

The Factors Caused Mortality of Children under 5ages in Afghanistan

Corresponding Author: Associate Professor Mir. Nazifullah Andishmand
Biology Department, Education Faculty,
Balkh University, Mazar-e-sharif, Balkh, Afghanistan.

Abstract: Children are considered a society's assets. Child mortality is an important indicator of the overall health situation in a country. In Afghanistan, child mortality is linked to the different social, socio-economic, demographic, health, cultural and environmental factors. The important factors that caused and leading to the mortality of children under five age in Afghanistan are include of: Acute respiratory infections (ARI), Diarrhea, Meningitis, Pneumonia, and other infections, and also linked to the education of mother, rate of accessibility to healthcare centers, lack or less number of doctors and nurses for children and pregnant women, malnutrition, lack of hygienic drinking water and social factors and which indirectly or directly leading to the deaths of children under-five age in this country. It's also found that the Infants born less than two years after a previous birth have high under-five mortality rates in Afghanistan. The under-five mortality rate for children born less than two years after their siblings is 86 deaths per 1,000 live births, compared to 35 among children born four or more years after their siblings. Almost one third of all children are born less than two years after their siblings. Of course there are efforts by government and international organization like WHO save the children and UNICEF in the two last decades to decrease the rate of children mortality under five years in Afghanistan but the mortality rate is high in the country.

Keywords: Mortality, Children, Acute respiratory infections (ARI), Diarrhea, Meningitis, Pneumonia, Infections, Malnutrition, Environmental factors.

I. INTRODUCTION

Every year, millions of children under 5 years of age die in the world, mostly from preventable causes such as pneumonia, diarrhea and malaria. In almost half of the cases, malnutrition plays a role, while other factors such as unsafe water, sanitation and hygiene are also significant contributing factors. Afghanistan remains one of the least safe places in the world for children. Hospital or general health care is out of reach for most people particularly for children and mothers in Afghanistan. The country has one of the highest infant mortality rates in the world and thousands of Afghan women and children die every year from pregnancy-related complications which, in the majority of cases, could be prevented. Although efforts by the government and international organizations such as WHO, UNICEF and other organizations have led to improved conditions and many more children living past infancy, but child mortality rate remains high in this country. In 2015, more than one in 18 Afghan children died before their first birthday. Many families are still losing their children unnecessarily, especially during the neonatal and birth period (Asadi, 2019).

Several socioeconomic factors also influence the risk of children dying. In this case urban children have a lower mortality risk then the rural children. As expected, mothers' education is inversely related to mortality levels among young children. Wealth and good economic condition is very strongly related to child mortality: the children born to mothers in the highest wealth quintiles have less than half the risk of dying compared to those born to mothers in the poorest quintile. Studies shown that mortality levels are also generally lower in less remote areas of country (APHI et al, 2010).

In 2016, 5.6 million children died before their fifth birthday among them 2.6 million (46 per cent) died in the first month of life. It is unacceptable that 15,000 children die every day, mostly from preventable causes and treatable diseases, even though the knowledge and technologies for life-saving interventions are available (UNICEF-WHO, 2017).

The distance between two births also influence the newborns; Infants born less than two years after a previous birth have high under-five mortality rates. The under-five mortality rate for children born less than two years after their siblings is 86 deaths per 1,000 live births, compared to 35 among children born four or more years after their siblings. Nearly one third of all children are born less than two years after their siblings (CSO et al, 2015).

The main factors found that caused and related to the mortality of children under five age are include of: Acute respiratory infections (ARI), Meningitis, Diarrhea, Pneumonia, and other infections, and also education of mother, accessibility to healthcare centers, lack or less number of doctors and nurses for children and women, malnutrition, drinking water and social factors are related factors and leading to the deaths of children under-five age. The rate of leading causes of deaths in children under-five age were estimated: sepsis/meningitis (19.9%), preterm birth complications (19.8%) and pneumonia (17.2%), Infections accounted for over 3/5 (62.8%) of all deaths among children under-five. Among neonates, 44.1% of all neonatal deaths were due to preterm birth complications, following by sepsis/meningitis (35.2%) and pneumonia (9.4 %); Diarrhea was most common among children age 12-23 months (38 %) (CSO et al, 2015).

