of antenatal care was uncommon in all four countries, social norms are changing and there is increasing support among some communities towards these practices. For example, in Ethiopia many male respondents reported being supportive of their wives attending antenatal care and in helping their pregnant wives reduce their workload. Some men stated that it is their role to provide pregnant women with more nutritious food, help them rest more and seek medical advice, as well as offer moral support during labour, and some women reported that they had received such support when pregnant. However, they also stated that other men in the community did not share this mentality and did not support their pregnant wives.

“Husbands should help their wives in any possible area whenever they demand it. In this regard, I have personally helped my wife on cooking, making coffee, washing her clothes and handling every other household chore from her ninth month [of] pregnancy until [the] second month [after] delivery, which she was expected to perform in a normal circumstance. As a case in point, men in the neighbourhood used to ridicule me as they see me flattening animal dung for cooking purposes.”

Husband, Konchir, Amhara, Ethiopia

Older women in Ethiopia said that they encouraged pregnant women to use health services, which was also reported by older women in South Sudan. In Ethiopia and South Sudan, older women reported that normative practices were changing.

In South Sudan, some urban women reported that their husbands had supportive attitudes towards helping women reduce their workload, but observation suggests that most men still did not offer support. Husbands in India were increasingly involved and supportive of antenatal care, which may be due to the JSY scheme and its financial incentives. Respondents in India also reported that more young pregnant women attended antenatal care because their families wanted to check the baby's health.

### **5.1.5 Antenatal care – self-efficacy, confidence and agency**

#### **a. Formative qualitative findings**

Data on self-efficacy, confidence and agency comes from the qualitative research. (Again, standardised quantitative measures of self-efficacy around antenatal care did not perform well cross-culturally – these measurement challenges are covered in section 7). Across the four countries, findings suggested that young women had low levels of self-efficacy to carry out the recommended practices around antenatal care and birth planning. This was because they often had no independent source of income and lacked confidence to influence decision-making. In the cases of Bangladesh and India, it was also sometimes related to restrictions on women's physical movement and a lack of

confidence in their ability to know the right thing to do. In comparison, some women in Ethiopia and South Sudan expressed higher levels of confidence to be able to practise recommended behaviours.

Women in India and Bangladesh generally had no means of earning their own money, and as cost was often cited as a barrier to practices, where husbands were unsupportive of recommended practices, most women showed low levels of self-efficacy to overcome this barrier.

In most of the communities studied, there were low levels of female autonomy and a continuation of traditional gender roles. In India and Bangladesh, even though young women often had higher knowledge levels and more positive attitudes towards antenatal care, most women lacked the confidence to try to influence the mother-in-law's or husband's decisions. In some cases in Bangladesh, husbands also displayed low levels of self-efficacy to make pregnancy-related decisions, possibly due to their lack of knowledge or because they saw such issues, e.g. delivery, as a female domain. In India, mothers-in-law generally showed high levels of self-efficacy in being able to implement their preferences, although husbands (their sons) were generally the final decision-maker. For example, older women and TBAs needed to first seek a husband's approval prior to sending a woman with complications to the health facility. This was also the case in Bangladesh and South Sudan.

Pregnant women in Bangladesh also exhibited low levels of belief in their ability to understand advice at antenatal care and therefore preferred an older woman or their husband to accompany them, although they also felt that this would help their relatives understand their need for greater support during pregnancy. Women did, however, report feeling more confident to select their birth attendant when they had two or more children.

In India, it was observed that younger women generally accepted whatever decision was made on their behalf in all aspects of their lives. They did not appear to question the rationality behind any of these decisions and some women reported that men were more sensible, practical and rational than women, as though to justify their lack of influence in decision-making.

“Men know more about everything. They also understand better. We women are very emotional and thus do not take practical decisions. They are also the ones who earn money by working tirelessly and they understand the value of money more.”

Woman of reproductive age, mainland village, Odisha, India

In some cases, women were unable to attend antenatal care due to restrictions on women's physical movement, as many young women in India and Bangladesh were not allowed to leave the house alone (including in urban areas in Bangladesh). In Bangladesh some rural women respondents did not even know where the health facility was located due to their lack of familiarity with the outside world.

Pregnant women in Ethiopia and South Sudan, however, expressed greater levels of confidence to disagree with the views of others and to negotiate in order to be able to practise healthy behaviours. In South Sudan, there were numerous reports of older women advising younger women on pregnancy care and newborn health. Younger women often said that they did not agree with this advice and older women suggested that younger women often didn't agree with them. In Ethiopia,

women were found to have higher levels of self-efficacy to attend antenatal care. In many cases, this seemed to be directly linked to husbands having more supportive attitudes towards pregnancy-related care. Many couples reported making decisions around pregnancy-related issues jointly. Some women made decisions alone, but received support from their husbands to follow them.

### 5.1.6 Antenatal care – interpersonal discussion

#### a. Formative qualitative findings

Qualitative research revealed that interpersonal discussion about antenatal care, and indeed pregnancy in general, varied depending on who the conversation partner was. There were different patterns when it came to discussing antenatal care with older female relatives, husbands, peers and healthcare workers.

Despite the popular belief in Bangladesh, Ethiopia and India that pregnancy is a “private matter”, discussion of pregnancy-related matters outside the family was found to be quite common. In South Sudan the formative research also found discussion to be common, reflecting the social norm that a woman’s main role is to reproduce. In Bangladesh, however, some respondents reported that the need to keep discussion of the pregnancy within the family during the first few months had prevented some women seeking advice on antenatal care, and, in Ethiopia, from reducing their workload. In both rural and urban Bangladesh, it was reported that some women did not want to disclose and discuss their pregnancy with their neighbours and relatives, and they therefore missed out on getting advice on pregnancy-related care.

“People don’t discuss pregnancy-related topics freely. People think it has to be very confidential. Many people may think that talking/discussing about female reproductive health is vulgarism.”

Public health practitioner, Bangladesh

The levels and nature of discussion between women and their older female relatives was sometimes unclear. In Bangladesh and India in particular, findings suggested that this communication was mostly one-way, with the older woman disseminating information to the pregnant woman. In India, there was less perceived need for communication between the pregnant woman and her mother-in-law following the birth of the first child, as the woman was then perceived to be more knowledgeable. In Bangladesh, some older women were reluctant to discuss pregnancy-related issues with the pregnant woman as they were concerned that these discussions would worry her.

In both Ethiopia and South Sudan, many older women said they would advise their pregnant daughters to attend antenatal care in a hospital and health centre.

The findings suggested that discussion of antenatal care between pregnant women and their husbands was especially low in Bangladesh, but was increasing in India due to the JSY scheme. In Bangladesh, some men did not even wish to discuss pregnancy issues with their own mothers, leaving the mother-in-law as the prime decision-maker and interlocutor with the pregnant woman on these issues. In Ethiopia and South Sudan, discussion between women and their husbands around antenatal care seemed quite common.



Women often reported discussing pregnancy-related issues with peers and neighbours in Ethiopia and India. In India, a pregnant woman was most likely to discuss personal matters, including pregnancy-related matters, with her maternal family, neighbours and peers, as these were the people she felt most comfortable with. This set of people could influence uptake of both appropriate and incorrect practices. For example if a neighbour had had a bad experience with IFA tablets, the pregnant women was less likely to take the IFA tablets.

In India there was an increasing trend among the younger generation to engage with FHWs and increasing trust in their pregnancy-related advice. However, while such discussion might influence the pregnant woman's opinions, pregnant women often still had low levels of self-efficacy to be able to follow the advice. Following the introduction of the HEW programme in Ethiopia, many women reported discussing antenatal care and pregnancy-related matters with HEWs and that they followed their advice. HEWs reported, however, that their advice was not always followed. Reasons included not having the financial resources to, for example, buy certain nutritious foods or receiving conflicting advice from family or friends. Some women reported discussing antenatal care and self-care behaviours with neighbours and that they encouraged each other to go to antenatal care. To what extent these discussions influence uptake of recommended practices requires further research.

#### b. Baseline quantitative findings

Quantitative data on interpersonal discussion is only available for Madhya Pradesh and Ethiopia. There were large differences in discussion patterns in these two locations.

As can be seen in Figure 4, reported discussion around antenatal care was significantly higher in Madhya Pradesh than in Ethiopia.<sup>45</sup> In Ethiopia 26% of women did not discuss antenatal care with anyone. This could be reflective of formative research findings where some communities reported not discussing pregnancy-related issues with pregnant women so as not to frighten them. In Madhya Pradesh only 3% of women did not discuss antenatal care with anyone. In both Madhya Pradesh and Ethiopia, more respondents reported discussing antenatal and birth planning with husbands than with anyone else. This mirrors formative research findings, for example, the finding that the JSY scheme has increased male involvement in decisions around antenatal care.

The higher levels of reported discussion with mothers-in-law in Madhya Pradesh compared to Ethiopia reflect their influential role. Despite women in the formative research reporting feeling more comfortable discussing such issues with their own mother, only 17% reported this in the baseline.

The qualitative formative research for both countries suggested that women commonly discussed pregnancy-related care with their friends and neighbours. However, baseline findings did not reflect this. For example, as Figure 4 shows, only 13% of women in Ethiopia and 10% of women in Madhya Pradesh reported having discussed antenatal care with friends. Levels of discussion around antenatal care with community health workers were the same in Madhya Pradesh and Ethiopia. The fact that more women in Madhya Pradesh were reporting discussion with a relative may be because women in Madhya Pradesh generally have less autonomy than women in Ethiopia and must rely upon family

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<sup>45</sup> Following fieldwork challenges in the first baseline location in South Sudan, the questionnaire was shortened and survey items measuring interpersonal discussion were deleted.

members to make key decisions. The finding that relatively few women discuss antenatal care outside of their family is slightly contradictory to the formative research findings where discussion was commonly reported among women and their peers. This will be examined further in section 7.

### Discussion of antenatal care in Ethiopia and Madhya Pradesh

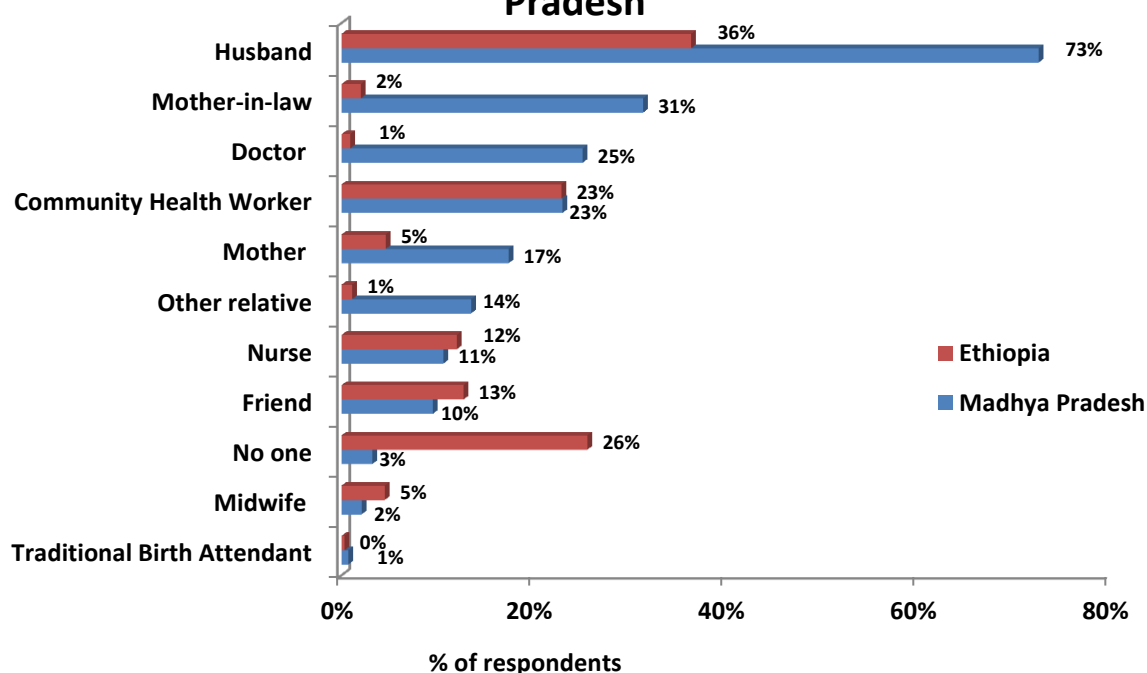


Figure 4: Discussion of antenatal care in Ethiopia and India, according to baseline data

## 5.2 Birth preparedness

### 5.2.1 Birth preparedness – practice

#### a. Formative qualitative findings

Various desirable practices related to birth preparedness were explored in the qualitative research. Birth preparedness practices depend, to some extent, on whether a birth is going to be at home or in a health facility. Delivery in a health facility is preferable, but not always possible. Recognising this, the qualitative research looked at a range of birth planning practices, some of which were applicable to home deliveries, some of which were applicable to institutional deliveries, and some of which were applicable to both. These included: preparing clean instruments and clean cloths; saving enough money for the birth; making a plan in case of complications; registering with a health facility (where possible); planning transport to the health facility; and/or arranging for an SBA to assist with delivery.

To contextualise the findings, information on where deliveries were taking place is presented first. In Bangladesh, Ethiopia and South Sudan the qualitative research suggested that home deliveries were more common, while in India (Madhya Pradesh and Odisha states) it suggested that the majority of women nowadays gave birth in a health facility. In Bangladesh, Ethiopia and South Sudan home

deliveries were usually assisted by a TBA, neighbour or older female relative. In Ethiopia, TBAs played less of a role in delivery than in previous times, although most women only went to the health facility if they experienced complications during pregnancy or when in labour, such as heavy bleeding, problems removing the placenta or prolonged labour. In Ethiopia, the majority of women in peri-urban areas had planned throughout their pregnancy to deliver at a health facility, which may be reflective of better access to health services. Urban/peri-urban women in Bangladesh and South Sudan were also more likely to deliver in a health facility than rural women, although a good number still delivered at home. In urban areas in Bangladesh some families arranged for an SBA to deliver the baby at home. These trends may relate to the persistence of unsupportive social norms in Bangladesh and poor access to health services in South Sudan.

In India, respondents in both states reported that there had been an increase in institutional deliveries in recent years. Institutional deliveries were reported more commonly in Odisha than in Madhya Pradesh. The increase in institutional delivery was mostly attributed to the JSY scheme and its monetary incentives, as well as the role of FHWs in improving awareness within communities of the benefits of institutional deliveries. Women were more likely to go for an institutional delivery if they had registered their pregnancy with the ASHA or had had a positive experience delivering in a health facility for a previous pregnancy. Home deliveries, however, remained relatively common across both states. For home deliveries the woman was most often assisted by either her mother or mother-in-law and the *dai*. The mother-in-law decided who would assist the woman.

