

A Comparative Study to assess the Prenatal Factors of the Mothers who have Delivered Term and Preterm Babies at RMMCH, AU, Chidambaram

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Abstract

The purpose of this study is to examine the correlation between prenatal factors and the type of delivery among postnatal mothers. The sample consists of 100 postnatal mothers (Group I - 50 preterm deliveries), (Group II - 50 term deliveries). The researcher used the quota sampling technique for this study, and the content validity was obtained from experts in the various nursing specialties. The investigator prepared a structured interview questionnaire method for data collection. The study revealed that the following factors were promoting term delivery as regular antenatal check-ups, routine household activities, adequate diet, rest and happiness, caring by the family members during pregnancy, and monthly income of more than Rs. 2001-6000. It was also found that some factors were influencing preterm delivery such as joint family, history of abortion at one time, age at first pregnancy were between 18 - 21 years, inadequate antenatal check-ups especially in the third trimester, monthly income between Rs. 1001 - 2000, consanguinity, antepartum haemorrhage, twin pregnancy, oligohydramnios, job, and inadequate sleep then rest during pregnancy.

Keywords: Preterm; Full term; Correlation; Prenatal factor.

INTRODUCTION

We worry about what a child will become tomorrow, yet we forget that he is someone today" - *Stacia* (2010)

Childbirth is one of the most marvellous and memorable moment in a woman's life. It does not

really matter, if the child is the first, second or the third one. Each experience is unique and calls for a celebration. The fear and anxiety about childbirth often prevents most women from enjoying this experience. However, an adequate knowledge about the signs of labour and delivery, in general, can impart a feeling of confidence and a sense of emotional well being, very crucial in ensuring a successful labour.

Need for the Study

According to WHO (2007) the incidence of preterm birth in India is estimated to be 11-14% (2004). This means that the annual incidence preterm birth in our country is about 3 to 4 million and it is a huge number.

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Harish (2007) highlighted the fact that preterm birth is a major challenge in perinatal health care and yet an unmet challenge. Preterm birth is high risk for perinatal morbidity, mortality and later on neuro developmental disabilities and adverse respiratory outcome. Prematurity not only affects the neonates and their families, but also has a lot of implications for the health services as these babies have to spend several weeks in the hospitals.

Freak, Chan, Tucker and Street. (2009) conducted a population study of previous abortion and risk of preterm birth. The aim of the study was to analyse whether previous abortions is the independent risk factor for preterm birth and to calculate the attributable risks for risk factors. They used multi-variable logistic regression analysis and compared preterm with term births. They found many risk factors such as smoker, age 40 years or older, reproductive technologize assistance APH and UTI. The results revealed that previous spontaneous abortion borderline significance and previous induced abortion was an independent risk factors, population attributable risks were highest for pregnancy hypertension (12.4%) and APH (9.2%). The authors quoted that previous induced abortion and smoking during pregnancy are preventable risk factors for pre-term birth.

Objectives

- To assess the prenatal factors of the mothers who have undergone preterm delivery (Group – I).
- To assess the prenatal factors of the mothers who have undergone full term delivery (Group – II).

Findings

Section-1

Table 1: Distribution of Demographic Characteristics of Postnatal Mothers in Both Groups.

Demographic Variables		Group-I (n=50)		Group-II (n=50)		Chi- Square Value	"P" Value
		N	%	N	%		
<i>Age</i>	18-20 years	8	16%	6	12%	3.51	0.32
	21-25 years			30			
	26-30 years	17	34%	14	28%		
	31-35 years	2	4%				
<i>Educational Status</i>	Illiterate	11	22%	6	12%	3.05	0.384
	Primary Education	27	54%	28	56%		
	Secondary Education	6	12%	11	22%		
	Higher Secondary	6	12%	5			
<i>Mothers Occupation</i>	Housewife	41	82%	41		0.07	0.79
	Working (or) Employed	9	18%	8	16%		

N = 100

- To compare the prenatal factors between mothers who had preterm delivery and mothers who had full-term delivery
- To prepare a booklet for the pregnant women on prevention of preterm delivery.

