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RESEARCH ARTICLE

ASSESSMENT OF FACTORS INCREASING THE RISK OF PRELABOUR RUPTURE OF MEMBRANES AND ITS EFFECT ON FETOMATERNAL OUTCOME

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Abstract

Background: Premature rupture of membranes (PROM) refers to a patient who is beyond 37 weeks' gestation and has presented with rupture of membranes (ROM) prior to the onset of labor. Patient with PROM presents with leakage of fluid, vaginal discharge and pelvic pressure, but they are not having contraction. It occurs in 3 percent of pregnancies and is the cause of approximately one third of preterm deliveries. It can lead to significant perinatal morbidity, including respiratory distress syndrome, neonatal sepsis, umbilical cord prolapse, placental abruption, and fetal death. Appropriate evaluation and management are important for improving neonatal outcomes. The risk of intrauterine infection increases with the duration of ROM. Evidence supports the idea that induction of labor, as opposed to expectant management, decreases the risk of chorioamnionitis without increasing the cesarean delivery rate.

Methods: - This present observational study was conducted at Obstetrics & Gynecology, Department at Sri Aurobindo Medical College and Post Graduate Institute, Indore and who satisfy the inclusion criteria will be studied from 1st April 2021 to 30th September 2022 (18 months). After were Institutional ethical committee. among the patients diagnosed as premature rupture of membrane with women complain of leaking attending antenatal OPD and antenatal ward. On admission detailed history was taken. General and Systemic examination were done including Per Abdomen, Per Speculum and per vaginum carried out and investigations were done as per protocol. Diagnosis of PROM was confirmed by any of this method. Continuous monitoring of maternal and fetal condition done, antibiotics was given intra/ post natal period. P/ V exam were done when necessary. Investigations done and maternal and fetal outcome were noted.

Results: The prevalence of premature rupture of membranes (PROM) was found to be 4.1%, with a corresponding perinatal mortality rate of 0.18 per 1000 deliveries. Approximately 33% of the cases involved pre-term premature rupture of membranes (PROM), while the remaining 67% were term PROM. Among the cases with preterm PROM, 10% of the perinatal deaths occurred. The average age of the female participants was 36.9 years, with a standard deviation of 2.1 years. The median number of children per participant was 1, with a

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range of 1 to 5 children. A notable correlation was observed between the gestational age at which premature rupture of membranes (PROM) occurred in women and the latency period ($p< 0.001$). There was a significant association between the gestational age at which premature rupture of membranes (PROM) occurred and foetal birth weight, APGAR score, and Neonatal Intensive Care Unit (NICU) admission ($p<0.05$). A statistically significant distinction was observed between the implemented intervention and the method of delivery ($p=0.009$).

Conclusion: The incidence of PROM at term was high and conservative/ expectant management was effective. The latency period and fetal outcomes such as birth weight, apgar score and NICU admission were determined by the gestational age at which PROM occurred.