The most common home-based preparations involved preparing food, clean cloths, thread and a blade. Saving money and registering with a health facility were mentioned in Bangladesh, Ethiopia and India. In Bangladesh, planning for transport to a healthcare facility was mentioned more often than in other countries. However, in all countries planning tended to be insufficient. Preparations were often made inadequately or too late, and families were caught off guard when women went into labour. These findings are explained in greater detail below.

As many women across the four countries intended to deliver at home, often only home-based preparations were made. This sometimes included preparing the home for a clean and hygienic birth, but the most commonly made preparations were linked to preparing the home for the birth and for the newborn, for example, preparing food to eat post-birth. In Bangladesh and India, it was often the mother-in-law who made the preparations for home births, but it was the pregnant woman's role in Ethiopia and South Sudan. Respondents across the four countries commonly mentioned preparing clean cloths, thread and a clean blade for cutting the umbilical cord. In South Sudan, only a few stated that the blades were new or had been boiled or sterilised. Beyond this, very few women in South Sudan had a birth plan in place that involved, for example, identifying a health facility or planning transport with the exception of a few (but not all) women who expected complications.

In Ethiopia, a few respondents reported making preparations such as saving money for travel to the health centre and identifying and registering with a health facility, but these practices were not widespread. While many husbands reported saving money for delivery, it was not always clear what they were saving money for. Some seemed to be exclusively saving money for more general costs such as buying food or clothes for the baby or the longer term costs of raising a child.

Reflective of higher levels of awareness around birth planning in Bangladesh compared to Ethiopia and South Sudan, a number of respondents in Bangladesh reported that they planned transport and

saved money to cover transport and initial hospital fees, regardless of whether they planned a hospital delivery or not. This is in contrast to Ethiopia where most husbands did not have an emergency plan in place other than calling for an ambulance or taking their wives to a health facility if they experienced complications during delivery.

In India there was a general awareness around the need to save money, plan transport and identify the place of delivery. Better birth preparations were generally made if the woman gave birth in her maternal home, which was a tradition in some areas for first pregnancies. However, families in India usually did not make these preparations, nor decide where the woman would deliver, until she started experiencing labour pains, ensuring that these preparations were made inadequately. Similarly, in Bangladesh, preparations were usually carried out inadequately and families often failed to act promptly in an emergency. If a woman experienced complications during labour, families tended to wait until the *dai* failed to deliver the baby, sometimes after two or three days of labour, to seek medical treatment rather than acting as soon as danger signs were recognised. Also, while families might identify the means of transport they planned to take to the health facility, they often failed to ensure that it would be available at the time of need.

Preparations being made inadequately or too late may be responsible for the relatively common occurrence of women delivering “unexpectedly”, as commonly reported by women across the four countries. Even if women intended to deliver in a health facility, many in fact delivered at home or on the way, as labour arrived unexpectedly and they had not adequately prepared by, for example, planning transport. In South Sudan, it was commonly reported that pregnant women went into labour “abruptly” and had therefore had not had time to go to the market to buy instruments or clothing. The problem of “abrupt delivery” was also reported to be the major reason that women were not able to deliver in a health facility in South Sudan, although researchers observed that in reality most women planned to deliver at home anyway. Some husbands in urban areas reported arranging for their wives to deliver in a health facility to avoid any “unexpected occurrences”.

#### b. Baseline quantitative findings

The quantitative data on place of delivery largely corroborated the qualitative data, except in the case of South Sudan. The proportion of women reporting an institutional delivery for their last birth was substantially higher in the Indian state of Madhya Pradesh (77%), than in Ethiopia (24%) and South Sudan (38%). In Madhya Pradesh, this reflected the rising trend for institutional deliveries, as reported in the formative research.

## Place of delivery in Ethiopia, Madhya Pradesh and South Sudan

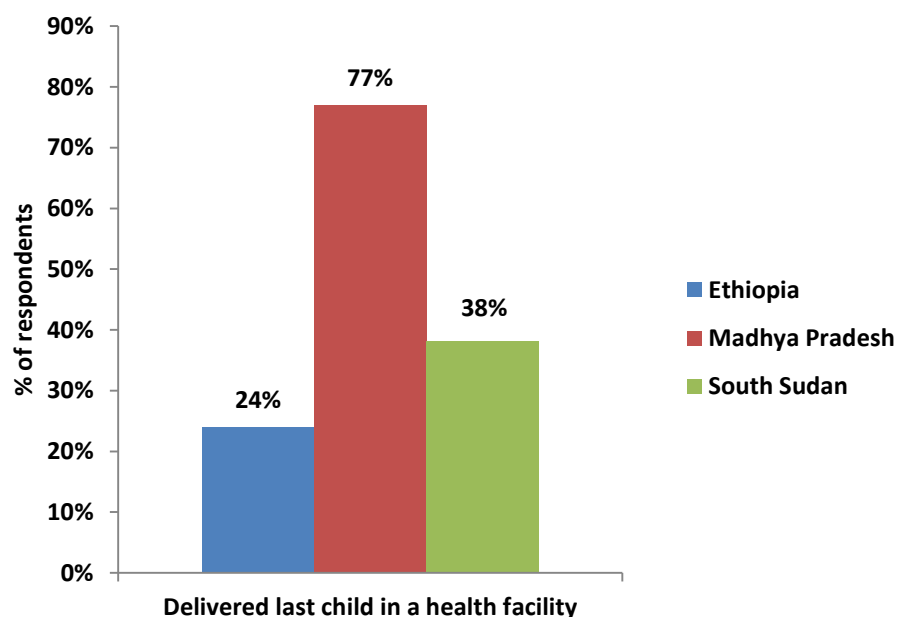


Figure 5: Practices around place of delivery in Ethiopia, India and South Sudan, according to baseline data

The quantitative data on practices around birth preparedness suggested a slightly different picture than the qualitative data, namely because birth planning practices appeared more widespread when looking at the quantitative data. As expected, birth planning practices appeared to be more commonly reported for institutional deliveries.

Reported birth planning practices in the quantitative baseline were higher in all three countries with baseline data (Ethiopia, Madhya Pradesh state in India and South Sudan) than the qualitative formative research suggested. Across the three countries, the majority of women in the baseline reported that they and their families prepared clean cloths and clean instruments and saved enough money for birth for their last pregnancy. The proportion of women reporting preparing clean cloths and instruments was significantly higher in Ethiopia and South Sudan than in Madhya Pradesh (see Figures 6, 7 and 8). This might reflect the fact that the mother-in-law is often responsible for making these preparations in Madhya Pradesh, and the survey only interviewed new mothers. Many more women reported that they saved enough money for birth, planned transport and made plans in case of complications across the three countries than formative research had suggested. Surprisingly, in Ethiopia and South Sudan, the percentage of women reporting they performed these behaviours was higher than the percentage of women demonstrating knowledge of these behaviours. Possible explanations for such discrepancies between data sources are discussed in section 7.

With the exception of preparing clean cloths and instruments in Ethiopia, reported birth preparedness practices were higher for institutional deliveries than for non-institutional deliveries across all countries. The variance was highest in South Sudan and lowest in Madhya Pradesh. There may be three possible reasons for this. Firstly, there was an attitude that if a family planned a home

delivery there was no need to make plans for transport to the health facility unless there were complications. Secondly, families planning an institutional delivery were more likely to be of a higher socio-economic status and more likely to have the resources to plan for birth. Thirdly, those planning an institutional delivery were arguably more engaged with the health system and more likely to have received appropriate advice on birth planning. The relatively high proportion of women in India who reported having arranged for an SBA<sup>46</sup> to assist also reflects formative research findings and links to families' desire to take advantage of the JSY scheme

### Birth planning practices in Ethiopia

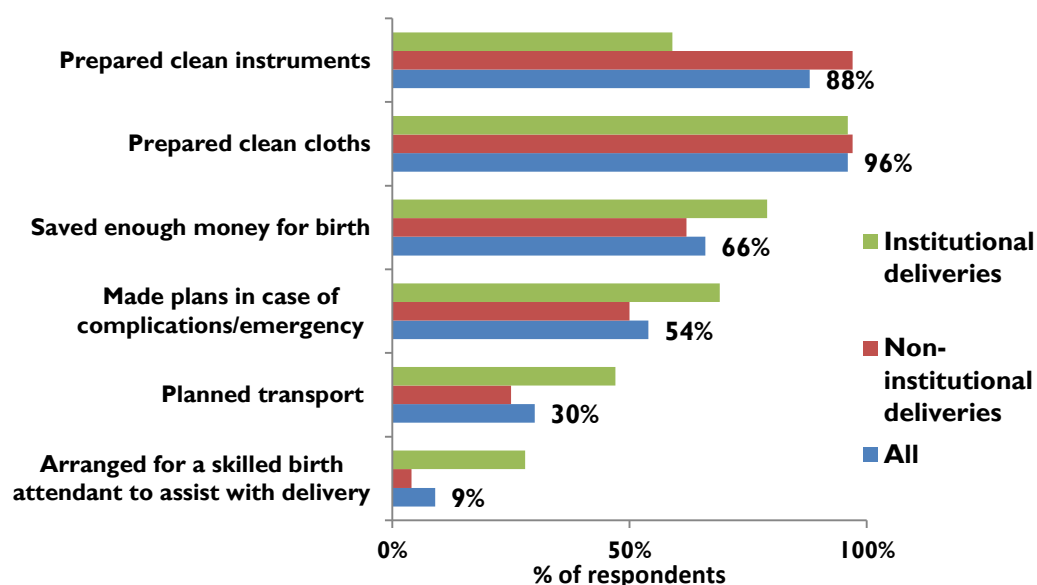


Figure 6: Reported birth planning practices in Ethiopia, according to the baseline

<sup>46</sup> Skilled birth attendants were defined as a doctor, nurse or midwife in Ethiopia and South Sudan, and as a doctor, nurse, midwife or auxiliary nurse midwife in India.

### Birth planning practices in Madhya Pradesh

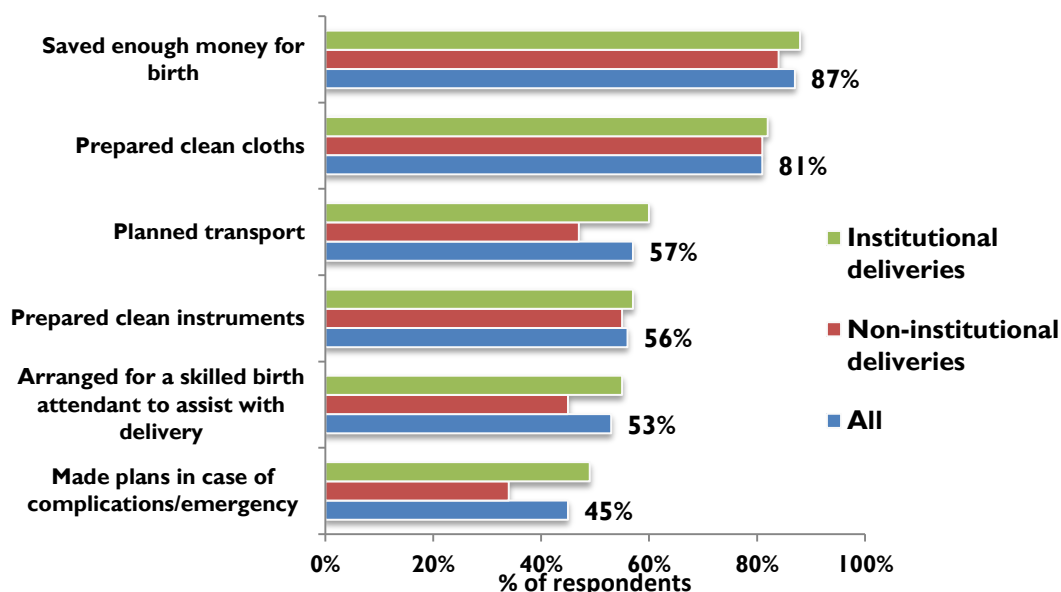


Figure 7: Reported birth planning practices in Madhya Pradesh, according to the baseline

### Birth planning practices in South Sudan

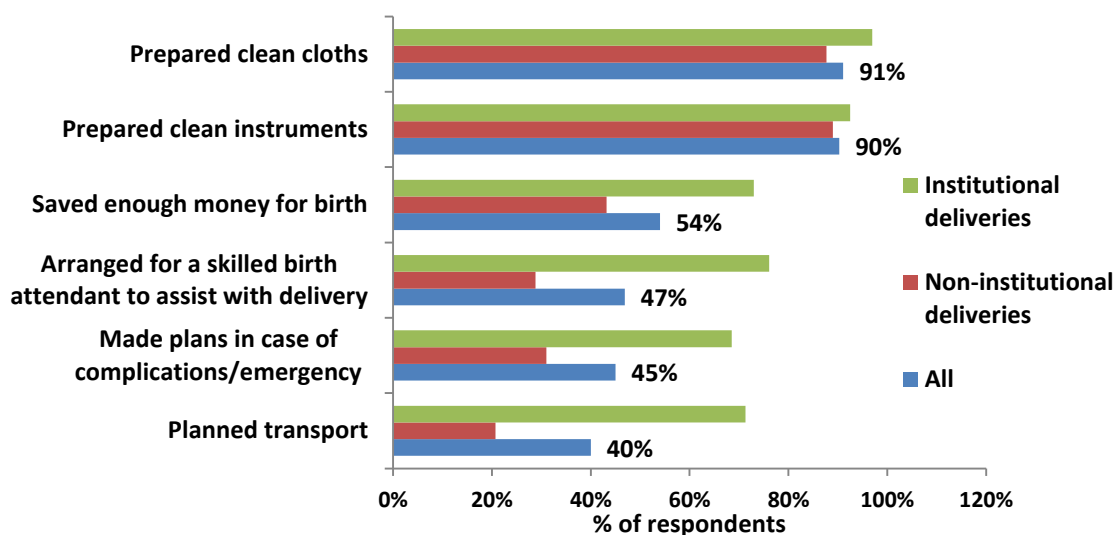


Figure 8: Reported birth planning practices in South Sudan, according to the baseline

## 5.2.2 Birth preparedness – knowledge

### a. Formative qualitative findings

There were four primary findings from the qualitative research around birth preparedness. Firstly, people's knowledge tended to focus on preparing food and clothing; knowledge about how to prepare for a hygienic delivery was weaker, especially in Bangladesh and South Sudan. Secondly, knowledge about making preparations for a health facility birth or, in case of complications, for a home birth was apparently higher in Bangladesh and India than in Ethiopia and South Sudan. Thirdly, South Sudan was the only country where some women did not know that an institutional delivery was safer than a home delivery. Finally, across all countries, there were many reports of “unexpected” delivery, suggesting a poor understanding of expected delivery dates.

