



GLOBAL JOURNAL OF MEDICAL RESEARCH: E
GYNECOLOGY AND OBSTETRICS
Volume 16 Issue 3 Version 1.0 Year 2016
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals Inc. (USA)
Online ISSN: 2249-4618 & Print ISSN: 0975-5888

Study of Socio-Demographic Factors in Pre Labour Rupture of Membranes in Rural Area

By Dr. Arpita Jaiswal & Dr. C. Hariharan

JNMC

Abstract- Prelabor rupture of the fetal membranes (PLROM) is common obstetric problem and one of the most common clinical event where a pregnancy can turn into a high risk situation for mother as well as fetus. Present study was undertaken in a rural tertiary care institute located in central India with the aim to study the distribution and correlation of socio-demographic factors in PLROM. The overall incidence of PLROM is 6.02% of all deliveries during the study period. Majority belonged to age group of 21-25 years (57.62%). Occurrences of PROM was more among booked cases (61.90%). The incidence of PLROM was more in primigravida.

GJMR-E Classification: NLMC Code: WQ 210



Strictly as per the compliance and regulations of:



© 2016. Dr. Arpita Jaiswal & Dr. C. Hariharan. This is a research/review paper, distributed under the terms of the Creative Commons Attribution-Noncommercial 3.0 Unported License (<http://creativecommons.org/licenses/by-nc/3.0/>), permitting all non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

Study of Socio-Demographic Factors in Pre Labour Rupture of Membranes in Rural Area

Dr. Arpita Jaiswal^α & Dr. C. Hariharan^σ

Abstract- Prelabor rupture of the fetal membranes (PLROM) is common obstetric problem and one of the most common clinical event where a pregnancy can turn into a high risk situation for mother as well as fetus. Present study was undertaken in a rural tertiary care institute located in central India with the aim to study the distribution and correlation of socio-demographic factors in PLROM. The overall incidence of PLROM is 6.02% of all deliveries during the study period. Majority belonged to age group of 21-25 years (57.62%). Occurrences of PROM was more among booked cases (61.90%). The incidence of PLROM was more in primigravida.

I. INTRODUCTION

Prelabor rupture of the fetal membranes (PLROM) is defined as the rupture of membranes before the onset of labor. It is common obstetric problem and one of the most common clinical event where a traditional pregnancy can turn into a high risk situation for mother as well as fetus. When PLROM occurs, the fetus loses relative isolation and protection offered within the amniotic cavity.

Epidemiological studies have identified several risk factors associated with PLROM. The mechanism of PLROM is unknown, no standards for diagnosis exist and most facets of management are controversial. Probable maternal complications are chorioamnionitis (3-30%), endometritis and placental abruption. Recurrence of PLROM may occur in 20% cause. PLROM is a major cause for prematurity which leads to increase perinatal morbidity and mortality. PLROM cause 20% of all neonatal deaths.

a) AIM

Present study was undertaken with the aim to study the distribution and correlation of socio-demographic factors in PLROM.

II. MATERIAL AND METHODS

This prospective study was conducted in Department of obstetrics & Gynecology, in a rural tertiary care institute located in central India. Pregnant women who reported with premature rupture of membranes at or after 34 completed weeks to 41 weeks of gestations, after obtaining ethical clearance from the local ethical committee were included in the study. Their case history, including previous and present obstetric history was taken in details, various demographic factors and different pre-existing conditions were studied in relation to PLROM. General examination and obstetric examination was done at the time of admission. A sterile Speculum examination was done and condition of vagina and cervix noted. Liquor draining from the os was observed for the colour and odour. The specimen was collected and subjected to nitrazine test.

