

# BMJ Open Factors influencing utilisation of services provided by community midwives and their non-retention in district Thatta, Pakistan: a qualitative study protocol

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## ABSTRACT

**Introduction** Drawing on the well-acknowledged evidence of community midwives services to address the issue of high maternal mortality, the Government of Pakistan initiated the Community Midwifery (CMW) programme in 2006 to provide skilled birth attendance to pregnant women living in rural areas. Despite a large investment in CMW programme, the availability of community midwives in rural areas following their training is a constant struggle. The concerns related to the training, support and acceptability of community midwives need to be studied in order to identify gaps in the provision of skilled maternal and newborn healthcare. Therefore, this study aims to explore factors influencing the utilisation of services provided by community midwives and their non-retention in district Thatta, Pakistan.

**Methods and analysis** The study will use a qualitative exploratory research design. The data will be collected through semistructured interviews and an approach of purposive sampling for the selection of participants for interviews. The study will be conducted in one of the rural districts Thatta of Province Sindh, Pakistan. The data will be collected through key informant interviews (KIs) and in-depth interviews (IDIs). The KIs will be conducted with officials of the health department (Thatta), the provincial maternal and newborn child health programme, and the Midwifery Association of Pakistan. The IDIs will be conducted with midwifery students, community midwives working and not working in the district, and community women of district Thatta. Data will be analysed through qualitative data analysis software NVivo V.10 and the thematic analysis approach.

**Ethics and dissemination** Ethical approval for this study has been obtained from the Aga Khan University Ethical Review Committee (2020-3391-11138). The results of the study will be disseminated to the scientific community, to policy-makers involved in CMW programme training and implementation, and to the research subjects participating in the study.

## INTRODUCTION

Globally, it is estimated that approximately every day about 810 women die due to preventable complications related to pregnancy and

## STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ The rigour of the study will be achieved by enhancing the credibility of the findings from different data sources.
- ⇒ The telephonic data collection will hinder the recording of facial expressions and physical observations.
- ⇒ The use of telephonic interviews will exclude informants who do not have access to phones.
- ⇒ The exclusion of potential 'gatekeepers' (eg, husbands, mothers-in-law) from the sample might be a major limitation.

childbirth such as maternal infections, postpartum haemorrhage and pre-eclampsia.<sup>1</sup> Access to antenatal, childbirth and postnatal care is crucial in decreasing maternal and newborn deaths.<sup>2</sup> Antenatal care comprises services that can prevent, detect and treat risk factors early on in pregnancy.<sup>1 2</sup> Women who do not receive antenatal and perinatal services are susceptible to complications and may require medical interventions that increase financial as well as physical health burdens.<sup>3</sup> These complications can be prevented by services provided by skilled health workers including a competent midwife, nurse or a doctor during pregnancy, childbirth and postnatal period.<sup>4</sup> WHO emphasises skilled care at birth to reduce maternal and newborn deaths.<sup>3</sup>

There is collective evidence about the role of midwives in positive pregnancy outcomes for women and newborns.<sup>5</sup> Nordic countries including Sweden, Finland, Norway and Iceland provide useful examples of efficient midwifery practice.<sup>6</sup> These countries dealt with the issue of perinatal and maternal mortality by training and deploying midwives.<sup>6</sup> The maternal mortality ratios (MMR) in Nordic countries are among the

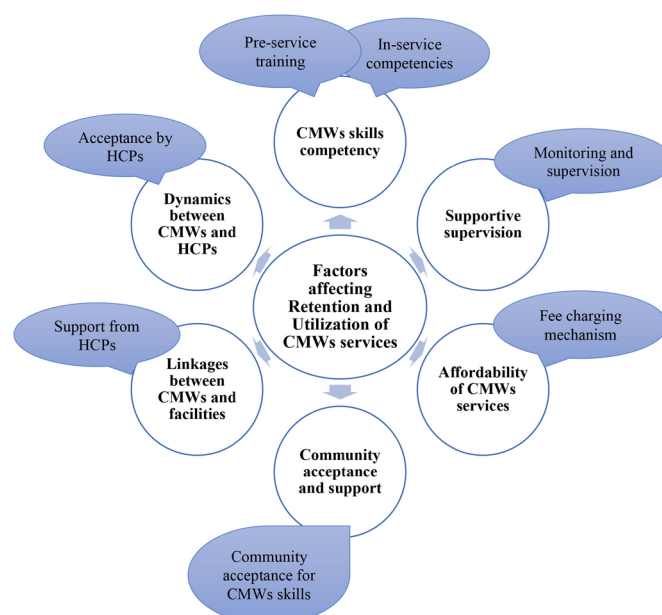
lowest worldwide, and the caesarean section rate in these countries is recorded as 18%.<sup>7</sup> This is greatly associated with the inclusion of midwifery services into their health systems.