Across all countries, knowledge around birth planning focused on preparations such as preparing clothes for the baby, and in Ethiopia and South Sudan, food. Across Bangladesh, Ethiopia, India and South Sudan, of the recommended birth preparedness practices, respondents were most commonly aware of the need to prepare clean blades and cloths, although in South Sudan many did not link the need for cleanliness to the child's health. In Bangladesh, with the exception of preparing clean blades, most respondents lacked adequate knowledge around hygienic practices in delivery rooms.

In Bangladesh and India, knowledge around components of a birth plan was relatively high and many respondents discussed the importance of saving money, planning transport and arranging for an SBA to assist with delivery. In India knowledge of birth planning was higher among those who had registered their pregnancy. It is still not entirely clear what women in India understand by the concept of birth planning, although the most commonly reported birth planning practices were linked to home deliveries or around identifying the health facility for delivery in order to benefit from the JSY scheme. However, in both countries there were gaps in knowledge around the correct timeframes for making preparations for birth and also how to carry out preparations effectively. For example, families in Bangladesh might know that they should take the rickshaw driver's number, but did not think to inform him when he might be needed, and therefore should be on standby. This meant that transport might not be available when required. Furthermore, it is the mothers-in-law's and the *dai*'s knowledge and experience that was taken as the reference point. Mothers-in-law generally perceived their own knowledge around birth planning to be complete and did not believe that they required further knowledge or intervention on this matter.

In Ethiopia, there was a relatively poor understanding around some important birth planning practices, and there was even poorer understanding in South Sudan. While some respondents discussed the need to save money for the birth, other preparations such as planning transport and registering with a health facility were rarely mentioned. It was generally thought that preparing food and clothes, and saving money were sufficient preparations.

In Bangladesh and India, the majority of respondents understood that it was safer to deliver in a health facility. In Ethiopia, many men and women understood that health facility deliveries were safer for the mother and newborn and also that women should not be assisted by TBAs during delivery. This understanding was actually stronger among men. In Bangladesh and Ethiopia, this understanding often failed to translate into a preference for a facility delivery or uptake, possibly due to the persistence of unsupportive social norms. Only a minority of women in South Sudan reported that



health facility deliveries were recommended or were safer for the woman and baby. These women were not any more likely to report a facility delivery for their last birth.

Across the four countries, there were many reports of “unexpected” delivery, suggesting a poor understanding of expected delivery dates. In India, for example, families only generally knew in what season or month the child would be born. The poor understanding of appropriate birth planning timeframes also impeded preparations being made effectively.

“I am in my sixth month right now so I will have my delivery by December or January.”

Pregnant woman, mainland village, Odisha, India

While there seemed to be some, although to a certain extent, limited, understanding around danger signs in most communities, there seemed to be a delay in referring women in labour exhibiting danger signs to a health centre. There was some indication as to why these delays occurred. For example, in Bangladesh, most people relied on the mother-in-law’s and TBA’s knowledge and expertise, despite the fact that TBAs were generally unable to recognise danger signs. However, across the four countries, it was unclear to what extent this delay was due to a lack of understanding around the need for prompt referral, or due to preparations such as arranging transport not being made at all or being made ineffectively.

#### b. Baseline quantitative findings

The baseline quantitative research focused on three key knowledge issues with respect to birth planning: recognising danger signs during delivery, understanding the components of a birth plan, and understanding when birth planning should start.

Recognising danger signs during home delivery is key to knowing when to start implementing emergency plans – in particular, when to start transporting a woman to a health facility. As Figure 9 shows, the majority of women across the three countries were able to name two or more danger signs for a woman in labour: vaginal bleeding and severe abdominal pain were the most commonly mentioned. Knowledge was highest in South Sudan.

Knowledge around key components of a recommended birth plan was significantly higher in Madhya Pradesh (87%) than in Ethiopia (26%) and South Sudan (37%). In Madhya Pradesh, 47% of respondents could name all eight key components. The significantly higher knowledge level in Madhya Pradesh reflected differences in understanding between countries found in the formative research. The fact that two of the most commonly mentioned preparations in Madhya Pradesh were registering with a health facility and arranging for an SBA may reflect families’ choice of health facility deliveries in order to receive the benefits of the JSY scheme.

While reported knowledge and practice seemed to be fairly closely aligned in Madhya Pradesh, knowledge around birth planning in Ethiopia and South Sudan was significantly lower than reported practices for many of the key preparations. Reflecting the formative research, and, to a certain degree reported practices, preparation of clean cloths and instruments were the most commonly mentioned preparations in Ethiopia and South Sudan. All other preparations were mentioned by less than 50% of respondents, for example, only 25% of women in South Sudan and 24% of women in

Ethiopia mentioned saving money for delivery, despite 54% and 66%, respectively, reporting having saved enough money for delivery.

Birth planning should start before the last trimester, but as Figure 9 demonstrates, knowledge around recommended birth planning timeframes was also low across the three countries. This mirrors formative research findings in Madhya Pradesh where many people believed that planning for birth only needed to start when the woman went into labour. In addition, only 49% of pregnant women in Madhya Pradesh reported that they knew their delivery date, which is also reflective of the poor understanding around delivery and birth planning timeframes.

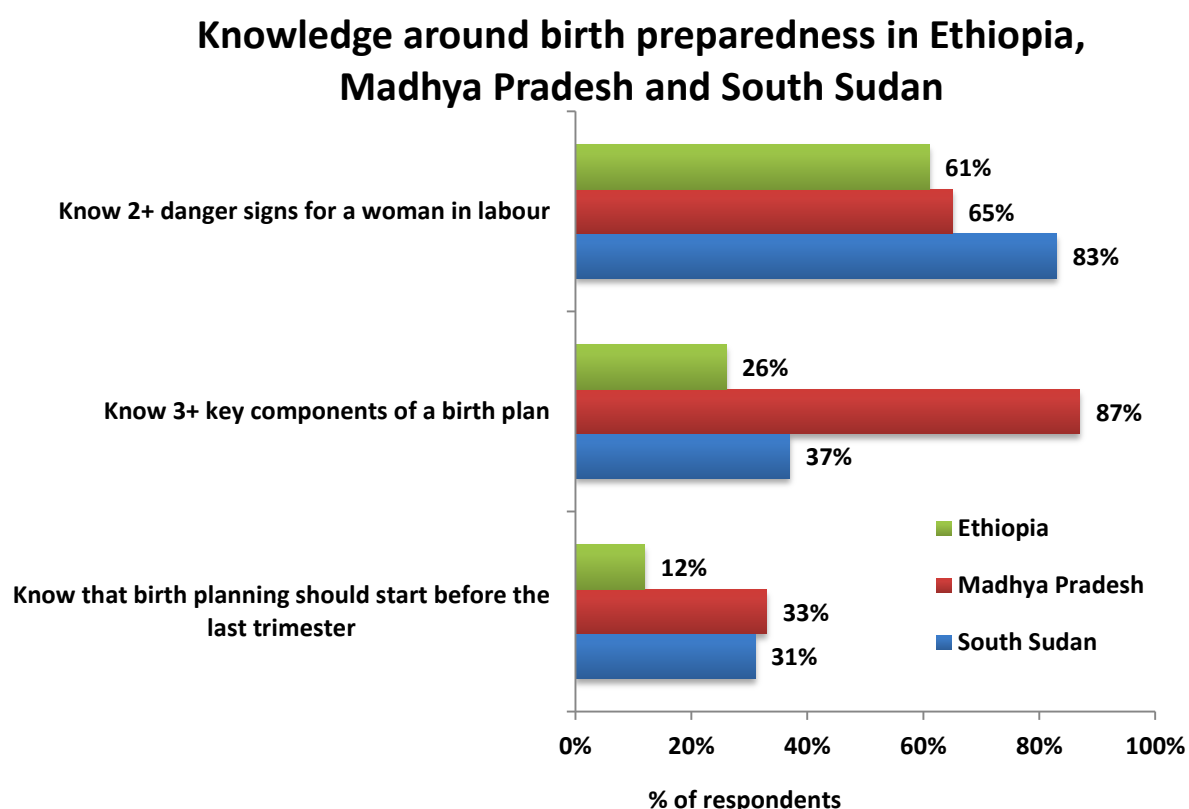


Figure 9: Knowledge levels around birth preparedness in Ethiopia, India and South Sudan, according to the baseline

### 5.2.3 Birth preparedness – attitudes and beliefs

#### a. Formative qualitative findings

Certain beliefs and attitudes appeared to have a negative impact on birth planning practices in all countries. In particular, some respondents expressed a sense of fatalism around delivery – a belief that what will be, will be. For a variety of reasons there was also a preference for home deliveries, even when institutional deliveries were known to be safer. Women who had experienced complications during a previous pregnancy, or who had had an institutional delivery before, were an

exception; they tended to have a more positive attitude towards institutional delivery. These findings are explained in greater detail in the following paragraphs.

In South Sudan and, to a lesser extent in Bangladesh, many respondents felt that there was no need to make preparations such as plan or save money for transport to the health facility. The belief that planning does not impact outcome was pervasive across all areas studied in India, and among some respondents in Ethiopia, and appeared to negatively impact birth planning. In India, the attitude that people can start preparing for birth when the need arises was accompanied by an attitude that people should not prepare too much for the birth as any “inappropriate outcome” would result in increased disappointment, and that things were “best left to the Almighty”. In Ethiopia, a minority of women reported that they were afraid of dying during childbirth and believed that it was God’s will that decided if they live or die, regardless of any preparations they might make. This fatalistic attitude was also observed in South Sudan, and while many women discussed the risks of childbirth, they also expressed apathy toward the notion that they could do anything to help mitigate those risks.

In Ethiopia, South Sudan and Bangladesh, a fairly predominant attitude was that a health facility delivery was only necessary if a woman had complications during pregnancy and labour. This attitude appeared to influence the choice of place of delivery to a greater degree than whether a similar attitude around antenatal care influenced uptake of regular antenatal care. In South Sudan, some older women reported that delivering at home was a sign of fertility and strength and something for a woman to be proud of. Some respondents across all countries expressed the attitude that as they were delivered at home without any problems, then this was fine for all babies.

“We have people who won’t come to the hospital, they say: ‘for us we were delivered at home what happened, we didn’t get problems,’ you see, so they have their beliefs which are there barring them.”

Health worker, Yambio, Western Equatoria State, South Sudan

In Bangladesh, while there was a general perception that it was safer for a woman to deliver at a health facility, many respondents displayed a preference for home deliveries. This may be partially because of the perception that hospital deliveries were very expensive, which was also found to be a factor in determining place of delivery in India. Some women in South Sudan and most women in Bangladesh feared delivering in a health facility in case they needed to undergo a caesarean section. In Bangladesh, many women believed this was the case for every hospital delivery and they knew that if they had a caesarean section they would need to rest for longer afterwards, which would prevent them from carrying out their household duties. Even when an SBA was available nearby, people often preferred to arrange for the TBA to assist, as they believed that the TBA was more experienced and that SBAs would just refer the woman to a hospital.

In Bangladesh and South Sudan, women who previously had a bad experience delivering at home reported a more positive attitude towards facility deliveries and that they planned for a hospital delivery from early in their pregnancy for consecutive deliveries, although these women were in the minority.

In Ethiopia some women and men reported a positive attitude towards health facility deliveries on the basis that they were better for the mother's and newborn's health as they provided a more hygienic environment and were better equipped to deal with complications during delivery.

“Hospital is the safest place. Complications or infections won't happen at hospitals.”

Father, Amhara, Ethiopia

In India, the increase in institutional deliveries in recent years has been accompanied by an increase in positive attitudes towards institutional deliveries. Young people in particular reported that institutional deliveries were better than home deliveries; attendants were more skilled and blood was available in case of an emergency. The JSY scheme and the financial incentives involved appeared to be positively influencing male attitudes, as for them the decision about where to deliver was largely a financial one. Women who delivered their first baby in a health facility were more likely to have a positive attitude towards health facility deliveries and plan them for subsequent pregnancies. In Madhya Pradesh, however, some women's families did not choose an institutional delivery for consecutive pregnancies, largely because they did not receive the benefits under the JSY scheme that they had been promised, and thus the delivery turned out to be costly.<sup>47</sup> Older members of the family, especially the mother-in-law, often did not perceive institutional deliveries to be more beneficial, believing that women only needed assistance from a health worker at a health facility in the case of complications. For home deliveries, they believed that no or few preparations were required and if complications occurred the woman could then be taken to the health facility. Some women across all countries reported a preference for home deliveries as they felt more comfortable delivering with a relative or *dai*, whom they knew personally, as opposed to a health worker, and because they disliked having to travel to the health facility, which was perceived as far from home.

#### b. Baseline quantitative findings

Two attitudinal statements were used to measure attitudes around birth planning, both of which spoke to the fatalism identified in the qualitative research. They were: “All things fall into place on their own when the time for delivery comes” and “planning for birth in advance is always necessary”. Agreement with these statements varied widely by country, with South Sudan demonstrating the least supportive attitudes around birth planning.

As Figure 10 shows, baseline findings suggested that attitudes around the need for birth planning were relatively positive in Madhya Pradesh and overwhelmingly positive in Ethiopia, but very negative in South Sudan. The vast majority of respondents in Ethiopia (85%) and the majority in India (62%) disagreed that all things fall into place on their own when time for delivery comes. This is similar to findings in the formative research, where most respondents in both countries discussed the need to make certain preparations for birth. However, 39% of respondents in Madhya Pradesh and 15% in Ethiopia did believe that things do in fact fall into place when the time for delivery comes, which echoes the attitude observed in the formative research in both countries, although to a lesser degree in Ethiopia, that planning does not impact outcome.

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<sup>47</sup> JSY payments do not always cover the full cost of delivery. See: Das, A, Rao, D, Hagopian, A (2011) India's Janani Suraksha Yojana: further review needed. *Lancet* 377, 295-296.

The baseline data for South Sudan reflected formative research findings that there were low levels of awareness around birth planning and many women expressed an apathetic attitude towards birth planning.

Attitudes in Madhya Pradesh around the need to plan for birth in advance were relatively negative. As Figure 11 shows, 74% of respondents believed that planning for birth in advance was not necessary. This strongly correlates with the formative research findings which suggest that while many people in Madhya Pradesh and Odisha agreed with some form of birth planning, many felt that the planning could be left until the woman goes into labour. Attitudes towards birth planning timeframes were not explored in the formative research in Ethiopia and South Sudan, although the baseline data suggests that most respondents in Ethiopia were supportive of planning for birth in advance.