II. Methodology

The world made remarkable progress in child survival in the past few decades, and millions of children have better survival chances than in 1990—5 1 in 26 children died before reaching age five in 2018, compared to 1 in 11 in 1990 but Afghanistan remains one of the least safe places in the world for babies and linked to social, socio-economic, demographic, health, diseases, cultural and environmental factors.

This research performed on the basis of review and for collection data use from valuable and academic books, papers and sites. The main sources which are used in current research include of World Health Organization (WHO), Safe the children organization, UNICEF and USAID organizations documentary.

Causes of death in children under five years

The main causes leading to the mortality in children under-five age are meningitis, preterm birth complications, pneumonia, and other infections. Other factors indirectly related to the death of children less than five ages like unsafe water, sanitation and hygiene, education of mother, accessibility to healthcare centers, lack or less number of doctors and nurses for children and women, malnutrition, unsafe drinking water and social factors which leading causes of deaths in children under-five age.

Meningitis: Babies, toddlers and young children under five years old are the most at-risk group for meningitis. Babies and young children are particularly vulnerable to meningitis as they cannot easily fight infection because their immune system is not yet well developed. The most common causes of meningitis are bacteria and viruses. Viral meningitis is rarely life-threatening, but can still make babies and young children very unwell. Most children will make a good recovery, but recovery can be slow. Bacterial meningitis can be fatal and needs rapid admission to hospital and urgent medical treatment. Whilst most children will make a good recovery, around 10% will die and some will be left with lifelong disabilities.* During this study founded that the meningitis causes the 19.9 % of mortality in the children under five (table 1.).

Preterm birth complications: The problems conducted with birth process are the main factors that related to death of neonates. Dystocia and abnormal location and direction of infant in the uterus are important factors of neonate's mortality. There is a direct relationship between accessibility of mothers to the birth surveillance and risks of these condition which unfortunately in Afghanistan because of lack accessibility to the health centers and birth surveillance, the rate of mortality is high (almost 12/1000) among the neonates in Afghanistan. Current study show that birth complications counted as second factor of neonates and mothers during births and Preterm birth complications causes the 19.8 % of mortality in the children fewer than five ages (table 1.).

Pneumonia: Pneumonia is a form of acute respiratory infection that affects the lungs of children and also adults. The lungs are made up of small sacs called alveoli, which fill with air when a healthy person breathes. When an individual suffer from pneumonia, the alveoli are filled with pus and fluid, which makes breathing painful and limits oxygen intake. Pneumonia killed 808 694 children under the age of 5 in 2017 around the world, which accounting for 15% of all deaths of children under five years old. Pneumonia affects children and families everywhere, but is most prevalent in countries of South Asia and sub-Saharan Africa. *Treptococcus pneumoniae* – is the most common cause of bacterial pneumonia in children and respiratory syncytial virus is the most common viral cause of pneumonia. In children under 5 years of age,

* (<https://www.meningitisnow.org>)

who have cough and/or difficult breathing, with or without fever, pneumonia is diagnosed by the presence of either fast breathing or lower chest wall in drawing where their chest moves in or retracts during inhalation (in a healthy person, the chest expands during inhalation)*. Pneumonia causes the 17.23 % of mortality in the children fewer than five ages (table 1.).

Diarrhea: Studies shown that almost 9,500 children dying from diarrhea each year in Afghanistan. Diarrhea-related deaths, which now total 9,500, account for around 12 per cent of the 80,000 deaths of children under the age of five that occur annually in Afghanistan. The risks associated with diarrheal infections are exacerbated in Afghanistan a country where some 1.2 million children are already malnourished and 41 per cent of children are stunted. Poor sanitation and hygiene compound malnutrition, leaving children more susceptible to infections that cause diarrhea, which in turn worsens malnutrition (UNICEF) **. Diarrhea causes the 17.23 % of mortality in the children fewer than five ages in Afghanistan (table 1.).

