

Commentary

INFANT MORTALITY AMONG BLACK BABIES

Ekemini Hogan¹, Obasi Okorie², Utibe Effiong^{3*}

¹University of Uyo Teaching Hospital, Uyo, Akwa Ibom State, Nigeria.

²King Abdulaziz Specialist Hospital, Sakaka, Kingdom of Saudi Arabia.

³Central Michigan University, Mount Pleasant, Michigan, USA.

*Correspondence: Dr. Utibe Effiong; +1 (734) 489-2608; effio1u@cmich.edu

Keywords: Infant mortality, Maternal health, Infant health, Developing countries, Sub-Saharan Africa.

Cite this article: Hogan E, Okorie O, Effiong U. Infant mortality among black babies. Yen Med J. 2020;2(4):12 – 14.

Infant mortality refers to the death of young children under the age of one year, or death of a child before his/her first birthday. As a vital statistic, Infant Mortality is measured by the Infant Mortality Rate (IMR), which is the number of deaths of children under one year of age per 1000 live births, referenced against age-specific mortality rates within the same period under review.^{1,2} It is not in actual sense a rate, which would have measured the deaths by the number of the population at risk, but a probability which gives important information about maternal and infant health, and is a key marker or indicator of the overall health of a society.³ The recent U.S national vital statistic report titled “Effects of Changes in Maternal Age Distribution and Maternal Age-specific Infant Mortality Rates on Infant Mortality Trends: United States 2000 – 2017” makes an excellent case in point.⁴

The causes of infant mortalities vary from developed to developing countries, with declining trends in rates being observed generally.⁵ Globally, the reasons for these deaths revolve around problems of prematurity, birth complications, neonatal sepsis, pneumonia, diarrhoea, malaria, malnutrition and HIV.⁶ In the United States of America specifically, the five leading causes of infant mortality include low birth weight (LBW), birth defects, maternal peripartum complications, accidental and non-accidental injuries, and sudden infant death syndrome (SIDS).^{3,7} In developing countries, mortality among children less than 5 years old is observed to be highest during infancy.⁸ About 80% of these deaths occur in the first six months of life. Sub-Saharan Africa has the highest risk of death in the first month of life and is one of the regions showing the least progress in IMR reduction.

However, one fact remains undisputed: infant mortality is higher in Black babies in both developing and developed nations.³ The recent U.S national vital statistic report notes that even though IMR in the U.S. fell for all age groups, Black infants still have over twice the risk of dying as White infants.⁴

Infant mortality is unacceptable anywhere in the world, and there has been a global reduction in IMR from 65:1000 live births in 1990 to 29:1000 live births in 2018.⁵ Even so, there is an unacceptably high racial disparity in infant mortality and these need to be addressed. In the United States, although there has been a decline in infant mortality, Black infants are observed to have about 2.3 times the infant mortality rate of White infants. Black infants are 3.8 times more likely to die from low birth weight complications and Black mothers are more likely to receive late or no prenatal care at all than White mothers.⁸

It is known that socioeconomic status which includes the level of education, employment, and occupational structure, and economic income bracket are fundamental determinants of health as they influence many other intermediate factors. Also, maternal demographics and behavioural factors e.g. birth out of wedlock, maternal age less than 20 years, alcohol use during and after pregnancy, and access to prenatal care are important predictors of maternal and infant mortality. Some of these factors are more prevalent in Blacks and even after adjusting for differences in maternal socioeconomic status and behaviour, significant disparity still exists in IMR between Black and White babies.

In a study of all births to Black and White mothers between 1989 and 2005,⁹ it was noted that socioeconomic status, maternal demographics, and health access differences accounted for one-third of the White-Black differences in infant mortality, and 30% of the disparity in several specific causes of infant mortality including homicide, short gestation, and LBW. During pregnancy, the mother's health environment, which is a direct translation of her socioeconomic status, affects the outcome of the pregnancy and infant health. The higher Black IMR, therefore, reflects the poor health status of Black mothers.¹⁰

