Obstetric Traditions, Which Is True? Outcome of Midwife Deliveries in Assiut Governorate

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ABSTRACT
Background: Many pregnant females in rural Africa recommend traditional birth attendants (TBAs) services over trained midwives as they believe childbearing is normal rite of passage for females and is assumed to be free of problems that TBAs can easily control.
Aim and objectives was to shed light on obstetric traditions and cultural behaviors and was to identify the factors related to the choice of birth attendants in home delivery and to assessment of safety of midwifery practice and satisfaction of women underwent home deliveries.
Subjects and methods: The current study was a mixed study, retrospective study on 50 women who delivered at home and prospective on 100 women delivered at Obstetrics and Gynecology Department of Al-Azhar University Hospital Assiut.
Results: There was non-significant variations among groups (P>0.05) regarding maternal mortality, 3rd or 4th degree tear, history of postpartum hemorrhage. However, there was significant difference concerning history of maternal infection, **Conclusion:** Rates of maternal and fetal adverse results for this study in Assiut with well-established and integrated community midwifery were high overall except postpartum hemorrhage, maternal mortality and caesarean section (CS) rate. Well-trained midwives may have a role in reducing CS rate. Midwife delivery is not as bad according to our study as it is showing low rate of postpartum hemorrhage and caesarean section.
Keywords: Obstetric traditions, Outcome; Midwife deliveries; Cultural behaviors; Postpartum hemorrhage

INTRODUCTION

Egypt made a significant progress in decreasing maternal mortality rate and infant mortality rate to achieve the 5th Millennium Development goal (which is a reduction of maternal mortality rate (MMR) to 43.2 maternal death/100,000 live births by 2015 [1].

Between 1992 and 2015, MMR has declined from 174 maternal death/100,000 live births to 43.5 maternal death /100,000 live births [2].

However, Assiut Governorate in Upper Egypt was among the highest governorates in maternal deaths; 60 - 65 maternal death /100,000 live births in 2013 [3].

In Egypt, the Ministry of Health and Population (MOHP) took many efforts in training nurses on midwifery skills. However, since the start of that training program at year 2000, up to the authors' knowledge, no research was shown to estimate training effect on home deliveries and whether it needs to be upgraded to meet women's need. This study could provide decision makers with evidence-based knowledge on ways to improve skills of midwives and hence increase their using as birth attendants, which will be reflected on improving women's health eventually [4].

Aim of the work was to shed light on obstetric traditions and cultural behaviors and was to identify the factors related to the choice of birth attendants in home delivery and to assessment of safety of midwifery practice and satisfaction of women underwent home deliveries.

PATIENTS AND METHODS

The current study was a mixed study, retrospective study on 50 women who delivered at home, prospective on 100 women delivered at Obstetrics and Gynecology Department of Al-Azhar University Hospital Assiut.

Place of study: Included women of rural areas of Assiut Governorate who were supervised by community midwives and those attending the outpatient clinics of Obstetrics and Gynecology Department of Al-Azhar University Hospital between the 1st of March 2021 and 31st of December 2021.

Inclusion criteria: population of women in procreative years old (fifteen–forty years), singleton pregnant women, and home delivery was supervised by community midwife and women delivered at Al-Azhar University Hospital.

Exclusion criteria: Elective caesarean section, baby had congenital abnormality, and their labor was induced for any purpose.

Definitions of place of birth: Midwifery delivery is where females give birth outside formal health facility—usually in their homes—and plan to get care from midwife (privately or publicly-funded). Hospital labor ward is in hospital and is staffed by doctors.

Study design:
We have 2 groups: **Group (Hospital delivery)**: included 100 patients. **Group (Midwifery delivery)**: included 50 patients.

Intervention and follow-up: For group I: Labor progression was continued to be assessed every ½ - 1 hour for assessment of cervical dilatation, consistency,

effacement, and head station. All data were recorded on the partogram and a special data collection sheet designed by the investigators to facilitate the final analysis in hospital delivery. Patients were followed-up till delivery and the following data were collected: Maternal outcomes included hospital admission, mode of delivery (caesarean, operative vaginal, spontaneous vaginal), episiotomy, and 3rd- or 4th-degree laceration. Fetal assessment and monitoring of fetal heart rate was continuous by sonicaid. For group II: Information was obtained from those who were delivered at home.