Other infections: One of the most important factors which are involves in mortality of children less than five years old are infections. Important infections are including of sepsis, tetanus (16%), pneumonia (15 %) and diarrhea (2%) counted as a second causes of children mortality in Afghanistan. The factors which are leading to the infections are include of lacking accessibility to health care centers before birth, poverty, less or lack of nurses, environmental factors, premature infant, and illiteracy (Thaver and Zaidi, 2009). The all factors which are causes of deaths in children under-five years in Afghanistan are summarized in table1.

Table1. The all factors which are causes causes of deaths in children under-five years in Afghanistan estimated in 2019.

Causes (Diseases)	Percentage
Meningitis	19.85 %
Birth Complications	19.83 %
Pneumonia	17.23 %
Diarrhea	13.81 %
Other infections	11.86 %
Other conditions	8.48 %
Other injuries	5.11 %
Intrapartum-related events	2.26 %
Congenital abnormalities	1.46 %
Assault	0.12 %

Malnutrition: Malnutrition affects almost 2.7 million people including a million children under the age of five. Only 35 per cent of children with severe acute malnutrition are being reached and of those, only 25 per cent are actually cured. The number of children killed by conflict in 2015 represents less than 1 per cent of the estimated number of children dying due to malnutrition in one year in Afghanistan. The Afghanistan Nutrition Cluster estimates 2.7 million people are affected by malnutrition including one million children under five with an acute state of malnutrition in need of treatment. Lack of awareness about malnutrition has been identified as one of the top barriers preventing children from accessing treatment. Rural mothers in Afghanistan lack adequate knowledge about malnutrition and so can rarely identify this as a cause or contributing factor to their child's ill health and mortality. This lacks of knowledge and understanding makes the community mobilization component of the customary approach to treating malnutrition so important. Once a child becomes malnourished they face a roughly three times higher risk of dying from

* - <https://www.who.int>.

** - <https://www.unicef>.

common communicable diseases than if they were well-nourished. Once they deteriorate to being severely malnourished, typically thirty to fifty per cent of these children die (OCHA, 2016).

Environmental Factors: Afghanistan is a dry region in Asia continent that makes it impossible to access clean water and adequate nutrition. The state has experienced long decades of armed conflict that has polluted the environment with toxic chemicals that cause respiratory complications. Besides, the country has rough, impassable terrains that make it difficult to access healthcare facilities. The prevailing social-political tensions also complicate matters leading to increased health problems among the society. Water supply is a significant problem that when combined with the traditional unhygienic practices expose the community to various health issues (Viswanathan et al., 2010). Furthermore, food insecurity means that the Afghanistan populations have a diet low in protein and other healthy calories. Consequently, most children are undernourished, stunted, and suffer chronic malnutrition disorders. In all these aspects, the social-environmental conditions complicate health issues, and people die from preventable diseases (Almutairi, 2016).

The mortality rate of children under-5 age for Afghanistan excluding the South Zone, adjusted to take into account omission is 97 deaths per 1,000 births and the infant mortality rate is 77 deaths per 1,000 births. Assuming that child mortality rates in the South are 15-25 percent higher than in the rest of the country, under-5 mortality for the whole country might be in the 102-105 range. As expected, boys have a slightly higher risk of dying as girls. The survival of infants and children also is strongly influenced by the mother's age at birth; mortality is higher among children born to mothers under age 20 and over age 40 compared with children born to mothers in the middle age ranges (APHI et al, 2010).

Under-five mortality is higher among children in rural areas (67 deaths per 1,000 live births) than among children birth in urban areas (43 deaths per 1,000 live births). Under five age mortality is particularly high in some provinces of Afghanistan: Nooristan province (170 deaths per 1,000 live births), followed by Badakhshan (107) and Ghor (104). Under-five mortality decreases as household wealth and the mother's education increases.

The distance between two brith also affects the rate of child mortality; Infants born less than two years after a previous birth have high under-five mortality rates. The under-five mortality rate for children born less than two years after their siblings is 86 deaths per 1,000 live births, compared to 35 among children born four or more years after their siblings. Nearly one third of all children are born less than two years after their siblings (UNICEF-WHO, 2017).