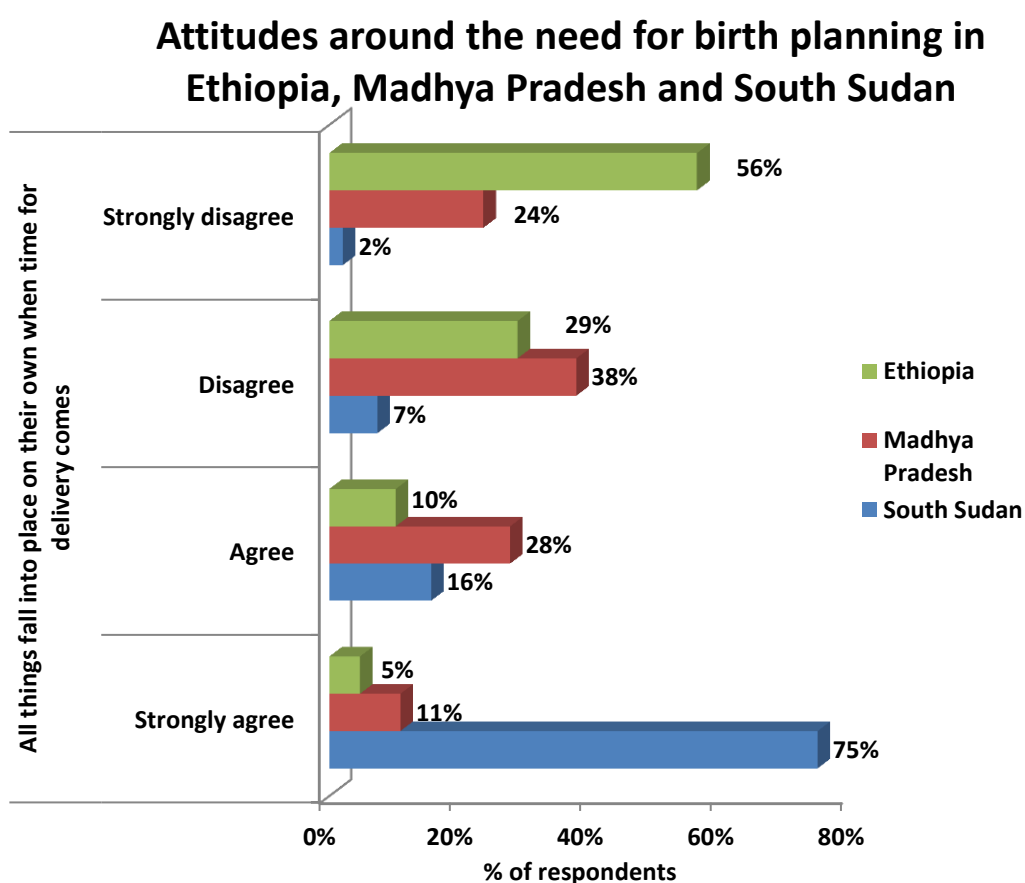


Figure 10: Attitudes around the need for birth planning in Ethiopia, Madhya Pradesh and South Sudan, according to baseline data

## Attitudes around the necessity of planning for birth in advance in Ethiopia and Madhya Pradesh

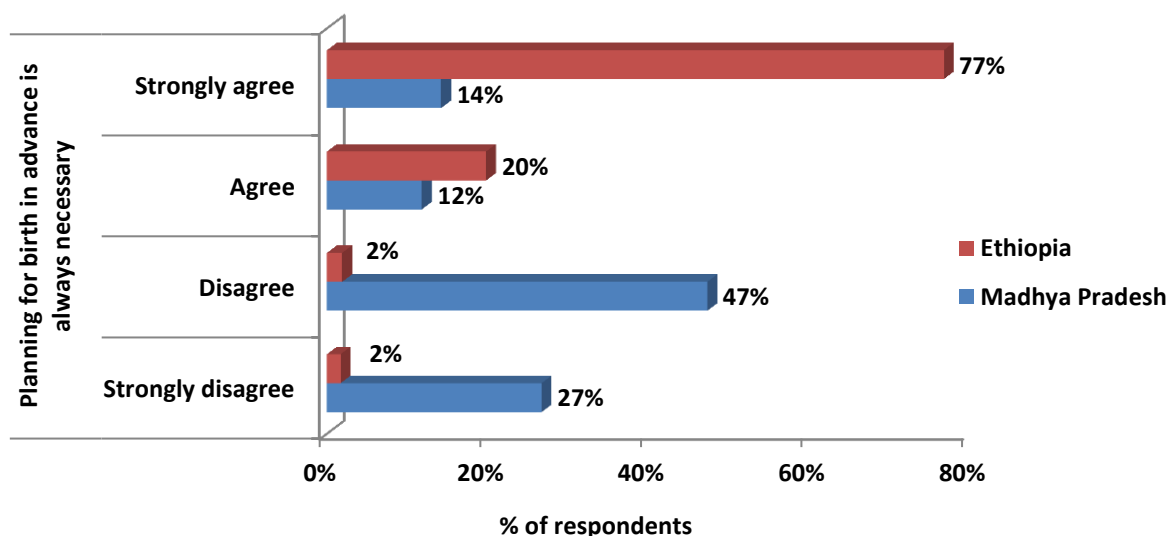


Figure 11: Attitudes around the need to plan for birth in advance in Ethiopia and Madhya Pradesh, according to the baseline

### 5.2.4 Birth planning – social norms

#### a. Formative qualitative findings

Information on social norms is only available from the qualitative research. The challenges of quantitatively measuring social norms cross-culturally are outlined in section 7. Qualitative research revealed that there is one social norm in particular which influenced birth planning: the norm that “normal” births take place at home and that only “weak” women need to go to hospital. This norm was often strongly upheld by older generations, making it difficult for younger generations to challenge. This is discussed in greater depth in the rest of this section.

As was the case for uptake of antenatal care, social norms seemed to influence birth planning practices most in families where the pregnant woman had less decision-making power. While there was a perceived norm that “normal births” take place at home in Ethiopia and India, this norm was more prevalent among all generations in Bangladesh and South Sudan. In South Sudan, this norm strongly influenced the husband’s decision-making around where his wife will deliver. Some health workers and female community leaders reported that people believed that there was no need to change practices now as births had been happening for many years at home without medical assistance, especially during the war when families had had no other choice. Thus when families decided where the pregnant woman would deliver and weighed up the financial cost, they would often revert to the social norm for home delivery.

While more supportive social norms around birth planning were observed in Ethiopia, the norm was still for births to take place at home. This was influenced by a commonly-held perception that a woman is “weak” if she delivers in a health facility, unless she has complications. This norm seemed

to be a key barrier to increasing institutional deliveries. Despite some women reporting a positive attitude towards institutional delivery, some felt it was “custom” to give birth at home, indicating that they were perhaps concerned about breaking with the social norm. Many husbands also reported that they learned from their elders which preparations were required, for example, preparing traditional food and drink. While many older women and husbands preferred for a woman to deliver at home, others said that views were changing and there was increasing support within communities for women delivering in health facilities. The tradition in some areas for the woman to be confined at home for 40 days following delivery was also a potential barrier to health facility deliveries in Ethiopia.

In both rural and urban Bangladesh, delivery was generally considered as a female domain. In South Sudan, and in rural areas and among the urban poor in Bangladesh, “normal” delivery was also perceived as something to be proud of and was indicative of a woman’s strength. If a woman could continue to do all her chores during pregnancy and succeed in delivering at home, then she could express this with great pride. Findings suggested that this social norm influenced the pregnant woman to endure labour pain for as long as possible. Many respondents reported that they were born at home without any problems so the family of a pregnant woman will plan for a home delivery because this is the way it has always been done.

“It is not [a] matter of... selecting delivery place. It is social norms here that [a] family will first try for normal delivery at home if [a] pregnant woman doesn’t have any health complication.”

Union member, rural, Moulvibazar, Bangladesh

The perception that only weak women delivered at a health facility was common in South Sudan and especially among older women in India, which may shape social norms.

In both India and South Sudan, impressing others was a key motivation for preparing for birth, especially for home deliveries. In South Sudan, for example, there was some indication that birth preparations were mostly made in a bid to conform to social norms by “keeping up appearances” for neighbours and relative and to assure the comfort of the baby. Possibly reflective of changing social norms, many respondents in South Sudan talked about health practices in “modern times” which differentiated them from those previous to the signing of the Comprehensive Peace Agreement in 2005, although these mostly related to superstitions around newborn care. For example, there were some reports of an increasing trend for women to deliver in health facilities, although these women were still in the minority. However, a few women reported that they were criticised by older generations for choosing to deliver in a health facility. It was unclear to what extent this has an impact on practices.

In India, the increasing trend of institutional deliveries also suggested that social norms were changing, yet some families reported that they still chose to take the TBA to the health facility with them. Social norms in Bangladesh and India still seemed to be largely supportive of the role of the TBA and her advice, which paralleled that of the mother-in-law. The TBA also played an important role during pregnancy and delivery in South Sudan, although it should be noted that QHWs were significantly more accessible in India in particular, possibly implying it was social norms which continued to support the TBA’s on-going involvement. In Ethiopia, respondents reported that TBAs

were increasingly seen as not skilled or experienced enough to provide antenatal care or assist with deliveries and that they were simply “not modern.” In spite of this, most women still continued to deliver at home assisted by TBAs – or if there was no available TBA in the community, by a female relative or neighbour.

### **5.2.5 Birth planning – self-efficacy, confidence and agency**

#### **a. Formative qualitative findings**

Information on self-efficacy, confidence and agency is drawn from the qualitative research. The challenges of quantitatively measuring these concepts cross-culturally are outlined in section 7. Self-efficacy around birth planning was strongly related to family structure and control of finances. There was also some evidence to suggest that women who had already given birth felt slightly more confident than those who had not.

While some women in all countries had low levels of self-efficacy to influence decision-making around place of delivery and birth preparedness, self-efficacy was especially low among women in Bangladesh and India. Due to traditional gender roles and more traditional family structures, women in Bangladesh and India generally lacked the confidence to be able to negotiate with their mothers-in-law or husbands. In South Sudan, despite some women reporting that they disputed their husbands’ choices around pregnancy-related practices and sometimes did things without their husband’s knowledge, the majority of women reported that they felt unable to overcome external barriers to accessing health services or making adequate preparations for the birth, such as saving money for transport in case of an emergency. Some women and TBAs reported that a woman was dependent upon her husband and his attitude towards saving money to make preparations. Where women were heads of the household, however, they were in fact the main earner and had the means to make money by, for example, small-scale cultivation or collecting firewood. In terms of selecting the place of delivery, some women reported being able to take this decision themselves, although husbands were overwhelmingly the decision-makers.

“The delay at home, this is traditional because so many people have to decide whether this woman has been taken to health care or not. You have to consult a lot of people. The women sometimes do not have voice about [their] health, this causes a delay.”

Director General, Ministry of Health, Yambio, Western Equatoria State, South Sudan

Low levels of self-efficacy to overcome external barriers were also observed, although to a lesser extent, in Ethiopia. In Ethiopia, women appeared to have more agency than in the other three countries, as many women and their husbands reported that either the pregnant woman alone made decisions around antenatal care and place of delivery and was supported by her husband, or they made the decision jointly. Women in Ethiopia were also more likely to be able to follow health workers’ advice, whereas in India younger women often felt unable to follow FHWs’ advice as it contradicted that of their mothers-in-law. Some women in Ethiopia also reported being able to earn their own money to save for delivery. There was still, however, a significant number of women who lacked the autonomy to make such decisions and were unable to influence their husband’s decision, despite their own attitudes or preferences.



In terms of health facility delivery in particular, some women in Ethiopia lacked the confidence to deviate from the behavioural norms, and this was also the case for most women in Bangladesh, India and South Sudan. In Ethiopia women with slightly higher levels of education, however, reported that they were able to go against the wishes of their families and deliver in a health facility.

Women in India were, however, given more control over decisions with each subsequent pregnancy, as from her second pregnancy the woman was seen as sufficiently knowledgeable. This reflected that as a woman got older, she generally had more say in family decisions. Women who did not live within a traditional family structure also exercised more decision-making powers around birth planning, as was the case in South Sudan. In India, women in Odisha had more autonomy than women in Madhya Pradesh due to living in less traditional family structures and other cultural factors. In Madhya Pradesh, mothers-in-law continued to highly influence decision-making. Where women did exercise more control over decisions, it was generally not due to higher levels of confidence to influence decisions, but rather due to her family structure and support for her decision-making from those around her.

### **5.2.6 Birth planning – interpersonal discussion**

#### **a. Formative qualitative findings**

Different countries and communities appeared to discuss birth planning to different extents. There was evidence to suggest that discussing both the positive and negatives aspects of institutional delivery with friends and neighbours could influence birth plans. The nuance of these findings is discussed below.

There were limited findings on discussion around birth preparedness in the formative research in Bangladesh, Ethiopia, India and South Sudan. Where findings were available, they tended to focus on discussion and decision-making around where the pregnant woman would deliver. For example, in Ethiopia there was evidence of supportive discussion around place of delivery with husbands, as couples often took decisions jointly. Inversely, however, there was also a finding in Ethiopia that some communities did not discuss the delivery as they thought it might frighten the pregnant woman. It was unclear to what extent these practices were prevalent and influenced behaviours.

There was less evidence of discussion around place of delivery and birth preparedness between pregnant women and their husbands in India, with the exception of women living in less traditional family structures. This may reflect the fact the pregnant woman often played no role in decision-making in traditional family structures, as well as the attitude that families only needed to start preparing for birth when the woman went into labour.

In Ethiopia and India, some women reported that neighbours and friends shared their experiences of institutional deliveries, and women reported that positive experiences had motivated them to have an institutional delivery themselves. Such experiences were also relayed among communities by mothers-in-law in India. Negative experiences of institutional delivery were also discussed within communities, which appeared to significantly influence women's perceptions around the quality of health services.

“My friend had a very bad experience with her delivery in the hospital. She told me that it was very painful. She told me that home delivery is better as she will be taken better care of.”

