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Original Research Article

Perceptions of third year degree nursing students at University of Namibia, regarding the causes of infant mortality rate in Windhoek, Havanna informal settlement, Namibia

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ABSTRACT

Background: The purpose of the study was to determine the knowledge and attitude of 3rd year degree nursing students at UNAM regarding the causes of infant mortality rate in Windhoek, Havana settlement, Namibia.
Methods: A cross sectional descriptive study was conducted on the 3rd year nursing students at UNAM. A sample size of fifty students was used. Questionnaires were used to obtain data; data collected included socio-demographic data, questions on knowledge and attitudes. The data obtained was analyzed using descriptive analysis and presented using narration, tables, pie charts and bar graphs.
Results: A response rate of 100% was achieved. The majority of the participants were female 94% and 6% were male, with grade 12 certificates as highest level of qualifications. Overall participants had good knowledge on the causes of infant mortality in the Havana informal settlement, Windhoek Namibia.
Conclusions: Participants displayed good knowledge and attitude regarding the causes of infant mortality rate in Havana informal settlement, Windhoek Namibia.

Keywords: Immunization, Infant mortality, Informal settlement, Nutrition, Pregnant mothers, Vaccinations

INTRODUCTION

According to Baeyens and Goffin reducing infant mortality is one of the goal of the health sector and society at large. Within developing countries, HIV/AIDS and malaria remain big killer diseases globally for 2018 alone, an unprecedented 6.2 million children and young adolescents below the age of 15 died, mostly from preventable causes, following progress over the past two decades. Infants account for 2, 5 million of these fatalities, 1, 5 million children aged 1-11 months, 1, 3 million children aged 1-4 years, 560,000 children aged 5-9 years and 360,000 young adults aged 10-14 years.[1,2] According to UNICEF child mortality still constitute a huge part of loss of life in 2020 with an estimated 5 million dying before reaching the age of 5 without including deaths attributed by COVID-19. In this research, the researcher aspired to determine the knowledge and attitude of third year degree nursing students at UNAM, regarding the causes of infant mortality rate in Havana settlement.[3]

Currently, millions of kids have greater chances of survival than in 1990, from 93 per cent in 1990 to 39 per cent deaths per 1,000 live births in 2018, the under-five mortality rate was lowered by 59 per cent. This is equal to 1 in 11 children dying in 1990 before they reach 5 years of age, relative with 1 in 26 in 2018. After 1990, the infant mortality rate has been lowered by at least half in most sustainable development goal regions.

Infant mortality has been a major concern around the entire globe for several years, especially in the Sub-Saharan African region. Sub-Saharan African countries have a higher infant mortality rate in the world, with infant mortality of 104 deaths per 1000 live births in 1990's, whereas the infant mortality rate for other less industrialized countries was 71 deaths per 1000 live births.[4] Under-five mortality rate (per 1,000 live births) declined from 163 in 1990 to 100 in 2011. Neonatal sepsis is one of the major causes of under-five mortality. In 2010, 15% of infant deaths in Africa can be traced to delivery-related infections. Pneumonia diagnosis in sub-Saharan Africa has increased from 36% in 2000 to 46% in 2010 in rural areas and from 49% to 52% in urban areas. Diarrhoea causes about 11 per cent of infant deaths worldwide, with nine-tenths of these fatalities happening in sub-Saharan Africa. Sub-Saharan Africa's socio-cultural and social economic factors have been identified as having a major impact on these high infant mortality rates in various studies.[5]

In the Namibian context, in 2018, infant mortality rate for Namibia was 29 deaths per 1,000 live births. Infant mortality rate of Namibia fell gradually from 63 deaths per 1,000 live births in 1969 to 29 deaths per 1,000 live births in 2018. The most cause of elevation in infant mortality rate in Namibia more especially in informal settlement is pre-term birth which results from drug/ alcohol abuse in pregnancy or failure to attend Antenatal care during pregnancy.[4] It has come to the attention of the hospitals matrons that 3rd year degree Nursing students do not give proper health education to pregnant women at their antenatal care visits to prevent the causes of infant mortality rate. This signifies an important need and it compelled a researcher to conduct this study in attempt to equip students with knowledge in prevention of infant mortality in informal settlement. This study was conducted to look at the knowledge and attitude of 3rd year degree nursing students at UNAM, regarding the causes of infant mortality rate in Windhoek, Havana informal settlement, Namibia. Amani et al., defined infant mortality as a number of resident new-borns in a specified geographic area (country, state, and country) dying under one year of age divided by the number of resident live births for the same geographic area, for a specified time period, usually a calendar year and multiplied by 1000.[2]

Aim and objectives

Aim of the current study was to determine the knowledge and attitude of third degree year nursing students at UNAM on the causes of infant mortality rate in Windhoek, Havana settlement, Namibia and objectives of the study were to assess the level of knowledge of 3rd year degree nursing students at UNAM regarding the causes of infant mortality rate in Windhoek, Havana settlement and to determine the attitudes of third year degree nursing students at UNAM regarding the causes of infant mortality rate in Windhoek, Havana settlement.