III. OBSERVATIONS

*Age Distribution

Maximum (57.62%) women were in the age group of 21-25 years. Highest age was 39 years. Lowest age was 18 years. The mean age was 24.4 years with standard deviation of 3.4 years. (Figure- 1)

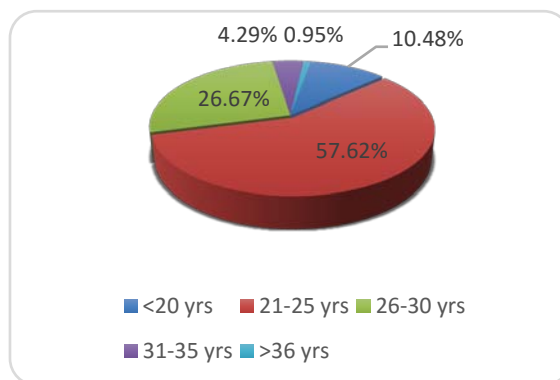


Figure- 1

Author^α: Associate Professor, Dept of OBGY, JNMC Sawangi (M), Wardha, M1-01, Meghdoot appt. Near Alphonsa School.
e-mail: drarpitajaiswal@gmail.com

Author^σ: Associate Professor, Dept of OBGY, JNMC Sawangi (M), Wardha.

***Education Status**

57.14% women had studied up to 12th class and only 17 (8.1%) were graduates. 21.9 % (23 out of

105) women had education upto class 5 and 12.86% (13 out of 105) were illiterate. (Figure 2)

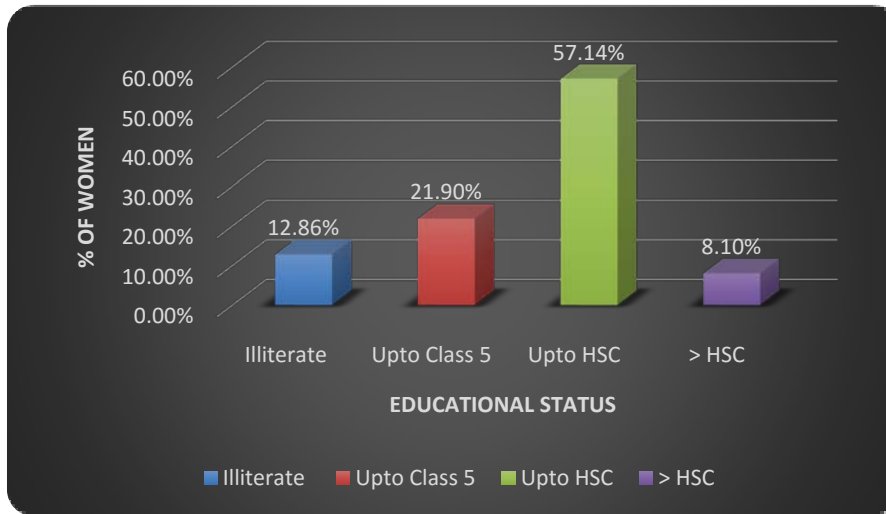


Figure- 2

Table 1: Correlation of antenatal status with PLROM

Antenatal Status		Gestational age (weeks)		Total
		37-41	34-37	
Antenatal Status	Booked	53(50.47%)	12(11.42%)	65(61.90%)
	Registered	26(24.76%)	5(4.76%)	31(29.52%)
	Emergency	7(6.66%)	2(1.90%)	9(8.57%)
Total		86(81.90%)	19(18.09%)	105(100%)
% ² -value		1.31		
p-value		0.51, NS, p>0.05		

65(61.9%) in the study group were booked, (p>0.05) between antenatal status and gestational age 31(29.5%) were registered only and 9(8.57%) came in at PLROM. (Table 1) emergency. Overall there was no significant difference

Table 2: Correlation of age and parity with PLROM

Age(yrs)	Parity	Gestational age (weeks)		Total
		37-41	34-37	
<20 yrs	Primi	7	4	11(10.47%)
	Multi	1	0	1(0.95%)
21-25 yrs	Primi	40	7	95(45.24%)
	Multi	11	2	26(12.38%)
26-30 yrs	Primi	13	5	35(16.67%)
	Multi	7	2	21(10%)
31-35 yrs	Primi	2	0	3(1.43%)
	Multi	2	0	6(2.86%)
>36 yrs	Primi	0	0	0(0%)
	Multi	1	1	2(0.95%)
Total	Primi	62	16	78(74.28%)
	Multi	22	5	27(25.71%)