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Introduction:-

Premature rupture of the membranes (PROM) is commonly defined as the rupture of the amniotic sac occurring prior to the initiation of uterine contractions. Preterm premature rupture of membranes (PPROM) is the term used to describe the rupture of membranes before 37 weeks of gestation. On the other hand, term premature rupture of membranes refers to the rupture of membranes occurring after 37 weeks of gestation. The latent period refers to the interval between the rupture of the membranes and the initiation of active labour [1].The foetal membrane is comprised of two distinct layers: the inner amnion and the outer chorion. The amnion, in its terminological context, can be characterised as a resilient structure.The membrane is both firm and pliable. The avascular foetal membrane, which is located deep within, is in direct contact with the amniotic fluid and plays a crucial role in the progression of human pregnancy. The amnion contributes a significant portion of the tensile strength exhibited by the foetal membranes. Therefore, it is crucial to prioritise the development of components that safeguard against the rupture or tearing of the placenta for a successful outcome in pregnancy [2].Globally, there exists a marginal variation in the incidence of premature rupture of membranes, which may be attributed to disparities in the populations under investigation. The prevalence of premature rupture of membranes (PROM) varies between 5% and 10% among all deliveries, while preterm premature rupture of membranes (PPROM) is estimated to occur in approximately 3% of cases.Globally, there exists a marginal variation in the incidence of premature rupture of membranes, which may be attributed to disparities in the populations under investigation. The prevalence of premature rupture of membranes (PROM) varies between 5% and 10% among all deliveries, while preterm premature rupture of membranes (PPROM) is observed in approximately 3% of all pregnancies. Around 70% of instances of premature rupture of membranes (PROM) manifest in pregnancies that have reached full term. However, in specialised medical facilities, over 50% of cases may arise in pregnancies that are preterm. According to a study, prom is responsible for approximately 33% of all preterm births [1]. Preterm rupture of membranes (PROM) is a substantial contributor to adverse outcomes in the perinatal period, leading to increased rates of morbidity and mortality. The impact of preterm premature rupture of membranes (PROM) encompasses various consequences, including maternal and neonatal mortality and morbidity, as well as economic implications such as increased drug expenses, hospitalisation costs, loss of productivity in the workplace, and financial burden on healthcare professionals [3].An examination of the expenses incurred by PROM (an organisation) in Mexico revealed that the total cost for maternity care amounted to $244,565, while the cost for the stay of a baby was $496,397.8. Alongside various other expenses, the cumulative expenditure amounted to $1,029,698.8. A sum of $16,500 was accrued in a hospital located in the United States [4, 5]. The occurrence of premature rupture of membranes gives rise to various risks for both the mother and the infant, as well as potential complications for the neonate. In relation to maternal risks, infection of the amniotic cavity stands out as the prevailing complication subsequent to premature rupture of membranes (PROM). The incidence rates of endometritis and abruptio placenta are estimated to range from 2% to 29% and 15% to 25% respectively. Unusual yet significant complications of premature rupture of membranes (PROM) that are managed through conservative approaches encompass the retention of placenta and haemorrhage necessitating dilation and curettage, occurring in 12% of cases. Additionally, there is a risk of maternal sepsis, observed in 0.8% of cases, as well as a 0.14% incidence of maternal mortality [1, 3].Foetal complications that may arise subsequent to membrane rupture encompass infection, as well as foetal distress resulting from umbilical cord compression or placental abruption. Due to these aforementioned factors, it is observed that women diagnosed with premature rupture of membranes (PROM) exhibit an increased likelihood of undergoing caesarean delivery as a result of non-reassuring foetal heart

