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ORIGINAL ARTICLE

Frequency of Preterm Labour in Women Presenting with Short Interpregnancy Interval

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ABSTRACT

Background: Short interpregnancy intervals have an adverse effect on maternal and neonatal outcome. The aim of this study is to determine the frequency of preterm labour in women presenting with short interpregnancy interval.
Aim: To determine the frequency of preterm labour in women presenting with short interpregnancy interval.
Study design: Cross-sectional study.
Place and duration of study: Department of Obstetrics & Gynaecology Unit 2, Sandeman Hospital, Quetta from 8th December 2018 to 8th June 2019.
Methodology: One hundred and ninety three patients were enrolled. After taking informed written consent history and clinical examination was done and all the follow-ups were monitored till the complete 37 weeks of gestation or the outcome i.e. preterm labour.
Result: The mean age of mothers was 27.057±3.942 years. The mean interpregnancy interval was 14.880±2.084 months. The preterm labour was noted in 32 women (16.6%).
Conclusion: Short interpregnancy interval was commonly observed in preterm labour. Awareness programs and family planning would prove advantageous in minimizing its associated risk both for mother and the newborn.
Keywords: Preterm labour, Small for gestation age, Awareness programs, Pregnancy interval

INTRODUCTION

Short interpregnancy intervals (IPIs) have been associated with adverse maternal and infant health outcomes in the literature. However, many studies in this area have been lacking in quality and appropriate control for confounders known to be associated with both short IPIs and pooroutcomes[1].

Different neonatal and maternal complications associated with short interpregnancy interval are preterm birth, small for gestational age, frequent admissions in the neonatal intensive care, low birth weight, gestational diabetes, preeclampsia and eclampsia[2]. One in every 10th child of 15 million children born prematurely and some of which died due to its related complications. It could be a serious problem sometime that can lead to death[3].

South Asia and sub-Saharan Africa account for almost two-thirds of the world's preterm babies and over three-quarters of the world's newborn deaths due to preterm birth complications[4]. DeFranco et al[5] found that the frequency of preterm labour in gravid females with short interpregnancy interval was 14.7% and Howard et al[6] have found 26.83%[6].

The results of these clinical trials suggest that the frequency of preterm labour is higher ingravid females with short interpregnancy interval and it is also differs in people belonging from different geographical areas of same country (14.7[6] in Ohio vs. 26.83%[7] in Louisiana) as well as in people with different genotype (3.3% in black vs 1.9% in white, P<0.01).[6] As it is a modifiable risk factor and there is no publish data present on this topic on Asian population or more specifically subcontinent region.

There is a need to perform this study in local population so that the frequency of preterm labour in short interpregnancy labour could be determined which can help in assessing the burden of preterm infants caused by this modifiable risk factor (as Pakistan the greatest neonatal mortality rate according to WHO data provided). If the frequency is found to be high, it will help us in opting counseling sessions with the couple after the delivery to opt barrier methods and increase interpregnancy interval so that the burden of this complication on the health care services could be reduced and morbidity and mortality associated with preterm delivery could be reduced.

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The objective of the study was to determine the frequency of preterm labour in women presenting with short interpregnancy interval.

MATERIALS AND METHODS

This cross-sectional study was conducted after permission from IRB, in the Department of Obstetrics & Gynaecology Unit 2, Sandeman Hospital Quetta from 8th December 2018 to 8th June 2019 and 193 patients were enrolled. Multigravida with the ages in the range of 18-35 years presenting with a single live pregnancy between 24-30 weeks of gestation (as per dating scan) having short interpregnancy interval were included. All patients who have ANA positive as per clinical record (it causes fetomaternal blood circulation problems which could cause intrauterine death and preterm labour), history of diabetes (fasting blood glucose ≥126mg/dl), hypertension (systolic blood pressure ≥140 mmHg or diastolic blood pressure ≥95mmHg), ischemic heart disease (ejection fraction <40%), ≥1 preterm labour and multiple pregnancy (two or more babies in uterus) were excluded. The follow-up continued up-till complete 37 weeks of gestation or preterm delivery (as per dating scan) and all the data was recorded along with demographic details of the patient. The gravid female and the infants were provided standard routine care as per hospital protocol in antenatal and postnatal period depending upon the outcome. The data entered and analyzed through SPSS-20.

RESULTS

The mean age of women was 27.057±3.942 years and mean interpregnancy interval was 14.880±2.084 months. Forty two women (21.8%) had history of previous section. The outcome preterm labour was noted in 32 women (16.6%). All women were multiparous (Table 1). The gender of neonates, 113 (58.5%) were males and 80 41.5%) were females (Table 2).

Table 1: Demographic information of the patients (n=193)

Variable	No.	%
Age (years)		
19 – 25	69	35.7
26 – 30	88	45.6
31 – 35	36	18.7
BMI (kg/m^2)		
19.50 – 25.9	10	5.2
26. – 30.9	74	38.4
31 – 35	109	56.4

History of previous C section		
Yes	42	21.8
No	151	78.2
Preterm labour		
Yes	32	16.6
No	161	83.4
Parity		
Multi-parous	193	100.0
Primi-parous	-	-

Table 2: Frequency of gender of neonates

Gender of neonate	No.	%
Male	113	58.5
Female	80	41.5

DISCUSSION

Short inter-pregnancy interval would lead to small for gestational age, preterm birth and low birth weight[8,9]. In our study we took female with short interpregnancy interval from 19-35years. Studies also proved that, women with age 35 years or greater had higher chances of poor outcomes as compared to women of age >20 years[10].

In our study the preterm labour in females with short interpregnancy interval was notes in 16.6% patients. Preterm delivery frequency was higher in short pregnancy interval.[11] DeFranco et al[12] found that the frequency of preterm labour in gravid females with short interpregnancy interval was 14.7%. Howard et al[16] also found that to be 26.83%.

The results of these clinical trials suggest that the frequency of preterm labour is higher in gravid females with short interpregnancy interval and it is also differs in people belonging from different geographical areas of same country (14.7 in Ohio vs. 26.83% in Louisiana) as well as in people with different genotype (3.3% in black vs 1.9% in white, $p< 0.01$)[16]. As it is a modifiable risk factor and there is no publish data present on this topic on Asian population or more specifically subcontinent region.

Various underlying factors could be the reason of short pregnancy intervals including illiteracy, low socio-economic background which many times influence behavioral problems[13,14]. Difference was also noticed between rural and urban women and rural women appeared to be affected higher in number.

We acknowledge the preterm labour with short interpregnancy interval and importance of existing recommendations should be highlighted for getting better outcomes and consequences. This study was conducted on developing nation where women are already prone o nutrient depletion, malnutrition and poor supplementation during pregnancy[15]. Furthermore, it highlighted that, short pregnancy interval would lead to autism, birth defects and schizophrenia and sometime even mother death[16-19].

CONCLUSION

Short interpregnancy interval was commonly observed in preterm labour. Awareness programs and family planning would prove advantageous in minimizing its associated risk both for mother and the newborn.

Conflict of interest: Nil

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