METHODS

Study design, location, duration and population

A cross-sectional descriptive design was used for the purpose of this research study and employed quantitative approaches. The current study was conducted at University of Namibia, Windhoek campus over a period of two months i.e. 01 July 2020 to 31 August 2020. The total population of the third year nursing students within the School of Nursing was 106.

Target population

The target population in this study was the 3rd year nursing students from the School of Nursing, hence they are at tail of completing their study, thus they needed to be assessed to determine their level of competence regarding causes of infant mortality rate.

Sample size

The researcher used the Yamane formula,

$$n = N/(1 + N\ (e)\ 2)\ n$$

where N signifies the population under study and e signifies the margin error (0.05). The third-year degree nursing students in the School of Nursing were 106 students; the calculated sample was 84 but those responded to the questionnaire were only 50, therefore this resulted in a sample size of 50 participants.

Pilot study

Pilot study is described as a smaller version of the proposed study which is conducted to develop and refine the methodology. The reasons for conducting the pilot study were to: Determine whether the proposed study was feasible, identify any problems with the questionnaire, the main purpose however was to determine whether the questions were clear and understandable to the participants and to make necessary adjustments to the instrument based on the outcomes of the pilot study.

Data collection

In this study the researcher used questionnaire in online link form to collect data from participants. The researcher posted the link on class WhatsApp group this made easier identifying all the participants that met the inclusion criteria and indicated their willingness to take part in the study.

Data analysis

Data analysis was done using Microsoft Excel. According to Brink et al., data analysis involves the reduction and organisation of data in order to produce the research

findings. The data analysis process produced the results that were interpreted by the researcher.[6]

RESULTS

Demographic profile of the respondents

The sample of the study was 84 but only 50 respondents managed to participate in the study which translated to 61.7% response rate. The majority 94% of the respondents were female while only 6% were male. 96% of the respondents were aged between 18-25 years and only 4% were aged between 26-30 years. The majority 96% of the respondents were Namibians while 4% were from the Southern Africa region. All the respondents had grade 12 certificate as their highest qualification. A total of 50 participants or students participated in this study.

The gender of the participants

Out of the 50 participants that took part in this study, 6% were males and 94% were females. The gender of the participants is shown in the (Figure 1).

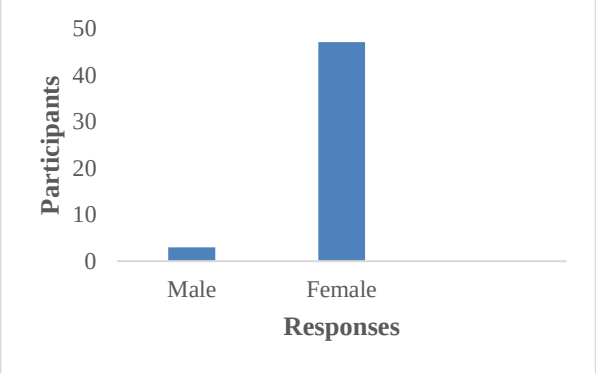

Figure 1: Gender based distribution.

The age of the participants 92.4% were of 18-25 years of age, 1.8% was in age range of 26-30 years. Due to the fact that the participants were 3rd year university students, the majority of the students fell in the category of 18-25 years of age.

Knowledge

The figure below shows that most of the participants indicated that poverty is the cause of infant mortality in Havana whilst some of the participants indicated that the level of education of mothers contributes to the causes of mortality rate in the concerned settlement. The results collected from participants portrays that 50.9% participants indicated that maternal pregnancy complications as the major cause of infant mortality rate in the Havana settlement whilst a total of 3.7% indicated that preterm births is the major cause of the problem (Figure 2). The figure above shows that 78% participants indicated that giving health education to pregnant mothers during ANC visits can reduce the causes of infant mortality rate in Havana informal settlement while other participants believe that encouraging family spacing can help reduce the increased infant mortality rate in the Havana informal settlement.

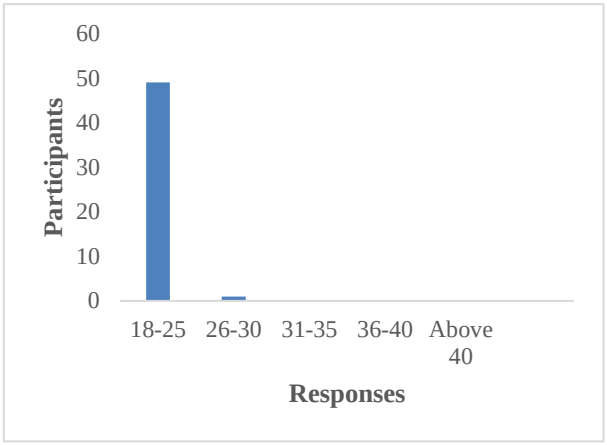

Figure 2: Age.