rate. Foetal demise transpires in approximately 1 to 2% of instances involving the conservative management of preterm premature rupture of membranes (PROM). Respiratory distress syndrome (RDS), occurring in approximately 10-40% of cases, represents the prevailing acute morbidity following preterm premature rupture of membranes (PROM). Necrotizing enterocolitis (NEC) and intraventricular haemorrhage (IVH) are prevalent conditions as well. Severe perinatal morbidity has the potential to result in enduring outcomes, including but not limited to chronic pulmonary disease, impaired vision or hearing, cognitive impairments, developmental and motor delays, cerebral palsy, or mortality. Pulmonary hypoplasia is a significant foetal complication that arises subsequent to premature rupture of membranes (PROM). (1,3,).A research investigation carried out at TikurAnbesa Hospital in Adis Ababa examined the feto-maternal outcome and determined that the prevalence of premature rupture of membranes (PROM) was 1.4%. A prevalence rate of 31.5% was observed for intraamniotic infection among the female participants. In relation to perinatal outcomes, it was found that 23.6% of the cases were delivered via caesarean section, while a total of 12 perinatal deaths were recorded [6].Despite significant accomplishments, neonatal and maternal mortality rates remain among the highest worldwide. Preterm premature rupture of membranes (PROM) is widely recognised as a significant contributor to both prematurity and infection, both of which are primary determinants of neonatal mortality. The occurrence of premature rupture of membranes (PROM) in Ethiopia has been associated with several notable health issues, including preterm labour, low birth weight, and neonatal infection [1, 7, 8]. These consequences are both prevalent and significant in nature.In Ethiopia, the development of training manuals and guidelines, such as the Basic Emergency Obstetric & Newborn Care, has been undertaken with the aim of enhancing the proficiency of healthcare practitioners in effectively addressing obstetric emergencies, including cases of premature rupture of membranes (PROM). Additional strategies were implemented to tackle the issue, such as the practise of referring women who experience pre-term prolonged rupture of membranes (lasting longer than 12 hours) to a higher-level healthcare facility for evaluation. Furthermore, the utilisation of prophylactic antibiotics and steroids after pre-labor rupture of membranes was also employed [9].The optimal approach to mitigating the complications associated with PROM lies in the anticipation and prevention of its occurrence. Several risk factors have been identified for preterm premature rupture of membranes (PROM). These include a history of previous preterm birth, cigarette smoking, the presence of polyhydramnios, urinary and sexually transmitted infections, a prior history of PROM, engaging in work during pregnancy, having a low Body Mass Index, experiencing bleeding, and having a low socioeconomic status [3].Previous research has been conducted in various countries and at different points in time to ascertain the risk factors associated with preterm premature rupture of membranes (PROM). Therefore, the present study was undertaken to address this research gap by identifying the various risk factors.

Methods:-

This present observational study was conducted at Obstetrics &Gynecology Department at Sri Aurobindo Medical College and Post Graduate Institute, Indore and who satisfy the inclusion criteria were studied from 1st April 2021 to 30th September 2022 (18 months).after approval from Institutional ethical committee. Each patient fulfilling the inclusion criteria were included in the study. Informed written consent was taken. In the present study, the determination of gestational age was based on either the first day of the last menstrual period or the dating scan conducted during the first trimester. Additionally, the term PROM was defined as the rupture of membranes that took place more than 8 hours before the initiation of labour at or after 37 weeks of gestation. On the other hand, the category of preterm PROM (PPROM) encompassed cases where the rupture of membranes occurred between 28 weeks and 36 weeks and 6 days of gestation. The latency period is characterised as the temporal duration between the rupture of membranes and the initiation of labour, which can occur either spontaneously or through induction.

Cases of PROM with established labour, those with gestational age less than 28 weeks, those with multiple gestations and fetal anomalies were excluded. Information on the socio-demographics and obstetrics characteristics and materno-fetal outcomes were obtained using a structured proforma. Data was analysed using the online free available software and statistical level of significance was set at <0.05.

Diagnosis of PROM was based on a history of drainage of liquor before the onset of labour, sterile speculum examination confirming the presence of pooled amniotic fluid in the posterior fornix or visualization of amniotic fluid leakage from the cervical os on valsalvamanoeuvre and transabdo- minal ultrasound demonstrating oligohydramnios. Each patient with PPROM were observed in the labour ward or antenatal ward for at least 72 hours. All patients were investigated for the possible cause(s) of PROM and those with PPROM received prophylactic antibiotic (erythromycin 500mg every 6 hours). Those at a gestational age less than 34 weeks also received steroid for the enhancement of fetal lung maturity.The administration of tocolysis (oral calcium channel

blocker-nifedipine) for a duration of 48 hours was given to women who had not completed steroid but were having uterine contractions. Investigations done depend on the history and clinical examination findings but included blood film for malaria parasite, full blood count, high vaginal swab microscopy, culture and sensitivity, C- reactive proteins. All patients at gestational age less than 36 weeks were managed conservatively with close fetomaternal surveillance for signs and symptoms of maternal chorioamnionitis or sepsis, and perineal pad as well as regular fetal heart rate and activity monitoring via intermittent cardiotocography (CTG), intermittent auscultation with pinnardstetoscope or sonicaid 4 hourly, fetal kick chart and transabdominalultrasono- graphy. Conservative management was aborted and labour induced if there was evidence of chorioamnionitis, fetal heart rate anomalies, non- reassuring CTG, severe oligohydramnios, placental abruption, cord prolapse, or onset of spontaneous labour. If undelivered by 37 weeks, the patient was offered induction of labour or caesarean delivery based on detailed feto-maternal assessment for the best route of delivery by the most senior obstetrician on the team.