Research Variables

Variables differs from one person to another, the presumed effect is the dependent variables, (or) outcome. In this study the research variables are prenatal factors and type of labour.

Research Design

Retrospective study design was used to assess the prenatal factors 3, (social factors, personal factors, psychological factors) related to preterm, and full-term delivery of the mothers admitted in the obstetric gynaecology ward in RMMCH.

Setting of the Study

This study was conducted in the Obstetric and Gynecological ward Rajah Muthaiah Medical College Hospital, Annamalai university, Chidambaram Tamil Nadu State.

Sample Size

A total of 100 postnatal mothers were taken for the main study.

Measurement and Tools

A structured interview schedule was used to assess the prenatal factors and types of delivery among the postnatal mothers Both descriptive and inferential statistics were used for data analysis.

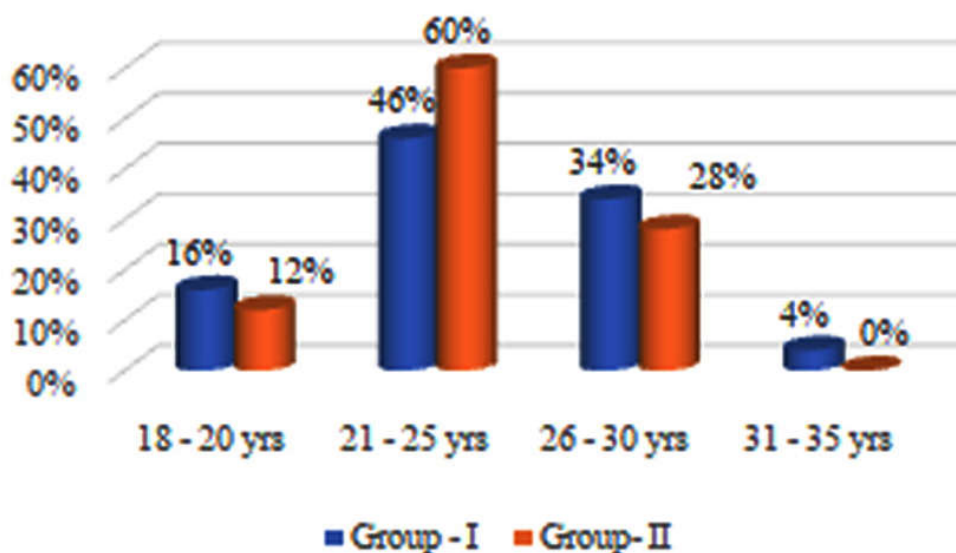
Monthly Income	Rs.1001-2000	6	12%	3	6%	1.552	0.46 NS
	Rs.2001-6000	33	66%	38	76%		
	Rs.6001-9000	11	22%	9	18%		
Religion	Hindu	50	100%	49	98%	8.05	0.005 S
	Christian			1	2%		
Type of Family	Joint Family	28	56%	14	28%	0.332	0.564 NS
	NuclearFamily	22	44%	36	72%		
Food Habits	Vegetarian	6	12%	8	16%	0.332	0.564 NS
	Non-vegetarian	44	88%	42	84%		

Group I – Preterm: NS – Non significant

Group II–Full term: S–Significant

It was found from the above table that there was a significant difference in terms of type of family between both groups which was confirmed by the chi square test with the ‘P’Value of 0.005

Chart 1: Shows the percentage distribution of Age of postnatal mothers in both groups. In the age group 21-25 year category mother in Group-II is 60% as compared to 46% of mothers in group I.



Section-II

Table 2: Assessment of personal factors among postnatal Mothers in Both Groups

N=100

S. No	Prenatal factors	Group-I (N=50)		Group-II (N=50)		Chi- square	'P' value
		Yes		Yes			
		N	%	N	%		
1	Personal factor						
	Below 45 kg during pregnancy	8	16%	1	2%	5.98	0.014 or 9.3 S
2	Monthly Income of family						
	a. Rs. 1001-Rs. 2000	8	16%	2	4%		
	b. Rs. 2001-Rs. 6000	32	64%	40	80%		
	c. Rs. 6001-Rs. 9000	10	20%	8	16%		
3	Age at first pregnancy						
	a. 18- 21 years	34	68%	16	32%	2.38	0.3 NS
	b. 22 - 25 years	12	24%	33	66%		
	c. 26- 29 years	4	8%	1	2%		