The model of midwives has been adapted by several countries.<sup>8</sup> Many countries in Asia introduced the model of community midwives in their health systems.<sup>9</sup> Countries like Thailand and Sri Lanka have made significant improvements in MMR by using community midwives and contributed towards the MMR reduction to a level of 50 deaths per 100 000 live births.<sup>10</sup>

According to a United Nations Population Fund (UNFPA) report, low-income and middle-income countries have improved maternal and newborn health; however, there is still a deficiency of skilled and educated midwives in these countries.<sup>11</sup> In these countries, midwives who are trained on standardised international principles can provide 90% of important care to women and newborns.<sup>12</sup> In Pakistan, 62% of the population resides in rural areas with poor healthcare infrastructure and limited basic facilities related to maternal and newborn health services.<sup>13</sup>

Hence, drawing on the well-acknowledged evidence of community midwives' contribution to addressing the issue of high maternal mortality, the Government of Pakistan initiated the Community Midwifery (CMW) programme in 2006 to provide skilled birth attendance to pregnant women living in rural areas.<sup>14</sup> CMW programme is one of the vertical programmes of the Maternal Newborn and Child Health Programme executed at the provincial level.<sup>14</sup> The programme was planned as an essential part of the existing health system of the country.<sup>15</sup> The thrust of the programme is to extend maternal and newborn services to communities, through the selection and training of community midwives from rural areas, and their deployment to local communities.<sup>15 16</sup>

The CMW programme has been planned to establish home-based clinics to provide antenatal care, childbirth, postnatal and newborn services to rural communities.<sup>15</sup> In the low-income setting of rural Pakistan, community midwives have the potential to reduce maternal and newborn mortalities within their communities through services accessible to childbearing women, at a primary care level. There are training institutes that prepare a number of community midwives each year; however, there are issues related to the unavailability and non-retention of community midwives in rural areas of Pakistan.<sup>17</sup> Therefore, this study aims to determine factors influencing utilisation of services provided by community midwives in district Thatta and it will add to our understanding of this emerging picture of poor CMW programme function. There are less data concerning maternal and newborn services provided by community midwives following deployment. This information could potentially help to formulate policies and strategies to improve CMWs services in rural areas and improve their performance not only in district Thatta but also in areas with a shortage of community midwives. The evidence



**Figure 1** Conceptual framework—community midwifery model. CMW, Community Midwifery; HCPs, Healthcare Providers.

is important in the planning of strategies addressing the sustainability of services to promote and improve maternal and newborn health.

The CMW model (figure 1) has been adapted from Chitral Newborn Survival Programme (CCSP).<sup>18</sup> This model was developed with the Government of Pakistan's maternal and newborn child health (MNCH) programme strategy to expand community-level CMWs services. The uptake and sustainability of CMWs services and their retention can be influenced by the six factors discussed in the model. These factors are:

1. **CMWs skills competency:** The factor which can affect the ability of a community midwife to contribute toward services provision and retention in their profession is the quality of preservice training and access to continued professional development. The capacity development and clinical skills of CMWs are grounded on the quality of their training programmes.
2. **Supportive supervision:** Reference to the monitoring and supervision of community midwives, the programme divided its components into technical and administrative components.<sup>16</sup> The technical component for field monitoring of CMWs' is the domain of district tutors; and the administrative supervision is the area of a lady health supervisor (LHS), an employee of the National Programme.<sup>19</sup> The support and supervision of community midwives provide them with opportunities for the successful delivery of health services.
3. **Affordability for CMWs services:** CMW is the only cadre among MNCH vertical programmes that have been working as private independent practitioners who are to generate money through services charges from their clients.<sup>20</sup> In Pakistan, traditionally the government, as well as some non-governmental organisations, pro-

vides healthcare services for free while the providers are provided wages.<sup>18</sup> Yet, CMWs work on a private entrepreneur-based model.<sup>18</sup> Although the CMWs' fee is low, most people could not afford it.

4. Community acceptance and support: CMW is not only the wage earner for their families but has been trained to provide a major role in maternity care to women from her community.<sup>21</sup> Therefore, the trust and acceptance of communities towards CMWs services could serve as a motivating factor.
5. Linkages between CMWs and facilities: The CMW's linkages with doctors, lady health workers and LHSs of the immediate facilities could assist in prompt referral and teamwork. Access to transport, consultation with experienced providers, and the distance from a quality health facility are imperative to CMWs for referral services.
6. Dynamics between CMWs and other healthcare providers: In many settings, the scope of community midwives practice in the dominance of the medical profession is hindering factor for their services.<sup>22</sup> The positive relationship between community midwives and other teams of healthcare providers such as doctors, lady health visitors and traditional birth attendants is important to work in communities.

These are some of the identified factors influencing community midwives' services and their retention.

This framework (figure 1) will be used to identify the above mentioned factors in district Thatta. Any of the unknown factors, identified through this study, for services utilisation and non-retention of CMWs in the district will be integrated into the framework.

## METHODS AND ANALYSIS

### Study design

The study will use a qualitative exploratory research design to address the research questions. It will provide a better understanding and in-depth investigation of the factors that influence services utilisation provided by community midwives for maternal and newborn care. The data will be collected through semistructured interviews and an approach of purposive sampling. The data collection technique for this study will include key informant interviews (KIIs) and in-depth interviews (IDIs) to understand factors influencing the utilisation of services provided by community midwives and their non-retention, and to explore the current scope of services provided by community midwives in the district Thatta.

### Study setting

The study will be conducted in district Thatta of Province Sindh, Pakistan. Thatta is located in the southern area, called Laar, of the province Sindh with a total population of 979 817.<sup>23</sup> The number of community health centres available in the district is adequate<sup>23</sup> and there is a midwifery school to train midwives.<sup>24</sup> The number of trained community midwives is sufficient in the district as

**Table 1** Study participants for KIIs and IDIs

Participants for KIIs	Sample range
General secretary, Midwifery Association of Pakistan	01
Director, General Nursing and Midwifery Programme	01
Coordinator, Maternal and newborn child health programme, Thatta	01
Principal, Midwifery school, Thatta	01
District Health Officer, Thatta	01
Participants for IDIs	Sample range
Midwifery students	05
CMWs working in district Thatta	05
CMWs trained but not working in their roles as CMWs	05
Community married women who have been pregnant at least one time	05
CMW, Community Midwifery; IDIs, in-depth interviews; KIIs, key informant interviews.	

evident by the health profile of the district,<sup>25</sup> however, the maternal and newborn services provided by community midwives are unidentified.

