

January 2015

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## Recommended Citation

Shahnaz, S, Jan, R, Lakhani, A, & Sikandar, R. Factors Affecting the Midwifery-Led Service Provider Model in Pakistan. *Journal of Asian Midwives*. 2015;1(2):33–45.

## Factors Affecting the Midwifery-Led Service Provider Model in Pakistan

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### Abstract

#### *Background*

Pakistan has a high rate of maternal and infant mortality, and a shortage of skilled birth attendants (SBAs). Many efforts have been made through the health sector and the international agencies to resolve the problem of both a high Infant Mortality Rate (IMR) and Maternal Mortality Ratio (MMR), but the desired outcomes have not been achieved so far. Literature shows that midwifery plays a significant role in the reduction of MMR and IMR in other parts of the world, and the implementation of a Midwifery-led Service Provider Model could help reduce these rates in Pakistan. This study aims to identify the factors affecting the development of Midwifery-led Service Provider Model in Pakistan.

#### *Methodology*

This was a quantitative, descriptive study conducted in the Pakistani districts of Chitral, Dera Ghazi Khan, Multan and Sahiwal. A sample of 48 midwives was selected through stratified random sampling from two health centres in Chitral, two government health centres and two private health centres in Dera Ghazi Khan, Multan, and Sahiwal, and two independent midwife practitioners in Multan were also included.

#### *Findings*

Factors were categorized under “Environment”, “Empowerment” and “Encouragement” according to the model described by Marion-Davis. Factors identified under Environment include: autonomy, supervisor support and awards to work effectively; under Empowerment were core competencies and attitudes; and under Encouragement they were salary, opportunity for professional development, and availability of SBAs, equipment and essential drugs.

#### *Implications/Recommendations*

This study presents some implications for midwifery practice, education, research, institutional administrators, and policy-makers. Recommendations include: the provision of autonomy in practice, higher education, opportunities professional development opportunities, better salary

and incentives for midwives, the availability of equipment at health facilities, and the involvement of nursing/midwifery leaders in policy-making.

## **Keywords**

Midwifery Care, Midwifery Led Model, Skilled Birth Attendants, Home Births

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## **Background**

The Maternal Mortality Ratio (MMR) is considered to be a sensitive indicator of women's health, since it illustrates the quality and accessibility of healthcare services available to women. In Pakistan, 276 women die for every 100,000 live births, and the Infant Mortality Rate (IMR) is 74/1000; the majority of these deaths is preventable through the intervention of Skilled Birth Attendants (SBAs)<sup>1</sup>. Pakistan is a signatory to the Millennium Declaration and is committed to achieve the Millennium Development Goals (MDGs). The country's targets to reduce the MMR to less than 140, and to increase skilled birth attendance to 90 percent by the year 2015<sup>3</sup>.

According to the World Health Organization (WHO)<sup>2</sup> a physician-based model is inaccessible to the majority of the population in middle- and low-income countries. Most women from rural Pakistan have no access to health facilities for financial reasons, and urban centers with such facilities are too far away from most rural areas of the country<sup>3</sup>. As a result, the majority of rural births takes place in a home setting and are attended by traditional, birth attendants. 50% of the women in developing countries deliver at home, without the presence of a SBA, a significant reduction in the MMR and IMR is possible simply through the intervention of SBAs.<sup>4</sup>

## **The Midwifery-Led Service Provider Model**

The Pakistani Maternal, Neonatal and Child Health (MNCH) agency plans to train and deploy 12,000 community midwives<sup>5</sup> and the Pakistan Initiative for Mothers and Newborns (PAIMAN) plans to train and deploy an additional 2000 community midwives, in order to provide affordable and accessible midwifery care by SBAs in rural areas. So far, the MNCH has managed to deploy 6,263 community midwives<sup>6</sup>, who have also been qualified in family planning services and nutrition interventions.

A midwife, according to the International Confederation of Midwives (ICM), is defined as a person who has acquired the requisite qualifications, registration, and legal license, and who demonstrates competency in the practice of midwifery.<sup>7</sup>

Midwives are expected to provide antenatal care, facilitate childbirth, provide post-partum and newborn care and perform some life-saving interventions<sup>8,9</sup>. The Midwifery-led Service Provider Model (MSPM) is woman-centered and the midwife plays an autonomous role<sup>10</sup>. She runs her own practice without supervision, based on her core-competencies – knowledge, skills and attitude<sup>11</sup>. She makes critical decisions regarding procedures and appropriate referrals to other health professionals in case of emergencies.

