LITERATURE REVIEW

In a cross sectional study, under-5 mortality was found to be strongly associated with maternal and infant health programs. It was also strongly associated with the proportion of births attended by trained person. To raise the public health spending remains the main challenge in developing countries for improving the quality of maternal and child healthcare. (McGuire JW, 2006)

A study was conducted to describe the association between under-5 mortality and socioeconomic, political, and healthcare factors between rich and poor children. In this study, higher incomes were associated with lower under-5 mortality rates. (Houweling et al, 2005)

A study was done to determine the global mortality of under-5 children due to acute respiratory (ARI) infections. It showed that out of 15 million under-5 deaths, 4 million died of ARIs. Majority were infants and more than 90% deaths occurred in developing countries. (Leowski J, 1986)

Globally, under-5 child mortality has fallen from 110 in 1980 to 72 per 1000 live births in 2005. Child deaths have decrease globally from 13.5 million to 9.7 million. There is a slow progress in MDG in the sub-saharan Africa. Sub-Saharan Africa also has the slowest decline in fertility rate. (Murray et al, 2007).

Global under-5 mortality has dropped from 11.9 million in 1990 to 7.7 million deaths in 2010. 33% of these deaths occurred in south Asia and 49.6% in sub-Saharan Africa. Less than 1% death occurred in developed countries. Compared to 1990 to 2000, there is accelerated decline in child mortality from 2000 to 2010. (Rajaratnam et al, 2010)
In an analytical study from China, under-5 mortality rate dropped by 58.7% in 2010 compared to 2000. The leading causes of child death were prematurity, low birth weight, pneumonia, birth asphyxia, congenital heart disease and accidental suffocation. (Feng et al, 2012)

In a study from India, under-5 mortality rate declined at a mean rate of 3.7% per year between 2001 and 2012. According to this study, 222 districts were lagging in the process of achieving Millennium Development Goals. Female mortality rate was higher by 25% in 303 districts. (Ram et al, 2013)

In a study, it was found that under-5 mortality was highly variable in Zambia. A difference of 1.8 times was found in between the highest and the lowest in 2010. The rate of decline from 1980 to 2010 ranged from less than 5 to more than 50 percent. (Lindgren et al, 2014)

In a study done on African countries, it was found that the recent increase in under-5 mortality was very much concentrated in specific subgroups of population. The subgroups affected were highly variable. The study concluded that strategies to decrease under-5 mortality rates based individually for different countries. (Houweling et al, 2006)

In a study, it was observed that under 5 mortality declined substantially in 1980s and 1990s. Educational inequalities also declined but was not statistically significant. Time trends in healthcare usage did not vary with education. Irregular time trends were observed for inequalities by household wealth. (Houweling et al, 2006)

In a study from Indonesia, it was shown that there were significant differences in under-5 mortality risk within the studied population. It ranged from 27 to 85 per 1000 live births. This information would help in formulating and implementing maternal and child health programs to meet the millennium development goals. (Pardosi et al, 2014)
In a study from Uganda, the authors estimated relative risk of under-5 mortality for each district using the data from Demographic and Health Survey 2006. The study revealed that under-5 mortality rates varied from district to district and had potential spatial clustering. (Asiimwe et al, 2011)

According to a study, Neonatal and Under-5 mortality rates vary from region to region in India. India made a steady decline in under-5 child mortality from 2001 to 2012. The variation in child mortality rates within the country could be due to differences in economic status, literacy, nutritional status, gender bias and other factors. (Bhan, 2013)

In a study conducted in Africa, it was found that birth order, interval and region were the most important contributors for overall inequality in under-5 mortality. They observed a significant wealth related inequality in five countries: Egypt, Nigeria, Madagascar, Congo and Sao Tome. (Malderen et al, 2013)

In a study from China, the neonatal, infant and under-5 mortality rates decreased significantly in urban, suburban and other areas in Beijing. Authors observed a decreasing trend of 6 out of 8 leading causes of under 5 mortality. There was a marked decrease in deaths due to drowning in outer suburban area. (Yan & Zhu, 2014)

In a study from Burkina Faso, authors concluded that children living in semiurban area with electricity and piped water access had higher under-5 survival. The under-5 childhood mortality in rural was relatively high and homogenous. (Schoeps et al, 2014)

In a study, it was found that 3.2 million children died of infectious disease and 2.76 million children died in the neonatal period in 2013. Prematurity, pneumonia and intra-partum related
complications were the 3 most common cause of mortality. If the trend continued, 4.4 million children under 5 years would die in 2030. (Liu et al, 2015)

In a cross-sectional analysis on 35 African countries, authors found that maternal and child health interventions are very important in reducing under-5 mortality. The impact of economic development in sub-Saharan Africa remains weak and inconsistent. Further reductions in under-5 mortality could be achieved by improved coverage of proven interventions. (Corsi and Subramanian, 2014)

In a study done in Nepal to examine the effect of antenatal Iron and folic acid supplement on child mortality, authors found that the supplements significantly reduced the risk of under-5 mortality in Nepal. The greatest benefit was seen in women who started supplements in early pregnancy and took 120 supplements. (Nisar et al, 2014)