### Study participants

Key informants such as officials from the Health Department of Thatta, provincial MNCH Programme and Midwifery Association of Pakistan (MAP) will be invited to understand their views about factors influencing utilisation of services provided by community midwives and their non-retention in district Thatta (table 1). This will also provide an understanding of the supportive administration and supervision provided to community midwives working in the district.

IDIs will be organised with the working and the non-working groups of community midwives, midwifery students, and community women of district Thatta. Table 1 provides the anticipated numbers for KIIs and IDIs. However, additional interviews will be conducted until data saturation.

### Eligibility criteria

The inclusion and exclusion criteria for participants are defined below

### Inclusion criteria

Community midwives working in the district.

Community midwives who are trained but not working.

Community married women of district Thatta who have been pregnant at least one time.

Key informants' such as officials from Health Department (Thatta), provincial MNCH programme and MAP.



### Exclusion criteria

Participants who are not willing to take part in the study.

Community midwives working in some other geographical areas than Thatta.

Midwives with qualifications other than CMW diploma (24 months) such as Bachelors of Science in Midwifery and nurse-midwifery diploma

### Data collection procedure

Interviews will be conducted online via telephonic calls considering the COVID-19 standard operating procedures (SOPs) to be followed. Interviews will begin in August 2020. KIIs will be invited to participate in the study by sending a letter or an email inviting them to contribute to the study. Participants will provide verbal consent (online supplemental file 1) for interviews and discussion to be noted and audiorecorded for transcription purposes. The conversation will include a general discussion about the availability and accessibility, scope and significance of community midwives, facilitating and hindering factors for the utilisation of their services, their current role, training and deployment.

Participants for IDIs will be approached by the study team and those who would agree to participate will be included in the study following their verbal consent. The conversation will include a general discussion about the training and deployment of community midwives, their scope and significance, and the facilitating and hindering factors for the utilisation of their services. The information will be collected till saturation is achieved.

Separate semistructured interview guides have been developed for KIIs and IDIs (online supplemental file 2) using the themes from the conceptual framework (CCSP model). The interview guides will help explore participants' views towards perceived hindering and facilitating factors for services utilisation provided by community midwives. These will be reviewed by experts to validate that it has covered all the themes covered in the framework. A free flow of information would be encouraged during data collection, using probes arising from the interviews. All semistructured interviews will be conducted online via telephonic calls. Interviews will be scheduled at the participant's convenient day and time. Interviews will be conducted by BMHK, who is proficient in local languages (Urdu and Sindhi), and is trained in qualitative research.

### Data analysis

The audiotaped data will be transcribed to the English language for further analysis and will be analysed through qualitative data analysis software NVivo V.10. Quality control of the information will be ensured by cross-checking the information for completeness and consistency before and during data processing by the research team. Thematic analysis will be done to analyse transcribed data collected through KIIs and IDIs. This will include an iterative process where data will be coded, compared, and refined to produce emergent themes. Transcripts will be read several times to develop an interpretation. The

transcribed text will be turned into 'meaning units' which will be condensed and labelled with a 'code' without losing the context. Codes will be analysed and assembled into categories. In the final step, similar categories will be assembled under central themes. Two investigators will perform the coding and category creation, and any inconsistencies will be resolved to reduce the researcher's bias.

### Ethics and dissemination

Ethical approval for this study has been obtained from the Aga Khan University Ethical Review Committee (2020-3391-11138). Study participants will be asked to provide verbal consent, which will be recorded prior to participation in the study while ensuring complete anonymity and confidentiality. Informed verbal consent will be translated into local languages. Every aspect of the consent form will be well explained to study participants including the purpose of the study, possible risks and discomforts, possible benefits, the confidentiality of information and the withdrawal procedure. Participants' anonymity will be preserved and no identifying characteristics will be specified on the transcript.

The study results will be disseminated to the scientific community, to the policy-makers involved in CMW training, supervision and deployment, and to the research subjects participating in the study. The findings will help us explore the factors influencing services provided by community midwives and will help in strengthening the identified facilitators, and in improving the identified barriers.

### Discussion

This qualitative study will provide an understanding of the factors influencing services utilisation provided by community midwives to the rural population of district Thatta. Such in-depth insights will be crucial to understanding the factors that may facilitate or hinder the services of CMWs in the local context. This study will also provide evidence on whether a 24-month education programme is sufficient to provide CMWs with all the skills and competencies needed to provide high-quality services.

The study findings and recommendations will guide government and policy-makers to formulate appropriate legislation to strengthen and support midwifery curriculum, training, deployment and interventions to improve maternal and newborn health services delivery.

### Patient and public involvement

Patients or the public were not involved in the design, conduct, reporting or dissemination plans of our research.

**Contributors** The qualitative study was conceptualised by BMHK, SS and ASF. BMHK prepared the first draft of the manuscript. SS reviewed the manuscript several times and provided feedback. All authors (BMHK, SS and ASF) have contributed to this manuscript, and reviewed and approved the final version of the paper.

