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Risk Factors of Perinatal Mortality in the Gaza Strip

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Risk Factors of Perinatal Mortality in the Gaza Strip

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Thesis Approval

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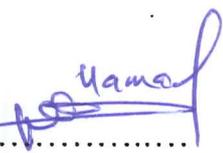
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Dedication

To whom who they have been the source of my inspiration, who gave me the strength whenever I was thinking to give up.... To my beloved parents

To my husband who encouraged and supported me throughout this journey

To my lovely children: Karam, Mohammed, and Salma

To my sisters and brothers,

To my friends who have been a great source of inspiration, and

To my respectful teachers

Asmaa K. El Najar

Declaration

I certify that this thesis submitted for the degree of master is the result of my own research, except where otherwise acknowledged, and that this thesis or any of its parts has not been submitted for higher degree to any other university or institution.

Signed:

Asmaa K. El Najar

Date:/...../.....

Acknowledgement

وما توفيقى الا بالله

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Abstract

Perinatal mortality is considered an essential epidemiological indicator of mother and child health. Globally, perinatal mortality remains unacceptably high and multifactorial in its etiology. Perinatal mortality reflects the quality of health care provided to pregnant women, natal care, and postnatal care. Understanding risk factors and causes of perinatal mortality is substantial to develop strategies and programs aiming to reduce the perinatal mortality rate. This study aims to identify the main risk factors of perinatal mortality in the Gaza Strip, including early neonatal mortality and stillbirth in the Gaza Strip.

The design of the study is a descriptive, analytical, case-control design. The study was conducted at four governmental hospitals in the Gaza Strip: Al-Shifa Hospital, Nasser Complex Hospital, Al-Aqsa Hospital, and Al-Imarati Hospital. All cases of perinatal mortality recorded at the study settings from January 2018 to September 2018 were included as cases (263), while, controls (263) were selected using simple random technique of pregnant women who gave birth to a live newborn aged more than 28 days at the time of data collection. In total, 526 women participated in the study. Cases and control were matched by place and time of the delivery. A self-developed questionnaire and the general health questionnaire were used to collect data. Both data management and analysis were conducted using SPSS programs, and the analysis involved frequency distribution, chi-square, t-test and Logistic regression analysis.

There was a significant association between perinatal mortality and selected socio-economic factors such as maternal age, smoking status and number of family members. Maternal risk factors such as previous history of stillbirth, previous history of early neonatal deaths, previous history of preterm birth, and history of previous offspring with congenital anomalies were significantly associated with perinatal mortality. Associated disease with the last pregnancy including anemia, pre-eclampsia and maternal infection were also significantly associated with perinatal mortality. Additionally, gestational age, Caseation Section as mode of delivery, intrapartum complication, placental complication, umbilical cord complication, amniotic fluid complication, uterine complication, and postpartum complication were associated with high risk of perinatal mortality. Infant-related risk factors such as fetal birth weight, product of pregnancy, fetal growth restriction and fetal abnormalities were significantly associated with perinatal mortality. Findings of logistic regression have revealed that the main predictors of still birth were a higher number of previous pregnancies, lower number of live births, having intrapartum complication, and placental complication such as placenta previa and abruption. While, the main predictors of early neonatal deaths as predicted by logistic regression were previous history of early neonatal deaths, amniotic fluid complication, and meconium stained complication.

It is important to establish intervention programs aim to provide preconceptual care within all governmental primary health care centers, improve the quality of antenatal, intrapartum, and postnatal care, quality of health education programs and quality of care provided within the Neonatal Intensive Care Units in order to reduce the likelihood of perinatal mortality. Improving the quality of medical records documentation is a must, especially in the gynecological and neonatal intensive care units. There is a need to conduct in-depth qualitative studies to deeply explore risk factors of perinatal mortality through conducting longitudinal studies to identify the main risk factors covering all cases of perinatal deaths that deliver outside the Ministry of Health hospitals.

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List of Abbreviations

APH	Antepartum Hemorrhage
AOR	Adjusted Odds Ratio
BMI	Body Mass Index
CDC	Centers for Disease Control and Prevention
CI	Confidence Interval
CS	Cesarean Section
FGR	Fetal Growth Restriction
GHQ	General Health Questionnaire
GS	Gaza Strip
HR	Hazard Risk
ICD-10	International Classification of Disease
ISPID	International Society for the Study and Prevention of Perinatal and Infant Death
IVF	In Vitro Fertilization
IUD	Intra Uterine Device
LBW	Low Birth Weight
MOH	Ministry of Health
NCD	Non-Communicable Disease
NCHS	National Center of Health Statistics
NGO	Non-Governmental Organization
NICU	Neonatal Intensive Care Unit
NIS	New Israeli Shekel
OR	Odds Ratio
PCBS	Palestinian Central Bureau of Statistics
PHC	Primary Health Care
PROM	Premature Rupture of Membrane
RR	Relative Risk
SD	Standard Deviation
SDG	Sustainable Development Goal
SPH	School of Public Health
RDS	Respiratory Distress Syndrome
UN	United Nation
UNICEF	United Nations Children's Emergency Fund
UNRWA	United Nations Relief and Works Agency for Palestine Refugees in the Near East
WB	West Bank
WHO	World Health Organization

Chapter One

Introduction

1.1 Background

Perinatal mortality is an important and essential indicator of population health, particularly mother and child health. Generally speaking, it reflects the quality of obstetric and neonatal care available in any country (World Health Organization-WHO, 2006). Perinatal mortality also refers to deaths around the time of delivery and includes both stillbirths and early neonatal mortalities that occur in the first week of life. WHO defines perinatal mortality as the number of stillbirths and deaths in the first week of life per 1,000 of total births. The perinatal period starts at 22 completed gestational weeks (154 days) and ends by completing seven days after birth (WHO, 2018). Globally, neonatal mortality, including early neonatal deaths remains unacceptably high. According to the WHO, approximately 2.6 million newborns die every year in their first month of life, and a similar number applies for stillbirths (WHO, 2017a). The burden of perinatal mortality is higher in South Asia (39%) and Sub-Saharan Africa (38%) than in other low- and middle-income countries (Froen et al., 2016).

Perinatal mortality is multifactorial in etiology and depends on the quality of health care provided to the pregnant women, natal care and postnatal care (Bayou & Berhan, 2012). Maternal and fetal risk factors of perinatal mortality are inherently linked. Therefore, all programs addressing the care improvement of one often have an impact on the outcomes of the other. Providing pregnant women with good quality care during pregnancy and labour could avert such deaths (Daftary et al., 2016). Stillbirth which is also known as "fetal death" is a major public health issue, but it is mainly overlooked (MacDorman and Gregory, 2015), even the Sustainable Development Goals (SDG) underlined the interest of reducing newborn deaths, but not stillbirths (WHO, 2016a). Worldwide, stillbirths are prevalent; in 2015, 18.4 stillbirths per 1,000 live births occurred compared with 24.7 stillbirths in 2000 (Froen et al., 2016). WHO defines stillbirth as a baby who was born with no signs of life at or after 28 weeks of gestation (WHO, 2016a). It occurs intra uterus before onset of labour due to pregnancy complications or maternal diseases; however, about half of stillbirths occur during labor (WHO, 2015). Most of stillbirths are due to preventable causes such as maternal infection, maternal life style factors. Interestingly, unpreventable causes such as congenital abnormalities contribute only 7.4% of stillbirth