

INCIDENCE OF GROUP B STREP COLONIZATION
AMONG PALESTINIAN PREGNANT WOMEN
AT MAKASSED HOSPITAL



by

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ABSTRACT

“ INCIDENCE OF GROUP B COLONIZATION AMONG PALESTINIAN PREGNANT WOMEN ”

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Group B streptococcus infection among pregnant women is considered as one of the major causes of neonatal sepsis, still birth and abortion. Recent researches proved that colonization rate among pregnant women in state and Europe is 15-40%.

Edelman et al (1986) conducted a study at Makassed Hospital : One hundred and eighty nine pregnant women participated in the study and the result was 1.6%. This descriptive explorative design aims to study present colonization rate among Palestinian pregnant women attended at the labor room at Makassed Hospital in the period August-October 1998. Two hundred and fifty women agreed to participate in the study by means of self- administered questionnaire which included age, occupation, education level, residency and number of children for both partners. On the other hand, obstetricians and trained staff midwives measured risk factors, gestational age, urinary tract infection, amnonitis, endometritis, still birth, early rupture of membrane, pneumonia and fever above 38°C by means of examining participants clinically and physically. Staff midwives were trained to take vaginal and anorectal swabs for women before any vaginal examination considering the right

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of participant's confidentiality and anonymity. Results showed that 8.4% of pregnant women were colonized. Positive results were analyzed in relation to demographic data and risk factors. They showed that the majority of positive cases were among the age group of 21-31 years (60.2%). Seventy one point five (71.5%) were living in the city; eighty six percent (86%) were house wives; forty eight percent (48%) were primigravida, ninety five percent (95%) were full term while 47.6% of them had education level below Tawjihi. Majority of positive cases had Urinary Tract Infection 35% in addition to GBS infection. In comparison to Edelman, the rate at Makassed Hospital is higher but still low to the international rate. Colonized women should receive antibiotics during the next pregnancy. Nurses and midwives should have a role in planning and setting strategies for prevention, treatment and education about G.B.S.

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Chapter I

Introduction

Group B streptococcal is a gram positive coccus that may cause disease predominantly in newborns. Septicemia, Meningitis and Pneumonia. In adults with underlying diseases such as Diabetes mellitus and in pregnant women, it causes urinary tract infection, wound infection, endometritis and amnionitis. Group B haemolytic streptococcus is a leading cause of life threatening perinatal infection in developing countries, manifested as early onset sepsis (systemic disease in newborns within the first week of life or late onset which appears in infant within first six months of life).

Boyer (1993) states that group B colonization rate among pregnant women in the United states was 40%. According to Madani et al (1996) the Colonization rate among Canadian pregnant women was 25.5% while Edelman (1986) states that colonization rate among Palestinian pregnant women at Makassed Hospital was 1.6%.

There are risk factors which increase the possibility of group B colonization of pregnant women by which neonatal sepsis will increase such as aminonitis, fever $> 38^{\circ}\text{C}$ at delivery, rupture of membrane > 18 hours, premature delivery UTI. Neonatal sepsis could be prevented by using prophylaxis antibiotic. Researches on group B streptococcus in Palestine didn't take place. Studying GBS colonization will be considered in order to improve pregnant women health and save life of our neonatal babies and money which will lead to the building of Palestinian health resources.

A. Statement of the Problem :

Recent researches proved that group B Streptococcus is a type of bacteria which cause

illnesses in newborn babies, pregnant women, the elderly, and adults with other illness such as diabetes or liver diseases and it is one of the main causes of neonatal death among newborns.

Edelman et al (1986) conducted a research in Al-Makassed Hospital and found that 1.6% of pregnant women attending Makassed Hospital had GBS colonization infection.

The researcher used an explorative experimental design to highlight the problem. A convenient sample of two hundred and fifty women agreed to participate in the study in a period of three months. All participants understood the main goal of the study which was to explore the size of the problem among pregnant women attending labor room at Makassed Hospital.

