Original Article

Frequency of Early Puerperal Complications after Vaginal Delivery

Rida Iqbal, Nadia Taj, Sadia Zafar, Shagufta Tabbasum, Afshan Mehvish and Wafa Fatima

ABSTRACT

Objective: To evaluate the frequency of early puerperal complications following vaginal delivery. To compare the frequency of early puerperal complications after home delivery and delivery at tertiary care hospital.
Study Design: A Descriptive Case Series study
Place and Duration of Study: This study was conducted at the Department of Obstetrics and Gynecology in Nishtar Medical University & Hospital Multan from Aug 2020 to July 2021 for a period of one-year.
Materials and Methods: A total of 331 women presented in emergency with PPH, history of home/institution delivery with parity 1-4 were included in the study. Patients with history of hypertension, diabetes, renal disease and pre-eclampsia were excluded. Detailed clinical assessment of the patient was done and variables like secondary PPH and severe anemia was recorded along with basic demographic information such as place (home/institutional) of vaginal delivery, age, gestational age, parity and BMI. Information was recorded on specially designed proforma.
Results: Participants of the study ranged from 20 to 35 years with mean age of 28.142±2.19 years, mean gestational age was 38.362±1.00 weeks and mean BMI was 26.561±1.45 Kg/m^2. 68% women delivered at home and 32% patients had institution delivery. Secondary PPH was seen in 9.4% patients. Severe Anemia was seen in 10.6% patients. Secondary PPH was seen in 11.1% patients with home delivery and 5.7% patients with institution delivery (p=0.112). Severe Anemia was seen in 13.3% patients with home delivery and 4.7% patients with institution delivery (p=0.017).
Conclusion: Our study showed that there were more early puerperal complications in patients with home delivery compared with delivery at tertiary care hospital.

Key Words: Home delivery, Delivery at tertiary care hospital, Puerperal complications

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INTRODUCTION

A large proportion of women are dying due to pregnancy-related complications and out of these about 98% of deaths are occurring in the developing countries[1]. In our country maternal mortality ratio is 276 per 100,000 live births[2]. In developing countries, about 16.5 pregnancy related complications and more than 100 acute complications are related to maternal deaths[3]. Data on maternal morbidity is mostly collected from record of deliveries occurring in hospitals or women's self-reports[4] but these deliveries conducted in hospital are not the true representative of the events in community.

Department of Obstetrics and Gynecology, Nishtar Medical University & Hospital, Multan.

Correspondence: Dr. Nadia Taj, Senior Registrar, Department of Obstetrics and Gynecology, Nishtar Medical University & Hospital, Multan.
Contact No: 03336156677
Email: drnida123@yahoo.com

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Various measures are being taken to improve estimation of morbidity through these household surveys[5] and data collected from interviews of individuals have little value in estimating the biomedical maternal morbidity[6]. Puerperal fever is difficult to determine by retrospective inquiries in areas where fevers are common[7]. In an International study, frequency of secondary PPH in vaginal deliveries that occurred at home was 9.6% that occurs at home and it was reported as approximately 6.6% in the vaginal delivery that occured at tertiary care hospitals and severe anemia was reported 11.6% versus 5.8%[8]. Secondary PPH was reported as 27.2% after vaginal delivery at home by Tuladhar H et al[10]. No such study has been done before in our general population because different population has different socioeconomic characteristics. Moreover, information on maternal morbidity at home could provide the evidence necessary for planning safe motherhood outreach activities in developing countries.

MATERIALS AND METHODS

Study was conducted in the Department of Obstetrics and Gynecology, Nishtar Hospital Multan from 1st Aug 2020 to 31st July 2021. It was a descriptive case series.

Non probability consecutive sampling was used. A total of 331 women aged 20-35 years presented in emergency with PPH with history of home/institution delivery were enrolled for this study after permission from ethical committee and research department. Informed consent was taken by researcher herself. Detailed clinical assessment of the patient was done and variables like secondary PPH and severe anemia was recorded along with basic demographic information such as place (home/institutional) of vaginal delivery, age, gestational age, parity and BMI. Information was recorded on specially designed pro forma. IBM-SPSS (version-20) was used for statistical analysis of the data. Qualitative variables like, age groups, parity, economic status, secondary PPH and severe anemia were presented as number and frequency. Mean ±SD was presented for quantitative variables like age, gestational age and BMI. Stratification was done with regard to age, economic status, parity, gestational age and BMI to see the effect of these variable on PPH and severe anemia. Chi square test was applied to compare secondary PPH and severe anemia in home and institutional delivery. P ≤0.05 for any variable was considered statistically significant.

