Premature rupture of membranes (PROM) is defined as rupture of the amniotic sac surrounding the fetus before the onset of labor. While preterm rupture of membranes (PPROM) is commonly used to refer to the rupture of the membranes when it occurs before term. The period between preterm rupture of membranes and the onset of labor is called the latency period. It is called prolonged rupture of membranes when the latency period is extended beyond 24 hours. **(Gibert & Harmon, 2003)**

The incidence of premature rupture of the membranes is 2.7% to 17%, depending on the length of the latent period used in making diagnosis. **(Mercer, 2002)** Studies have found that PROM occurs in 6% to 19% of term pregnancies **Keirse et al., (1996)**. If labor is not induced, 69% of women with PROM at term will deliver within 24 hours, and 86% will deliver until after 72 hours of rupture. **(Parsons & Spellaty 2000)**

**Merenstein and Weisman, (1996)** stated that PROM before the onset of labor was 2% to 18% of pregnancies. The time from PROM to delivery is usually less than 48 hours in term pregnancies. Many risk factors have been identified for PROM. However, the

, the final unifying mechanisms for all cases must be the weakness in the chorioamnion membranes (relative or absolute, localized or generalized that allows rupture. **(Allen, 1991). Novack-antolic et al., (1997)** mentioned that the uterine distention (hydramnios, twins), emergency cervical cerclage, prior ante partum antibiotic treatment, and preterm labor also may be associated with PROM

The most significant maternal risk of PROM is intrauterine infection, a risk that increases with the duration of membrane rupture **(Hannah et al., 1996)**. Fetal risks associated with PROM include umbilical cord compression and ascending infection.

The complications resulting from premature rupture of membranes include preterm labor and delivery, intrauterine infection and umbilical cord compression secondary to prolapse of the umbilical cord or oligohydramnios. **(Enkin et al., 2000)**

The optimal management of PROM is still controversial. Some obstetricians believe that expectant management in hospital rather than at home (or waiting for labor to begin spontaneously ) is preferable for mothers if there is no evidence of fetal or maternal compromise, since the risk of caesarean section may decrease. (Hannah et al., 2000) Nursing intervention to decrease the risk of infection after prom, the nurse should be providing good perineal hygiene. Cleaning and wiping from front to back helps prevent transfer of organism from anus to the vagina.

and provide good perineal hygiene . Cleaning and wiping from front to back helps prevent transfer of organism from anus to the vagina, and Avoid vaginal examinations until the patient is in active labor.

Determine duration of the rupture of membranes. There is a high incidences (10%)of intraamniotic infection associated with rupture of membranes . the risk for infection may be directly related to the time involved .The women with PROM may remain hospitalized until birth, the nurse observe the signs of infection, no vaginal examination , if any thing was inserted into the vagina may increase the risk of infection , takes the woman temperature least four times a day

(Reporting any temperature above 37.8 c) and notes uterine contraction (Morrison, 1994).

**AIMS OF THE STUDY**

Study aims are 1**)** Estimate incidence of premature rupture of members during period January 2004 to December 2004. (2)Find out the risk factors associatedwithPROM. (3)Assess the impact of PROM on maternal and neonatal condition

**SUBJECTS AND METHODS**

**Research design:**

Descriptive case- control design was selected for this study. Such design fits the nature of the study under investigation, in which the research tried to investigate the impact of premature rupture of membranes on maternal and neonatal outcome at zagazig university hospital. The comparison was done between the two groups, one was theintervention or study group and the other was the control group.

**Setting:**

The study was carried out at the delivery room in zagazig university hospital in zagazig city during the period from the first of May 2004 to the end of January 2005.

Zagazig university hospital provides free services to public clients, and provides care for women during pregnancy, labor, postpartum, and also for miscarriage, additionally it provides family planning services, as well as care for women with gynecological problems. The annuals flow rate of normal labor 7000-7500 cases in 2004.