In a study, it was found that in between 1995 to 2012, under 5 mortality rates in low and middle income countries declined faster among the poorest compared to the least poor countries. However, there is a slower progress in some countries due to poor governance. (Bendavid, 2014)

In a study from Nigeria, authors found that under 5 mortality rates are very high in Nigeria. They also observed a wide variation in under 5 mortality rate. 27% of states showed evidence of special cause variation whereas 73% of the states showed common cause variation. (Uthman et al, 2012)

In a cross sectional study done to examine the determinants of under-5 mortality, it was found that the variables including GNP, female literacy, physicians and nurses ratio, health expenditure had inverse effect on U5MR cin OECD countries. (Karyani et al, 2015)
A study was done to determine the relationship between reduction in government health-care spending and child mortality in high and low income countries. Authors found that reductions in government healthcare spending was associated with a significant increase in child mortality. (Maruthappu M et al, 2014)

In a study from Kenya, a study was done to examine relationship of rainfall and temperature on under 5 malaria or anemia mortality. In this study, Malaria or anemia mortality was found to be associated with changes in local temperature and rainfall. It described the biological relationship as well. (Sewe et al, 2015)

A study was done to describe the trend of child mortality in Kenya. It was found that child mortality declined in Kenya in both rural and urban areas. Authors concluded that there was a need of extra emphasis on urban slums to reduce child mortality. (Murage et al, 2014)

A study was done in India to identify socially modifiable factors that affected child mortality in hospital admitted children. Authors found administrative issues and family related reasons were most common modifiable factors. (Mahajan et al, 2014)

In a study from Malawi, authors found that infant mortality in Malawi could be decreased by evenly distributing healthcare services, improving maternal care, neonatal care, improving quality of life in rural areas and improving nutrient intake. (Ntenda et al, 2014)

In a study, authors found that incidence rate of diarrhea was declining, however total burden of diarrhea on each child was tremendous. So, additional funds are needed for both the prevention and treatment of diarrhea in low and middle income countries. (Walker et al, 2012)
In a study on child mortality from India, authors concluded that India needed to take a fast action to reduce child mortality rates. Maternal education and occupation has enormous role on reducing the mortality rates. So, emphasis should be towards women empowerment as well. (Singariya and Bhargava, 2015)

In a study from Bangladesh, it was found that prematurity, respiratory illnesses and drowning were the most common cause of child death. Child death was inversely associated with socio-economic status. It highlighted the social distribution of different diseases in community. (Hanifi et al, 2014)

In a study on determinants of under-5 mortality in rural and urban Kenya, it was shown that children in rural area were more likely to die than children from urban area. This disparity was of national concern. However, influence of breastfeeding was similar in all areas. (Ettarh and Kimani, 2012)

In a study from Nigeria, it was found that child, family, maternal and other factors were the important risk factors for under-5 mortality in Nigeria. Further plans and policies, interventions should take into account of these risk factors to decrease child mortality. (Kayode et al, 2012)

In a randomized control trial in Ghana, authors found that mortality rate decreased in febrile children treated with antimalarials (with or without antibiotics) at home. They concluded that community fever management with antimalarials significantly reduced mortality rate. (Chinbuah et al, 2012)

A study was done in Tanzania to investigate under-five mortality in Tanzania. Authors found out that maternal education had a significant role on fertility and childhood mortality rates. The
usage of healthcare facilities was also associated with maternal education. (Susuman and Hanisi, 2012)

In a review article, authors highlighted the importance and need of integrated management of maternal, child and neonatal health conditions. They stated that a firm political commitment and partnerships were required for interventions at large scale. (Bhatta et al, 2012)

A study was done to analyze cause of mortality in children under 5 years of age in Iran. Authors found out that 60% of mortality occurred in the rural areas and 52% were boys. Congenital anomalies and chromosomal anomalies were amongst the common cause of death. (Rahbar et al, 2013)

In a hospital based prospective study from Nigeria, Neonatal sepsis, birth asphyxia, prematurity, IUGR were the common causes for admission. Mortality rate, overall, was found to be 20.3%. Sepsis remained the major cause of death followed by birth asphyxia and prematurity. (Ugwu, 2012)

In a prospective study from Tanzania, authors found that majority of the early neonatal deaths were due to birth asphyxia, prematurity and low birth weight. Authors concluded that a multipronged approach was required to cut down these high mortality rates. (Ersdal et al, 2012)

In a study from Tanzania, authors found that more than one third of deaths in the population were due to birth asphyxia and prematurity related causes. Authors concluded that child survival in that area could be improved with better antenatal care, maternal and newborn care. Regular training on resuscitation skills would also be helpful. (Mmbaga et al, 2012)
A study was done in India to know the determinants of neonatal mortality. Socioeconomic factors, father’s occupation, rajput caste were important determinants. Authors concluded that neonatal mortality was affected by socio-economic factors, biological and community level determinants.(Upadhyay et al, 2012)