In a survey of midwives which compared MSPM in the United States (US), with Australia it was found that MSPM in an Australian public hospital was more cost-effective<sup>12,13</sup> than obstetric care in a hospital in the US, since midwives there tend to charge less money and provide more woman-centric care. In a South Asian setting, a survey<sup>14</sup> in Sri Lanka corroborated the above finding of MSPM being a cost-effective model. Besides this, those clients who received midwifery

care at home were more satisfied and had more positive responses towards care from midwives in comparison to obstetric consultants.<sup>15 16</sup>

In the low-income setting of rural Pakistan, where the services of a standard obstetrician are not affordable, this model has the potential of helping reduce MMR and IMR. Midwives working within their communities can be accessible to childbearing women, and will be able to provide child health care at a primary care level. The Pakistan Nursing Council (PNC) highlights that a vital role of the midwife in the community is to provide health counseling and education to women, families and the community. A midwife who is from the community can allow women to trust her; she could continuously monitor the physical, psychological, and social well-being of the women and their families throughout the childbearing cycle. While helping the community, the model could provide opportunities for midwives to demonstrate their core competencies through independent practice. However, there are issues related to midwifery practice and the MSPM model that need to be studied in order to reduce IMR and MMR in Pakistan. The MNCH reports<sup>6</sup> that the actual and potential contribution of community midwives in the reduction of MMR and IMR has not been thoroughly planned and evaluated in Pakistan.

### **Study Purpose, Research Questions**

The purpose of this study was to explore the facilitators and barriers to MSPM in Pakistan. It utilized a modified version of the conceptual framework developed by Marion-Davis<sup>17</sup>, which was first used by the United Kingdom's National Health Service (NHS) to identify factors which affect people's daily life preferences in order to prevent and control hypertension. This study categorized MSPM's facilitating and hindering factors under three 'Es' – Environment, Empowerment and Encouragement. In this study, the environment and encouragement components were adapted from the Positive Practice Environment, International Council of Nurses<sup>18</sup>; and empowerment was adapted from the ICM Essential Competencies for Basic Midwifery Practice<sup>11</sup>. Further modifications were made to suit the Pakistani context.

*Environment* relates to [a] safety, [b] autonomy, [c] authority, [d] quality of care, [e] coverage of occupational hazards, [f] communication, and [g] supervision;

*Empowerment* entails [a] core competencies – knowledge, skills and attitude – [b] documentation, and [c] health education/counseling skills;

*Encouragement* involves [a] salary, [b] continuing education, [c] professional development, [d] opportunity for career development and [e] availability of maternal and child healthcare facilities.

### *Research Questions*

What are the factors affecting the Midwifery-led Service Provider Model (MSPM) in Pakistan? What are the facilitators for MSPM in Pakistan? What are the barriers to MSPM in Pakistan?

### **Methodology**

#### *Design*

The study used a survey questionnaire to identify and generate in-depth knowledge about factors that affect MSPM in Pakistan through a survey of midwives, Lady Health Visitors and nurse-midwives.

### *Setting*

The study was conducted in four settings: two Maternal and Child Health Centers in Chitral, Pakistan with a catchment population in remote, hard-to-access areas; two government health centers in Multan and Dera Ghazi Khan, Pakistan that provide tertiary and secondary-level healthcare, respectively; two private health centers in Multan and Sahiwal, Pakistan that provide services for women and neonates, as well as family planning services; and two independently practicing midwives from Multan were also included. These settings were selected through stratified random sampling.

### *Sample*

The study population included 120 midwives, Lady Health Visitors (LHVs), and nurse-midwives working in the above-mentioned settings. 30% of the total population i.e n=40 midwives, Lady Health Visitors (LHVs), and nurse-midwives were taken as sample for this study but the number was increased to n=48 to cover attrition and dropouts. These 48 midwives, Lady Health Visitors (LHVs), and nurse-midwives were enrolled by picking every third participant listed for each center. Only midwives, LHVs and nurse-midwives who had successfully completed their training and had a minimum work experience of six months as midwives, and had volunteered to participate were included in the study. Doctors, traditional birth attendants, Lady Health Workers (LHWs), and midwives, LHVs and nurse-midwives with less than six months of experience were excluded from the study.