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**Competing interests** None declared.

**Patient and public involvement** Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

**Patient consent for publication** Not applicable.

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**TELEPHONE SCRIPT- VERBAL INFORMED CONSENT:**

Study Title: Factors influencing Community Midwives utilization of services in district Thatta Pakistan

Asalam-o-Allaikum

I am Bakhtawar Khowaja, student MSc Health Policy and Management Programme, from department of Community Health Sciences, Aga Khan University. I am calling from The Aga Khan University regarding a study on factors influencing community midwives' utilization of services in District Thatta, Pakistan.

Do you have a few minutes to discuss the study?

- If yes, continue below.
- If no, but the potential subject is interested in participating, determine a better time to call back to discuss the study.
- If no, thank them for their time.

You have been invited to participate in this study because it will help explore us the factors that influence Community Midwives utilization of services. In this study we will ask several questions related to the research topic. This interview will last approximately 25-30 minutes and will be recorded through a voice recorder.

Being in this study is completely voluntary. Your decision whether to participate will not affect your current or future relationship with the researchers or anyone else at the Aga Khan University.

If you decide to take part in the study and then change your mind later, you are free to withdraw at any time.

Apart from giving your time, there are no risks or costs associated with taking part in this study.

There may be no direct benefit to you also. However, the results of this study will help to formulate policies and strategies to improve midwives' retention in rural areas and improve their performance in rural areas on Sindh.

Any information you provide will be stored securely and your identity/information will be kept strictly confidential, except as required by law. Nobody except principal investigator and the immediate research team will have an access to it. Study findings may be published, but you will not be individually identifiable in these publications. If you wish, we can share the study findings with you.

This study has been approved by The Aga Khan University Ethics Review Committee and will be conducted in accordance with the ethical principles.

Do you have any questions? Do you agree to participate in this study?

☐ Yes:

☐ No:

Name of Subject:

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### Person Obtaining Consent

I have read this form to the subject. An explanation of the research was given and questions from the subject were solicited and answered to the subject's satisfaction. In my judgment, the subject has demonstrated comprehension of the information. The subject has provided oral consent to participate in this study.

Name and designation of Person obtaining Consent:

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Signature of Person obtaining Consent:

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Name and designation of Witness:

Signature of Witness

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Date: \_\_\_\_\_

### Key informant interview with District Health Officer

<b>General questions</b>
1. What are your views on availability of midwives in your district for provision of maternal and newborn care?  <i>Probes: for deliveries, for antenatal care, birthing stations, community centers</i>
2. In your opinion, what is the scope of midwifery profession?  <i>Probes: views about scope, earning, respect and dignity</i>
3. What services are provided at primary facilities with maternal and newborn services and who provides the care?  <i>Probes: deliveries, perinatal care, home visits, immunization, growth monitoring provided by CMWs, LHVs</i>
<b>CMWs skills competency</b>
4. Are midwives involved in the provision of services? And at what level of care?  <i>Probes: deliveries, perinatal care, home visits, immunization, growth monitoring provided by CMWs, LHVs, levels of care</i>
5. In your opinion, time required for training midwives is appropriate taking in consideration theory and practical knowledge?  <i>Probes: theory knowledge and practicums, skills development</i>
6. What are your views about midwives skills and knowledge to provide care to their communities?  <i>Probes: knowledge, skills, competencies, confidence, mastery</i>
7. What are your views regarding the quality of teaching in midwifery schools?  <i>Probes: Teachers, number of schools available, clinical skills, support of hospitals for rotations</i>
<b>Community acceptance and support</b>
8. Where do people go for maternal and newborn health services?  <i>Probes: Obstetricians, LHVs, midwives, TBAs</i>
9. What are your views about community approach towards midwives for maternal and newborn services?  <i>Probes: for deliveries, for antenatal care, birthing stations in community centers</i>



10. Do community midwives have adequate resources to provide care to community women? <i>Probes: technical resources, equipment, supplies, fetoscope, measuring scales, vital signs monitoring</i>
<b>Supportive supervision</b>
11. What are the factors that facilitate midwifery services in the district? Does your office . provide any support to midwives to practice in the district? <i>Probes: Cultural context, social context, transport, language</i>
12. In your view what are important barriers to maternal and newborn health services in the district? <i>Probes: lack of information, inadequate staffing, sociocultural barriers, cultural context, social context, transport, language</i>
13. What is the process of training and deployment of midwives in the district? Does your office have any role in deploying CMWS after the training is completed? <i>Probes: how midwives are trained, who deploy, how many leaders are involved in the process?</i>
14. What support is provided to midwives from government sector? <i>Probes: supervision, training, deployment</i>
15. What is the role of MNCH programme and how are you connected to it? <i>Probes: connection of MNCH programme, connection with midwives</i>
<b>Linkages between CMWs and facilities</b>
16. Which secondary health facilities are available in the district for referral services from primary facilities? <i>Probes: number of health facilities, their distance from referral points, geographical location</i>
17. What maternal and newborn services are available in secondary health facilities? <i>Probes: obstetricians, delivery services, theaters, newborn nursery</i>
18. Which secondary facility is approached mostly for referral services and why? <i>Probes: relation of obstetricians or nurses with CMWs, facility with maximum services, location and transport availability</i>
19. What is the process for referral from community clinics to secondary facilities? Do you see any role of CMWs in these facilities? <i>Probes: transport, documentation, telephonic calls, where and how to refer which type of cases</i>
<b>Dynamics between CMWs and other health care providers</b>