At the end of the study the tool used aimed to answer two major questions "Is there any difference in maternal colonization rate among pregnant women at Makassed Hospital and international rate of GBS ?" and "Is there any relationship between demographic statistics and colonization rate among pregnant women at Makassed Hospital ?".

Exploration of the size of the problem related to demographic data and risk factors will enhance nursing role in the community by highlighting the problem to share with other health team members and make efforts to decrease colonization rate and neonatal sepsis.

B. Significance of the problem :

Group B streptococcus is now considered as one of the main causes of serious neonatal infection. Screening of pregnant women could play an important role in discovering maternal colonization by which we can prevent neonatal sepsis and decrease mortality rate among neonatal babies. In the Palestinian community, size of problem is not quantified.

In the Palestinian health institutions, we have limited resources mainly in neonatal intensive care units. So, by using the result of research, we may save money to improve other health care branch needs based on statistical background.

C. Purpose of the Study :

Broad goal : To explore maternal strep B colonization among Palestinian pregnant women.

Specific objective : To investigate the size of the problem at Makassed Hospital among pregnant women.

D. Research Questions :

In this study the investigator explored the strep B colonization among pregnant women by answering the following questions :

1. Do differences exist in maternal colonization at Makassed Hospital and international colonization of strep B?
2. Is there any relationship between demographic statistics of Palestinian women and colonization Rates?

E. Assumption :

For the purpose of study, the following assumptions were made :

1. Makassed Hospital's administration allowed researcher to conduct the study by giving researcher permission to use Labor & NICU to collect data.
2. Professional staff cooperated and understand to achieve the study goals.

3. Pregnant women cooperated by signing agreement for anonymous data collection.
4. Pregnant women receive health education through participation in the study.
5. Hospital's administration & other interested Health institutions will utilize the results of this study in the future planning for primary health care.
6. Attitudes, beliefs, cultural values and traditional experience may influence the outcome.
7. The instrument used to measure the outcome at this study is valid.

F. Limitations of this Study :

The following were the limitations of this study :

1. Lack of financial support for this study.
2. Apathy and/or overwork among professional staff needed for this study.
3. Sample's size was small. So, generalization of this study could not be done.
4. Professional staff, disinterested in research (research culture).
5. Unknown but possible subjective factors.
6. Female and pregnant women refused to participate due to cultural factors and sensitivity of this topic.
7. Availability of the proper cultural media in the hospital lab.

G. Definition of terms :

1. **Corio Amnionitis :** Inflammation of the amnion which is the inner of the fetal membranes, a thin transparent sac that holds the fetus suspended in the liquor amni or amniotic fluids. (Taber's Dictionary, 1996).

2. Early Onset Of Strep B : Appearance of symptoms of group B streptococcus in infection in newborn infant < than 7 day of life. (American Academy of Paed., 1997).

3. Gestation : In mammals, the length of time from conception to birth.
(Taber's Dictionary, 1996).

4. Late Onset : Appearance of symptoms of strep B infection among new born baby between 7-90 day of life. (American Academy of Paed., 1997).

5. Premature : Baby born before 37 completed week of gestation.
(Myles Test Book, 1994).

6. Puerperal Sepsis : Any infection of the genital tract occurring during puerperium or as a complication of abortion. This disease is presumed when the temperature is 38°C. (Taber's Dictionary, 1996).

7. Risk Factors : Factors in the environment or chemical, psychological, physiological or genetic elements that are thought to predispose an individual to development of disease. (Taber's Dictionary, 1996).

8. Sepsis : Pathologic state, usually febrile resulting from the presence of micro-organisms or their poisonous products in the blood stream.
(American Academy of Paed., 1997).

9. Vertical Transmissions : Transmission of infection from mother to the baby through birth canal or direct contact. (American Academy of Paed., 1997).

H. Summary :

Group B Streptococcus is considered as one of the main causes of neonatal sepsis in the states and European country. Edelman et al (1984) conducted a study at Makassed Hospital and found that the colonization rate was 1.6%. This explorative experimental designs aimed to quantify the size of the problem at Makassed Hospital or comparing with international rate and found out the relationship between demographic data and presence of GBS colonization among pregnant women who agreed to participate in the study.