This diagnosis was based on a patient's history of amniotic fluid leakage prior to the onset of labour, a sterile speculum examination that confirmed the presence of pooled amniotic fluid in the posterior fornix, or the visualisation of amniotic fluid leakage from the cervical os during a valsalvamanoeuvre.

Results:-

Out of the total number of deliveries observed during the designated study period, a subset of 132 cases were identified as confirmed instances of premature rupture of membranes (PROM). Among these cases, a total of 122 met the predetermined inclusion criteria and were subsequently subjected to analysis. The prevalence of premature rupture of membranes (PROM) was found to be 4.1%, with approximately one-third (33%) of cases occurring before the expected gestational age.The average age of the female participants was 36.9 years, with a standard deviation of 2.1 years. The median number of children they had was 1, ranging from 1 to 5. The average gestational age at which premature rupture of membranes (PROM) occurred was 38.1±1.9 weeks, with the highest occurrence observed among individuals aged 35-39 years. Approximately 49.2% of the female population possessed a tertiary level of education. Within this group, a significant majority of 45.9% were employed in skilled occupations, while 31.1% were without employment. Table 1 presents the distribution of participants, indicating that a greater percentage, specifically 45.9%, were multipara, while a smaller proportion, specifically 19.7%, werenullipara.

Table 1:- Displays the socio-demographic characteristics of the participants.

	n=122	**(%)**
Age in years		
<30	14	**11.5**
30 – 34	36	**29.5**
35 – 39	48	**39.3**
≥40	24	**19.7**
Mean age ± SD	36.9 ± 2.1	
Level of education		
Primary	14	**11.5**
Secondary	48	**39.3**
Tertiary	60	**49.2**
Occupation		
Skilled	56	**45.9**
Unskilled	28	**23.0**
Unemployed	38	**31.1**
Parity		
Nullipara	24	**19.7**
Primipara	42	**34.4**
Multi para	52	**45.9**
Median (Range)	1(1-5)	
Gestational age at PROM (weeks)		
<37	40	**33.0**
≥37	82	**67.0**
Mean ± SD	**38.1±1.9**	

Out of the total sample size, 72 women, accounting for 59% of the participants, experienced the onset of labour, also known as the latency period, within 24 hours after the rupture of membranes. The average duration of this latency period was found to be 22.7 ± 6.4 hours. A majority, specifically 54.1%, of the female individuals were granted admission to the antenatal ward and received conservative management. A total of 54 women, comprising 45.9% of the sample, underwent labour induction, while a majority of the women, specifically 70.5%, experienced spontaneous vaginal delivery, as indicated in Table 2.

Table 2:- Latency period, intervention and mode of delivery.

Variable		Frequency n=122	Percentage (%)
Latency period (in hours)	<24	**72**	**59.0**
	≥24	**50**	**41.0**
Mean	**22.7 ± 6.4**		
Intervention given	Conservativemanagement	66	54.1
	Inductionof labour	54	45.9
Mode of delivery	(SVD)	**86**	70.5
	Caesarean section	**36**	29.5

