

Care of Labour by Trained Midwife and Effect on Maternal Outcome in a Hospital Based Labour Ward

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ABSTRACT

Midwifery service quality affects delivery outcomes the most. The aim of the study was to analyze the maternal outcome of pregnancies managed by the midwives and various factors which can affect the incidence of adverse maternal outcomes.

Methodology: This retrospective study at DHQ Hospital MishtiMela Orakzai studied the district's rural midwife-led maternity healthcare system from July 2019 till June 2020. All midwives' cases were recorded and analyzed to establish the frequency of various maternal outcomes. All rural pregnant patients between 15 and 45 who presented to the government facility midwife at any stage of labor were recorded and maternal outcome and related factors were gathered. The aim of the study was to analyze the maternal outcome of pregnancies managed by the midwives and various factors which can affect the incidence of adverse maternal outcomes. Results: In our study, mean age of the patients was 27 SD 5.9 years (from 15 to 45) with gestational age of the patients from 14 to 42 weeks (mean 37.3 SD 2.5 weeks). Among the total 635 cases, 54% of the cases were of the age group 20 to 29 years. Around 19% of the cases in the labor room landed were preterm (<37 weeks of gestation), and 78% of the patients were multigravida. Incidence of LSCS in mid-wife managed pregnancies was 4.1% (26 of 635 cases), and successful vaginal deliveries were carried out in 92.9% cases (590 of 635).

Conclusion: Researchers are hopeful that the findings will serve as a solid basis for further research and help them better understand how midwives and expectant mothers communicate and how to strengthen the relationship. These findings can be implemented as the basis for future courses in midwifery education. Efforts should be made to evaluate these educational programmes and their outcomes in the delivery room.

Keywords: Mid-wife, LSCS, SVD, Vaginal delivery, Maternal Outcome

INTRODUCTION

The number of qualified birth attendants for Pakistan's female population remains well below the accepted criteria of maternal mortality. Several programmes have been launched over the past two decades in an effort to alleviate this shortfall in the workforce. Emergency obstetric care has been found to be a cost-effective method of reducing maternal mortality¹. However, the emergency obstetric care facilities were poorly overseen. Efforts have been made to improve the quality and accessibility of healthcare in rural areas, notably for the poor, the elderly, and women and children. As well as offering financial incentives for in-hospital delivery, this programme fosters the development of volunteer community health workers².

Maternity care emphasizes communication. Midwives encourage, assist, respect, and soothe mothers during childbirth. Low-risk women who give birth with a midwife report positive impacts, including improved self-confidence, shorter hospital stays, LBW, and labour interventions. Midwifery service quality affects delivery outcomes the most³. During this important moment, both the mother's mental and emotional health and the health of the infant are directly influenced by the midwives' performance and measures. Mothers who believe in their jobs and have a supportive network around them have a more enjoyable childbirth experience⁴. Effective communication and continual emotional support increase birth outcomes such as lower labour time, caesarean rate, and usage of anaesthetic, surgical delivery, and a 5 minute Apgar score of less than 7⁵. The aim of the study was to analyze the maternal outcome of pregnancies managed by the midwives and various factors which can affect the incidence of adverse maternal outcomes.

MATERIAL AND METHODS

In this retrospective study, conducted at the DHQ hospital MishtiMelaOrakzai, the experience of the district's rural midwife-led maternity healthcare system was examined. All cases handled by the midwives were recorded and analysed to determine the frequency of various maternal outcomes among the enrolled

pregnant patients. All pregnant patients in the rural region between the ages of 15 and 45 who presented to the midwife of the government facility at any stage of labour were recorded, and data on maternal outcome and associated variables were collected.

The DHQ hospital in MishtiMela, Orakzai Agency, is a well-established Khyber Pakhtunkhwa tertiary care hospital. The prenatal clinic and labour room are managed by certified midwives under the supervision of physicians. Antenatal care was given by midwives, but physicians were available for consultation and screening of high-risk pregnancies. Women with high-risk pregnancies were sent to a gynaecologistspecialised for prenatal care. Moms-to-be were taught simple exercises and given health information on how to identify danger flags throughout pregnancy.