Study outcomes:

Primary Outcome: result varies in this research was "midwifery delivery." Question "Where did you deliver [name]?" yielded this variable. This question was answered in Gynecologic Demographic and Health Survey (GDHS) by home, other home, government hospital, government health Centre/clinic, government health post, other public, private hospital/clinic, maternity homes, and others.

Secondary Outcomes: definition of maternal and neonatal adverse results was used as our secondary result measure. Adverse maternal and neonatal results were used to evaluate impact of planned births in birth centres versus other settings on adverse results. Adverse outcome is calculated as percentage of existence of at least 1 of following adverse results: maternal death (within forty-two days of giving birth), 3rd or 4th degree perineal tear, postpartum hemorrhage (>1000mL in 24 hours), stillbirth diagnosed after presentation in labor, early neonatal death (seven days),

Apgar Score seven after five min, and admission to neonatal unit within forty-eight hours after birth and rate of caesarean delivery.

Ethical Approval:

The study was approved by the Ethics Board of the Al-Azhar (Assiut) University and an informed written consent was taken from each participant in the study. This work has been carried out in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki) for studies involving humans.

Statistical analysis

SPSS software, Chicago, IL, USA, version twenty-five, was used to analyse all data. The Chi-square test was used to evaluate categorical variables in both groups, and the Student T-test was used to compare continuous variables. We used Shapiro-Wilkes test to determine normality of data for statistical analysis. We used univariate and multivariate regression models. P-value of < 0.05 was regarded significant.

RESULTS

A total of 172 pregnant females were evaluated for eligibility, 22 of them did not meet selection criteria, and 150 patients (100 in Health facility delivery and 50 in Midwifery delivery group) remained for the analysis.

Table (1): Demographic data in the two tested groups

Variables		Group				p value
		Health facility Delivery (N=100)		Midwifery delivery (N=50)		
Years old		28.92 ±5.59		32.92 ±3.14		**<0.001**
Gestational age (weeks)		37.47 ±0.70		39.02 ±0.71		**<0.001**
BMI (kg/m²) after delivery		24.13 ±2.79		26.21 ±3.98		**<0.001**
		n	%	N	%	
Residence	Rural	30	30.0%	36	72.0%	**<0.001**
	Urban	70	70.0%	14	28.0%	
Working status	Housewife	36	36.0%	28	56.0%	**0.02**
	Working	64	64.0%	22	44.0%	
Parity	Primigravida	40	40.0%	3	6.0%	**<0.001**
	Multigravida	60	60.0%	47	94.0%	
Level of education	Primary level	22	22.0%	27	54.0%	**<0.001**
	Secondary level	25	25.0%	10	20.0%	
	Post-secondary level	53	53.0%	13	26.0%	

Values are presented as mean ± SD or number (percent)

Regarding labor outcome of both groups, there was highly significant difference between both groups with mode of delivery and perineal tear as shows in table (2).

Table (2): Labor outcome in two tested groups

Variables		Group				p value
		Health facility delivery (N=100)		Midwifery delivery (N=50)		
		N	%	n	%	
Mode of delivery	Spontaneous vaginal birth	32	32%	50	100.0%	0.001
	Ventouse	3	3.0%	0	0%	
	CS	65	65.0%	0	0%	
Perineal tear (35)		18	51.4%	6	12%	0.001

Values are presented as number (%), CS: Cesarean section.

Table (3) shows maternal outcomes in Health facility delivery and Midwifery delivery groups. There was highly significant difference concerning history of maternal infection.

Table (3): Maternal outcomes in the two studied groups

Items	Group				P value
	Health facility delivery (N=100)		Midwifery delivery (N=50)		
	n	%	n	%	
Maternal mortality	1	1.0%	0	0.0%	0.478
3rd or 4th degree tear	3	3.0%	6	12.0%	0.029
History of maternal infection	4	4.0%	11	22.0%	0.001
History of postpartum hemorrhage	9	9.0%	8	16.0%	0.203

Values are presented as number (percent)
Admission to Neonatal Intensive Care Unit was significantly more in the midwifery group than in health facility group (Table 4).

