CHAPTER: 06

A STUDY TO EXAMINE MORBIDITY AND MORTALITY IN VLBW (VERY LOW BIRTH WEIGHT) NEONATES ADMITTED TO NICU IN CHANDIGARH

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INTRODUCTION

The neonatal period spans the first 28 days of life and is further categorized into very early (birth to less than 24 hours of life), early (birth to less than 7 days), and late neonatal period (between 7 days to less than 28 days).Prematurity (where a gestational period is less than 37 weeks) is the significant reason for morbidity in neonates particularly in the neonates of very low birth weight (VLBW). Very low birth weight neonates as defined by WHO is the birth weight under 1500g upon birth regardless of gestational time. Among the results of perinatal, neonatal, and postnatal, the main determinant is birth weight. It is subject to the gestation length and the foetus intrauterine development (IUD) [1]. Globally, it is under 2% of the birth incidence of VLBW infants. The live births of VLBW in Indian children establish 4 % to 7 % and roughly 30 % is the mortality among the Neonates. The leading mortality, as well as morbidity, among the neonates of very low birth weight, proceeds to be an influential public health obstacle in India. The prevalence of very low birth weight subsists globally in the whole community. Among maternal health and child health, in both developed as well as developing nations, one of the numerous severe provocations is low birth weight. It may direct to dangerous bodily and psychic impairment in those who sustain. The major reason among half the population of prenatal and mortality in infants is one-third is due to low birth weight.

Developing countries like India, where there is a need to increase the investment in health by different sectors of government. It is important to take the factors into account which are influencing the NMR (Neonatal Mortality Rate) in great numbers is unacceptable [2]. There is a need for an hour to strengthen the health systems that involve the procurement of an ample number of supplies with all the essential equipment for health amenities moreover besides equivalent expanse to suffice the needs at the local level. Each woman in each community should reach out for health amenities during the

administration of pregnancies that are not complicated and deliveries [3].

RESEARCH QUESTION

1. What were the factors responsible for very low birth weight in neonates during birth leading to their mortality and morbidity?

RESEARCH OBJECTIVES

1. To assess the association of the baby's sex with the outcome.
2. To find out the association of gestational age with the outcome.
3. To estimate the association between the gestational age and the time of neonates' death.
4. To associate the correlation between the mode of delivery and outcome

RESEARCH METHODOLOGY

The research was structured as a prospective cohort study where subjects were followed longitudinally over time to determine exposure status after collecting standard data. The research took place at a Tertiary Care Hospital in Chandigarh, focusing on the population of neonates associated with Very Low Birth Weight (VLBW) admitted to the Neonatal Intensive Care Unit.

The study period extended from January 2019 to December 2019.Criteria for selection included the inclusion of all children admitted to the NICU with low birth weight during the specified timeframe. Exclusion criteria comprised neonates with pre-existing serious congenital abnormalities and those with chromosomal syndromes, to be determined clinically. Informed consent from parents on behalf of their newborns and ethical committee clearance were prerequisites for the inclusion of neonates with VLBW in the study. The plan of analysis involved utilizing Microsoft Excel 365 for data analysis. Questionnaire responses were tabulated and recorded

in Microsoft Excel, facilitating comparisons for the desired results. Past tense language was used to describe the various stages and elements of the study methodology.

RESULTS AND DISCUSSION

In the thorough examination of the preceding neonatal sample characterized by very low birth weight, it was determined that 38 individuals (54.3%) were females, while 32 (45.7%) were males. Notably, a higher incidence of morbidity and mortality was observed among male neonates compared to their female counterparts. The study encompassed a total of 70 responses, with a breakdown as follows: within the overall sample of neonates with very low birth weight, 38 (54.3%) were females, and 32 (45.7%) were males.

The study outcomes indicated that among the 70 neonates, 84.2% survived, while 15.7% did not. Additionally, the analysis revealed a 93% mortality rate among preterm neonates compared to 7% among term neonates. Furthermore, prevalent maternal risk factors associated with very low birth weight and neonatal mortality were gestational hypertension (n=37, 52.9%) and anaemia (n=28, 40%). Among neonates with very low birth weight, the most common conditions linked to fatality and morbidity were sepsis (32.9%) followed by respiratory distress syndrome (22.9%).

CONCLUSION

The study concluded that common risk factors for maternal conditions linked to very low birth weight and neonatal mortality included gestational hypertension accompanied by anaemia. To mitigate such circumstances, increased monitoring of prenatal check-ups and counselling sessions following the recommended advice from gynaecologists was essential.

The research also highlighted the crucial need for nutritional counselling among expectant mothers to address the prevalence of

anaemia. This proactive measure was anticipated to have a positive impact and reduce the incidence rate of infants born with very low weight.

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