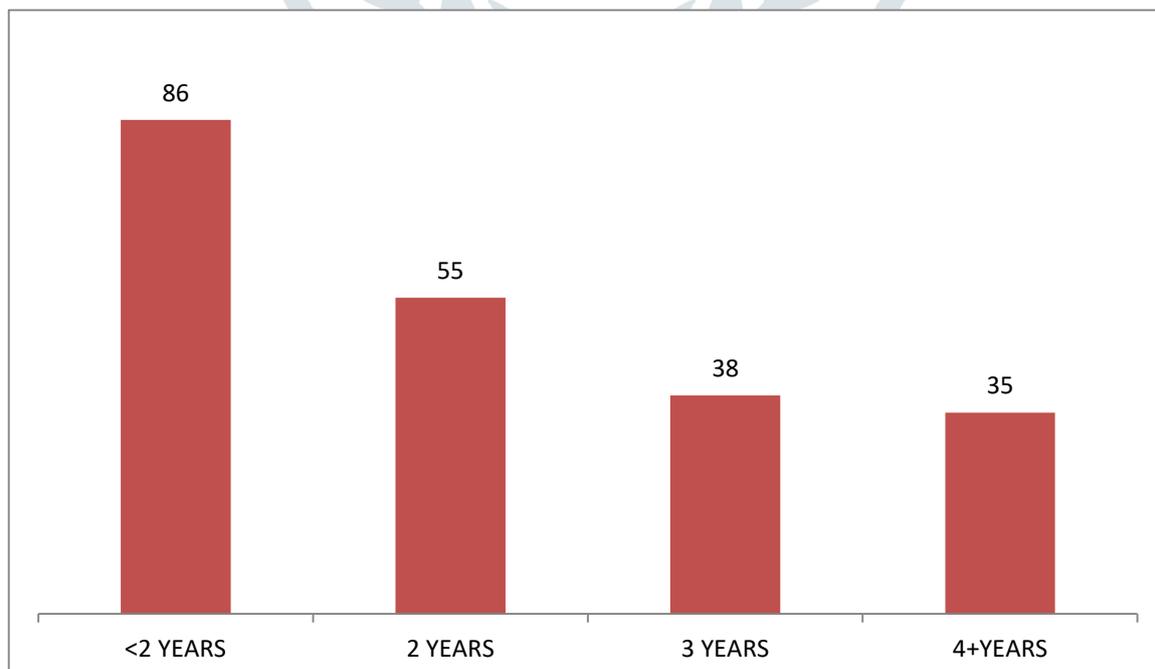


Fig1. Under-five mortality by previous birth interval, deaths per 1000 live births.

III. Discussion

The main objective of this study was to analyze the factors affecting child Mortality under five-age in Afghanistan. Afghanistan has the second highest rate of under-five mortality in the world. For every one thousand babies born, fifty-five will die before the age of five. Eighty-two per cent of these deaths will occur even before the child's first birthday. Most of these children will die from easily preventable or treatable conditions such as diarrhea or pneumonia. In Afghanistan these common conditions are made much more dangerous due to the additional presence of malnutrition. An undernourished child is not only weak and less able to withstand an attack of illness; the illness itself also makes the child much more susceptible to becoming malnourished. As such, while rarely cited as a leading cause, malnutrition is the hidden contributing factor in about 45 per cent of all child deaths (OCHA, 2016)

As studied there are several socioeconomic factors also influence a child's risk of dying. Urban children have a lower mortality risk than rural children. As expected, mothers' education is inversely related to mortality levels among young children. Richness is very strongly related to child mortality: children born to mothers in the richness families have less than half the risk of dying as those born to mothers in the poorest quintile (APHI, 2010).

In the five-year period before the Afghanistan health survey (AHS) 2018 survey the estimate for under-5 mortality rate was fifty deaths per 1,000 live births, meaning that one of every 20 children died before reaching their fifth birthday; There has been a decline in the under-5 mortality rate over the past fifteen years. The estimated rate was 69 deaths per 1,000 live births in the 10-14 years prior to the survey, falling to fifty deaths per 1,000 live births in the 5 years preceding the survey.