Table (4): Neonatal outcome in the two studied groups

Variables	Group				p value
	Health facility delivery (N=100)		Midwifery delivery (N=50)		
birth weight (gm)	3069.23 ±383.69		3103.03 ±216.51		0.564
	n	%	N	%	
Neonatal mortality	4	4.0%	6	12.0%	0.064
Admission to NICU	6	5.8%	15	30.0%	<0.001

Values are presented as mean ± SD or number (percent)

The univariate logistic regression analysis showed that the age, gestational age, BMI, residence, parity, and level of education were related to midwifery delivery. Subsequently, all the above parameters with statistical significance in univariate analysis were incorporated into multivariate logistic regression model for in-depth analysis, results showed that age, gestation age, BMI, residence, parity, and level of education were the independent factors for midwifery delivery.

Table (5): Logistic regression analysis of factors related to midwifery delivery, Assiut, 2021

	Univariate Odds ratio	9\5% C.I		P value	Multivariate Odds ratio	95% C.I		P value
		lower	Upper			lower	upper	
Years old	1.188	1.095	1.289	<0.001	1.349	1.161	1.567	<0.001
Gestational age	3.123	1.797	5.428	<0.001	4.807	1.953	11.834	0.001
BMI	0.810	0.716	0.916	0.001	0.662	0.515	0.850	0.001
Residence (rural vs urban)	5.532	2.632	11.627	0.001	6.437	2.005	20.668	0.002
Parity (GMP vs Pgda)	9.792	2.856	33.573	<0.001	8.439	2.675	70.098	0.002
Level of education (primary level)	5.381	2.359	12.273	<0.001	4.813	.925	25.049	0.021

DISCUSSION

Many pregnant females in rural Africa chose TBA services over trained midwives as they think childbearing is normal rite of passage for females and is assumed to be free of problems that TBAs can easily deal with. It is only necessary to consult trained midwife if there are problems that TBA, who they regard as more studied case, tolerant, and soft and can gently touch and examine them until babies are delivered, cannot handle [5].

In the present study, our main goal was to provide insight into variations in obstetric interventions, maternal and neonatal results for home versus hospital birth between females.

The study was carried out in rural areas of Assiut Governorate patients and from those attending Obstetrics and Gynecology Department of Al-Azhar University Hospital, Assuit. A mixed study, retrospective on 50 patients and prospective study on 100 patients started by 172 patients, were assigned into two groups, then evaluated as regards their patient characteristics, clinical data, labor, maternal, and fetal outcome. Studied cases were separated into 2 groups; Group I (Health facility delivery): 100 patients. Group II (Midwifery delivery): 50 patients.

The mean maternal age (28.92 ±5.59 versus 32.92 ±3.14 years), gestational age (37.47 ±0.70 versus 39.02 ±0.71weeks) increased in midwifery delivery group versus health facility delivery group. Health facility delivery group had higher BMI (24.13 ±2.79 versus 26.21 ±3.98 kg/m^2). Rural residence was 30.0%% versus 70.0% in comparing health facility delivery group versus midwifery delivery group. Concerning parity, 40 cases (40.0%) in health facility delivery group and 3 cases (6.0%) midwifery delivery group were primigravida. Regarding the level of education, 22.0% and 54.0% patients were primary level in health facility delivery and midwifery delivery group.

Moindi et al. [5] reported that there was statistically important variation in age (27.4 (6.1) vs 25.4 (5.3), p = 0.002) and between midwifery and health facility groups. Mothers who delivered at home were older (P = 0.002). Primary level of education was present in 63 (61.1%) of delivered at home, compared to 172 (59.1%) delivered in the health facility group.

A cross sectional survey was conducted in 30 randomly selected villages of Assiut Governorate reported the factors linked with the choice of birth attendants, the midwives were usually used as a birth attendant by women under the age of 20 (66.7 percent). The percentage of women who used skilled birth attendants grew as their education level increased. High education was connected with use of skilled birth attendants (p=0.048). A husband's high educational level was substantially linked with use of skilled birth attendants (p =0.04), whereas a low educational level was associated with the use of daya (p =0.046). The kind of birth attendants used in past deliveries was substantially related to the choice of present birth attendants, as the percentage of women who used skilled / midwives was significantly greater in women who had previously delivered by skilled individuals (p 0.001). The presence of midwives in the same hamlet was substantially associated to their selection as birth attendants (p 0.001). However, just 32.3 percent of women were aware of the existence of midwives. In addition, the percentage of females who planned to get home birth who used midwives as birth attendants was substantially higher (p= 0.022) [6]. Women who were multiparous were less likely to be admitted to the hospital, others have shown that poor labor progress is common reason for transfer in nulliparous individuals [7].