• x² -value=5.89, p-value=0.65, NS, p>0.05

Out of 105 women, 78 (74.28%) were primigravida and 27(25.71%) multigravida. Among 78 primigravida, 62 women reported with term PLROM at 37-41 weeks of gestation and 16 reported at 34-37 weeks of gestation with PPLROM. In women with

PPLROM there were 16 primigravida and 5 multigravida, thus more primigravida had PPLROM. In women with term PLROM, there were 62 primigravida and 22 multigravida. Overall, there were more primigravida women with rupture of membranes. (Table-2)

Table 3: Correlation of age and residence with PLROM

Age(yrs)	Residence	Gestational age(weeks)		Total
		37-41	34-37	
<20 yrs	Rural	4	2	13(6.19%)
	Urban	4	0	9(4.29%)
21-25 yrs	Rural	34	6	79(37.62%)
	Urban	17	4	42(20%)
26-30 yrs	Rural	10	5	31(14.76%)
	Urban	11	2	25(11.90%)
31-35 yrs	Rural	2	0	4(1.90%)
	Urban	2	0	5(2.38%)
>36 yrs	Rural	0	1	1(0.48%)
	Urban	1	0	1(0.48%)
Total	Rural	50	14	64(60.95%)
	Urban	34	7	41(39.05%)

• χ^2 -value=3.57, p -value=0.47, NS, $p > 0.05$

Out of 105 women with premature rupture of membranes, 64 (60.95%) were from the rural, and 41 (39.05%) were from urban residence. Of the 64 rural women, 50(78.12%) had term PLROM at 37-41 weeks of gestation and 14(21.87%) had PPLROM at 34 to less than 37 weeks of gestation. Of the 41(39%) urban women, 34(82.92%) had term PLROM and 7(17.07%) had PPLROM. (Table-3)

IV. DISCUSSION

Pre-labor rupture of membrane (PLROM) is the spontaneous rupture of membrane before the onset of labor. It is a relatively common obstetric event, occurring in approximately 5-10% of all pregnancies¹; of these 80% occur in term pregnancy². Simhan (2005)³; ACOG (2007)⁴ have suggested that PPLROM complicates 2 to 4% of all singleton and 7 to 20% of twin pregnancies. Getahun (2007)⁵ reported 5% incidence of PLROM. Caughey (2008)⁶, has reported that PPLROM complicates 2 to 20% of all deliveries and is associated with 18 to 20% of perinatal deaths.

Pasquier 2005⁷ in his prospective study has reported the incidence of PPLROM to be 14.3% of all preterm deliveries and Obi 2007⁸ reported that PPLROM accounts for 29.7% of all preterm births. In a recent study, Caughey 2008⁶ has reported that PPLROM

complicates 2 to 20% of all deliveries and is associated with 18 to 20% of perinatal deaths. In our hospital, we have a protocol of doing per speculum examination at every antenatal visit, so that we diagnose the genital infections early and treat them accordingly, hence we have comparatively less incidence of PLROM in the present study.

In the present study 10.4 % were of less than 20 years of age and the majority (58%) of cases belonged to the age group of 21-25 years. In the study done by Anjana Devi (1996), 6.9% of cases belonged to age group of 20-29 years⁹. Gandhi M et al 2012 reported highest incidence of PLROM in age group of 21-25 years¹⁰.

Ferguson 2002¹¹ and Melamed 2009¹² have reported the mean age of 30 years. Piazzè 2007 from Italy reported the mean age of women with PPLROM as 33 years. This may be due to the fact that women in these countries marry at a later age compared to developing countries. Tavassoli 2010¹³ from Iran has also reported the mean age 25.8 years, close to that of present study. Lim 2010 from Nova Scotia has reported the mean age of 28.4 years¹⁴

In the present study 60.9% were rural similar to over all cases which is very similar to the study done by Gandhi M et al (2012)¹⁰ where 237 (61.7%) patients

came from rural area and 147 (38.3%) were from urban area.

The occurrence of PLROM is more in booked cases in present study compared to unbooked cases. In the study by Anjana Devi 52% were booked in the PLROM group compared to 63% in control group⁹.