A significant majority, specifically 68.8%, of the infants had a weight exceeding 2.5kg. Additionally, nearly 75% of the infants achieved an APGAR score greater than 7 at the 1st minute, while up to 83% of them attained an APGAR score greater than 7 at the 5th minute. The study observed that 4.9% of the neonates experienced neonatal death, with a perinatal mortality rate of 0.18 per 1000 deliveries. Additionally, approximately 29.5% of the neonates were admitted to the neonatal intensive care unit (NICU) due to prematurity (77.8%), low birth weight (66.7%), and presumed neonatal sepsis (50.0%). According to Table 3.A smaller percentage (21.9%) of women diagnosed with term premature rupture of membranes (PROM) experienced a latency period exceeding 24 hours, in contrast to 80.0% of women diagnosed with preterm PROM who also had a latency period exceeding 24 hours. A significant correlation was observed between the gestational age at which premature rupture of membranes (PROM) occurred and the latency period ($p< 0.001$). However, no significant associations were found between maternal age or parity and the occurrence of PROM. A total of fourteen infants, accounting for 70% of the preterm deliveries, exhibited a birth weight below 2.5kg. Conversely, among the term deliveries, 36 infants, representing 87.8% of the sample, had a birth weight equal to or exceeding 2.5kg. The findings indicate that the gestational age at which the infants were delivered exerted a substantial impact on their birth weight ($p=<0.001$). The gestational age at which premature rupture of membranes (PROM) occurred was found to have a significant impact on the Apgar score at 1st and 5th minutes, as well as the requirement for admission to the neonatal intensive care unit (NICU) (p value < 0.00), as shown in Table 4.The study found that a significant proportion of women (85.3%) opted for conservative management, while a smaller percentage (52.2%) chose to undergo a different approach.

Table 3:- Fetal Outcome.

Birth weight (in kg)		
<2.5	38	**31.2**
≥2.5	84	**68.8**
Mean ± SD	22.7 ± 6.4	
APGAR Score (at 1min)		
<7	32	**26.2**
≥7	90	**73.8**
APGAR Score (at 5min)		
<7	20	**16.4**
≥7	102	**83.6**
Need for NICU admission		
Yes	36	**29.5**
No	86	**70.5**
Indication for NICU admission* (n = 18)		
Prematurity	28	**77.8**

Low birth weight (<2.5kg)	24	**66.7**
Presumed neonatal sepsis	18	**50.0**
Birth asphyxia	14	**38.9**
Perinatal survival		
Alive	116	**95.1**
Dead	**6**	**4.9**

Table 4:- Table PROM maternal characteristics and foetal outcomes by gestational age.

Variable	**<37 n (%)**	**≥37 n (%)**		
	(n= 40)	**(n= 82)**		
Age in years				
<30	12(15.0)	8(9.8)	2.423	**0.489**
30 – 34	16(40.0)	20(24.3)		
35 – 39	12(30.0)	36(43.9)		
≥40	6(15.0)	18(22.0)		
Parity				
Nulliparous	10 (41.7)	14(58.3)	0.604	**0.739**
Primiparous	12(28.6)	30(71.4)		
Multiparous	18(32.1)	38(67.9)		
Latency period (in hours)				
<24	8(20.0)	64(78.1)	18.728	**<0.001***
≥24	32(80.0)	18(21.9)		
Birth weight (in Kg)				
<2.5	28(70.0)	10(12.2)	X2= 20.945	**<0.001***
≥2.5	12(30.0)	72(87.8)		
APGAR Score (at 1min)				
<7	26(65.0)	6(7.3)	Fisher Exact	**<0.001***
≥7	14(35.0)	76(92.7)	test	
APGAR Score (at 5min)				
<7	18(45.0)	2(2.4)	Fisher Exact	**<0.001***
≥7	22(55.0)	80(97.6)	test	
Need for NICU admission				
Yes	28(70.0)	8(9.8)	Fisher Exact	**<0.001***
No	12(30.0)	74(90.2)	test	
Perinatal survival				
Alive	36(90.0)	80(97.6)	Fisher Exact	**0.861**
Dead	4(10.0)	2(2.4)	Test	

***Significant X2 = Pearson Chi square test**

Table 5:- Relationship between Intervention and Mode of delivery.