**Sample:**

The total sample was 300 parturient women in labor selected purposively from the labor unit. The sample was divided in to two groups, the first group consisted of 150 parturient women enter in the first stage of labor with gestational age from 37weeks to 42 weeks and diagnosed by the attendance physician together with the researcher as having premature rupture of membranes. The second groups consisted of 150 parturient women enter also in the first stage of labor with the same gestational age of the first groups and diagnosed by the attendance physician together with researcher as having intact membranes.

**Data Collection Tools**

The researcher used four tools to collect the data, namely an interviewing questionnaire, an assessment sheet, apgar scoring at first and five minutes, and Ballard’s scale. The interviewing questionnaire and assessment sheets for the mothers were designed by investigator based on review of pertinent literature. The remaining two tools were from references.

**1-Tools I interview questionnaire**

Data collection was obtained by using the following

-Socio- demographic data: consists of questions about personal characteristics such as age, education, occupation and family income. Past and family history: questions about medical, genetic disorders that may affect the client such as diabetes mellitus, hypertension and cardiac diseases. Obstetric history: history of primi, gravid a, abortion and still birth. Menstrual history: consists of questions about last menstrual period (LMP), expected date of delivery (EDD), previous menstrual cycle (regular, irregular).

-Data about the present pregnancy: such as positive for present complaint and patient's life style which including drugs, activity, diet, smoking, infections, and previous leakage during pregnancy, and duration of membranes rupture, amount, color and odor of amniotic fluid.

**Tools II Assessment Sheet**:

-Assessment of the general condition of the mother on admission.

-Vitals signs (temperature, Pluse, Respiration and blood pressure).

-Obstetrical examination; fundal level (grips), Fetal presentation and auscultation of fetal heart sound. Assessment of progress of labor by using partograph and the mode of delivery, total duration of labor, complications during 2nd and 3rd stage, delivery of placenta, amount of blood loss during fourth stage of labor by using summary of labor sheet .

**Tool III neonatal assessment sheet:**

Apgar score permits a rapid assessment of the need for resuscitation based on five signs that indicate the physiologic state of the neonate heart rate, respiration, muscle tone, reflexes and color .each item is scored as 0,1,or2.Evaluation are made 1 and 5 minutes after birth. Scores of o to 3 indicate severe distress, scores of 4 to 6 indicate moderate difficulty, and scores of 7 to 10 indicate that the infant should have no difficulty adjusting to extrauterine life. Neonatal reflexes the reflexes tested included Moro reflex, suckling reflex, babinisky reflex, grasping reflex and coughing reflex. Each baby took about 10 minutes for assessment of the neonatal reflexes. Ballard’s scale (neuro logical assessment).

The Ballard scale was used to measure gestational ages of infants. it assesses six external physical and six neuro muscular signs. Each sign has a number score, and the cumulative score correlates with a maturity rating of 37 to 42 weeks of gestation. the score is accurate to plus or minus 2 week and is accurate for infants of all races **(stevens simon etal; 1989).**If new born score was 35, this indicates that he/she had 38 weeks, if the newborns score was 40, it corresponds to 40 weeks gestational, and so on.

**Pilot study**

A study was conducted on 30 women, 15 women have PROM and 15 women haven’t PROM (control). The results of the pilot study were used in determining the feasibility and practicability of the data collection tools. The pilot also estimate the time needed based on its results.

**Ethical consideration**

The aim of the study was explained to all participants in the study before interviewing to gain their confidence and the trust. Verbal consent was obtained from all participants. Privacy was considered during interviewing for all participants, interviewing questioner sheet it's were preened after obtaining the data for statistics , the topic of this study did not touch the ethical, moral traditional and cultural and religious issue of all participants.

**Limitation of the study**

10 women refused to be interviewed due to feeling with very tired and worry about herself and her baby during the first stage of labour, and then they were replaced with another 10 women.

**Administrative design**:

An approval from the chairman of obstetric and gynecological Department was obtained in order to conduct this study. A proposal of thesis was attached to the letter.

**Statistical analysis**:

All data are coded entered and analyzed using Epi info – Version 6 software package.

The test used ,Chi-squares X2 =

o = observed , E = expected

**E =**  **(Dean, etal., 1994)**