4	Height less than 145 cm	8	16%	4	8%	1.51	0.48 NS
5	Habit of smoking, alcohol, tobacco	0	0	0	0	-	-
6	Regular Antenatal Checkup	29	58%	44	88%		
6a	1st trimester						
	One time	15	30%	26	52%	6.65	0.155 NS
	Two times	17	34%	12	24%		
	Three times	8	16%	7	14%		
	No visits	3	6%	3	6%		
6b	2nd trimester						
	One time	6	12%	3	6%	8.79	0.06 NS
	Two times	22	44%	36	72%		
	Three times	14	28%	8	16%		
	No visits	1	2%	1	2%		
6c	3rd trimester						
	1-2 times	28	56%	22	44%	26.7	<0.001S
	3-4 times	6	12%	23	46%		
	5 times	0	0%	3	6%		
	No visits	9	18%	0	0%		
7	Adequate diet	44	88%	48	96%	-	
8	Extra diet	5	10%	20	40%		
	3-4 times	4	8%	12	24%		
	5-6 times	1	2%	6	12%		
9	Special Diet	3	6%	6	12%	1.09	0.295NS

Group I - Preterm NS – Non significant

Group II - Full term S-significant

The above table 3 shows that there was a significant difference between certain variables, like maternal weight, antenatal visit, which was further confirmed by chi square test with the 'P' value of 0.014 and <0.001 respectively.

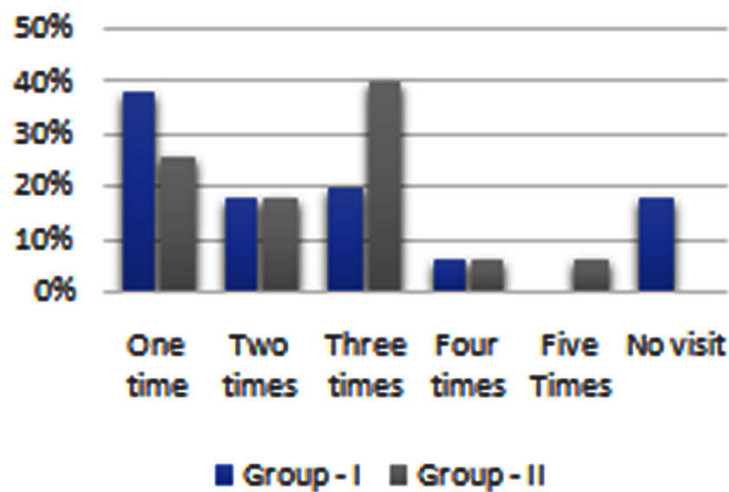


Chart 2: Shows the percentage distribution of Antenatal check up in both groups. In the third trimester of antenatal check-up 40% of mothers in group II gone for three times as compared to 20% of mothers in group I.

Table 3: Assessment of selected prenatal factors with relation to health problem and uterine Anomalie among Postnatal Mothers.

S. no	Prenatal factors	Group-I (N=50)		Group-II (N=50)		Chi- square	'P' value
		Yes		Yes			
		N	%	N	%		
1	Health problem	8	16	4	8	1.51	0.212 NS
	History of abortion						
2	History of UTI	4	8	1	2	-	-
3	PV examination during pregnancy	4	8	-	-	-	-
	2nd trimester						
	Two times	2	4	-	-		
	3rd trimester						
	Two times	2	4	-	-		
4	Consanguineous marriage	31	62	16	32	9.03	0.003 S
5	Uterine anomalie						
	Congenital anomalie of uterus	1	2	-	-	-	-
6	Cervical incompetency	5	10	-	-	-	-

The above table shows that there was a significant relationship in terms of consanguinity between two groups which was confirmed by the Chisquare test with the 'p' value of 0.003