	Mode of delivery		**Chi-square**	P-value
Variable	**SVD n(%)**	**C/S n(%)**		
Intervention Conservativemanagement	58(85.3)	10(14.7)	9.222	**0.009***
Inductionoflabour	**28(52.2)**	**26(47.8)**		

The process of labour induction resulted in a successful spontaneous vaginal delivery. A statistically significant distinction was observed between the administered intervention and the method of distribution (p = 0.009), as indicated in Table 5.

Discussion:-

The objective of this study was to asses the factors and outcomes for both the foetus and mother in cases of term and preterm PROM. The prevalence of premature rupture of membranes (PROM) was found to be 4.1%, which aligns

with the results of a study conducted in Egypt[10]. However, it is worth noting that this figure is higher than the rates reported in certain prior studies conducted in Nigeria and other countries.[11-15]. The aforementioned occurrence, however, exhibited a lower prevalence compared to the documented prevalence rates of 7.4%, 10.3%, 12.5%, and 17.6% previously reported in Borno and Osun states in Nigeria, East China, and Ethiopia, respectively.[16-19] The observed variation may be attributed to the disparity in gestational age of viability across different countries. Furthermore, the low incidence reported by Eleje et al., Emechebe et al., and Adeniji et al. could potentially be attributed to variations in delivery rates across different centres.[11,12,14] Nevertheless, the prevalence of premature rupture of membranes (PROM) exhibits a range of 2-18% across all pregnancies, a statistic that is consistent with the findings of numerous studies, including our own research.[20,21]The observation that socio-demographic factors do not exhibit a statistically significant correlation with the incidence of PROM is consistent with the findings reported by Assefa et al. in their study conducted in Ethiopia.[21] Nevertheless, a greater percentage of the female participants were in the later stages of their reproductive years (over the age of 35), possessed tertiary education, and were engaged in skilled occupations.The majority of women included in this study experienced premature rupture of membranes (PROM) at term, which aligns with findings reported in other studies.[12,10,14,22,23,24] Nevertheless, Mohan et al. (year) found that the incidence of preterm premature rupture of membranes (PROM) was higher among women in the late preterm gestational period, specifically between 34 and 36 weeks.[15]Furthermore, it is noteworthy that the highest occurrence of this phenomenon was observed within the reproductive age range of 35-39 years, which contrasts with the findings of previous studies that reported a lower incidence within younger reproductive age groups.[11,17] Moreover, it was observed that PROM predominantly affected women who had given birth multiple times, which aligns with the findings of previous studies. However, it should be noted that maternal age and parity did not demonstrate statistical significance in relation to the incidence of PROM.[11,12,25,17,14] This phenomenon could potentially be connected to prior instances of childbirth, characterised by different levels of recurring trauma to the cervix. Such trauma has the potential to disrupt the cervix's capacity to sustain a pregnancy until full term, thereby increasing the susceptibility of women who have given birth multiple times to preterm premature rupture of membranes (PROM).Regarding the management outcome, a notable disparity in the rates of caesarean section and operative vaginal delivery was observed, which was found to be statistically significant based on the type of management administered. The majority of women who were managed conservatively experienced spontaneous vaginal delivery (SVD), aligning with the findings reported by Akintayo et al.[18] There is also evidence to support the notion that the induction of labour, as opposed to a strategy of waiting for spontaneous labour, does not result in an elevated rate of caesarean deliveries.[26,27]There was a significant correlation between the gestational age at the onset of premature rupture of membranes (PROM) and the duration of the latency period. A greater percentage of individuals experienced a latency period of less than 24 hours after the rupture of membranes, particularly among women with a gestational age exceeding 37 weeks. The aforementioned observation did not align with the results reported by Ibishi et al., who found no correlation between latency period and gestational age, even among women in the term pregnancy group with a latency period of less than 24 hours.[22] The anticipated nature of this observation can be attributed to the fact that PROM predominantly occurred at term in the present study, which could potentially explain the comparatively limited occurrence of adverse outcomes. Emechebe et al. conducted a study in Calabar, Nigeria, where they reported a longer latency period that may be linked to a heightened prevalence of infection.[12]Our study did not observe any instances of maternal mortality, which aligns with the findings reported in the studies conducted by Mohan et al. and Akintayo et al. Nevertheless, this report presented contrasting findings compared to recent studies conducted in low-resource settings that documented cases of maternal mortality.[15,28] The anticipated nature of this observation can be attributed to the fact that PROM predominantly occurred at term in the present study, potentially explaining the comparatively lower incidence of adverse outcomes reported.During the designated period of examination, a total of three foetal deaths occurred, leading to a perinatal mortality rate of 0.18 per 1000 deliveries. The reported rates of occurrence were below 0.26 per 1000 deliveries in Anambra, Nigeria, and 0.33 per 1000 deliveries in India.[11,15] The disparity could potentially be attributed to the comparatively lower number of deliveries documented in the index study. The perinatal deaths observed in the preterm PROM group were attributed to complications associated with prematurity, whereas the perinatal death in the term PROM group was attributed to neonatal sepsis. The rates of live births were observed to be 90% and 97.6% in the groups of preterm and term pregnancies with premature rupture of membranes (PROM), respectively.The occurrence of premature rupture of membranes (PROM) was found to have a significant association with various foetal outcomes, including apgar scores at both 1 and 5 minutes, higher birth weight infants, and admission to the neonatal intensive care unit (NICU). There is a notable correlation between the Apgar scores and the gestational age at which premature rupture of membranes (PROM) takes place. Furthermore, it is worth noting that a significant majority, specifically over 90%, of the infants born at full term exhibited APGAR scores exceeding 7 at both the 1-minute and 5-minute intervals. Nevertheless, the results obtained

