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Socio-demographic profile of the women presenting with preterm labour at tertiary care hospital.

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Abstract

Introduction: Preterm birth is a significant causative factor of infant and child morbidity and mortality and the second most leading cause of under –five deaths in the world. The rate of preterm birth (PTB) has increased worldwide due to increase in late preterm birth, often associated with obstetric interventions designed to reduce maternal and fetal complications. In 75% of PTB cases no obvious causes have been established, but several etiological risk factors have been identified. There is limited information on the socio-demographic characteristics of the women and preterm delivery risk in Rajasthan. The present study aimed to find socio-demographic characteristics of the women presented with preterm labour.

Material and methods: 150 women admitted with preterm labour were included in the study after obtaining written informed consent. A detail history regarding socio-demographic factors, obstetric history was taken.

Information regarding number of antenatal clinic and visits was also obtained. Data were analyzed.

Result: Mean age of the women was 23.44±3.2 years. Majority of them were Hindu (86%), literate (74.7%), residing in rural area (70.7%) and belonging to low socio-economic status. Mean BMI was 23.9±3.2 Kg/m^2. Most of them were primigravida (55.3%). Mean gestational age was 33.8±2.3 weeks. 76% women had no or less than 3 ANC visits.

Conclusion: Preterm delivery is still a challenging maternal health problem in our country. Appropriate and innovative preventive intervention, customized individual's need may prevent preterm births and improve foetal outcomes.

Keywords: PTB, BMI, ANC, Preterm Labour.

Introduction

Gestational age and birth weight are two of the most important parameters to determine the prognosis of infants. Preterm birth is a significant causative factor of infant and child morbidity and mortality and the second most leading cause of under –five death in the world.[1,2] Preterm birth (PTB) is a global problem with prevalence ranging from 6 – 8% in Europe, Australia and Canada[3,4] to 9 – 12% in Asia, Africa and United States.[5,6] Over 80% of the world's 1.1 million neonatal deaths annually due to complications related to preterm birth and 50% of long term morbidity in the surviving infants.[7,8]

Preterm birth is defined as gestational age (GA) at birth of less than 37 completed gestational weeks. The rate of preterm birth has also increased worldwide, largely driven by increase in late preterm birth, often associated with obstetric interventions designed to reduce maternal and fetal complications.[9] Recent decades have seen a great increase in the survival of preterm infants, linked to technological advances in neonatal intensive care.

In 75% of PTB cases no obvious causes have been established, but several etiological risk factors have been identified. Non-obstetric risk factors include: poor socio-economic status, maternal malnutrition, illiteracy, maternal age <20 and >35 years, heavy manual work, cigarette smoking, long distance travel and trauma.[10-16] The precise role of events linked to an increased risk of preterm birth is unknown.[17] However, there have been a number of previous studies attempting to identify risk factors associated with preterm birth in different countries. There is limited information on the socio-demographic characteristics of the women and preterm delivery risk in Rajasthan. Department of Obstetrics and Gynaecology at S.M.S. Medical College, Jaipur is the largest referral hospital of Rajasthan which caters many high risk pregnancies, some of which result in preterm birth. The present study aimed to find socio-demographic characteristics of the women presented with preterm labour.

Material and methods

This was a hospital based descriptive cross - sectional study done in the department of Obstetrics and Gynaecology, S.M.S. Medical College, Jaipur. 150 women admitted with preterm labour were included in the study after obtaining written informed consent. On admission to labour room detailed clinical history including age, marital status, socioeconomic status, level of education, occupation, residence, smoking and alcohol use during pregnancy, gravida, parity, date of last normal menstrual period, date of current and preceding delivery (for calculation of inter-pregnancy interval) and history of previous preterm birth, previous abortion or any other complication in previous pregnancy was taken. Information regarding antenatal clinic (ANC) attendance and number of visits was also obtained. Data entry was done using Microsoft excel sheet. Statistical analysis was

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done using computer software.