Upon entering the labour room, midwives conducted a general evaluation, monitored the mother's uterine contractions, and recorded the foetus' heart rate. Family members were permitted to visit the patient for moral, physical, and emotional support. The WHO simple partograph was utilized to track the progression of labour and help in the referral of patients in prolonged labour. Midwives were in charge of the birthing process. In addition to performing normal episiotomies, the nurse-midwives also sutured any perineal tears. In addition, they administered intravenous oxytocin and uterine massage for the treatment of postpartum haemorrhage (PPH) and the third stage of labour. The decision to induce labour was taken together with the family physician. Only women with term preterm rupture of membranes (PROM) and post-dated pregnancies with a positive Bishop score were evaluated. A postnatal checkup was conducted on the mother and infant by nurse-midwives and family doctors. In the absence of maternal or neonatal complications, they were released within 24 hours.

All the data collected from the samples was entered and analyzed using the software names SPSS version 23.0. Mean along with standarddeviation was calculated for all the numericalvariables including age, gestational age, while frequency and percentagewas calculated for all the qualitative variables like age groups, parity, maternal outcome of pregnancy and discharged status. Primary outcome was the frequency of various

maternal outcomes of pregnancy among the midwife handled patients in one year. Data of the primary outcome variable was stratified for age, gestational age, parity, and post stratification chi-Square was applied to determine the significance, P-value ≤ 0.05 was considered statistically significant.

RESULTS

In this retrospective study, data collection was done after the permission of the administration of the DHQ hospital MishtiMela, Orakzai. All the pregnancies managed by the midwife-led labor rooms during the period: July 2019 to June 2020 was entered and later analyzed to determine the maternal outcomes and outcome of pregnancy including the frequency of SVDs, miscarriages, IUDs, referrals and emergency caesarian sections (LSCS) done.

Mean age of the patients was 27 SD 5.9 years (from 15 to 45) with gestational age of the patients from 14 to 42 weeks (mean 37.3 SD 2.5 weeks). More than 50% of the cases were of the age group 20 to 29 years. Around 19% of the cases in the labor room landed before 37 weeks of gestation, and more than 75% of the pregnant patients were multigravida.

Table no 1 shows the basic details of the patients like age, gestational age, parity, twin pregnancies and parity. Main outcome variable was the outcome of the pregnancy, shown in the table no 2, stratified for age, gestational age and parity. Data analysis showed that the outcome of the pregnancy / maternal outcome

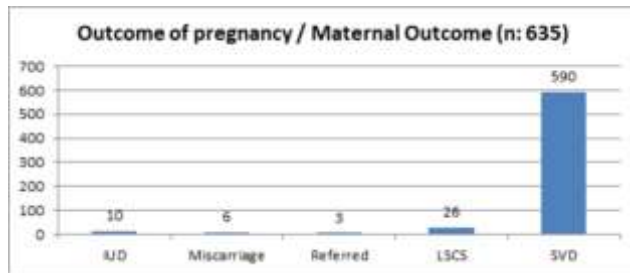
varies significantly with the gestational age, parity and age of the mother.

Table 1: Showing the age, gestational age and parity of the mother enrolled in the study

	Mean	Std. Deviation	Min-Max
Age (years)	27.03	5.9	15-45
Gestation Age (weeks)	37.3	2.5	14-42
Neonatal Weight (kg)	2.9	0.67	0.5-4.6
	No.	%	
Twin Pregnancy	18	3%	
Trial at Home	9	1%	
Age in years	< 20	45	7.09%
	20 to 29	349	54.96%
	> 30	241	37.95%
Gestational Age	< 37 week	123	19%
	37 weeks or more	512	81%
Parity	Primi	139	22%
	Multi	496	78%
	Grand Multi	235	37%
Total Patients enrolled	635		

Table 2: showing the outcome of the pregnancy / Maternal outcome of the patients managed by Mid-wives. (n: 635)

