

PRETERM LABOUR - A SOCIAL PROBLEM ?

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SUMMARY

One hundred and forty consecutive primigravidas and 110 multigravidas (control group) between 28-36th weeks of pregnancy were studied to find the high risk factors for preterm labour and delivery in primigravidas. The preterm delivery rate was 3.07% in primigravidas compared to 15.45% in multigravidas. Heavy work and illiteracy, poor socioeconomic status and poor diet were found to be the high risk factors. Social customs and their implications have been discussed.

INTRODUCTION

Preterm labour is an important obstetrical complication associated with high perinatal morbidity and mortality. The diagnosis and management of preterm labour to prevent the preterm birth implies firstly the ability to identify patients 'at risk' of preterm labour before the onset of signs and symptoms and secondly making the diagnosis after the onset of symptoms.

The best predictor of preterm labour is a poor past reproductive performance which makes it difficult to identify primigravidas who are 'at risk' to go into labour before completed 37 weeks of gestation to give birth to a preterm baby. This is disappointing because more than 40% of all preterm

labour patient are multiparous (Arias, 1984). The selective use of risk assessment as a tool for identifying primigravidas may have an important clinical application in targeted approach to prevent preterm labour in those women. Different risk factors have been studied by us in this study with special emphasis on the social and environmental factors in South India and we have also attempted to evaluate the risk scoring system of Creasy and Herron's modification of Papiernik Risk Scoring System (Creasy et al, 1980).

MATERIAL AND METHODS

One hundred and forty consecutive primigravidas and 110 multigravidas (control group) attending the antenatal outpatient clinic of obstetrics and gynaecology department of Jawaharlal Institute of Postgraduate

Medical Education and Research, Pondicherry, between 28-36 weeks of pregnancy from the month of July 1982 onwards were studied. The detailed history and examination was recorded and scores were given after 32 weeks of gestation according to the simplified scoring system of Creasy and Liggins (1979). The detailed social history was recorded. The different variables noted were : income and occupation of the patient and her husband, number of numbers in the family, type and amount of work which the patient had to do in day-to-day life, attitude and behaviour of the husband, mother-in-law and other members of the family. All these patients were followed up till delivery and results were analysed.

RESULTS

Out of 140 primigravidas, 10 did not turn up for delivery or for follow up antenatal visit and hence were excluded from the study. The mean age was 21.8 years. Eighty one (81/130, 62.30%) were either illiterates or had only primary education. Only 10 were graduates (7.6%). The rest were educated only upto matriculation. The educational status of their husbands was also the same. Out of 130, 7 had preterm labour and 123 full term delivery. Out of 7 who had preterm labour, 3 responded to tocolytic therapy after admission and continued till term. So preterm delivery rate was only 4/130 (3.07%). On the other hand, the preterm birth rate in multigravidas was 17/110 (15.45%). The overall preterm delivery rate combining both primigravidas and multigravid women was 6.3% in the year 1991-92 in our department. As far as the 'work; pattern of these patients were concerned, 117/130 (90%) had to do light work at home and only 23/130 (17.69%) had to do outside work in addition to household work (Table I). By going into depth of their social and environmental conditions,

Table I
Demographic variables in primigravid women admitted with preterm labour

Subjects	Age	Weight (Kg)	Socioeconomic Status	Education	Work pattern	Medical complication	Risk Score
A*	22	58.0	Poor	Matri	Light work	Chickenpox at 34 weeks	10
B*	19	53.5	Poor	Primary	Heavy work	Severe anaemia	11
C	20	54.0	Fair	Illiterate	Heavy work	Placenta praevia	8
D	19	45.0	Poor	Matric	Light work	Hydramnios	14
E	20	40.0	Poor	Illiterate	Heavy work	Hydramnios	11
F	25	44.0	Poor	Primary	Heavy work	Incomplete os	9
G*	19	55.0	Poor	XII Std.	Light work	nil	9

* Responded to treatment of preterm labour after admission and had full pterm delivery later on.

we found that all the young primigravidas are sent to their parents' house after the second trimester of pregnancy till delivery. This social custom known as 'Vallaikaappu' is peculiar to this part of the country and is very religiously observed as a pompous formal function at the husband's house. Only 6 patients were at their husband's house in the study group. They were made to do whole household work without a proper diet and rest as the old ladies (mother-in-law) feel that taking a good diet will result in a healthy baby leading to a difficult labour. According to them, the proper amount of rest also interferes with easy vaginal delivery.