Concerning of mode of delivery, 65 cases (65.0%) in health facility delivery group and no case (0.0%) in midwifery delivery group had C.S. regarding as perineal tear, 52.0% and 12.0% patients had perineal tear in health facility delivery and midwifery delivery groups.

This study backs up evidence from clinical observations that with rise in facility-based deliveries, CS rates have risen at alarming rate. Great rate of CS delivery is regarding given link between non-medically noted CS and maternal and fetal problems [8] and implies that caesarean delivery may be overused or used for inappropriate reasons. Routine monitoring and audits of medical record data from institutional deliveries are critical to ensuring that CS is done for appropriate clinical causes. Population researches do not give accurate information on indications for CS delivery or obstetric characteristics of females who have had CS.

In this study, we can see that maternal mortality was 1.0% versus 0.0%, 3rd or 4th degree tear was 3% versus 12.0%, maternal infection was 4% versus 22.0%, in comparing Health facility delivery group versus midwifery delivery group respectively. Additionally, we can see that neonatal mortality were 4% versus 8%, and neonatal resuscitation 6.0% versus 30.0%, in comparing health facility delivery group versus midwifery delivery group.

Despite the fact that home births are typically more difficult, they have fewer vaginal lacerations and are less susceptible to maternal infection [9]. Though, while researches claim that bleeding and perineal lacerations are less common in-home births, others claim that rate is greater or that there is no meaningful difference [10,11]. In a retrospective cohort research in Japan, **Kataoka et al.** [12] concluded that whereas perineal lacerations are less common in-home deliveries, bleeding rates are higher.

It is expected that twenty five percent of home births in developing countries are complicated by postpartum hemorrhage (6.6 percent), retained placenta (3.9 percent), severe birth asphyxia (3.2 percent), and early newborn death (2.7 percent) [13]. In low- and middle-income nations, health facility delivery reduces risk of newborn mortality by twenty nine percent.

Expansion of health facilities, creation of conducive conditions, and promotion of their use during childbirth are critical in places where home birth is the majority [14].

TBAs continue to help laboring females in developing countries deliver their babies [15]. One study came to light vital role traditional birth attendants play in delivery of babies in Ghana's rural and remote communities. Professional birth attendants are required to work in collaboration with traditional birth attendants in rural and poor communities for giving high-quality, culturally acceptable care in rural areas [16].

In a major advance in multivariate logistic regression analysis, only previous births attended by skilled birth attendant and a high level of education were significant predictors of current births attended by skilled birth attendant; OR= 11.8, 95 percent confidence interval (CI): 6.28 – 22.22 and 3.24, 95 percent CI: 1.06 – 9.90, respectively[6].

There are similarities between the attitudes expressed in the study by **Moindi et al.** [5] who evaluated that according to univariate analysis, both the mother and partner's years old, being in polygamous marriage, being mother of at least 2 children, and living more than five kilometres from nearest health facility were all related with an increased probability of home delivery (crude P 0.05).

Consistent with findings from prior research [17], women's education has always been associated with improved women's health; those who completed their secondary education were more probable to deliver in hospital, whereas illiterate females were more possible to choose home, a trend that was more pronounced in primiparous women. Additionally, a higher education level of the husband was revealed to be a significant predictor of skilled attendance during home delivery.

Results are generally consistent with well-established literature, which indicates that greater education, younger years old, antenatal care (ANC) usage, and primigravida are important factors in seeking, locating, and receiving maternal health services in SubSaharan Africa [18].

Out-of-hospital birth happens at home, religious houses, birth attendants' residences, or on way to hospital in developing nations. These births occur primarily as a result of limited access to health services, but also as result of great cost of delivery, a lack of birthing positions, fear of surgery or other interventions (such as episiotomy, forceps, intravenous oxytocin), a lack of privacy, cultural practices, and a desire to seek spiritual protection from prayer houses [13].

CONCLUSION
Rates of maternal and fetal adverse results for this study in Assiut with well-established and integrated community midwifery were high overall except postpartum hemorrhage, maternal mortality and C.S rate. Well-trained midwives may have a role in reducing CS rate. Midwifery delivery is not so bad according to our study as it is showing low rate of postpartum hemorrhage and caesarean section.

DECLARATIONS

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