<p>20. What are your views about relation of midwives with other health care providers available in the district?</p> <p><i>Probes: relation with LHVs, relation with secondary health facilities for referrals, relation with doctors, relation with TBAs</i></p>
<p>21. What are your views about linking midwives with other health care providers available in the district? Are there any steps taken from the government side?</p> <p><i>Probes: standard charges assigned for services to all CMWs, different charges according to individual patient</i></p>
<p>22. What are your views regarding HCPs trust on midwives for provision of services?</p> <p><i>Probes: positive feedback from obstetricians, negative views</i></p>
<b>Affordability of CMWs services</b>
<p>23. Are there any guidelines available for CMWs to charge for their services?</p> <p><i>Probes: delivery charges, antenatal charges, referral charges, counseling charges</i></p>
<p>24. What is the payment method followed for CMWs services? Or what would you recommend as a reasonable amount which could be affordable by poor and rural populations?</p> <p><i>Probes: income from services, fixed salary, government stipend</i></p>
<p>25. In your opinion what mechanism of service charges should be applied to CMWs services?</p> <p><i>Probes: salary, patient ratio, stipend</i></p>
<p>26. What and how investment is provided to CMWs to setup their clinics in community?</p> <p><i>Probes: by government stakeholders, self-investment</i></p>

**Key informant interview with Principal, School of midwifery**

<b>General questions</b>
1. What are your views about significance of midwives for provision of maternal and newborn services?  <i>Probes: views about scope, earning, respect and dignity</i>
2. In your opinion, midwives are easily available in your district for maternal and newborn services?  <i>Probes: for deliveries, for antenatal care, birthing stations in community centers</i>
<b>CMWs skills competency</b>
3. What courses are covered in midwifery education?  <i>Probes: practical and theory work, courses and curriculum</i>
4. What is the educational background of students who enroll in this programme?  <i>Probes: science group, arts group, matriculation, intermediate</i>
5. Where and how midwives are trained for clinical practice? Are these opportunities sufficient to start independent practice?  <i>Probes: supervised deliveries, newborn assessments, antenatal checkups</i>
6. In your opinion, the time required for training midwives is appropriate to take in consideration theory and practical knowledge?  <i>Probes: theory knowledge and practicums, skills development</i>
7. What is the educational background of midwifery teachers?  <i>Probes: midwives, nurses, geographical location, practical work</i>
8. What assessment criterion is followed to provide certification?  <i>Probes: theory exams, clinical exams, grading criteria</i>
9. What measures are followed for students who do not successfully pass their exams?  <i>Probes: re-sit exams, repetition of annual term</i>
10. Do you have any appreciation reward for high scoring students? If yes, what is it?  <i>Probes: financial rewards, certificates, material rewards, jobs allotment</i>
<b>Community acceptance and support</b>
11. What type of exposure is provided to students of community clinics and community midwives' during their training?  <i>Probes: duration, home visits, exposure of services of CMWs, hand-on practice in clinics</i>

12. What practical skills are performed by students under supervision and independently during their training?  <i>Probes: deliveries in hospitals/ community, newborn assessments, antenatal services, home visits</i>
13. Does the school provide any technical support or resources to students during their visits or rotation as part of their training?  <i>Probes: technical resources, equipment, supplies, monitoring</i>
<b>Supportive supervision</b>
14. What is the admission criteria and process of enrollment for midwifery certification?  <i>Probes: admissions, qualification, enrollment forms, quota system, admission test</i>
15. What is the involvement of stakeholders in training of midwives and who do you report?  <i>Probes: reporting to stakeholders at district level and national level</i>
16. What is the fee structure for midwifery certification?  <i>Probes: fee charged, semesters and term system, annual system</i>
<b>Linkages between CMWs and facilities</b>
17. What exposure of facilities is provided to students?  <i>Probes: hospitals, maternity centers, BHUs and RHCs</i>
18. Do you teach students about referral services? If yes, what do you teach?  <i>Probes: high risk cases, process of referral, who to refer, which facility to refer, importance of referral services, building referral linkages</i>
<b>Dynamics between CMWs and other health care providers</b>
19. How will you describe your relation with other health care providers available in the district for training of students?  <i>Probes: relation with LHVs, relation with secondary health facilities for referrals, relation with doctors, relation with TBAs</i>
<b>Affordability of CMWs services</b>
20. What are your views about community to afford CMWs services?  <i>Probes: awareness, education level, charges and quality of services</i>