Woman, coastal village, Odisha, India

In India, women’s understanding around the benefits of an institutional delivery and the awareness of available related schemes, for example, the JSY scheme, seemed to be highly influenced by their interaction with FHWs.

b. Baseline quantitative findings

Discussion around birth preparedness was higher than discussion around antenatal care. As was the case for antenatal care, reported discussion around birth preparedness was significantly higher in Madhya Pradesh than in Ethiopia (see Figure 12).<sup>48</sup> In Ethiopia 28% of respondents did not discuss birth planning with anyone, while only 3% in Madhya Pradesh did not discuss birth planning with anyone. In both Madhya Pradesh and Ethiopia, more respondents reported discussing birth planning with husbands than with anyone else. In Ethiopia, this was followed by mothers, which might be reflective of them having some influence on decision-making. Slightly higher proportions of women in both Madhya Pradesh and Ethiopia reported discussing birth planning with husbands, mothers and mothers-in-law than discussing antenatal care. This is possibly reflective of the fact that husbands in both countries play more of a role in birth planning, for example, saving money and planning transport, than for antenatal care.

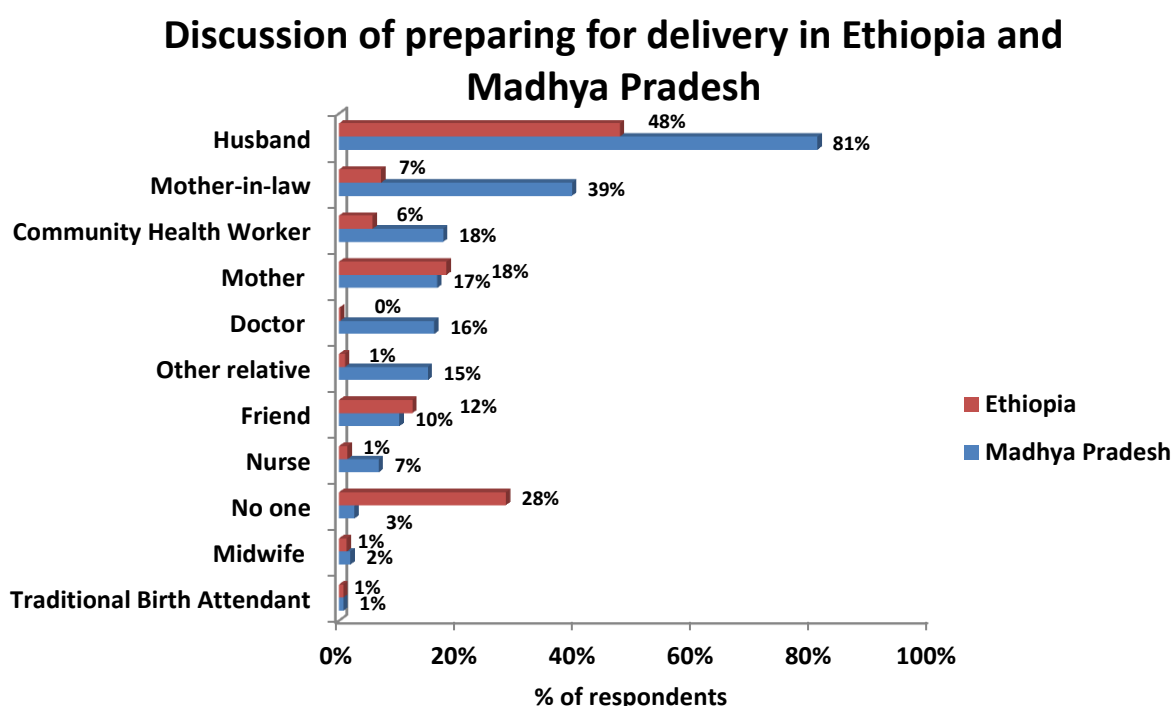


Figure 12: Discussion of preparing for delivery in Ethiopia and Madhya Pradesh, according to baseline data

<sup>48</sup> Following fieldwork challenges in the first baseline location in South Sudan, the questionnaire was shortened and survey items measuring interpersonal discussion removed.

## 6. Research insights: Cross-cutting barriers to accessing services

This section presents some additional findings from the formative qualitative research and the baseline quantitative research, on cross-cutting barriers that prevent women from accessing services.

### 6.1 Formative qualitative findings

In the formative research in Bangladesh, Ethiopia, India and South Sudan, respondents were asked about barriers to accessing antenatal care services and delivering in a health facility. The following themes emerged as key barriers to uptake of these practices across the four countries.

#### 6.1.1 Lack of money

Across the four countries, lack of money was observed to be a major barrier to the uptake of recommended practices. There were some respondents in each country who reported an inability to save money for birth or for transport to a health facility without having a regular source of income. In Bangladesh, some respondents reported that as they were poor and live hand-to-mouth, they must rely on Allah for everything.

“Here, most of the people live hand-to-mouth. So they don’t have [the] option to take any preparation; they are more worried about their livelihood... than taking preparation for their wives’ delivery.”

Union member, rural, Pirojpur, India

In Ethiopia and rural Bangladesh, lack of money was commonly reported as a barrier to pregnant women eating more nutritious food and to husbands supporting their wives to reduce their workload and rest more. In Ethiopia, South Sudan and India, findings suggested that decisions around the use of health services were often majorly influenced by financial factors and how resources were prioritised in a household. In India, for example, community stakeholders considered financial barriers alone to be the main barriers to families making adequate preparations for birth. While lack of financial resources was a major barrier to many families in the uptake of recommended practices, findings suggested that other barriers, for example, unsupportive attitudes and a lack of understanding about the benefits of using a service, also played a key role.

#### 6.1.2 Barriers to getting to health facilities

Having funds to pay for transport and the availability of transport were reported as barriers in all countries. They were reported as major barriers to attending antenatal care and delivering in a health facility in South Sudan. In Ethiopia, while some men discussed making plans to take their wife to a health facility in case of complications, in some cases they recognised that no transportation was in fact available. In some villages where no transport was available, women in labour were taken to a health facility on a wooden stretcher (effectively a plank of wood) carried by local men. Poor and inaccessible roads were also mentioned as barriers in all countries, especially in the rainy season. Distance was discussed as a key barrier to getting to the health facility in most communities in South Sudan, as well as in some of the more remote communities in Bangladesh and Ethiopia. Across all countries, it was observed that women’s dislike of having to travel a long distance while in labour

influenced their preference for home deliveries. While barriers to getting to the health facility were reported in all countries, they seem highest in South Sudan where many of the communities in the study were located 40km from the nearest health facility that is fully staffed and open. Given the condition of the roads and lack of available transport, for many families use of a health facility is out of the question.

“We were planning to take her to the hospital [referral hospital in Yambio, a 1.5 hour drive away] but there was no... means of transport.”

Woman of reproductive age, Kasia, Western Equatoria State, South Sudan

### 6.1.3 Concerns around service provision

Respondents in all countries reported concerns around health service provision. In Ethiopia, for example, some women said they were deterred from delivering in a health facility as they had heard that they often lack the facilities to treat people, so pregnant women were then referred to the hospital where there is a fee for services. Husbands mainly discussed concerns that there would be long waiting times/queues, that there was a lack of adequate equipment and that doctors discriminated against people from rural areas or forced them to pay to go to private clinics. Generally speaking, however, respondents spoke positively about HEWs and their advisory role. They were reported to be the most important source of health information, by both men and women. Older women tended to see their role more as “giving information from the health centre” and most respondents felt that they were insufficiently skilled to assist with deliveries. The HEWs themselves also reported that they lacked the confidence and equipment to assist with deliveries, despite the fact that, theoretically, they were trained to do so.

In India, respondents reported that FHW activities had been instrumental in informing people about the importance of registration of pregnancy, antenatal care and institutional deliveries. Younger women often reported that they trusted their advice, although in practice FHWs restricted their advice to a few limited areas in term of pregnancy-related care. Older women saw the FHWs as young and inexperienced and believed that they only advised on institutional delivery in order to receive their incentive. They therefore often disregarded their advice.

In Bangladesh, community healthcare providers were not perceived as being able to provide high quality health services. Family welfare assistant respondents also displayed low levels of knowledge around antenatal care, and although they had a certain level of knowledge around birth planning, they were poor at disseminating this and encouraging families to make preparations for birth. Many rural respondents reported that there was no SBA available locally and that doctors were not present in hospital or maternity wards. Some respondents reported that services were often unsatisfactory and doctors could have a bad attitude or treat non-paying patients badly as they were more interested in private/paying patients. Such reports were based on respondents’ own experiences of using health services as well as experiences of others in the community.

In all countries, respondents reported concerns around women being examined by a male health worker. Some respondents perceived that antenatal care and health facility deliveries were expensive and, to some, the cost was out of reach, especially once the cost of transport was taken into account. In South Sudan, women were concerned that if they used a health facility they would

not have the funds to pay the health worker a token of appreciation.<sup>49</sup> In all countries, concerns around poor treatment by health workers were reported. For example, in Ethiopia some respondents were concerned that pregnant women were not treated with respect by midwives.

“There are lots of people by the mountain who are not civilised. They don’t bring pregnant women to the clinic and the women pass away. We hear lots of sad stories like that from that village. They might pass away because of labour and a lack of assistance from professionals and lack of health centres. There are women who say, ‘I better die here. Don’t take me to the clinic’. But her folks will force her and take her anyway. There are a lot of people who fear going to the clinic as if there is something very bad in there.”

Older female, Gomma, Oromia, Ethiopia

While all the barriers mentioned above appeared to significantly deter pregnant women and their families from attending antenatal care and, perhaps to a greater extent, from delivering in a health facility, it was unclear to what extent they were perceived barriers or based on actual experience. In Bangladesh and South Sudan, it appeared to be a mixture of the two. In South Sudan these barriers were reported by women of reproductive age as being insurmountable, while older women and husbands saw them more as “challenges”. In India, given the JSY scheme, poverty in particular was less of a barrier and health services were more accessible for most communities (distance-wise and given the availability of transport), compared to the other countries.

## 6.2 Baseline quantitative findings

As Figure 13 shows, significant numbers of women in Ethiopia, Madhya Pradesh and South Sudan reported barriers to accessing health services, whether they were barriers to getting to the health facility or concerns around service provision. More women in Madhya Pradesh reported more barriers than in the other two countries. Women in Ethiopia reported the least barriers.

The most commonly reported barriers/concerns in all countries (reported by more than 50% of women in each country) were lack of money followed by distance/lack of transport to health facility, which mirrors formative research findings. Drugs and a health worker being unavailable at the time of need were also reported in the baseline by the majority of women in each country. While concerns around being treated badly by health workers were mentioned in the formative research, they were not reported quite so widely. It was not clear to what extent these concerns around service provision were based on actual experience or on perception.

Significantly more women in Madhya Pradesh than in Ethiopia and South Sudan reported getting permission to go to the health facility and concern that a female health provider might not be available as barriers (see Figure 13). This reflected the lower levels of autonomy and influence on decision-making in Madhya Pradesh, as found in the formative research, and social norms in India around pregnancy and childbirth being more of a female domain.

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<sup>49</sup> In South Sudan health services are supposed to be free. However, because staff are often not paid or not paid regularly, staff sometimes require patients to pay a “token of appreciation”. Respondents in this study were afraid of not being able to pay this.

## Reported barriers to, and concerns around, using health services in Ethiopia, Madhya Pradesh and South Sudan

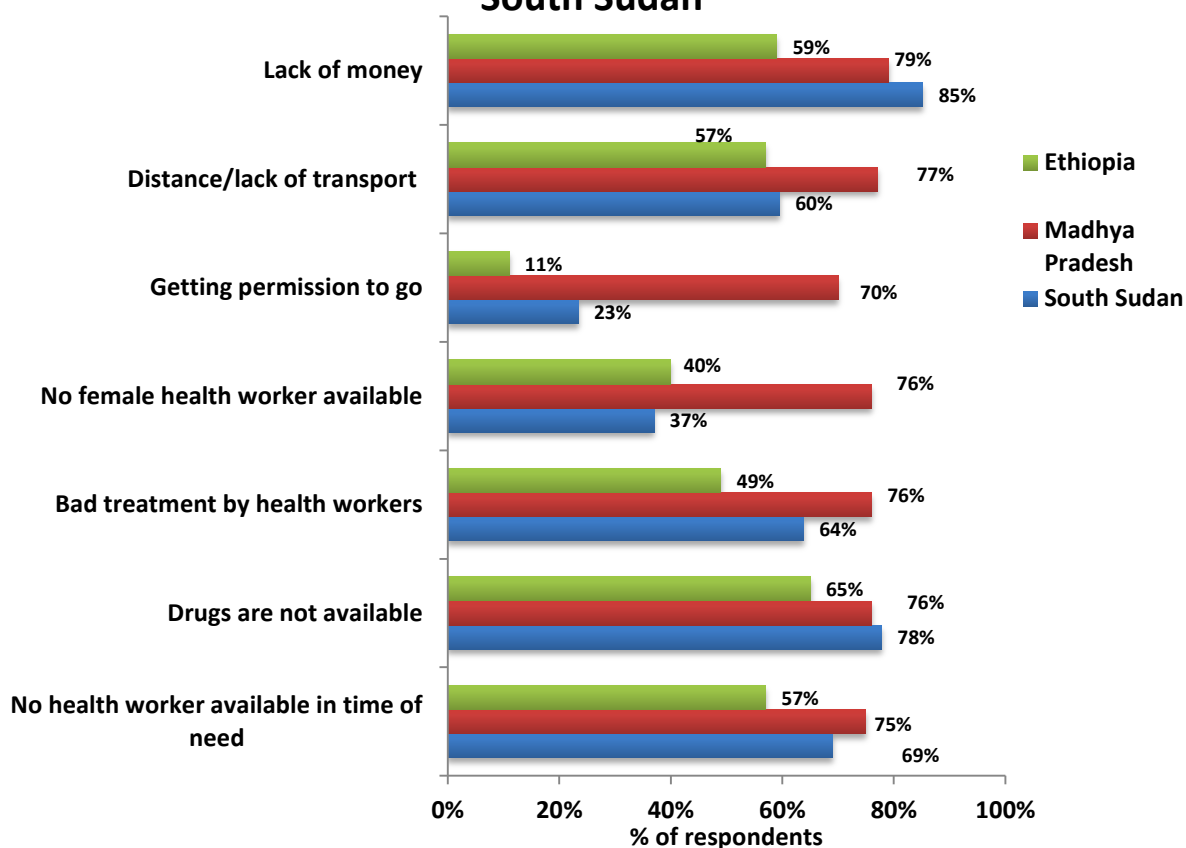


Figure 13: Reported barriers around getting to the health facility and concerns around service provision in Ethiopia, Madhya Pradesh and South Sudan, according to the baseline

## 7. Discussion and insights

This section compares the quantitative baseline findings from the previous two sections to external data sources, such as the Demographic and Health Surveys (DHS), discussing points of commonality and difference. Where expedient, it also compares the baseline findings to the qualitative formative findings, offering potential explanations where differences are observed. It then highlights some of the caveats when comparing data from different sources. The section concludes by offering insights for programming and insights for measurement that have emerged from the research.