RESULTS

Age range in this study was from 20 to 35 years with mean age of 28.142±2.19 years, mean gestational age was 38.362±1.00 weeks and mean BMI was 26.561±1.45 Kg/m^2.

Table No.1: Frequency and %age of patients according to age, parity, economic status and place of delivery n=331

Age Group	No of Patients	%age
20-27	111	33.5%
28-35	220	66.5%
Parity	**No of Patients**	**%age**
1-2	255	77%
3-4	76	23%
Economic Status	**No of Patients**	**%age**
Poor	89	26.9%
Middle	220	66.5%
Rich	22	6.6%
Place of Delivery	**No of Patients**	**%age**
Home	225	68%
Institution	106	32%

Majority of patients belongs to 28-35 age group (66.5%). 68% women delivered at home and 32% patients had institution delivery as shown in Table 1. Secondary PPH was seen in 9.4% patients and severe Anemia was seen in 10.6% patients as shown in Table 2. Secondary PPH was seen in 11.1% patients with home delivery and 5.7% patients with institution delivery (p=0.112) as shown in Table 3. Severe Anemia was seen in 13.3% patients with home delivery and 4.7% patients with institution delivery (p=0.017) as shown in Table 4.

Table No.2: Frequency and %age of patients according to Secondary PPH and severe anaemia n=331

Secondary PPH	No of Patients	%age
Yes	31	9.4%
No	300	90.6%
Severe Anemia	**No of Patients**	**%age**
Yes	35	10.6%
No	296	89.4%

Table No.3: Comparison of Secondary PPH according to Place of Delivery

Secondary PPH	n=225 Home Delivery	n=106 Institution Delivery	*P Value*
Yes	25 (11.1%)	6 (5.7%)	0.112
No	200 (88.9%)	100 (94.3%)	
Total	225 (100%)	106 (100%)	

Table No.4: Comparison of Severe Anemia according to Place of Delivery

Severe Anemia	n=225 Home Delivery	n=106 Institution Delivery	*P Value*
Yes	30 (13.3%)	5 (4.7%)	0.017
No	195 (86.7%)	101 (95.3%)	
Total	225 (100%)	106 (100%)	

DISCUSSION

Various controversies are exist regarding the place of birth and there are strong evidences both for and against home deliveries[9]. Various blogs and social media groups have potentiated the issue; some are in favor while others are against the risks of births at home. Safety of these births at home is dependent on many factors including availability of the support, experience of the midwives, community educational programs and availability of infrastructure[10].

The result of our study revealed mean age of patient as 28.142±2.19, the mean gestational age was 38.362±1.00 and mean BMI (Kg/m^2) of studied population was 26.561±1.45. In this study Secondary PPH was seen in 9.4% patients and Severe Anemia was seen in 10.6% patients while Secondary PPH was seen

in 11.1% patients with home delivery and 5.7% patients with institution delivery and severe Anemia was seen in 13.3% patients with home delivery and 4.7% patients with institution delivery. Frequency of secondary PPH after home delivery and delivery at tertiary care hospital as 9.6% and 6.6% respectively was reported by Iyengar K[8]. Similarly frequency of severe anemia was 11.6 in patients who delivered at home versus 5.8% in those who delivered at hospital[8]. Secondary PPH after vaginal delivery was recorded in 27.2% of cases in a study conducted by Tuladhar and his colleagues[11].

In Pakistan, home birth attendants faces many hurdles for transferring their clients and to access the hospital care[12]. Rate of transfer for the planned home birth women in the other areas was reported as 9.9% to 31.9 and it was reported even higher in the areas where well established maternity services were avaiable[13]. In planned home delivery group, difficulty or delay in the transfer due to long distance from hospitals was associated with adverse neonatal outcome in these cases[14].

Uniform guidelines on this issue and proper selection of these cases are considered as the important factors for safe home births and where these guidelines were strictly followed, outcomes were reported to be as good as that of hospital birth settings for the low risk cases[15]. Contrary to this an increase in both neonatal morbidity and mortality was reported where high risk cases were planned for home birth. In the properly selected low risk cases, there is a strong evidence that home birth is more cost effective than birth in hospitals[16].

CONCLUSION

The results of our study revealed that there were more early puerperal complications in patients with home delivery compared with delivery at tertiary care hospital.

Author's Contribution:

Concept & Design of Study:	Rida Iqbal
Drafting:	Nadia Taj
Data Analysis:	Shagufta Tabbasum, Rida Iqbal, Afshan Mehvish, Wafa Fatima
Revisiting Critically:	Sadia Zafar
Final Approval of version:	Sadia Zafar

Conflict of Interest: The study has no conflict of interest to declare by any author.

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