**Key informant interview with President, Midwifery Association of Pakistan**

<b>Supportive supervision</b>
1. What are the major health issues related to maternal and newborn health in Pakistan? <i>Probes: maternal and newborn mortality, access to antenatal and delivery services, postpartum complication, complication related to abortions and deliveries</i>
2. What is the objective of Midwifery Association of Pakistan? <i>Probes: career development, trainings, quality of curriculum</i>
3. What support Pakistan Nursing Council and Government provide to midwives in trainings, deployment, building linkages with communities, other health care providers, for referrals? <i>Probes: financial incentives, trainings, curriculum, career development</i>
4. In your opinion, what motivates midwives to choose midwifery as their profession? <i>Probes: money, interaction with women as their clients, social and cultural preferences</i>
5. What are the challenges to midwives for delivery of services? <i>Probes: finance, community support, social and cultural barriers, respect of job, dignity of profession</i>
6. What are your views about availability of midwives in rural areas of Pakistan? <i>Probes: for maternal and newborn care, antenatal and delivery services, postpartum care</i>
7. What is the scope of midwifery profession in Pakistan? <i>Probes: views about scope, earning, respect and dignity</i>
<b>CMWs skills competency</b>
8. What is the importance of CMWs in provision of maternal and newborn services? <i>Probes: maternal and newborn services, easy community access, home visits</i>
9. Are midwives involved in the provision of maternal and newborn services? And at what level of care? <i>Probes: deliveries, perinatal care, home visits, immunization, growth monitoring provided by CMWs, LHVs, levels of care</i>
10. What are your views about availability of midwives in rural areas of Pakistan? <i>Probes: for maternal and newborn care, antenatal and delivery services, postpartum care</i>
11. What is the quality of pre-service training of midwives? <i>Probes: hands-on clinical practice, clinical and public health knowledge</i>
12. In your opinion, time required for training midwives is appropriate taking in consideration theory and practical knowledge? <i>Probes: theory knowledge and practicums, skills development</i>
<b>Community acceptance and support</b>



13. What are your views about community women approach towards midwives for maternal and newborn services?  <i>Probes: for deliveries, for antenatal care, birthing stations in community centers</i>
14. Do community midwives have adequate resources to provide care to community women?  <i>Probes: technical resources, equipment, supplies, fetoscope, measuring scales, vital signs monitoring</i>
<b>Affordability of CMWs services</b>
15. What are your views about financial earnings of midwives?  <i>Probes: salary, financial incentives, fee for services</i>
16. What do you think about community affordability for CMWs services?  <i>Probes: charge low, reasonable and affordable</i>
<b>Dynamics between CMWs and other health care providers</b>
17. What is your opinion about relation of midwives with other health care providers?  <i>Probes: relation with LHVs, relation with secondary health facilities for referrals, relation with doctors, relation with TBAs</i>
18. What are your views about trust of HCPs on midwives services?  <i>Probes: relation with doctors, relation with TBAs and LHVs</i>
<b>Linkages between CMWs and facilities</b>
19. In your opinion what is the significance of developing linkages between CMWs and health facilities?  <i>Probes: awareness, communication, processes, referral services, transport services, location of health facilities</i>
20. What are your comments about linkages between CMWs with health facilities in Pakistan?  <i>Probes: associations with obstetricians, facilities, awareness about transport to health facility when referring patients, communication with health facilities about referring patient, discussing high risk patients with secondary health facilities</i>

### Key informant interview with Director, Maternal and Child Health Program

<b>CMWs skills competency</b>
1. What services are provided at primary facilities with maternal and newborn services and who provides the care?  <i>Probes: deliveries, perinatal care, home visits, immunization, growth monitoring provided by CMWs, LHVs</i>
2. Are midwives involved in the provision of services? And at what level of care?  <i>Probes: deliveries, perinatal care, home visits, immunization, growth monitoring provided by CMWs, LHVs, levels of care</i>
3. What are your views about availability of midwives in rural areas of Pakistan?  <i>Probes: for maternal and newborn care, antenatal and delivery services, postpartum care</i>
4. What is the scope of midwifery profession in Pakistan?  <i>Probes: views about scope, earning, respect and dignity</i>
5. In your opinion, time required for training midwives is appropriate taking in consideration theory and practical knowledge?  <i>Probes: theory knowledge and practicums, skills development</i>
<b>Community acceptance and support</b>
6. Where do people go for maternal and newborn health services?  <i>Probes: Obstetricians, LHVs, midwives, TBAs</i>
7. What are your views about community approach towards midwives for maternal and newborn services?  <i>Probes: for deliveries, for antenatal care, birthing stations in community centers</i>
8. Do community midwives have adequate resources to provide care to community women?  <i>Probes: technical resources, equipment, supplies, fetoscope, measuring scales, vital signs monitoring</i>
<b>Supportive supervision</b>
9. What are the factors that facilitate midwifery services in the district? Does your office provide any support to midwives to practice?  <i>Probes: Cultural context, social context, transport, language</i>
10. In your view what are important barriers to maternal and newborn health services?  <i>Probes: lack of information, inadequate staffing, sociocultural barriers, cultural context, social context, transport, language</i>

11. What is the process of training and deployment of midwives? Does your office have any role in deploying CMWS after the training is completed?  <i>Probes: how midwives are trained, who deploy, how many leaders are involved in the process?</i>
12. What support is provided to midwives from government sector?  <i>Probes: supervision, training, deployment</i>
<b>Linkages between CMWs and facilities</b>
13. Which secondary health facilities are available in the district for referral services from primary facilities?  <i>Probes: number of health facilities, their distance from referral points, geographical location</i>
<b>Dynamics between CMWs and other health care providers</b>
14. What are your views about relation of midwives with other health care providers available in the district?  <i>Probes: relation with LHVs, relation with secondary health facilities for referrals, relation with doctors, relation with TBAs</i>
15. What are your views about linking midwives with other health care providers available in the district? Are there any steps taken from the government side?  <i>Probes: standard charges assigned for services to all CMWs, different charges according to individual patient</i>
<b>Affordability of CMWs services</b>
16. Are there any guidelines available for CMWs to charge for their services?  <i>Probes: delivery charges, antenatal charges, referral charges, counseling charges</i>
17. What is the payment method followed for CMWs services? Or what would you recommend as a reasonable amount which could be affordable by poor and rural populations?  <i>Probes: income from services, fixed salary, government stipend</i>
18. In your opinion what mechanism of service charges should be applied to CMWs services?  <i>Probes: salary, patient ratio, stipend</i>
19. What and how investment is provided to CMWs to setup their clinics in community?  <i>Probes: by government stakeholders, self-investment</i>