During this study founded that the main factors which caused and related to the mortality of children under five age are include of: Acute respiratory infections (ARI), Meningitis, Diarrhea, Pneumonia, and other infections, and Education of mother, accessibility to healthcare centers, lack or less number of doctors and nurses for children and pregnant women, malnutrition, unsafe drinking water and social factors which leading to the death of children under-five age (UNICEF-WHO, 2017).

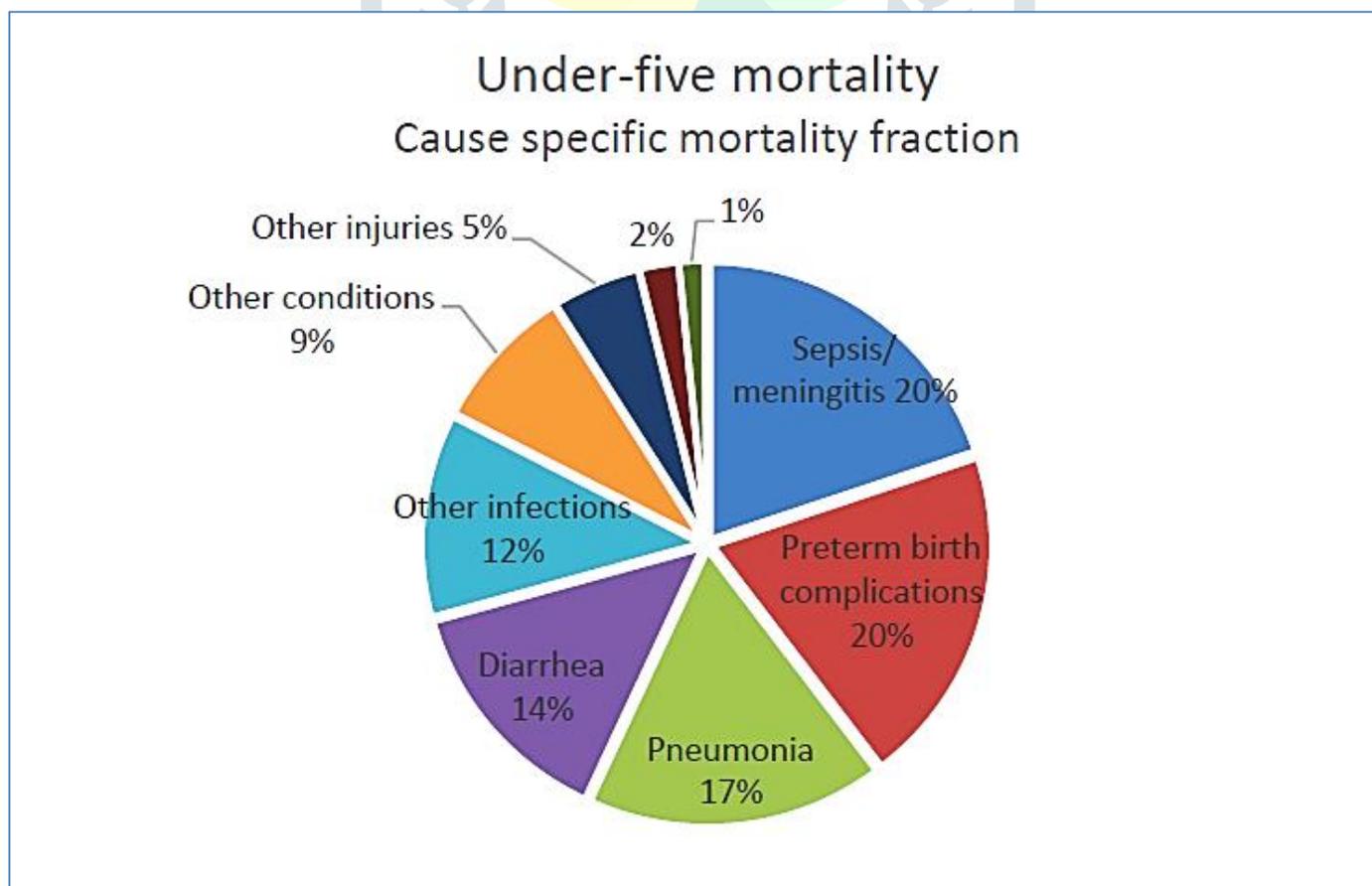


Fig1. Under-five mortality causes [UNICEF-WHO, 2017].