The factors that power the observed racial differences in IMR are usually different from those that are responsible for the reductions in IMR and both sets of variables must be tackled simultaneously. Being of the Black race or ethnicity has been linked in some studies to certain social inequalities that determine socioeconomic status: income, maternal education, maternal age, and marital status, parity, smoking, alcohol and substance abuse, and health insurance coverage.¹⁰ Household income status is a very important variable which is often low among Black families compared to White households, and which impacts on the ability of the mother to seek and afford appropriate health care, often translating to low birth weights of Black babies and higher IMR. Parental education is also a significant contributor to infant mortality among normal-weight babies, with most Black mothers being of low educational background. Studies have found that even among college-educated parents, different rates of low and very-low birth weight babies account for higher Black IMR when compared to White populations (who often have fewer cases of LBW babies).¹² It has also been observed that with effective statistical controlling of the effects of perinatal diseases, birth weight has a more pronounced contribution to race-stratified IMR than maternal age. Some studies have shown advanced maternal age as being protective against increased infant mortality rates, contrary to popularly held opinion.¹³

To effectively eliminate racial infant mortality differences, there must be an appreciation of the contributing risk factors. The understanding of racial disparities in IMR must necessarily drive the translation of epidemiological data into enforceable public health policies by actively engaging the political leaders of the day.¹⁰ Efforts have been made towards narrowing the Black-White gap in

IMR at the state and federal levels through various "Women, Infants and Children" programs which are meant to provide support and risk-appropriate care for pregnant women and children (especially LBW and preterm babies).¹³ Despite these efforts, the margin in Black-White mortality rates seems to still be on the increase. For better understanding, more research into the mechanisms that produce racial disparities is needed to guide policymaking and interventions aimed at narrowing the gap.⁹

There is a need for a higher level of coordination in the investigative efforts and interdisciplinary collaboration aimed at unravelling the links between social and biological determinants of infant mortality while also providing alternative explanations for the observed racial disparities in IMR.¹⁰ Improved educational and professional/technical empowerment of Blacks could directly narrow the gap in IMR racial disparity, and this could create a safe infant home environment thereby reducing the incidence of contributory postnatal conditions like SIDS. These interventions could well apply to both developed and developing countries.

Author's contributions: All authors contributed to resource gathering, drafting, editing and refinement of the commentary. All authors reviewed and approved the final manuscript.

REFERENCES

1. UNICEF. Child mortality. UNICEF Data. Available from: <https://data.unicef.org/topic/child-survival/under-five-mortality/>. Accessed July 5, 2020.
2. World Health Organization. Global Reference List of 100 Core Health Indicators, 2015: Metadata. Available from: <https://www.who.int/healthinfo/indicators/2015/metadata/en/>. Accessed July 12, 2020.
3. Centres for Disease Control and Prevention. Infant Mortality. Available from: <https://www.cdc.gov/reproductivehealth/maternalinfanthealth/infantmortality.htm>. Accessed July 20, 2020.
4. Driscoll AK, Ely DM. Effects of Changes in Maternal Age Distribution and Maternal Age-specific Infant Mortality Rates on Infant Mortality Trends: United

- States, 2000-2017. *Natl Vital Stat Rep.* 2020;69(5):1-18.
5. UNICEF, WHO, World Bank, UN-DESA Population Division. Levels and trends in child mortality report 2019. World Health Organization. Available from: https://www.who.int/maternal_child_adolescent/documents/levels_trends_child_mortality_2019/en/. Accessed July 20, 2020.
 6. Vakili R, Khademi G, Vakili S, Saeidi M. Child mortality at different world regions: A comparison review. *Int J Pediatr.* 2015;3(4):2.
 7. Ashworth A, Waterlow JC. Infant mortality in developing countries. *Arch Dis Child.* 1982;57(11):882-884.
 8. U.S Department of Health and Human Services Office of Minority Health. Infant Mortality and African Americans. Available from: <https://minorityhealth.hhs.gov/omh/browse.aspx?lvl=4&lvlid=23>. Accessed July 20, 2020.
 9. El-Sayed AM, Finkton DW Jr, Paczkowski M, Keyes KM, Galea S. Socioeconomic position, health behaviors, and racial disparities in cause-specific infant mortality in Michigan, USA. *Prev Med.* 2015;76:8-13.
 10. Wise PH, Pursley DM. Infant mortality as a social mirror. *N Engl J Med.* 1992;326(23):1558-1560.
 11. Eberstein IW, Parker JR. Racial differences in infant mortality by cause of death: the impact of birth weight and maternal age. *Demography.* 1984;21(3):309-321.
 12. Schoendorf KC, Hogue CJ, Kleinman JC, Rowley D. Mortality among infants of black as compared with white college-educated parents. *N Engl J Med.* 1992;326(23):1522-1526.
 13. Kitsantas P, Gaffney KF. Racial/ethnic disparities in infant mortality. *J Perinat Med.* 2010;38(1):87-94.