**In depth Interviews with midwifery school students**

Demographic data		
1.	Age	
2.	Qualification	
3.	Marital status	

General questions	
1.	Why do you want to become a midwife? <i>Probes: self-choice, only option, parental pressure</i>
2.	What are your views about accessibility of community to CMWs for maternal and newborn services? <i>Probes: availability of midwives, birthing stations, community centers</i>
3.	What are your views about significance of midwifery profession? <i>Probes: views about scope, earning, respect and dignity</i>
4.	What advice would you give to people considering midwifery as a career? <i>Probes: preferences about midwifery as a profession and why?</i>
CMWs skills competency	
5.	How do you find curriculum and training of your program? <i>Probes: clinical and practical work, theory knowledge, hands on practice, quality of teachers</i>
6.	What services can you provide after training? <i>Probes: knowledge about services of midwives</i>
7.	What opportunities are provided to you to experience midwifery skills? <i>Probes: competence to practice skills, confidence to perform deliveries, perinatal assessments</i>
8.	What are your views about course plans and assessment criteria? <i>Probes: theory and practical together, assessments related to theory and practical work</i>
9.	Where will you work after your training is completed? <i>Probes: community centers, hospitals, maternity centers</i>
10.	In your opinion, time required for your training is appropriate taking in consideration theory and practical knowledge? <i>Probes: theory knowledge and practicums, skills development</i>
Supportive supervision	
11.	How do you find support to practice clinical skills? <i>Probes: support of instructors, support of community, support of in-service midwives</i>

<p>12. In your opinion what are some reasons that lead midwives to discontinue their profession? What other jobs they are seeking for?</p> <p><i>Probes: social and cultural barriers, competence, money, community support, stakeholders support</i></p>
<p>13. What are facilitating factors for CMWs who have well-established setups in district communities?</p> <p><i>Probes: community trust, competency of skills, stakeholders support, money</i></p>
<b>Community acceptance and support</b>
<p>14. What community clinics and community midwives' exposure is provided during your training?</p> <p><i>Probes: home visits, exposure of services of CMWs, hand-on practice in clinics</i></p>
<p>15. What skills you perform under supervision during your training and what are your views about it?</p> <p><i>Probes: deliveries in hospitals/ community, newborn assessments, antenatal services, home visits</i></p>
<p>16. Do you think community midwives working in your areas have all the resources required to provide services?</p> <p><i>Probes: equipment, setup, support</i></p>
<b>Affordability of CMWs services</b>
<p>17. What are your views about financial earnings of midwives?</p> <p><i>Probes: salary, financial incentives, fee for services</i></p>
<p>18. In your opinion, the fee charged by CMWs can be afforded by every class group of communities?</p> <p><i>Probes: low-income, middle-income, high-income, different fees for different groups, charges for maternal and newborn services</i></p>
<b>Dynamics between CMWs and other health care providers</b>
<p>19. What is your opinion about relation of community midwives with other health care providers?</p> <p><i>Probes: relation with LHVs, relation with secondary health facilities for referrals, relation with doctors, relation with TBAs</i></p>
<b>Linkages between CMWs and facilities</b>



20. What type of exposure is provided to you during your training to practice your skills and learn about maternal and newborn services?

*Probes: hospitals, maternity centers, BHUs and RHCs*

21. Have you been taught about referral services?

*Probes: high risk cases, process of referral, who to refer, which facility to refer, importance of referral services*

**In depth Interviews– working group**

Demographic data		
1.	Age	
2.	Type of midwifery qualification	
3.	Highest education level	
4.	Year of qualification	
5.	Employment status	
6.	Years of experience	
7.	Marital status	

<b>CMWs skills competency</b>	
1. What is your current role in the facility?	
<i>Probes: services, teamwork, duties</i>	
2. How many midwives are available in your district for maternal and newborn services?	
<i>Probes: number of midwives, midwives working in centers, midwives at birthing stations</i>	
3. What is your opinion about your pre-service midwifery training for provision of maternal and newborn services?	
<i>Probes: knowledge about maternal and newborn services, competence of clinical practice</i>	
4. What services do you provide to community women without supervision?	
<i>Probes: counseling, education, deliveries, antenatal care, detection of high risk cases, newborn assessments, referral services</i>	
5. In your opinion, time required for your training is appropriate taking in consideration theory and practical knowledge?	
<i>Probes: theory knowledge and practicums, skills development</i>	
<b>Community acceptance and support</b>	
6. What are your views about community women approach towards midwives for maternal and newborn services?	
<i>Probes: for antenatal care, postnatal care, delivery, neonatal care, immunization</i>	
7. Do you have all the resources to provide services to community women?	
<i>Probes: technical resources, equipment, ambulances, referral services</i>	
<b>Supportive supervision</b>	