### *Data-collection*

The data-collection tool consisted of 4 sections: [1] demographic information, [2] environmental factors, [3] empowerment factors and [4] encouragement factors. The responses were structured according to one quantitative research question, and two open-ended qualitative questions. Every item in the questionnaire was assessed using the 5-points mean score. The respondents were asked to give their responses in terms of “Always” (5), “Usually” (4), “Sometimes” (3), “Rarely (2) and “Never” (1). The total score of each of the environmental, empowerment and encouragement factors was computed for all study participants by adding the individual responses to all items.

The questionnaire was made available to the participants in English and in Urdu after receiving signed informed consent from them. The tool was piloted<sup>19</sup> successfully at one of the private maternity home in Karachi with 10% (n=5) of the total population.

### *Data analysis*

Each factor was categorized and ranked to identify the most and least common factors that can affect MSPM in Pakistan. The numerical data was coded and SPSS software version 16.0 was used for data analysis.

## **Findings**

### *Demographics*

The study sample comprised 48 participants; 13% from Chitral, 10% from the government centers, 73% from the private centers and the rest were independent practitioners. The majority

(98%) of the participants had a diploma, with one participant having a BSc in Midwifery. 92% of the participants had a valid license from the Pakistan Nursing Council, while the rest had expired licenses. 92% of the participants were full-time employees, while the rest were part-time. The mean age of the respondents was 35±, with the majority of the participants between 20 and 30 years old. More than half the participants were single. More than half of the participants had up to five years of experience in midwifery, and only 17% had up to 20 years of experience.

### *Descriptive Analysis*

The findings below are discussed according to the research question

### **What are the factors affecting the Midwifery-led Service Model in Pakistan?**

#### *Environment*

The findings relating to the environmental factors indicate that independently practicing midwives had the highest possible mean score of 5.00 for all factors, followed by the midwives of the private hospitals, who had a means score of 4.55.

**Table 1**

Results for environmental factors

<b>Factors</b>	<b>Chitral</b>	<b>Govt</b>	<b>Private</b>	<b>Independent</b>
Autonomy	4.40	4.00	4.83	5.00
Supervisor support	3.33	4.80	4.83	5.00
Coverage of workplace hazards	3.83	3.40	4.91	5.00
Communication with colleagues	5.00	4.50	4.91	5.00
Awards and incentives	2.17	3.00	4.00	5.00

#### *Empowerment*

Independently practicing midwives had the highest scores in all areas of empowerment with a mean of 5.00, followed by the midwives from the private hospitals who had a mean score of 4.91. Midwives from Chitral had a mean score of 4.84, and the government centers had the lowest mean score of 4.44.

**Table 2**

Results for empowerment factors

<b>Factors</b>	<b>Chitral</b>	<b>Govt</b>	<b>Private</b>	<b>Independent</b>
Ability to conduct antenatal care	5.00	5.00	5.00	5.00
Ability to conduct normal delivery.	4.80	4.40	5.00	5.00
Ability to perform episiotomy	4.00	3.60	5.00	5.00
Provision of postnatal care	4.40	4.86	5.00.	5.00.
Newborn resuscitation	5.00	5.00	5.00	5.00

*Encouragement*

While the independent midwives scored the highest in terms of salary followed by the private center midwives, the highest mean score for encouragement overall was scored by the private center midwives at 3.50. The private center midwives also had the most access to continuing education and opportunities for career and professional development. Overall, the mean scores were noticeably low for encouragement.

**Table 3**

Results for encouragement factors

<b>Factors</b>	<b>Chitral</b>	<b>Govt</b>	<b>Private</b>	<b>Independent</b>
Salary package of midwives	2.00	2.00	3.41	5.00
Opportunity for professional and development	1.33	2.20	3.31	1.00
Access to continuing education	1.33	2.40	3.51	1.50
Opportunity for career development	2.50	3.00	3.70	1.50

**What are the facilitators for the Midwifery-led Service Provider Model in Pakistan?**

The results from the three components – environment, empowerment and encouragement – revealed the facilitators that could affect the MSPM in Pakistan. These included:

*Autonomy*

The independent midwifery practitioners had maximum autonomy and permission to make decisions regarding maternal and neonatal care at their workplace and had the highest mean score, followed by the private hospitals. They were allowed to make decisions for the referrals

of women and newborns when complications arose or when the situation was beyond their scope of practice.