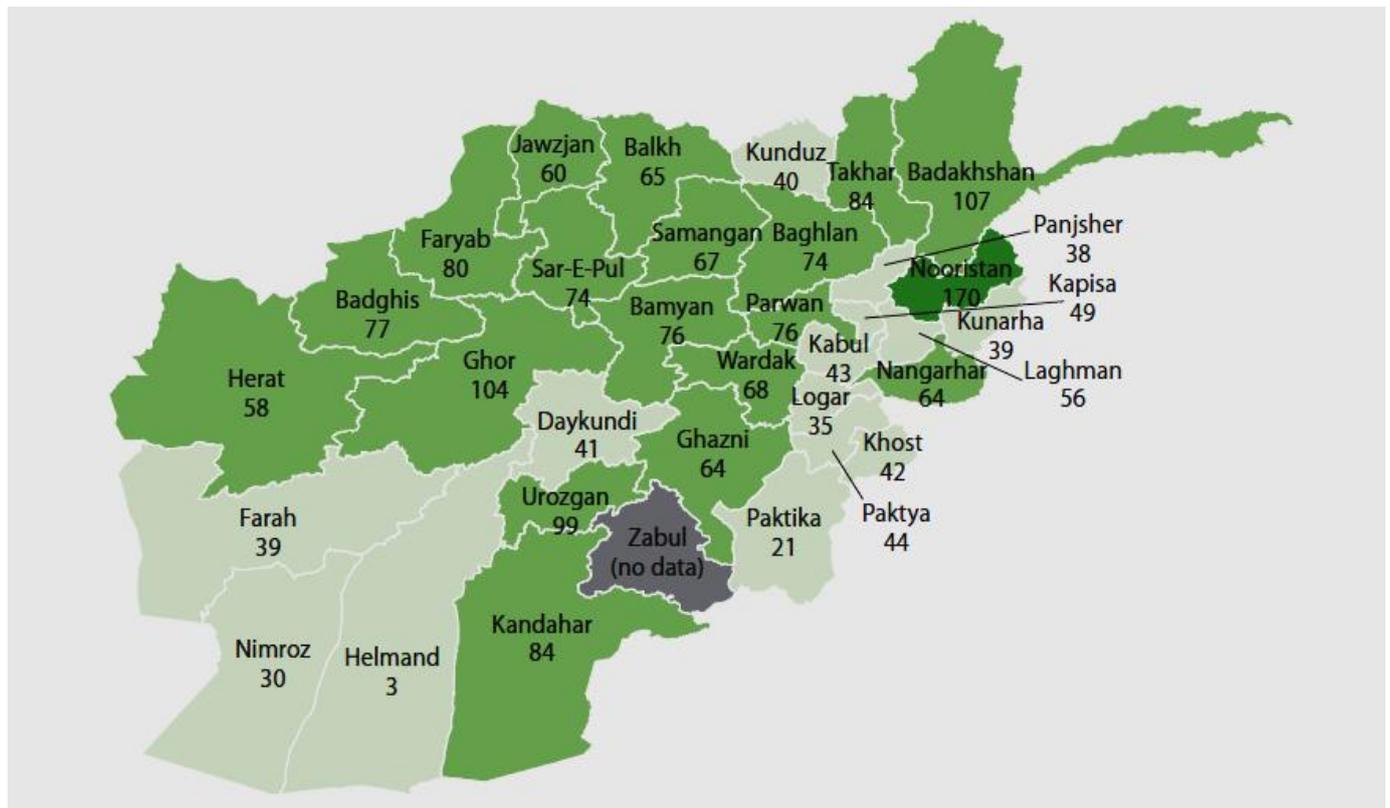


Fig1. Under-five mortality by province (Deaths per 1000) [UNICEF-WHO, 2017]