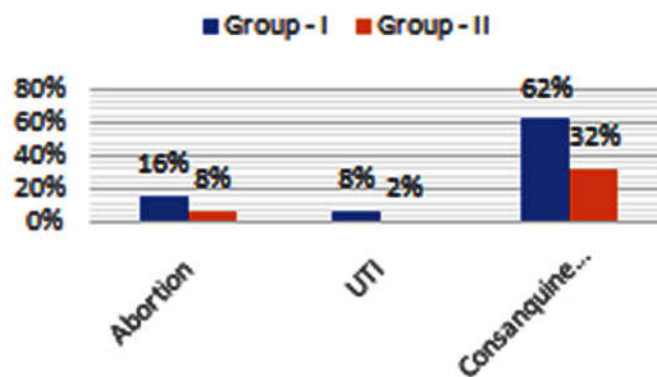


Chart 3: Shows the percentage distribution of assessment of selected health problem and uterine anomalies among postnatal mothers. Its was revealed that 62% of the mothers in group I had consanguineous marriage as compared to 32 % of mothers in group II

Table 4: Assessment of selected Prenatal Factors with relation to Over Distension of Uterus, APH and srgical factors among Postnatal Mothers N = 100

S. no	Prenatal factors	Group-I (N=50)		Group-II (N=50)		Chi-Squre	P' Value
		Yes		Yes			
		N	%	N	%		
1	Over distension of uterus						
	Twin pregnancy	7	14%	-	-	7.53	0.006 NS
2	Polyhydramions	1	2%	2	4%	-	-
	Antepartum haemorrhage						
	Bleeding during pregnancy	5	10%	-	-	-	-
3	a. Mild	-	-	-	-	5.26	0.02 S
	b.Moderate	4	8%	-	-		
	c. Severe	1	2%	-	-		

4	Surgical factors	-	-	-	-	-	-
	Surgery during pregnancy						
5	Appendicitis	-	-	-	-	-	-

Group I - Preterm NS=Non significant

Group II - Full term S=Significant

Hence, it was found from the above table that there was a significant relationship, interms of antepartum hemorrhage, between the two groups which was confirmed by the Chisquaretest with the 'p' value of 0.02

Table 5: Assessment of selected prenatal factors with relation to Social and Psychological Factors among Postnatal Mothers

N=100

S. no	Prenatal factors	Group-I (N=50)		Group-II (N=50)		Chi-square	'P' value
		Yes		Yes			
		N	%	N	%		
1	Social factors	43	86%	49%	98%	-	-
	Household activities during pregnancy						
2	Job during pregnancy	13	26%	7	14%	2.25	0.134 NS
3	Travel during pregnancy						
	a. Bus	5	10%	6	12%	-	-
	b. Travel wheeler	1	2%	2	4%		
4	Rest during pregnancy	31	62%	49	98%	20.25	<0.001 S
5	Sexd uring pregnancy	4	8%	-	-	-	-
6	Psychological factor: Stress during pregnancy	11	22%	18	36%	-	-
7	Happy during pregnancy	44	88%	50	100%	-	-
8	Take care by family members	39	78%	49	98%	9.47	0.002 S
9	Fear about delivery process						
	a. About delivery	5	10%	11	22%	-	-
	b. About sex of baby	-	-	5	10%		
	c. About condition of the baby	4	8%	-	-		
10	Sleep during pregnancy	23	46%	36	72%		
	Day						
	1-2hour	13	26%	23	46%		
	3-hour	5	10%	4	8%		
	No sleep	7	14%	9	18%		
	Night						
	5 - 6 hours	3	6%	7	14%		
	7 - 8 hours	8	16%	14	28%		
	9 - 10 hours	16	32%	15	30%		
	No sleep	1	2%	-	-		

Group I - Preterm NS=Non significant

Group II - Full term S=Significant

The above table shows that there was a significant relationship between certain variables in two groups like, rest and caring by family members, which was confirmed by Chi-square test with 'p' value of <0.001 and 0.002 respectively.