### 7.1 Comparison of quantitative baseline findings to other data sources

To better understand the baseline data, researchers compared their baseline findings to external validated data sources, where available.<sup>50</sup> In South Sudan, due to the research infrastructure and

<sup>50</sup> External validated data sources are largely only available for practice indicators, with the exception of birth preparedness practice indicators.

post-conflict context, there were no validated external data sources. Researchers therefore relied upon formative research findings and their knowledge of the service delivery environment to better understand findings in South Sudan.

As a result of this triangulation exercise, some findings from the baseline research appear surprising and, in some cases, point to challenges around measurement. Caveats regarding the comparability of data from different sources are presented at the end.

### 7.1.1 Antenatal care

#### Antenatal care – practice

In Ethiopia most antenatal care practice indicators were higher in the baseline data than in the 2011 Ethiopia DHS. This difference was relatively consistent across indicators. This discrepancy may be attributable to differences between BBC Media Action's sampling frame and the DHS sampling frame, which may have resulted in this research sample being slightly less rural and of higher socio-economic status than the DHS sample (see caveats regarding comparability of data sources at the end of this section).

When compared with the 2006 National Family Health Survey (NFHS) in Madhya Pradesh, this study's baseline indicators for women having any antenatal care and having three or more antenatal care check-ups (as recommended by the Indian government) were higher than the NFHS data. For example, 41% of women in the NFHS in 2006 reported having had three or more antenatal care check-ups, compared with 59% in the baseline. The fact that the baseline indicators were higher may reflect the increasing trend for antenatal care attendance in recent years, as found in the formative research.<sup>51</sup>

No validated external data is currently available for comparison to the antenatal care baseline indicators in South Sudan. However, researchers' understanding of the local service delivery environment, and their observations during the baseline and formative research, suggest that the baseline findings overestimated the true proportion of women receiving four or more antenatal check-ups from a QHW. Due to the urban bias of the sample, respondents were generally likely to have better access to antenatal care service than the general population. However, this does not fully explain the findings as 40% of rural women reported attending four or more check-ups with a QHW, which is significantly higher than formative research would suggest. Throughout the fieldwork – although the definition of an SBA was read to research respondents – researchers observed a tendency for respondents to confuse local TBAs with qualified midwives. As 70% of respondents in South Sudan reported receiving some antenatal care from a qualified midwife, this tendency may

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<sup>51</sup> A more recent data source, the 2011 AHS (see note 12), collected data on similar but non-identical indicators as BBC Media Action's survey in Madhya Pradesh. The AHS found that 13% of women in Madhya Pradesh had had three or more antenatal care check-ups, including at least one tetanus toxoid injection and IFA for 100 days or more. While researchers do have data from the baseline on interventions received (and duration of interventions), according to baseline data 59% of women reported attending three or more antenatal care check-ups. This figure is significantly higher than the 13% in the AHS 2011, but this might be due to relatively low numbers of women receiving the appropriate interventions, which researchers cannot yet factor into their baseline indicator.

have led to an overestimation in the baseline indicator of the proportion of women attending four or more check-ups with a QHW.<sup>52</sup>

The baseline finding in South Sudan that 60% of all respondents received some antenatal care at the government hospital is also puzzling. While this may be partially due to the urban bias of the sample, 46% of all rural respondents reported receiving antenatal care at a government hospital which, based on the researchers' local knowledge, is unlikely. Only one of the fieldwork locations is close to a government hospital. This finding suggests that respondents and even enumerators may have confused local health posts, which are not staffed by QHWs, with government hospitals.

Across the three countries some recall error in responses around timing and number of antenatal care visits is likely. Reporting of the timing of antenatal care attendance was potentially exacerbated by the fact that pregnant women often did not know when they became pregnant or their expected delivery date. This was a finding in formative research across the four countries and may have led to an inaccuracy of responses in the quantitative research. This is, however, a challenge that is inherent to all survey measurement of this type of indicator.<sup>53</sup>

Overall, the triangulation exercise suggests that researchers can have confidence in their measures of practices around antenatal care among the target audiences in Ethiopia and Madhya Pradesh, but less so in South Sudan. There is clearly, however, considerable scope for improvement in these practices across the three countries.

#### Antenatal care – knowledge

In Ethiopia and South Sudan, the baseline findings indicated a better understanding around the importance of early and regular attendance of antenatal care than found in the formative research. Knowledge around having the recommended four or more antenatal care check-ups and attending in the first trimester was much higher than practice in all countries, although to a lesser degree in Madhya Pradesh.

While knowledge around antenatal care may in fact be higher than formative research suggests, there is also a possibility that knowledge has been overestimated in the baseline research due to challenges in measurement. For example, in South Sudan, the researchers found that many women define regular antenatal care as (sometimes weekly) visits to the TBA, which may have biased findings. Also, survey items measuring knowledge about timings are, arguably, open to respondents providing a “rough guess” if they do not have a fixed idea of the answer. Researchers also found that respondents across all countries – but more so in South Sudan – had difficulties conceptualising time

<sup>52</sup> As this tendency became apparent during fieldwork, enumerators received further training to help respondents differentiate between trained and untrained health workers, although this remained a challenge. Fewer respondents in each successive wave of fieldwork reported receiving antenatal care from a trained midwife: 88% in Yambio (first location), 72% in Torit (second location) and 50% in Rumbek (third location).

<sup>53</sup> In the DHS survey, antenatal care indicators are measured within women of reproductive age who had a live birth during the five years preceding the survey. Given that BBC Media Action's primary group of interest was mothers with an infant aged 0-9 months, researchers might expect less recall bias in the BBC Media Action data than in the DHS, as the women in the former survey were asked to recall events no more than 18 months previously. Central Statistical Agency [Ethiopia] & ICF International (2012) *Ethiopia Demographic and Health Survey 2011*. Addis Ababa, Ethiopia and Calverton, Maryland, USA: Central Statistical Agency and ICF International. Available from: <http://measuredhs.com/pubs/pdf/FR255/FR255.pdf>. [Accessed 16 August 2013].



in the same way as the researchers. While the researchers attempted to address this by using visual aids depicting time during survey interviews, this is still likely to affect the accuracy of the data.

Research findings overall indicated that across the three countries there is some scope for improving knowledge around appropriate antenatal care practices.

#### Antenatal care – interpersonal discussion

The baseline quantitative findings on interpersonal discussion in Madhya Pradesh and Ethiopia were congruent with the formative research qualitative findings to a certain extent. For example, a high proportion of women in Madhya Pradesh reported discussion of antenatal care with their husbands who were generally the key decision-makers. However, some findings were slightly contradictory to the formative research findings. For example, discussion around antenatal care with peers and neighbours was commonly reported by women in Ethiopia in the formative research, but is not reflected in the baseline findings. It may therefore be possible that these survey items, or the actual concept of ‘discussion’, were interpreted differently in the two countries. These survey items were also arguably prone to recall bias as respondents will not necessarily recall each time that they have discussed antenatal care with somebody else. Furthermore, these measures do not illuminate the nature of the discussion.

#### **7.1.2 Birth preparedness**

##### Birth preparedness – practices

When compared with the Ethiopia DHS 2011 data, the baseline indicators for delivery practices in Ethiopia were higher. This is, however, to be expected given the sampling strategy for this study, which most likely resulted in the sample being of a slightly higher socio-economic status than the general population. The differences are not, however, unfeasibly large. The majority of women still reported giving birth at home in both studies, and many trends were consistent with the DHS findings. For example, indicators were slightly better in Amhara than in Roomba, and the differences between urban and rural areas were fairly consistent across the two surveys.

In Madhya Pradesh the proportion of women reporting giving birth to their last child in a health facility (77%) was very similar to that reported by women in the 2011 Annual Health Survey, India (AHS) (76%).

While no reliable external data on delivery practices is currently available for South Sudan, there was a large discrepancy between baseline and formative data. A much higher proportion of women in the baseline data reported delivering in a health facility than would be expected based on the formative research findings, which suggested that delivering in a health facility was rare. This finding could partially be a result of the urban bias of the baseline sample. However, the majority of women reporting a health facility delivery reported delivering in a government hospital, though researchers’ knowledge of service provision in South Sudan suggested this was not entirely accurate or representative of reality. Only one of the fieldwork locations was close to a government hospital. This finding suggests that respondents and even enumerators may have confused local health posts, which are not staffed by QHWs, with government hospitals.

While no external data exists to compare on the practice of birth preparation, in the baseline findings for Ethiopia, Madhya Pradesh and South Sudan, many more women reported that they had made the recommended preparations than the formative research suggested. This may be explained by the challenges of measuring birth preparedness using quantitative methods. During analysis of the baseline data, it has become apparent that some of the birth preparedness practice survey items may have lacked sufficient specificity, allowing respondents to interpret questions in a different way than intended. For example, the interpretation of “saving enough money for birth” could be subjective. In Ethiopia, when husbands spoke about saving money for birth in the formative research, sometimes they were referring to saving money for general costs such as buying food or clothes for the baby rather than saving funds to take their wife to the health facility in case of complications. The survey items measuring practices around birth preparedness also used prompted questions which can be more prone to social desirability bias. Combined with the challenges around specificity of measurement, this may have also led to over-reporting for these birth planning practice indicators. This is especially likely to be the case in Ethiopia and South Sudan, and to a lesser extent India, where reported practices around birth preparedness were, counter intuitively, significantly higher than knowledge levels. Therefore there could be considerably more scope to improve practices around birth preparedness in Ethiopia, Madhya Pradesh and South Sudan than the data might suggest.

#### Birth preparedness – knowledge

It is surprising that the qualitative formative research suggested knowledge of birth planning is lower in Ethiopia than in South Sudan, although the baseline findings did largely reflect the formative research findings. Knowledge may be higher than expected in South Sudan because of the urban bias of the sample and due to respondents classifying TBAs as trained midwives. Figure 8 shows that arranging an SBA for delivery was reported by almost half of all respondents in South Sudan.

#### Birth preparedness – attitudes

While the baseline findings around attitudes towards birth preparedness reflected formative research findings to some extent, the results should be interpreted with caution. The more positive attitudes towards birth planning found in the baseline in Ethiopia as compared to Madhya Pradesh may be representative of the difference in understanding around the concept of “birth planning” in Ethiopia and Madhya Pradesh. As a result, the survey item may have been interpreted differently in Ethiopia than in Madhya Pradesh. On the other hand, many husbands in Ethiopia did express a supportive attitude towards birth planning in Ethiopia, which may be reflected here in the women’s attitudes in the baseline findings. In South Sudan, enumerators experienced difficulties translating some of the attitudinal statements<sup>54</sup> and respondents also had some difficulties understanding the Likert-type agreement scale (which was nevertheless retained for cross-cultural comparison).<sup>55</sup> While further research is required to gain a better understanding of supportive and unsupportive attitudes towards birth planning, there appears to be scope for improving attitudes across the three countries.

<sup>54</sup> Given the relatively large number of local languages required to conduct fieldwork in the three locations in South Sudan, many interviews used spontaneous translation as translating questionnaires into all the necessary local languages would have been prohibitively expensive. Despite translation being covered in the training, it appears that there were still some errors in the translation of survey items.

<sup>55</sup> Likert scales are psychometric response scales commonly used in surveys to measure constructs such as attitudes.

## Birth preparedness – interpersonal discussion

Overall, discussion around birth planning in Ethiopia was relatively low, which may reflect low knowledge levels about birth planning in Ethiopia. It may also, however, reflect a different understanding of birth planning as a concept in Ethiopia than in Madhya Pradesh. Respondents may have interpreted preparing for delivery as anything from preparing food, as commonly found in the formative research in Ethiopia, to arranging transport to the health facility. The measures of interpersonal discussion around birth preparedness may also be prone to recall bias in the same way as the measures of interpersonal discussion around antenatal care.

### 7.1.3 Barriers to accessing services

While the baseline findings on barriers to accessing services mirrored the formative research findings in many ways, it is slightly surprising that more women in Madhya Pradesh consistently reported each barrier as being a problem for them. In fact, the formative research and the benefits available under the JSY scheme might have suggested that women in Madhya Pradesh would have experienced fewer barriers getting to the health facility. A partial explanation may be that women in Madhya Pradesh generally had less autonomy than women in Ethiopia and South Sudan and therefore felt that they had almost no way of influencing practices around saving funds or planning transport.

There is also a question about the extent to which barriers were perceived differently across the three countries, which may have led to more women in Madhya Pradesh reporting each barrier as a problem than in the other countries. In the survey tool in Madhya Pradesh, these survey items also came at the end of a very long questionnaire and thus responses may have been biased by respondent burden.<sup>56</sup>

### 7.1.4 Social norms and self-efficacy

There were no external sources with which the social norms and self-efficacy data could be compared. However, the social norms and self-efficacy measures around antenatal care and birth planning have undergone retrospective validity testing using the baseline data for Ethiopia, Madhya Pradesh and South Sudan. The results showed that while some measures appeared to perform well in some country-specific contexts, the measures as a whole performed inconsistently across countries. More details on the testing and results can be found in Appendix I: Social norms testing. There are several reasons why the measures may not have performed well cross-culturally. For instance, the culturally-specific importance of certain social norms, the use of overly-complicated statements, translation issues and the use of a Likert agreement scale, may have all contributed to statements/survey items being poorly understood by a significant number of respondents.

### 7.1.5 Caveats regarding comparability of data sources

Throughout this section, where there are unexpected findings which contradict data from other sources, these are likely to be due to a combination of fieldwork challenges, measurement errors, the use of particular sampling strategies and the challenges of using cross-cultural, standardised measures.

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<sup>56</sup> Respondent burden refers to the time and resources required for the respondent to answer a survey. The higher the respondent burden, the higher the chance of adverse effects on the data quality.

In regard to sampling strategies, efforts were made to ensure that the survey populations were as comparable as possible across countries. However, a key objective of the quantitative research is to assess programming impact, and to be able to do this effectively, sufficient numbers of respondents who have been exposed to programming must be sampled at midline and endline. Given the low levels of female radio listenership in Ethiopia, researchers excluded “media-dark” areas and screened for monthly radio listenership to ensure they would be able to effectively assess impact throughout the project. With the low levels of female radio listenership, it is likely that women who do listen to the radio are of a higher socio-economic status than those women who do not listen to the radio. In addition, using community health workers and village leaders to help identify potentially eligible respondents may have meant more isolated women who do not access services were left out of the sample.<sup>57</sup> By excluding media-dark areas from the survey, this study has probably excluded remote areas with less access to health services. This may mean that the women surveyed in Ethiopia were less representative of women in the general population than in Madhya Pradesh, where researchers did not screen for media access.