Maternal Outcome / Outcome of Pregnancy	No.	%	Gestational Age		Parity		Age Groups		
			<37 wk	>37 wk	Primi	Multipara	<20	20 to 29	>30
1 IUD	10	1.6	6	4	0	10	1	3	6
2 Miscarriage	6	0.9	4	22	11	15	4	8	14
3 Referred	3	0.5	6	0	1	5	1	3	2
4 LSCS	26	4.1	2	1	1	2	0	2	1
5 SVD	590	92.9	105	485	126	464	39	333	218
Total	635	100	123	512	139	496	45	349	241
Chi square test applied			P value 0.0001		P value 0.04		P value 0.186		



DISCUSSION

A comparable research conducted in India obtained data on around two thousand pregnant females handled by midwives near the delivery of the baby. Around 36% were sent to a tertiary care centre for gynecological consultation. Only 0.6 percent of the patients had postpartum haemorrhage (PPH), and there was no maternal death. Normal vaginal birth was performed in 97 percent of instances, breech presentation was detected in 0.5 percent of cases, and assisted vaginal delivery was performed in around 12.4% of cases. Still, data analysis revealed that 1.7 percent of neonates died at birth, 0.3 percent died within 24 hours, and around 5% were born with a low APGAR score⁶.

In our study, mean age of the patients was 27 SD 5.9 years (from 15 to 45) with gestational age of the patients from 14 to 42 weeks (mean 37.3 SD 2.5 weeks). Among the total 635 cases, 54% of the cases were of the age group 20 to 29 years. Around 19% of the cases in the labor room landed were preterm (<37 weeks of gestation), and 78% of the patients were multigravida. Incidence of LSCS in mid-wife managed pregnancies was 4.1% (26 of 635 cases), and successful vaginal deliveries were carried out in 92.9% cases (590 of 635)

Studies have been done comparing the outcome of pregnancy when the antenatal and prenatal services were given by midwives with and obstetrician-led healthcare setups. Voon ST, et al. found that the outcomes of the pregnancies were statistically significant (p 0.05) in terms of total labour time and total prenatal visits between the groups. Statistical differences between the groups were not found in terms of mode of delivery, episiotomy, intrapartum pain management, labour augmentation, labour induction, postpartum haemorrhage and perineal trauma, the 5-minute Apgar score (7), low birth weight (2500g), and neonatal admission to intensive care units, which were all statistically insignificant differences⁷.

Similar to the results of our study, Bartuseviciene E, et al. reported that the incidence of caesarean deliveries was 4.4% when perinatal care was provided by midwives, compared to a caesarean rate of 10.7% when delivered by obstetricians in 2012. (p 0.001). As of 2014, they were at 5.2% and 11.8%, respectively (p 0.001). A younger mother's age and care provided by a midwife lowered the chance of caesarean birth greatly, whereas nulliparity increased the risk dramatically. Comparatively fewer women underwent amniotomies and had their labours extended by obstetricians when they were in the midwife-led group. In terms of episiotomy, perineal trauma, the length of labour, or the outcomes for babies, there was no difference between the groups⁸.

According to Attanasio LB, the variations in costs can be attributed to the fact that midwife-led care results in fewer cases of premature birth and episiotomy. The model predicted that there would be fewer preterm births for midwife-led therapy as opposed to obstetrician-led treatment, and it also anticipated that there would be less episiotomies performed on low-risk pregnancies in the United States (for midwife-led vs obstetrician-led care)⁹.

However, based on this data it is observed caesarean birth had been markedly reduced and patient satisfaction was

significantly increased, without any significant increase in maternal morbidity or mortality in a midwife labour care model.

CONCLUSION

As a consequence of this study, researchers are hopeful that the findings will serve as a solid basis for further research and help them better understand how midwives and expectant mothers communicate and how to strengthen the relationship. These findings can be implemented as the basis for future courses in midwifery education. Efforts should be made to evaluate these educational programmes and their outcomes in the delivery room.

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