In our study total primigravida were 73.3% and multigravida were 26.6% which is similar to the study by Chaudhuri 2005¹⁵, where there were 75% primigravida and 25% multigravida.

V. CONCLUSIONS

PLROM is an enigmatic condition associated with high risk of maternal and perinatal morbidity and mortality. The overall incidence of PLROM is 6.02% of all deliveries during the study period. Majority belonged to age group of 21-25 years (57.62%). Occurrences of PROM was more among booked cases (61.90%). The incidence of PLROM was more in primigravidas (73.33%) compared to multigravidas (26.67%). Majority of women 60.5% were rural.

Conflict of Interest - Nil

Acknowledgement - Nil

BIBLIOGRAPHY

- Hannah ME, Hodnett ED, Willan A, Foster GA, Di Cecco R, Helewa M, et al. Pre labour rupture of membranes at term: expectant management at home or in hospital? *Obstetric & Gynecology*. 2000; 96(4): 533-8.
- Gunn GC, Mishell D, Morton D. Premature rupture of the fetal membranes. *Am J Obstet Gynecol*. 1970; 106 (3): 469-83.
- Simhan HN, Canavan TP. Preterm premature rupture of membranes: diagnosis, evaluation and management strategies. *BJOG: An International Journal of Obstetrics & Gynecology*. 2005; 112(s1): 32-7.
- ACGO. Practice Bulletin No. 80: premature rupture of membranes. Clinical management guideline for obstetrician-gynaecologists 2007 Apr 109(4), 1009-19.
- Getahun D, Ananth CV, Oyelese Y, Peltire MR, Smulian JC, Vintzileos AM. Acute and Chronic respiratory diseases in pregnancy: associations with spontaneous premature rupture of membranes. *Journal of Maternal-fetal and Neonatal Medicine*. 2007; 20(9): 669-75.
- Caughey AB, Robinson JN, Norwitz ER. Contemporary diagnosis and management of preterm premature rupture of membranes. *Reviews in obstetrics and gynecology*. 2008; 1(1): 11.
- Pasquire J-C, Rabilloud M, Picaud J-C, Ecochard R, Claris O, Gaucherand P, et al. A prospective population-based study of 598 cases of PPRM between 24 and 34 weeks Gestation: description, management, and mortality (DOMINOS cohort). *European journal of Obstetrics & Gynecology and Reproductive Biology*. 2005; 121(2): 164-70.
- Obi S, Ozumba B. pre-term premature rupture of fetal membranes: the dilemma of management in a developing nation. *Journal of obstetrics & Gynecology*. 2007; 27(1): 37-40.
- Devi A, Devi R. Premature rupture of membranes—a clinical study. *J Obstet Gynecol India*. 1996; 46: 63-66.
- Gandhi M, Shah F, Panchal C. Obstetric Outcomes in premature rupture of the membranes (Prom). *The internet Journal of Gynecology and Obstetrics*. 2012 16(2).
- Ferguson SE, Smith GN, Salenieks ME, Windrim R, Walker MC. Preterm premature rupture of membranes: nutritional and socioeconomic factors. *Obstetrics & Gynecology*. 2002; 100(6): 1250-6.
- Melamed N, Hadar E, Ben-Haroush A, Kaplan B, Yogev Y. Factors affecting the duration of the latency period in preterm premature rupture of membranes. *Journal of Maternal-Fetal and Neonatal Medicine*. 2009; 22(11): 1051-6.
- Tavassoli F, Ghasemi M, Mohamadzade A, Sharifian J. Survey of pregnancy outcome in preterm premature rupture of membranes with amniotic fluid index <5 and >5. *Oman medical journal*. 2010; 25(2): 118.
- Lim JJ, Allen VM, Scott HM, Allen AC. Late preterm delivery in women with preterm pre labour rupture of membranes. *J obstet Gynecol Can*. 2010; 32(6): 555-60.
- Chowdhury SR. Incidence and outcome of preterm premature rupture of membranes and preterm labor at holy family red Crescent Medical College Hospital. *Bangladesh Journal of Obstetrics and Gynecology*. 2005; 20(1): 19-24.