Results

Out of 150 women with preterm labour, maximum numbers of women (67.3%) were in the age 21-25 years with a mean age of 23.44±3.2 years. 6.7% women were above 30 years of age. Majority of the women in our study were Hindu (86%), literate (74.7%), belonging to low middle socio-economic group (70%) and from rural background (70.7%). Mean weight, height and BMI of the women were 57.7±9.2 Kg, 155.3±5.4 cm and 23.9±3.2 Kg/m^2 respectively. (Table 1)

Obstetric performance of the women is shown in table 2. Majority of the women were primigravida (55.3%) with a mean gravidity of 1.7±1.0. out of 150 women, 86 (57.3%) were nullipara. Out of 64 parous women, 41 (64.1%) women were para 1 with mean parity of 1.5±0.8. Past history of preterm birth, abortion and LSCS were seen in 18.6%, 4% and 6% women respectively. 66% women had gestational age between 34 weeks to 36.6 weeks. Mean gestational age was 33.8±2.3 weeks. 54% women had no ANC visit and they attended the hospital for the first time.

Discussion

Preterm birth is the largest risk factor for infant morbidity and mortality, not only in the immediate neonatal period but also in infancy, childhood, and even adulthood. It can affect physical health, cognitive and behavioral dimensions, making it one of the most significant challenges for modern public health.[18]This study was done to find socio-demographic profile of the women presented with preterm labour.

Similar to the observation made by Shukla P et al[19] majority of the women in our study were between 20 to 25 years. This reflects the tradition of early marriage in our state. Mean age of the women in our study (23.44±3.2 years) was comparable with that observed by Shukla P et al[19], Ahankari A. et al[20] and Y Neggers et al[21] but lower than that observed by Theresia B Temu et al[22], Manuck and Varner[23], Toprak et al[24] and Melamed et al[25]. In our study 6.7% women were above 30 years of age. Our observation was similar to that observed by L Lu etal[10] and Wagura et al[8]

Women residing in urban areas during pregnancy have been shown to have a less likelihood of having preterm delivery[2]. Similarly, in the present study women who were living in rural areas during pregnancy have a slightly more chance to have preterm delivery. Our results were consistent with the results observed by Chang HH et al[2] and Theresia B Temu et al[22]. This may probably be due to easy accessibility to health facilities in urban areas as compared to rural areas which may play an important role in prevention of preterm delivery. Women living in rural areas are more likely to be involved in hard physical works like farming which increases the risk of preterm delivery particularly in women with other risk factors for preterm delivery.

Our results were in contrast with the results observed by H Xu et al[26]. They observed that the incidence of preterm birth in urban areas was about 1.5 times that of rural areas.

Percentage of illiterate women in our study (25.3%) was much higher than that observed by Theresia B Temu et al[22] and Wagura et al[8]. This difference can be attributed to rural dwelling and low literacy rate in our state. Our results were in contrast to that of H.K. Daglar et al[27] in their study all the women were literate.

We observed that women with low socioeconomic status had more preterm deliveries. Our observation was consistent with study conducted by Purvi K Patel et al[28] and Shukla P et al[19], where low socio-economic status was found to be a significant risk factor in preterm births. This might be attributed to the fact that low income women normally suffer from nutritional deficiency, insufficient health care, low education, drug abuse, cigarettes and

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alcohol consumption, domestic violence, and stressful life all of them may cause preterm delivery.[29]

Mean weight in our study (57.7±9.2 Kg) was much lower than that observed by Y Neggers et al (2004).[21] and H.K. Daglar et al[27] The mean height of women in our study (155.3±5.4 cm) was much lower than that (161.8±4.8 cm) observed by H.K. Daglar et al[27].

The mean BMI of the women in our study (23.9±3.2kg/m2) was lower than (26.6±7.3 kg/m2) that reported by Manuck and Varner et al[23].

We observed that preterm birth were higher in primigravida women (55.3% in primigravida vs 44.7% in multigravida). Our results were comparable with the observation made by Ahankari A et al[20] and in contrast with the observation made by Alijahan et al[30]. The mean gravidity in our study (1.5±0.8) was lower than reported by Toprak et al[24].