from the study conducted at Ile-Ife present a contrasting perspective, indicating a lack of substantial correlation between apgar scores and the gestational age at which premature rupture of membranes (PROM) took place. [18]Moreover, the correlation between foetal birth weight and the incidence of premature rupture of membranes (PROM) in our study was anticipated due to the fact that PROM predominantly occurred at full term. Therefore, providing evidence for the higher prevalence of infants born at full term with a weight exceeding 2.5 kilogrammes. This finding is consistent with the findings reported by Eleje et al. in Nnewi and Idrisa et al. in Maiduguri.[11,17] This observation may also provide an explanation for the fact that fewer than thirty percent of the infants required admission to the Neonatal Intensive Care Unit (NICU).In this study, a correlation was observed between the gestational age at premature rupture of membranes (PROM) and the likelihood of neonatal intensive care unit (NICU) admission. Specifically, 90% of preterm neonates necessitated NICU admission, whereas only 9.8% of term infants required such admission. The aforementioned statement highlights the significance of incorporating gestational age as a crucial factor in the management process, and emphasises the need to account for it when evaluating the outcomes of neonatal intensive care units (NICUs) at different hospitals.[15]Notwithstanding the inherent limitations associated with a retrospective study design and the relatively small sample size, this study offers an impartial evaluation of the differences between preterm premature rupture of membranes (PROM) and term PROM in women and their infants. This study did not investigate variables such as previous history of premature rupture of membranes (PROM), previous abortion, and length of hospital stay, which are important factors influencing the outcome for both the mother and the foetus.

Conclusion:-

The premature rupture of membranes continues to be a significant obstetric concern that is associated with maternal health.Perinatal morbidity, particularly when it arises prior to term, is a significant concern. The foetal outcome was determined by several factors, including the latency period, birth weight, apgar score, and NICU admission. Nevertheless, the management modalities are contingent upon various maternal and foetal factors. The implementation of conservative treatment strategies has been shown to lead to an increase in gestational age at the time of delivery, thereby enhancing the likelihood of a vaginal birth. It is recommended that further research be conducted to compare the management of premature rupture of membranes (PROM) and its incidence across a broader spectrum of care settings.

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