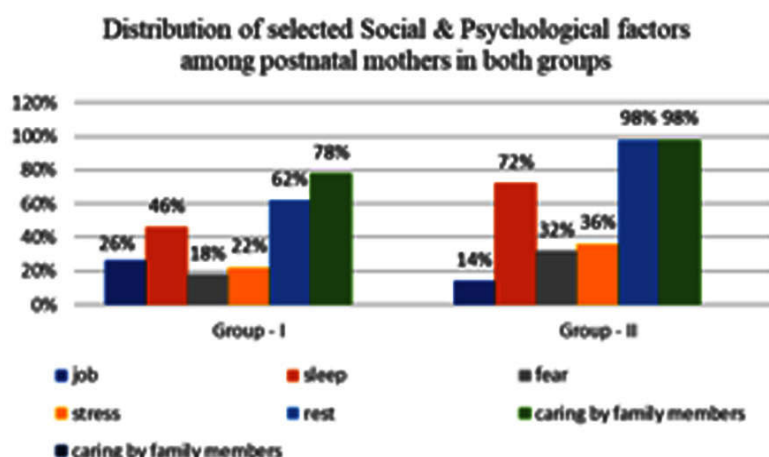


Chart 4: Shows the percentage distribution of selected social & psychological factors among postnatal mothers in both groups. About 78% of mothers in group I have been cared by their family members during antenatal period as compared to 98% of mothers in group II

CONCLUSION

This study intent to compared to assess the prenatal factors of the mothers who have delivered term and preterm babies at RMMCH, AU, Chidambaram, Tamil Nadu. Structured interview questionnaire was used among the mothers in the post natal ward, RMMCH.

The study revealed that the following factors were promoting term delivery such as monthly income more than Rs 2001-6000, age at first pregnancy were between 22-25 years, Regular antenatal check up, routine household activities, adequate diet, rest and happy during pregnancy, adequate sleep, caring by the family members.

It was also found that some factors were influencing preterm delivery such as joint family, history of abortion in one time, age at first pregnancy were between 18 - 21 years, inadequate antenatal checkup especially in third trimester, monthly income between Rs. 1001-2000, consanguinity, antepartum haemorrhage, twin pregnancy, oligohydramnios, job and inadequate sleep then rest during pregnancy and inadequate care by family members.

NURSING IMPLICATIONS

The implications of the findings have been discussed with special reference to Nursing education, Nursing practice, Nursing administration and Nursing research.

Implications for nursing education

- This study emphasizes the need for developing good teaching skills among the

student nurses in the prevention of preterm delivery.

- The nurse educator should emphasize health education on antenatal care as a part of learning experience for the students.
- The nurse educator should arrange for the inservice education programme (seminars, workshops) for student nurses regarding the relationship between prenatal factor and perinatal outcome.
- The nurse educator can provide an opportunity for students to actively participate in implementation of education programmes.

Implications for nursing practice

Nurses play an important role in preventive, promotive and curative aspects of health care systems.

1. Nurses should be equipped with updated knowledge on prevention of preterm delivery.
2. Obstetrics and Gynecological nurses need to take up the responsibility to create awareness among the mothers regarding prevention of preterm delivery and healthy child.
3. Nursing practice in the community should focus on prevention of preterm delivery and provide education on prevention of preterm delivery.
4. They should be given planned teaching. Nurses should motivate the mothers and should know about prevention of preterm delivery.

Implications for nursing administration

The nursing administration in the hospital should have facilities for education to postnatal and antenatal mothers such as flash cards, chart, VCD and separate place to educate the mothers in the ward.

They should provide guide lines and modules regarding prevention of preterm delivery.

In-service education must be provided to all the nurses to update their knowledge in promoting full-term delivery (or) prevention of preterm delivery Modules on prevention of preterm delivery can be distributed to mothers in the postnatal wards.

Implications for nursing research

The study can be replicated on large samples.

A similar study can be conducted by a researcher using experimental design.

Evidence based nursing practice must take higher profile in order to increase awareness among the mothers

RECOMMENDATIONS

Based on the findings of the present study the following recommendations are made.

Family members should be educated to take care of the antenatal mothers like giving adequate diet, providing stress free environment, regular antenatal check-up, adequate rest and sleep

Family members should know about the risk factors for preterm delivery and prevention of the same.

Give health education regarding regular antenatal check-up.

A longitudinal study can be conducted in this study.

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