The risk factors of 7 primigravid women admitted with preterm labour are shown in Table I. It was noted that mean age was 21 years and mean maternal weight was 45.6 Kg in those who had preterm delivery. All except one belonged to poor socio-economic status and were either illiterates or studied upto primary school or matric. Four out of 7 (57.14%) had to do heavy work, i.e., field work or labour outside in addition to the routine household work. None belonged to low risk group while 4/7 (57.14%) belonged to high risk group. The obstetric

complications predisposing 4 patients to have preterm delivery were hydramnios, placenta previa and incompetent os.

The distribution of patients in different risk groups are compared in primigravid and multigravid patients in Table II. It was noted that the incidence of preterm labour was 7/130 (5.38%) and preterm birth rate was 4/130 (3.07%) in primigravidas of which 3/4 (75%) belonged to high risk group. On the other hand, in multigravidas, the incidence of preterm labour was 17/110 (15%) and preterm delivery rate was 10/110 (9%) of which 13/21 (61%) belonged to high risk group. This showed that the scoring system is more discriminating in multigravidas than in primigravidas because 18.7% of primigravidas belonging to high risk group contributed to 50% of preterm labour and 28.5% of preterm delivery whereas 76.4% of multigravidas belonging to high risk group contributed to 100% of preterm labour and 57% of preterm deliveries. There was no difference of preterm births in the low risk groups in both primigravidas and multigravidas.

DISCUSSION

The preterm birth rate in our study group of primigravidas is very low (4/130, 3%) as

Table II

Distribution of risk group subjects - Primigravidas-vs-multigravidas

	Primigravidas				Multigravidas			
	Low risk	Medium risk	High risk	Total	Low risk	Medium risk	High risk	Total
Preterm birth	0	1	3	4(+3)	1	3	13	17(-7)
Term delivery	93	39	4	126	50	35	8	93
Total	93	40	7	130	51	38	21	110

(+3) patients delivered term baby after admission for PTL.

(-7) patients had term delivery.

compared to studies by Creasy et al (1980) (5.8%) and Hoffman and Bakketeig (1984) (6.1 - 9.3%) in Western countries and also in comparison to other studies in North India (Gayatri et al, 1988; Ranjana et al, 1988) (11.8%). A comparatively much lower preterm birthrate in primigravidas inspite of low socioeconomic status is 90% in our study group may be attributed to a large extent to the social ceremony of Vallaikaappu due to which all young pregnant patients enjoy a 'comfortable' stay at their parents house after 28 weeks of pregnancy till delivery. In addition to a considerably reduced physical strain, sympathetic attitude of the other members of the family must also be playing a very important role and we suggest to give a higher scoring marks to heavy work in primigravidas. The important relationship between the circumstances of everyday life and preterm birth has been stressed by many workers in the past. In a survey carried out in a working class population in Haguenau (France) by Papiernik (1984), it has been shown that the preterm birth rate was 14.8% in women who were lifting heavy objects and it was only 6.9% who did no heavy lifting as part of their work. In the same sample of women, those working with vibrating machines had 19% preterm birth rate as compared to only 7.5% who did not work with such machines. Mamelle et al (1981) have also stressed the importance of 'hardness' of work index. Similarly Pinard (1895) had shown his study was back in 1895 the 'roots' and the social nature of the problem.

In our study, we have found that the risk scoring system is more discriminating for multigravidas than for primigravidas thus confirming the findings of Frederick Jean (1976) and Creasy and Liggins (1979) who found that 9% of primigravidas belong-

ing to high risk group contributed to only 31% of preterm births and 39% of preterm labour whereas in contrast the high risk multigravid group accounted for 77% of all multigravid preterm births and 80% of preterm labour. In the low risk group of multigravid patients, the rate of preterm births was 11.6% and it was 44% in primigravidas. In our patients the low risk figures were rarely the same in both primigravidas and multigravidas. Gayatri et al (1988) has shown the preterm birth rate of 100% in high risk group of primigravidas in Rajasthan.

It is important therefore to have an objective assessment of a pregnant woman's activity, work pattern, rest, diet, personal habits and life stress should become a more integral part of prenatal care. As obstetricians, it is very important for us to educate the husband as well as other members of the family, especially the mother-in-law, about the importance of proper rest and good diet and tension free environment for a pregnant patient.

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