In South Sudan, researchers did not screen for media access, but due to security and logistical restrictions, there were limited geographical areas where they were able to conduct fieldwork. All of the baseline locations were therefore within 25km of a town, so almost half of the women surveyed in South Sudan are classified as urban. These differences between survey populations should be considered when comparing baseline indicators across the three countries and when comparing to external data sources. For example, in Ethiopia and South Sudan indicators based on baseline data might be expected to be higher than other data sources whose surveyed populations are more representative of the general population, including those in very remote and “media-dark” areas.

## **7.2 Insights for programming**

### **7.2.1 Current practices in Bangladesh, Ethiopia, India and South Sudan**

Across the four countries findings suggest that there is considerable scope for programming to improve practices around antenatal care and birth preparedness. The findings enable BBC Media Action to identify segments of its target audiences that report especially poor uptake of practices in order to target programming effectively.

While most women reported attending some antenatal care in Bangladesh, Ethiopia, India and South Sudan, the majority did not attend the recommended four check-ups and did not attend in the first trimester. Most pregnant women did not attend until their second trimester. This is as expected. Uptake of the recommended antenatal care practices was especially poor in Bangladesh and South Sudan. This research suggests that women in South Sudan mostly receive antenatal care from TBAs, while women in Bangladesh, Ethiopia and India mostly receive antenatal care from QHWs. While there is scope across the four countries to increase early and regular attendance at antenatal care, the local service delivery environments must also be considered. For example, for many women in South Sudan, with many barriers around service provision and infrastructure, the most viable option for antenatal care is often visiting the local TBA to check the baby’s position. Across all countries,

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<sup>57</sup> Given the low levels of female radio listenership, the survey’s target population makes up a tiny proportion of the population in Ethiopia, so using similar sampling strategies at PSU level as those used in India and South Sudan was prohibitively expensive. Researchers therefore decided to use a purposive sampling strategy, consulting with community health workers and village leaders to help identify potentially suitable respondents.

the provision of important antenatal care interventions such as tetanus toxoid injections is also low in some communities. BBC Media Action must be mindful about recommending services that do not exist or that do not confer a benefit.

Across the four countries, many women cannot afford and/or do not receive support from relatives to reduce their workload or eat a more varied and nutritious diet when pregnant. However, women in Ethiopia were more likely to report being able to do so, as were women living in non-traditional family structures in Bangladesh and India. Programming can use these findings to target the particular groups among the target audience within which there is less support for these practices.

As expected, in Bangladesh, Ethiopia and South Sudan most women deliver at home, assisted by either relatives, neighbours and/or a TBA. In India, however, the majority of women now give birth in a health facility. While there is substantial scope to increase health facility deliveries across all countries, programming should be mindful of the accessibility of services. In areas where they are not accessible, as in some areas of South Sudan, programming may focus on hygienic home delivery with an SBA.

In Ethiopia and South Sudan the most commonly-made preparations are related to home deliveries, for example, preparing clean cloths and a clean blade to cut the umbilical cord. Overall, however, most of the preparations made by pregnant women and their families are linked to the need to prepare the home for the baby and ensure the baby's comfort, rather than to ensure the safety of the pregnant woman during labour.

While more families in Bangladesh and India make more of the recommended preparations for delivery than in Ethiopia and South Sudan, for example, planning transport to the health facility, preparations are often made inadequately or too late. This can lead to a delay in taking pregnant women to the health facility, including when women delivering at home experience complications during labour. The occurrence of women going into labour "unexpectedly" was also commonly reported across the four countries, which seems to be directly linked to lack of preparation and a poor understanding of expected delivery dates.

Findings suggest that birth planning practices can be improved across the four countries by addressing potential drivers of change (as discussed below). The research also highlights differences in uptake of birth planning practices between different groups within the target audience, for example, between women delivering in a health facility and women delivering at home. This helps understanding of the contexts within which preparations are or are not made. In areas where the health infrastructure is very poor, a facility-based delivery is not a feasible option.

### **7.2.2 Potential drivers of key maternal health behaviours**

This research can inform BBC Media Action's communication programmes and project design by highlighting what appear to be the drivers of, and key barriers to, behaviour change in relation to antenatal care and birth preparedness. While researchers are currently limited as to what extent they can draw statistical associations between practice and potential drivers,<sup>58</sup> the analyses of the

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<sup>58</sup> As a number of attitudinal and social norm measures appear to have performed poorly cross-culturally, they require refinement to ensure they measure what they intend to measure within each country context.

formative qualitative and the baseline quantitative research offers some insights into what may be driving behaviours.

There are some clear **knowledge** gaps around antenatal care and birth preparedness which programming can address. Overall, although most people in BBC Media Action's target audience know that antenatal care is important, there are knowledge gaps around the importance of attending antenatal care early and the components of antenatal care, especially in Bangladesh and South Sudan. Reflecting the restricted provision of appropriate antenatal care in South Sudan, the understanding around what antenatal care should comprise and who is qualified to provide antenatal care is especially poor. Overall, knowledge around antenatal care and home-based care behaviours is generally significantly higher than practice. This suggests that other factors such as unsupportive attitudes and social norms play a major role in preventing early and regular attendance across the four countries.

In many communities across the four countries, unsupportive **attitudes** continue to impede desired practices around antenatal care and birth preparedness. Programming can use findings to identify particular groups of people within which these unsupportive attitudes are most prevalent and influential on practices. For example, among older generations who may have less supportive attitudes around antenatal care attendance and among mothers-in-law whose attitudes in Bangladesh and India may prevent pregnant women from receiving support in the home.

The attitude that pregnancy is a “normal process” and requires no medical intervention appears to be especially influential on practices in Bangladesh, India and South Sudan. This attitude seems to prevent pregnant women from receiving additional support in the home and can impede regular attendance of antenatal care, particularly in families where the woman has low levels of influence on decision-making.

It has been observed, however, that even when individual attitudes are positively disposed towards a practice, **social norms** can still impede uptake of antenatal care, and birth preparedness. The social norm that women should not disclose their pregnancy outside their family until the fourth month, or even later in Bangladesh, was commonly found across the four countries. Alongside a poor understanding around the types of interventions required at different stages of pregnancy, this social norm seems to be directly associated with women waiting until their second trimester, or even later, to attend antenatal care. This is particularly the case in more traditional family structures where family members other than the pregnant woman hold most decision-making powers. This should be taken into account when trying to shift behaviours by altering the audience's perception of social norms.

This research suggests that it is also within more traditional family structures that women appear to have particularly low levels of **self-efficacy** to perform the desired behaviours around antenatal care and birth preparedness as well as little confidence to negotiate with key decision-makers. Overall, women with higher levels of confidence to negotiate with relatives seem to be more able to practice the desired behaviours. Taking into account the familial context within which decisions are made, programming can model successful discussion and negotiation to help increase women's confidence

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Researchers would lack confidence in the results if they used the original baseline measures of attitude and social norms in the analysis to explore associations between drivers and practices.

and ability to influence decisions. Reflecting the finding that women often have low levels of self-efficacy as they have no independent funds of their own, programming can also promote ways that women can develop their own stream of income. However, the very low levels of autonomy experienced by some women in Bangladesh and India may prove challenging.

Overall, these research findings suggest that **discussion** around antenatal care and birth preparedness can often influence uptake of these practices. This can refer to discussion between pregnant women and key decision-makers within their family, or sharing advice or experiences among peers. Previous experience in particular seems to be key predictor of practices around the next pregnancy. The research gives some insight into which groups within BBC Media Action's target audience have especially low incidence of discussion. This can inform programming.

The research identified some positive trends around **antenatal care**. Uptake of antenatal care has increased in recent years in Ethiopia and India. This is strongly associated with the roll-out of the HEW scheme in Ethiopia and with the JSY scheme in India, which offers families financial incentives for registering pregnancies and delivering in a health facility. While increased uptake of antenatal care seems to be mostly linked to changes in provision of services and incentives, findings suggest that this is being accompanied by increasingly supportive attitudes around the need for regular antenatal care attendance.

A further key driver of attendance of antenatal care in all countries is the perceived need to check the baby's health. The mother's health is not given priority when allocating household resources and many people do not make the link that the baby's health is in fact dependent on the mother's health. Pregnant woman who have greater decision-making powers, or higher levels of confidence to negotiate with key decision-makers, are more likely to report improved antenatal and home-based care behaviours.

In regards to **birth preparedness**, the research suggests that a good understanding of birth preparedness positively influences practice, and where **knowledge** around an appropriate practice is lower, such as in Ethiopia and South Sudan, reported practice is also lower. However, despite a better understanding of birth planning being found in Bangladesh and India, many families still fail to make the appropriate preparations. In India, this is possibly due to the **attitude** that preparations need only be made at the "last minute". The attitude that planning does not impact outcome in Ethiopia, India and South Sudan may also lead to some inertia in making preparations in advance of delivery.

Women are much more likely to report the desired practices where family members, especially husbands, have supportive attitudes. Although men are not always involved in decisions around antenatal care and birth planning, especially in households comprising extended families, they are often involved in decisions about spending money on costs associated with antenatal care and birth preparedness such as services and transport. As men in many areas consume more broadcast media than women and control household access it, communication should take into account men's roles in antenatal care and birth preparedness.

While there was a relatively good understanding across the four countries that health facility deliveries reduce risks for the mother and baby, there was a still a strong preference among families for home deliveries for pregnancies where complications have not been identified. This preference

seems to be heavily influenced by the **social norm** that a “normal birth” takes place at home and a home birth is something that women should be proud of. Women’s desire to adhere to this norm may also lead to them failing to inform their family of labour pains or of potential complications during delivery, which can lead to delays in referral to the health facility.

In Ethiopia and South Sudan in particular, distance to the health facility and lack of money and/or transport are key barriers to institutional deliveries. Overall, the research found that barriers to accessing health services, perceived or otherwise, play a greater role in determining uptake of maternal health behaviours than previously thought. This research study suggests that women often have low levels of **self-efficacy** to be able to overcome these barriers, especially in relation to being able to obtain funds or to negotiate for household resources to be spent on their care. The success of the JSY scheme in India in increasing institutional delivery highlights the extent to which choices around delivery are often largely financial decisions, as well as the potential power of financial incentives to improve practice even in contexts where social norms are largely unsupportive of these practices.

Improved practices around birth preparedness also seem to be reported in families where husbands express a more supportive attitude and the belief that it is a husband’s responsibility to support his pregnant wife and ensure her safety. In Ethiopia and India, community health workers play an important role in promoting birth preparedness, although their advice is not always followed, possibly due to financial barriers or a disagreement between their views and those of key decision-makers within the family, for example, mothers-in-law. There were also fairly common reports of women discussing their experiences of delivery, in particular in health facilities, and this discussion can sometimes influence decisions around place of delivery, both positively and negatively.

It is clear from the research that **barriers** to accessing health services, perceived or otherwise, have a large influence on people’s behaviour. People’s perceptions around service delivery and the acceptability of health services may differ from reality in important ways that communication could address. However, the ability to influence these perceptions is, of course, dependent on the service delivery environments. Lack of transport and funds for transport as well as distance were also reported as major barriers to accessing services across the four countries, in particular in Ethiopia and South Sudan. Programming has limited scope to address these barriers. Accordingly, programming should set communication objectives that are appropriate to the service delivery environments.

### 7.3 Insights for measurement

Much health research on RMNCH behaviours and practices has been conducted by various institutions, and BBC Media Action used measures already validated by the DHS and other similar surveys wherever possible. However, many constructs which BBC Media Action wanted to measure did not have standardised, validated measures. This presented a challenge.

The baseline research generally found results to be similar to those anticipated, suggesting that the majority of the research measures worked. Where the research findings differed from those expected, challenges of measurement and of fieldwork implementation may have played a role. BBC Media Action’s research is applied and practitioner-driven, and this is one of its first experiences with cross-country research at this scale in health, using standardised measures. In addition, BBC



Media Action is measuring drivers, for example, social norms, for which often no standard measures are available and there is no consensus on how they should be measured. Researchers are therefore encouraged by their overall research findings, and motivated to refine their measures and methods.

### **7.3.1 Challenges of instrumentation and measurement**

All surveys inherently have some measurement error and cross-cultural surveys are no exception. BBC Media Action's experience of using standardised measures in conducting cross-country research suggests that in order to aggregate data, particular care must be taken to ensure that enumerators and respondents in each country have the same conceptual definitions in mind when they administer, and respond to, a survey item. This is related to the fact that several quantitative measures may have lacked the requisite specificity to ensure valid measurement of intended concepts. This is especially relevant in case of survey items related to birth preparedness. For example, survey items measuring practices such as saving money and planning transport may have lacked the required specificity to attain a true estimation of the correct practices, as the meaning of these concepts can be interpreted quite subjectively by respondents.

It is worth noting that as no gold standard DHS-type measures exist for practices around birth preparedness, BBC Media Action developed and piloted its own measures. During piloting it was found that the concept of birth planning was understood differently across countries and unprompted questions were eliciting very different responses. In order to address the differences in understanding of "birth planning" and to be able to measure levels of birth preparedness in a standardised way, researchers decided that prompted questions would perform better cross-culturally. However, they did not realise that it would be necessary to break down the individual concepts in the prompted questions and some of these questions still lacked specificity. The combined use of prompted response questions and the lack of specificity of individual concepts may have led to higher response rates for these survey items. Arguably, it is necessary to further break down specific behaviours and actions within birth planning practices in order to be able to measure if birth planning practices have been carried out effectively.

Responses to survey items measuring knowledge and attitude around birth preparedness may have been biased by the different understanding respondents had of the term in different countries. Therefore, some care should be taken when comparing findings across countries. In the baseline, wording of survey items may not have been sufficiently localised in the effort to retain standardisation of survey items across countries. The baseline data presented on attitudes towards birth preparedness may be showing true differences between countries, but could again also be due to differences around the understanding of the concept of birth preparedness between countries.

Similarly, the concepts of "interpersonal discussion" and "a barrier" to accessing health services may have been interpreted differently in different countries. While findings indicate some trends in interpersonal discussion of antenatal care and birth planning across countries, there are still gaps in understanding around the nature of much of the discussion and to what extent, if any, this discussion appears to be impacting decision-making and, ultimately, practice. There are also gaps around to the extent to which barriers to health services are perceived or real. Qualitative research may be well suited to explore these questions.