8. What support is provided by government to you? <i>Probes: supervision, follow-up of the services, finance, setup of clinics</i>
9. For how long have you been working as CMWs? <i>Probes: money, community approach, support from government and private sector, respect</i>
10. What are the challenges you have faced? What were the facilitator factors which helped you in continuing your work as CMW? <i>Probes: money, community approach, support from government and private sector, respect</i>
11. Have you considered leaving your job? If so, why? What factors contributed to your decision to leave the job? <i>Probes: security, gender issues, personal issues, social and cultural issues</i>
12. What advice would you give to people considering midwifery as a career? <i>Probes: preferences about midwifery as a profession and why?</i>
13. What are your views about midwives who are not performing their role for maternal and newborn services? <i>Probes: involved in other activities, social, cultural and workplace issues</i>
14. What are your opinions about availability and accessibility of midwives for maternal and newborn services in your district? <i>Probes: role of midwives, midwives for maternal and newborn services</i>
<b>Dynamics between CMWs and other health care providers</b>
15. How do you see your working relationship with other healthcare providers? <i>Probes: LHV, TBAs, obstetricians Probes: LHV, TBAs, obstetricians</i>
<b>Affordability for CMWs services</b>
16. What are your remarks about your financial earnings? <i>Probes: salary, stipend, financial incentives, fee for services</i>
17. What are your views about community affordability for services provided by you? <i>Probes: for deliveries, home visits, perinatal services</i>
18. What services are provided mostly by you and which class group people approach you? <i>Probes: low to high income class groups, for home visits, for deliveries, for counseling, for antenatal education</i>
<b>Linkages between CMWs and facilities</b>
19. What facilities are available for referral services near you and how do you communicate for referral process?

*Probes: facilities available maternal and newborn services, communication with facilities, transport available, health providers in the facilities*

20. What support is provided to you by facilities for referring patients?

*Probes: communication method, transport, money*

**In-depth Interviews - Non working group**

<b>Supportive supervision</b>
1. What support is provided by government and stakeholders to midwives of your district? <i>Probes: supervision, follow-up of the services, finance, setup of clinics</i>
2. What are your views about midwives who are currently working in your district? <i>Probes: earning, support, career growth</i>
3. What are the challenges to midwives for delivery of services? <i>Probes: finance, community support, social and cultural barriers, respect of job, dignity of profession</i>
4. What support was provided to you when you were in your job? <i>Probes: finance, community support, support by stakeholders</i>
<b>Affordability for CMWs services</b>
5. What are your views about financial earnings of midwives? <i>Probes: stipend, fee for services</i>
6. How do you perceive community affordability for services provided by you? <i>Probes: for deliveries, home visits, perinatal services</i>
<b>Community acceptance and support</b>
7. What are your views about community approach towards midwives for maternal and newborn care services? <i>Probes: for deliveries, for antenatal care, birthing stations in community centers</i>
8. Do community midwives have all the resources to provide care to women? <i>Probes: for antenatal care, postnatal care, neonatal care, equipment, ambulances</i>
<b>Dynamics between CMWs and other health care providers</b>
9. What are your views about relation of midwives with other health care providers? <i>Probes: relation with LHVs, relation with secondary health facilities for referrals, relation with doctors, relation with TBAs</i>
<b>Linkages between CMWs and facilities</b>
10. What are your views about linkages of CMWs with health facilities? <i>Probes: facilities available maternal and newborn services, communication with facilities, transport available, health providers in the facilities</i>
<b>CMWs skills competency</b>
11. What is your opinion about your pre-service midwifery training for provision of maternal and newborn services? <i>Probes: knowledge about maternal and newborn services, competence of clinical practice</i>



12. What was your role in hospital/community clinics? <i>Probes: services and duties</i>
13. Why are you not continuing your midwifery practice? <i>Probes: personal and family reasons, social and cultural reasons, security</i>
14. What are your future goals related to your professional life? <i>Probes: studies, practice</i>

**IDI with community women**

Demographic data		
1.	Age	
2.	Education	
3.	Marital status	
4.	Number of children	
5.	Available nearby facilities	

<b>Community acceptance and support</b>
1. Where do you go for perinatal services? <i>Probes: LHVs, CMWs, Obstetricians</i>
2. Which type of health facility did you visit for maternal health services during your most recent pregnancy? <i>Probes: Hospitals, midwives' clinics, antenatal home visits</i>
3. Do you have any information about midwives, who are they how are they different from TBAs, or doctors?
4. Can you name any midwife of your area, how have you met her? Who told you about her?
5. What health services did you receive when you visited midwives and how was your experience? <i>Probes: antenatal services, delivery services</i>
6. What advice would you give to people for accessing midwives for maternal health services? <i>Probes: preferences about midwives</i>
7. What are your views about the availability of supplies and equipment to CMWs to provide perinatal care and services? <i>Probes: for vital signs monitoring, fetoscope, measuring scales</i>
<b>Affordability for CMWs services</b>
8. What are your views about midwives' fees for perinatal services? <i>Probes: affordability, bribes for health services</i>
<b>Supportive supervision</b>
9. What are your views about availability and accessibility of midwifery services? <i>Probes: transport, time, location</i>

<b>CMWs skills competency</b>
10. What are your views about knowledge of midwives for maternal health? <i>Probes: knowledge about high risk pregnancies, complications, newborn care</i>
<b>Linkages between CMWs and facilities</b>
11. Have you ever been referred to any health facility by CMW? What was the reason and how was your experience? <i>Probes: health facility, transport, communication with health facility, reason for referral</i>
<b>Dynamics between CMWs and other health care providers</b>
12. How do you find relation of your community midwife with other health care providers of your area? <i>Probes: relation with LHVs, relation with secondary health facilities for referrals, relation with doctors, relation with TBAs</i>