#### *Visiting midwifery staff from abroad*

The midwives of private hospitals had the provision of learning from the visiting midwifery staff across the globe. Volunteers from foreign countries often visit these hospitals and train midwives, sometimes staying on for years for the purpose of improving midwifery practice to ensure quality in patient care. Thus, these midwives had access to continuing education and professional development.

#### *Learning of new technology*

The private hospitals usually seek new technology from around the world, providing new learning opportunities to their staff as a result and promoting evidence-based practice. For example, midwives from private centres reported using sterilized rubber bands instead of cord clamps for tying the umbilical cord, since the clamp causes tractions on the cord resulting in infection and delayed healing. This technique was adopted from the experiences of midwives from South Africa.

#### *Business owned by independent midwife practitioners*

The independent midwives run their own practice, with autonomy in decision-making, and provide quality, continuity and individualized care to women and new-borns with respect for cultural trends. They have joint ventures with other healthcare providers such as physicians and nurses, allowing them to have a strong referral system for complicated cases.

#### *Provision of culturally sensitive care*

The midwives at the private centres had the facility to respond to the needs of *purda* observing women, or to those who are restricted to visit male obstetrician. Thus these centres provided them total maternity care by midwives or by female obstetrician, therefore, women and their families prefer these hospitals as compared to public hospitals. Moreover, They also provide the option of residence at affordable charges to families, if they want to stay with the women, as there is a trend in Pakistan that attendants of women prefer to stay with women while they are in labour or admitted in hospital. These centres provide them total maternity care through midwives and female obstetricians, as well as the option of residence at affordable charges to families or attendants who might want to stay with women who are in labour or admitted in the hospital.

### **What are the barriers to the Midwifery-led Service Provider Model in Pakistan?**

The results from the three components – environment, empowerment and encouragement – also revealed the following barriers for the development of MSPM in Pakistan.

#### *Political threats*

Midwives in government centres face political interference and threats. For example, they reported that their posting and transfers are arbitrated on the basis of political pressure or personal interests.

### *Lack of diversity*

Midwives at the private centres had no opportunities for collaborating with other midwives outside their institutions – such as exchange programmes with public or private hospitals – resulting in a kind of isolation. As a result, they lacked exposure and diversity at their centres.

### *Lack of socialization*

The health centres in Chitral were isolated from other parts of the country due to relative geographical inaccessibility, transportation issues and lack of infrastructure. The LHVs at these centres had barely any opportunities to visit other health centres.

### *Long duty hours and low remuneration*

The health centres in Chitral were understaffed and each individual LHV had to stay on 24-hour duty, resulting in demotivation, lack of quality in care provision, and possible retention problems, as well as negative impacts on the LHVs' own health.

### *Lack of a career ladder*

Midwives in all the four settings had no career structure for promotion or career development. In fact, career structure for midwives is non-existent in Pakistan, where they start as midwives and retire from the job at the same position.

### *Natural barriers*

The extreme cold weather in Chitral is an additional barrier that prevents pregnant women from seeking healthcare from the health centres; being blocked from snow, is an example of a factor that is beyond human control. Additionally, inadequate heating at the centres affects the health of employees, mothers and neonates negatively.

## **Discussion**

The four settings allowed for a diverse collection of data and for a comparison to be drawn between different contexts in Pakistan. The fact that all participants were female is congruent with the Pakistani culture where women rarely have autonomy regarding their own health choices, and are expected to visit female healthcare providers only. Nearly all, 47 out of 48 participants had a diploma in midwifery is also in accordance with the midwifery training available in Pakistan, since it is the only training programme in the country<sup>20</sup>. This is certainly not enough, and higher education is crucial for a competent midwife to contribute to the reduction of IMR and MMR, hence, a degree programme could prepare midwives better to develop their knowledge and clinical practice<sup>21</sup>, and broaden their understanding of the practitioner's role.

The independently practicing midwives and the midwives from the private center had more autonomy than the midwives from the other two settings. They were authorized to take decisions regarding the comprehensive care of women and newborns. They had the freedom to refer women and newborns to appropriate healthcare professionals, in case of a complication or a need for a caesarian section. This allowed midwives to feel that they are respected and valued members of the health system, as corroborated by Kronfol in a study in the US<sup>22</sup>. Midwives in

the other two settings were working as assistants to physicians and carrying out medical orders, resulting in lack of satisfaction and a plummeting retention rate. Such factors also pushed midwives to migrate to the higher resource countries<sup>23</sup>. Hence policies allowing midwives to address healthcare issues without delays in the authority chain are vital as these could have an impact on IMR and MMR.