Mean parity in our study was 1.5±0.8 which was higher than that (1.1±1.6) observed by Melamed et al[25] and higher than that observed by Toprak et al[24] .

History of prior preterm birth in women with preterm pregnancy (18.6%) was much higher in our study than that observed by Theresia B Temu et al[22] (8.02%) and Alijahan et al[30] (7.2%) but lower than that observed by Wagura et al[8] (35.3%) and Manuck and Varner et al[23]. Though the exact mechanism for this is not well established, it may be due to presence of unidentified factors such as subclinical infection as well as underlying disorders such as hypertension, obesity, diabetes in some women precipitating preterm delivery.[7]

Past history of abortion in women with preterm pregnancy was 4.0% in our study which was higher than (2.46%) observed by Theresia B Temu et al[22] but lower than that (20.0%) observed by Alijahan et al (2014)[30].

76.0% women in our study had no or less than 3 ANC visit. Percentage of women having less than 3 ANC visit in our study was higher than that observed by Wagura et al.[8] Previous studies have shown that a lack of prenatal care has associated with a increase rate of preterm birth.[7,31] In our study we also found that lack of prenatal care or inadequate ANC visit was an important and significant maternal risk factor for preterm birth. Our results were consistent with results of L Lu et al,[10] Purvi K Patel et al[28] and Alijahan et al[30],. The observation implies that preterm birth may be avoided by regular ANC care, adopting appropriate surveillance and medical intervention during pregnancy.

In our study majority of the cases (66%) had late preterm delivery which is consistent with the observation made by Purvi K Patel et al[28], who observed that 61.6% women had late preterm delivery. The mean gestational age in our study was 33.8 ± 2.3 weeks which was

lower than mean gestational age (35.5±0.8 weeks) observed by Melamed et al[25].

Conclusion

Preterm delivery is still a challenging maternal health problem in our country. Majority of the women were in the age group 21-25 years, Hindu, literate, residing in rural area and belonging to low socio-economic status with no or less than 3 ANC visit. They were primigravida. Mean gestational age was 33.8±2.3 weeks. Appropriate and innovative preventive intervention, customized individual's need may prevent preterm births and improve foetal outcomes.

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Legends Tables

Table 1: Socio-demographic characteristics of the women

Variables	No	Percentage
Age		
<20	17	11.3
21-25	101	67.3
26-30	22	14.7
>30	10	6.7
Mean age	23.44±3.2	
Religion		
Hindu	129	86.0
Muslim	21	14.0
Residence		
Urban	44	29.3
Rural	106	70.7
Literacy status		
Literate	112	74.7
Illiterate	38	25.3
Socio-economic status		
Low	63	42.0
Middle	42	28.0
Upper	45	30.0
Weight		
<50	25	16.7
51-60	86	57.3
>60	39	26.0
Mean weight	57.7±9.2	
Height		
<150	28	18.7
151-160	96	64.0
>160	26	17.3
Mean height	155.3±5.4	
BMI		
18.5-24.9	111	74.0
25-29.9	20	13.3
>30	19	12.7
Mean BMI	23.9±3.2	

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Table 2: Obstetric profile of the women with preterm birth

Variables	Number	Percentage
Gravidity		
Gravida 1	83	55.3
Gravida 2	45	30.0
Gravida ≥3	22	14.7
Mean gravidity	1.7±1.0	
Parity		
Para 0	86	57.3
Para 1	41	27.3
Para 2	16	10.7
Para ≥3	7	4.7
Mean parity	1.5±0.8	
Past history of Preterm delivery	13	18.6
Past history of abortion	6	4.0
Past history of medical disorders	11	7.3
Past history of LSCS	9	6.0
Gestational age		
34 – 36.6	99	66.0
<34	51	34.0
Mean gestational age	33.8±2.3	
No. of ANC visit		
None	61	40.7
1-3	53	35.3
≥3	36	24.0
Mean ANC visit	1.9±2.1	

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