In South Sudan, the fieldwork researchers observed a tendency for respondents to confuse local TBAs with qualified midwives. In some cases it would have been difficult for researchers to assure the validity of respondents' answers, since respondents may not have been familiar with the training their health care provider had received, so could not accurately comment on whether or not they received care from a "qualified" service provider. There may have been a similar occurrence with the correct identification of health facilities.

Overall, the use of self-reporting in both the formative research and the baseline may also have led to social desirability bias and recall bias in reporting, which could have resulted in some of the unexpectedly high practice indicators.<sup>59</sup> The researchers in South Sudan in particular perceived social desirability to be problematic during both formative and baseline research. The use of projective techniques and observation could be employed to help address this.

As demonstrated, there is some question as to what extent some of the baseline findings on attitudes are comparable across countries. For other priority issues, researchers found ceiling effects in the data for attitudinal survey items, which suggests either significant measurement error or perhaps that attitudinal statements were not relevant to specific country contexts.<sup>60</sup> This latter issue may argue the case that standardisation of measures around attitudes is not always appropriate; while some attitudes appear to be common across countries, others are not. As a result, there is some uncertainty as to what extent some attitudes are prevalent among communities and limited indication of whether these are in fact either enablers of or barriers to practices.

While the use of standardised social norms measures may have also led to social norms statements being less relevant to some country contexts, it is also likely that the combination of the statement and agreement scale used in these survey items presented too much of a cognitive burden to the respondent.<sup>61</sup> The injunctive social norm measures used the concept of approval, and it is possible that this was also challenging for respondents as many may have felt that they could not claim to know that others would disapprove of something.<sup>62</sup> This appeared to be especially true in the case of Ethiopia where ceiling effects were observed for many of the social norms measures. While the baseline social norms were developed following a review of the existing literature and consultation with academics, there was no consensus as to how social norms should be measured and there were no pre-existing measures of social norms around the specific practices covered in the baseline. Therefore, the development of standardised measures around social norms to be used across four countries has proved challenging and needs to be reconsidered.

The baseline findings also suggest that the measurement of self-efficacy, in relation to the health behaviour on which BBC Media Action is focusing, may also be better suited to qualitative research. As self-efficacy is a latent construct and as the literature suggests that a person's self-efficacy to be able to do something is particular to a specific behaviour, survey items would be required to

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<sup>59</sup> Social desirability bias is the tendency of respondents to give responses that they feel other people – including the enumerator – will view favourably, rather than honest responses. Social desirability bias results in over-reporting of "good" practices or beliefs and under-reporting of "bad" ones.

<sup>60</sup> Ceiling effects occur when the majority of respondents are grouped into one category for a survey item, or are at the highest end of the response scale.

<sup>61</sup> For example, respondents used statements that included double negatives. Respondents were asked if they agreed to these statements, and then to what extent, using a four-point Likert agreement response scale.

<sup>62</sup> An injunctive social norm refers to a person's perception of what is commonly approved of.

quantitatively measure a respondent's level of self-efficacy to carry out that specific behaviour. It is worth noting that practices often comprise several behaviours and in a bid to keep questionnaire length manageable and to minimise the burden on respondents, it is not feasible to include numerous self-efficacy statements. Similarly, to effectively explore a respondent's self-efficacy, it is necessary to explore her belief in her ability to overcome potential obstacles. Arguably, qualitative or mixed methods research is better suited to this as it enables researchers to elicit these potential obstacles from respondents and then explore to what extent a respondent feels that they can overcome this obstacle.

### **7.3.2 Challenges of fieldwork implementation**

As demonstrated, the baseline findings should be interpreted within the context of other research findings due to challenges around measurement. In the case of South Sudan this largely relates to the challenges of conducting research in a post-conflict country with limited research capacity. In Ethiopia and South Sudan this is linked to researchers' sampling and screening strategies or, in Ethiopia, the need to ensure sufficient numbers of radio listeners in the sample.

Enumerator recruitment, training and practice also play a role in helping respondents understand questions and respond appropriately. Following the first round of data collection in Yambio, South Sudan, researchers lengthened and improved enumerator training for the second and third rounds, which apparently reduced some of the errors in the data, especially on distinguishing types of local health workers. However, it is likely that errors were still introduced to the data in the second and third rounds of fieldwork, in particular due to the use of spontaneous translation. Enumerators were required to spontaneously translate survey items and response options for many interviews, and despite translation of survey items being included in enumerator training, it is difficult to monitor if the correct translations were being used. Given the diversity of local languages used and the expense of quantitative fieldwork in South Sudan, the translation issue will continue to be a challenge in future quantitative research.

Some of the findings on practices around antenatal care and place of delivery in South Sudan are also questionable given what is known from the formative research and about health service provision. Further analysis can be done to try to gauge to what extent these results may be due to an urban bias, and to what extent health services mentioned are actually available in the baseline locations. If these health services are not judged to be available or accessible, it is reasonable to suggest that there was significant error in enumerators' recording of responses, especially around types of health facility and health worker. In July 2013, a community assessment study was conducted in Yambio, where the first wave of baseline data was collected in late 2012. Some communities were actually found to have decent access to a health services. However, in other communities, when researchers asked women to show them the "health centres" that they had discussed attending for antenatal care, these were in fact open-air buildings that were only staffed by the local TBA. Such findings can help to contextualise the baseline findings.

The apparently urban bias may have also led to response rates for indicators being higher than expected. However, the limited availability of appropriate data for a viable sampling frame, alongside security considerations means that there are limited geographical areas where BBC Media Action

can conduct fieldwork.<sup>63</sup> Given these limitations, the sample may have a peri-urban bias. As a result, this data only represents a proportion of the target audience nationally. The value for money of conducting further quantitative research in these areas must be carefully considered.

## 8. Next steps

BBC Media Action plans to measure the impact of programming in each country with cross-sectional surveys conducted at midline and endline. Data from midline and endline will enable researchers to analyse shifts in outcomes – such as knowledge of healthy behaviours – and differences in outcomes among women exposed to the programming as compared to those not exposed over time. BBC Media Action intends to conduct dose-response analysis to explore the differential effects on women who are exposed to different levels of programming.<sup>64</sup> It will analyse the relationship between behavioural outcomes and the potential drivers to better understand the drivers of maternal and newborn health behaviours.

As highlighted in section 7 researchers are using retrospective testing to refine the priority measures for midline quantitative data collection. They also plan to conduct additional qualitative research with the target populations to help understand impact and provide contextual information at country-level on how these drivers might impact behaviours.

Some drivers of practice are amenable to quantitative measurement with standardised questionnaire items, whereas others – like social norms and attitudes – are less amenable to measurement with standardised questionnaire items. For these drivers, researchers are developing country-specific measurement items that can be aggregated at country-level into constructs. While allowing for greater flexibility in measurement of attitudes and social norms across countries will ensure that survey items will not be directly comparable, it will still be possible to aggregate insights across countries.<sup>65</sup> This will also enable researchers to conduct statistical analysis to look at predictors of practices, in order to draw conclusions effectively on associations between potential drivers of change and practice. Given the poor performance of some of the baseline measures cross-culturally, researchers are currently limited in their ability to do this.

The redeveloped social norms measures will also move away from the use of Likert agreement and the concept of “approval”. Where measures remain standardised, tools will be refined to ensure that survey items are being measured with sufficient nuance and specificity to give actionable data for evidencing a driver or a practice.

BBC Media Action is also using further qualitative research to assess programming impact on drivers, in particular on self-efficacy. Qualitative research can also help BBC Media Action better understand the nature and role of discussion in decision-making and how its programming can influence practice

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<sup>63</sup> For example, all PSUs were within 25km of a county town due to security restrictions.

<sup>64</sup> Dose response analysis examines the effect of changes in doses of exposure on the outcome under investigation.

<sup>65</sup> Attitude and social norms scales around a specific health issue can be built for each country and the insights will be aggregated, for example to compare how supportive attitudes around antenatal care are across countries.

by encouraging discussion with key decision-makers. In addition, qualitative research can help clarify some of the questions that have arisen out of the baseline findings, for example, around birth preparedness.

Quantitative data collection in a post-conflict setting such as South Sudan presents particular challenges because it is difficult to assure the quality of the data. As a result, careful consideration is being given as to whether conducting further quantitative research provides value for money. In instances when quantitative research does not offer value for money, further qualitative research will be conducted to measure knowledge levels, attitudes and social norms around health behaviours among key target audiences (for example husbands and older women). In Ethiopia and South Sudan for instance, men often choose whether a pregnant woman should be referred to a health facility and it is important to capture how well they understand the danger signs. By using projective techniques in the qualitative research designs in both countries and community assessments in South Sudan, it is hoped to avoid the potential bias introduced by self-report methods.

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## Appendix I: Social norms testing

The Global Grant health standard question set survey included several items that aimed to assess the respondent's perception of the surrounding social norms for positive antenatal care and birth planning practices. Items asking respondents their perceptions of social norms around the aforementioned practices came from scales that had not been validated. Therefore, BBC Media Action sought retrospective evidence of their psychometric performance.

In each survey, the survey item that assessed perceived social norms had a corresponding survey item in which respondents reported whether or not they had behaved in this way. For example, the India and Ethiopia surveys include items about planning transport, an element of birth planning. The planning transport injunctive social norm survey item is “people I know would think I’m being too cautious if I arrange for transport when I go into labour”, and is measured on a four-point Likert scale. The planning transport behaviour survey item is, “Did you plan transport for your last delivery?” and is measured on a binary (yes/no) scale.

To assess the validity of the social norm survey items, BBC Media Action researchers ran correlations between each perceived norm item and its corresponding behavioural item. Since supportive social norms were theorised as drivers of desirable practices for antenatal care and birth planning, researchers expected that high-to-medium correlations between the items would provide evidence of convergent validity.

At the time of testing, data was only available from Madhya Pradesh state in India and from Ethiopia, so only data from those countries was tested. Researchers used Spearman's Rho correlation to test the correlation between perceived norms and corresponding behaviours. Overall, in both countries, the correlations between individual items assessing social norms and the corresponding practice indicated a weak or non-associated relationship (see Table 4 below).

### India

For birth planning, the social norms and practices item pair that was most strongly correlated was planning to see an SBA and the injunctive norm for this behaviour, but the correlation was lower than expected ( $Rho = 0.122$ ). The weakest association was between planning transport and the injunctive norm for this behaviour ( $Rho = -0.029$ ).

For antenatal care, only one injunctive social norm was asked: seeking more than one antenatal care check-up. There was no directly comparable antenatal care practice for this norm. Despite this, the strength of association was similar to that found for birth spacing norms and their directly comparable practices – with the general antenatal care norm most strongly associated to self-report of number of antenatal care visits ( $Rho = 0.159$ ) and most weakly associated with self-report on attending any antenatal care visits ( $Rho = 0.069$ ).

### Ethiopia

In Ethiopia correlations were also weak, but for birth planning the arranging transport injunctive norm was this time most strongly correlated with its respective self-report behaviour ( $Rho = 0.120$ ); whereas the injunctive norm for identifying a place of delivery was most weakly associated with the

self-report behaviour ( $Rho = 0.025$ ). For antenatal care, the association between practices and norms was the reverse of that in India, with attending any antenatal care visits in Ethiopia most strongly associated with the injunctive norm ( $Rho=0.152$ ), whereas the self-reported number of antenatal care visits ( $Rho = 0.051$ ) was most weakly associated.

Considering the strength of these correlations, BBC Media Action concluded that social norms had poor convergent validity with both directly comparable and related practices. However, using associations between social norm items and self-report practices makes the assumption that the behavioural indicators were valid in the first place. This assumption was fair – further analysis indicated that self-report practice indicators were valid as they produced compliant prevalences to data collected elsewhere in India. Furthermore, in both India and Ethiopia other drivers of birth planning and antenatal care practices, such as knowledge, did show strong evidence of convergent validity with individual practices.

In both Ethiopia and India, the single injunctive antenatal care norm was associated to relevant practices at a similar strength to directly comparable birth planning norms and practices. The weakness in association between birth planning norms and practices may, therefore, be in part due to practice questions being retrospective and social norms being prospective – along with other more subtle differences between norm items and self-report behaviours, meaning they were not as closely related as first thought.

To further test if weak associations were due to differences between birth planning practices and social norm questions, researchers used principal component analysis (PCA) to create total scores for birth spacing norms and birth spacing practices in both India and Ethiopia. These total scores were correlated with each other, again only producing weak associations (Pearson's  $Rho= 0.076$  and  $0.022$  in India and Ethiopia, respectively). Again, therefore, these results did not demonstrate any evidence of convergent validity.

Finally, researchers created a total social norm composite to examine the collinearity between social norm items. Collinearity occurs when a high proportion of variance in a scale item is explained by other items. It means the item is partly redundant, as it only contributes a small amount of unique information to a computed scale. High levels of collinearity are not just indicative of redundant items, but can also reflect respondents picking the same responses on a Likert scale, potentially because the respondent did not understand the questions. Collinearity between birth spacing social norm items in both India and Ethiopia was moderate to high, indicating that respondents were picking similar or the same response across these questions.

High collinearity alongside a dearth of expected associations between social norms and antenatal care and birth planning practices for both individual items and scored scales led researchers to conclude that items assessing injunctive and descriptive social norms were not performing as intended in India and Ethiopia. These items need further development ahead of the next wave of data collection.

BBC Media Action also tested correlations of self-efficacy items. There was only one item per area, so researchers did not continue with the scale. The correlations for self-efficacy items were lower than desired.



Table 4: Correlations between perceived social norms items and related practice items

	<b>Social norm measure (variable name)</b>	<b>Practice (variable name)</b>	<b>Directly comparable practice</b>	<b>Rho (correlation) Ethiopia</b>	<b>Rho (correlation) India</b>
<b>Birth planning</b>					
Saving money	✓ BPSocNormSave	SaveMon	✓	-0.028	0.034
Arranging for an SBA	✓ BPSocNormArrange	DVArrange SBA	✓	0.120	0.122
		Arrange Assist	✗	0.018	0.131
Planning transport	✓ BPSocNormTrans	PlanTrans	✓	0.123	-0.029
Planning to register with a health facility	✓ BPSocNormReg	IdentPlace	✗	0.025	-0.040
<b>Antenatal care</b>					
More than one antenatal care check-up	✓ SNormANC	AnyAnc	✗	0.152	-0.069
		NumANC	✗	0.051	-0.123
		DV4ANC	✗	0.086	Not applicable

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The content of this working paper reflects the views of the author and should not be taken to represent those of the BBC itself, or of any donors supporting the work of the charity.

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