With regard to professional and career development, it was midwives in the private centers who had the most opportunity, while the independent midwives who had the highest scores in all other aspects had the least opportunity. It can be assumed that the independent midwives being proprietors had financial motivation rather than motivation for educational development, and as such did not see opportunities to advance their professional development. However, a study in Turkey<sup>24</sup> has shown that standardized and high-quality midwifery education showed improvement in midwifery services which could lead to a possible reduction in IMR and MMR.

Midwives in all the four settings showed that they possessed sound knowledge and skills in midwifery, and harbored a positive attitude towards women and their families. Midwives in Pakistan can assume responsibility and accountability as primary healthcare providers for women and newborns if they have updated knowledge, skills and a positive attitude towards women, the family and the community.

## **Implications**

The findings of the study have implications for midwifery practices in Pakistan. Addressing these areas could potentially contribute to the reduction of IMR and MMR:

### *Midwifery practice*

Midwives need to be included in policy decision-making at all levels. In the government centers and in Chitral, the midwives were not involved in decision-making and the midwifery practices were more medicalized<sup>25</sup>. This could pose as a major barrier to MSPM implementation in Pakistan if not urgently and deliberately addressed.

Additionally, midwives should have autonomy in providing the necessary supervision, care and advice to women during pregnancy, labor, delivery, and postpartum periods, including the care of newborns. This care should include preventative measures, the detection of abnormal conditions in mother and child, the procurement of medical assistance, and the carrying out of emergency measures in the absence of help.

### *Midwifery education*

The education and training of midwives in the country needs to be updated and brought up to a standard of a degree level. The Pakistan Nursing Council and the Pakistan Initiative for Mothers and Newborns (PAIMAN) have already tried this<sup>26</sup>. Although improvements have been made through national and international agencies and NGOs, more changes are required in the form of joint efforts of nursing/midwifery leadership, regulatory bodies, policy makers and all concerned stakeholders understanding the criticality of the issue, and planning for the future of midwifery education in Pakistan.

In order to update the knowledge and skills of student midwives, competent midwifery teachers are vital. The need is for on-site training for students to enable them to conduct normal deliveries and episiotomies under the supervision of skilled preceptors/supervisors.

### *Midwifery research*

More studies are required from all the provinces of Pakistan on the cost-effectiveness of MSPM, and on the facilitators and barriers to the implementation of the model in Pakistan. These studies will help measure the degree to which these factors are beneficial or problematic, and to plan and apply appropriate measures to remove or enhance them. The studies must be disseminated to policy-makers in order to justify decisions regarding cost-effectiveness and quality care.

### *Institutional administrators and policy-makers*

The factors highlighted in this study can have positive and negative effects on the implementation of MSPM, as well as potential implications for clinical practice. Hence the administrators of the four settings studied and the policy-makers of the country need to consider these factors for the improvement of midwifery practices in Pakistan.

## **Conclusion and Recommendations**

This descriptive, quantitative study showed findings that were consistent with the available literature on Midwifery-led Service Provider Models; however, it was limited by the sample size, time frame and budget. The study found that the delegation of power for decision-making regarding maternal and neonatal care, the empowering tools of midwives – knowledge, skills, attitudes, communication and collaboration with other healthcare professionals – and the availability of skilled birth attendants, equipment and essential drugs may have positive impacts on the midwifery practice. The promotion of identified facilitators and the elimination of barriers could enhance the quality of care for women, their families and the community. A quick review and positive response by policy-makers and the Government of Pakistan could help promote MSPM in the country, ultimately helping to reduce MMR and IMR.

The salient findings of this study call for some recommendations:

- a) Midwives should have autonomy in their practice in order to promote MSPM in Pakistan – this will also help retention rates and reduce absenteeism in Pakistan.
- b) All necessary drugs and equipment must be made available at all health facilities.
- c) Midwives should be provided opportunities for higher education, as well as for professional and career development. Other than the implementation of degree programmes, special workshops and in-service education should be encouraged to improve the competence of existing midwifery teachers and practitioners. It is crucial for them to have refresher courses in order to update their knowledge and skills.
- d) Nursing/midwifery leaders should be involved in policy-making within an appropriate legal framework.
- e) Midwives must receive attractive salary and incentives/awards in order to improve the retention, motivation, and confidence to work and their services must be acknowledged.

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