Premature Infant Mortality

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Introduction

Around 15 million babies are born early every year [1]. To put that into perspective, that's one in every 10 babies. About 1 million of those babies die due to premature complications [1]. Premature Infant Mortality is a very big problem around the world and something needs to be done about it. The four main ideas of this paper are, giving a general idea of what the problem is, the statistics in the problem, the main causes of premature infant deaths, analysis of premature infant deaths, and some solutions that have been put into effect to try and prevent premature infant mortality.

What does it mean to be premature?

A normal pregnancy usually lasts from 37 weeks up to 40 weeks [2]. Any baby that is born before 37 weeks is considered premature. Babies born within the 32 to 37 week time period are considered preterm. Babies born between 28 and 32 weeks considered very preterm. Babies born before 28 weeks are considered extremely preterm. The earlier it is born, the more likely it is to be born with birth complications. Depending on how early the baby is born it might need

lots of medical attention. These cases of premature infants put lots of stress on the families of the babies, because it really is a matter of life and death.

The statistics in the problem

The last few weeks in the womb are crucial to healthy weight increase and full development of important vital organs like the lungs and brain [3]. This explains why the relationship between how early a baby is born and it's chance for survival are directly proportional. The earlier a baby is born, the more likely it is to be born with health problems, resulting in a smaller chance to survive. Premature health problems are the results of a baby being born too early. For example, a baby born at 26 weeks might have a breathing problem because it's lungs aren't fully developed. The babies breathing problem is its premature birth defect. This explains why babies born extremely premature have the highest risk of dying. For example infants born at 25 weeks have a 50% chance of survival [4]. Babies born at 24 weeks, have a 39% chance of survival [4]. Lastly, babies born at 22 weeks have a survival chance of 17% [4]. This shows how a week difference could be the difference between the babies life or death.

The main causes of premature infant death

Babies born earlier have a higher chance of being born with birth defects, and according to the National Institute of Health, one of the leading causes of premature infant death is birth complications [6]. The most common problem between 22-25 weeks of birth is ARI (acute respiratory infection) [6]. ARI is the infection of the lungs, and it makes it hard for the baby to

breathe. Babies born between 26 weeks and 28 weeks are most likely to die from IVH (Intraventricular hemorrhage) [6]. IVH is bleeding around the brain. The most common problem between 29-31 weeks is Perinatal Asphyxia [6]. Perinatal Asphyxia is when parts of the body don't get enough oxygen, resulting in damage of the cells.

Are there any solutions to premature infant mortality?

So what is being done about premature child mortality? The neonatal intensive care unit (NICU) is a protective place where the prematures babies are kept until they can survive with the help of their parents. The NICU does their best to prevent neonatal mortality and here are some methods they use to help their patients. One of the methods they use is KMC (kangaroo mother care). KMC is when a preterm baby is placed skin to skin with it's mother or care taker [7]. According to the World Health Organization, the kangaroo method helps with "body temperature, breastfeeding, increase in weight."

Since most premature baby deaths occur because of respiratory complications, it's important to have good monitoring machines. Monitoring machines can help prevent some of these deaths. They all record heart rate, respiratory rate, blood pressure, and the body temperature of the baby. If one of these vital signs is not normal, an alarm goes off, immediately alerting the caretakers. Having machines like these is important, because it allows for the doctors to take care of the problem as quickly as they are able.

According to the American Pregnancy Association, here are the most common methods used for respiratory assistance. This may vary depending on certain premature babies individual needs. The first tool that is used for breathing assistance is the Endotracheal tube [7]. This is a tube that is placed down the baby's windpipe in order to give the baby warm air. The second machine that is used to assist the baby with respiratory needs is the Ventilator[7]. This machine is attached to endotracheal tube, and it monitor the babies oxygen intake, the air pressure in the baby's lungs, and how many breaths the baby takes. The third machine that is used to help with a premature babies breathing is the CPAP (continuous positive airway pressure) machine [7]. This machine is a mask put over the nose, used for babies who can breath on their own, but need help getting air to their lungs. The fourth and final method that is most commonly used for respiratory assistance is the Oxygen Hood [7]. This machine is a clear plastic box hat is placed over the baby's head and is attached to a tube that brings oxygen to the baby.

Another good method for reducing the number of premature infant deaths according to The World Health Organization is to keep everything clean. By doing this, infection rates can go down, resulting in less deaths.

It is important that the premature babies are eating healthy in order for them to survive. Here are some methods for feeding premature babies, also suggested by the American Pregnancy Association. The first method used for feeding is the Intravenous lines [7]. This method is done by using small feeding line sto bring the food straight into the baby's bloodstream. The second method used for feeding is another type of Intravenous line treatment, the central line [7].

Central line is used for distributing vitamins for the body, into veins. This differs from the first method because central lines distribute to vessels. The third method that is used for feeding premature infants is oral and nasal feeding [7]. This method consists of using a small tube that is inserted down the infants nose or mouth. This method is used when a baby is ready to digest food like breast milk, but isn't strong enough to chew. The fourth and final method used for feeding premature babies is the umbilical catheter [7]. This method is rarely used, because it has a higher risk of causing infection. It involves inserting a tube into the umbilical cord and it is only used in critical cases.

Conclusion

Even though the rates are going down, premature infant mortality is till a huge problem and it's not going to go away completely on its own. Yes, the rates have the rates have dropped by 15% since 2005 , but that isn't fast enough [8]. The death rate of premature babies can go down even more, if the technology that is saving these babies can be made accessible to everyone. Imagine every premature baby using these breathing machines, or having access to these feeding methods. The rate of premature infant mortality could be brought down even closer to zero.

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