IV. Conclusion: Afghanistan is one of the countries which suffer from several decades of war, poverty and illiteracy. There are different factors which causes the mortality of children under five years old. The significant factors that caused to the mortality of children under five age in Afghanistan are include of: Acute respiratory infections (ARI), Diarrhea, Meningitis, Pneumonia, and other infections, and also linked to the education of mother, rate of accessibility to healthcare centers, less number of doctors and nurses for children and pregnant mothers, malnutrition, lack of hygienic drinking water and social factors. As studied during this research, it's also found that the duration of distance between two birth also influence the rate of child mortality and the infants born less than two years after a previous birth have high under-five mortality rates in Afghanistan.

The main factors that caused mortality among the children under five age, shows different rate of deaths in children under-five age and are include of sepsis/meningitis (19.9%), preterm birth complications (19.8%) and pneumonia (17.2%), other infections 11,8 and the other conditions also involve. And also found that among neonates, 44.1% of all neonatal deaths were due to preterm birth complications, following by sepsis/meningitis (35.2%) and pneumonia (9.4 %); Diarrhea was most common among children age 12-23 months (38 %) in Afghanistan.

REFERENCES

1. Asadi, Mohammad Haroon. 2019. *Impact Analysis of Factors Affecting Child Mortality in Afghanistan; Case Study – Balkh Province*. Afghan economic society. www.afghaneconomicsociety.org.
2. Almutairi, Abdullah. 2016. *Morbidity and Mortality in Afghanistan*. INTERNATIONAL JOURNAL OF SCIENTIFIC & TECHNOLOGY RESEARCH VOLUME 5, ISSUE 09, SEPTEMBER 2016 ISSN 2277-8616.
3. APHI/MoPH et al. (Afghan Public Health Institute, Ministry of Public Health [Afghanistan], Central Statistics Organization (CSO) [Afghanistan], ICF Macro, Indian Institute of Health Management Research (IIHMR) [India], and World Health Organization Regional Office for the Eastern

- Mediterranean (WHO/EMRO) [Egypt]). 2011. *Afghanistan Mortality Survey 2010*. Calverton, MD: APHI/MoPH, CSO, ICF Macro, IIHMR and WHO/EMRO.
4. Ansari, Nasratullah. 2012. *THE CAUSES OF NEONATAL MORTALITY IN AFGHANISTAN*. Royal Tropical Institute, Development Policy and Practice Amsterdam, the Netherlands.
 5. Adegboye, Oyelola A., and Kotze, Danelle. 2014. *Causes and patterns of morbidity and mortality in Afghanistan: Joint estimation of multiple causes in the neonatal period*. *Canadian Studies in Population* 41, no. 1–2 (2014).
 6. Central Statistics Organization (CSO), Ministry of Public Health (MoPH) and ICF. 2015. *Afghanistan Demographic and Health Survey Key Findings*. Kabul, Afghanistan: Central Statistics Organization.
 7. Ministry of Public Health of Afghanistan. 2018. *Afghanistan Health Survey*.
 8. Omar, B. Ahmad, Alan, D. Lopez, & Mie Inoue. 2000. *The decline in child mortality: a reappraisal*. *Bulletin of the World Health Organization*, 2000, 78: 1175–1191.
 9. OCHA. 2016. *Malnutrition: the silent killer in Afghanistan*. *Humanitarian Bulletin Afghanistan Issue 54 | 01 - 31 July 2016*. www.unocha.org/Afghanistan.
 10. United Nations Children’s Fund, World Health Organization, UNICEF, World Bank Group and United Nations Population Division. 2017. *Levels & Trends in child mortality*. United Nations Children’s Fund, New York, 2017.
 11. Viswanathan, K., Becker, S., Hansen, P. M., Kumar, D., Kumar, B., Niayesh, H., Peters, D. H., & Burnham, G. (2010). *Infant and under-five mortality in Afghanistan: Current estimates and limitations*. *Bulletin of the World Health Organization*. 88, 561-640.