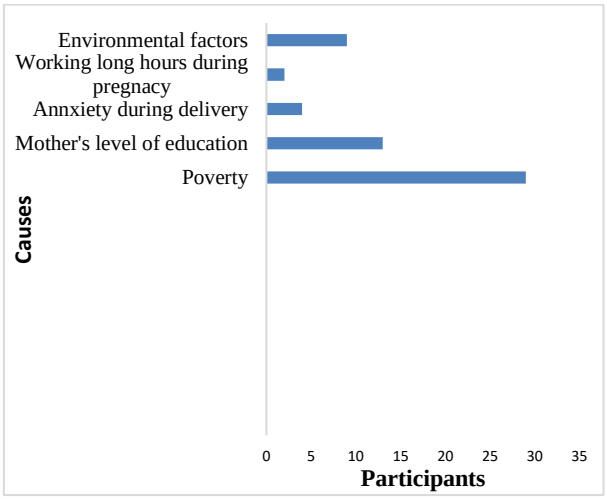

Figure 3: Causes of the infant mortality in Havanna informal settlement.

Attitude

Statements regarding attitudes to infant mortality rate is depicted in (Table 1).

The attitudes of third year degree nursing students at UNAM regarding the causes of infant mortality rate in Windhoek, Havana settlement

The study sought to determine the attitudes of third year degree nursing student at UNAM regarding the increase in infant mortality rate in Windhoek, Havana settlement. 83% respondents agreed that infants whose mothers had no ANC follow ups are more likely to die than those whose mothers have at least one follow up and they encouraged mothers to come for ANC follow ups while

5.6% disagreed to the former mentioned statement. The results also showed that participants agreed to encourage healthy mothers to breastfeed. A total of 90.5% participants agreed that pregnant mothers who smoke or use alcohol are putting their infants at risk of death while the remaining percentage indicated that they were not sure.

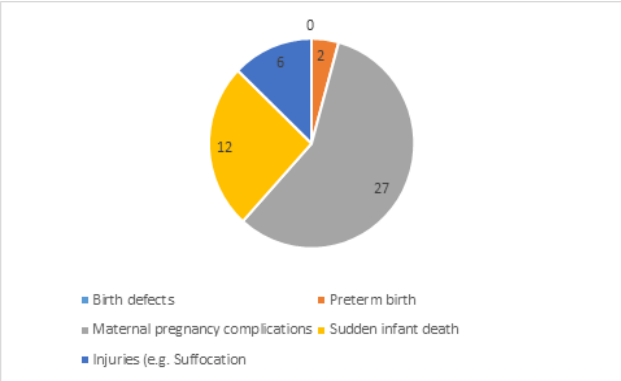

Figure 4: Major causes of in infant mortality rate in Havana informal settlement.

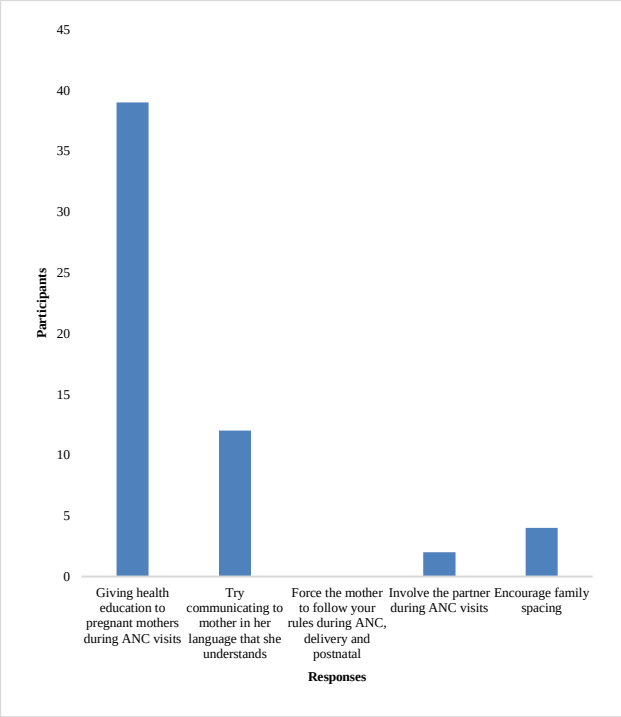

Figure 5: Ways to reduce infant mortality rate in Havana informal settlement.

Knowledge level of third year degree nursing students at UNAM regarding the causes of infant mortality rate in Windhoek, Havana informal settlement

The study sought to determine the knowledge level of third year nursing students at UNAM regarding the causes of infant mortality rate in Windhoek, Havana informal settlement. The findings, showed that most 52% of the participants indicated that poverty is the cause of increase in infant mortality in Havana, whilst 16% of the participants indicated that the level of education of mothers contributes to the causes of mortality rate in the concerned settlement. Fifty two percent 52% participants believe that high level of poverty is the reason why there is an increase in infant mortality rate in the Havana settlement compared to other urban areas and a total of 28% participants believe it is because of poor environment. Majority of participants 50.9% indicated that maternal pregnancy complications are the major cause of infant mortality rate in the Havana settlement whilst a total of 3.7% indicated that preterm births is the major cause of the problem. This study shows that 78% of the participants indicated that giving health education to pregnant mothers during ANC visits can reduce the causes of infant mortality rate in Havana informal settlement while other participants believe that encouraging child spacing can help reduce the causes of infant mortality rate in the Havana informal settlement.

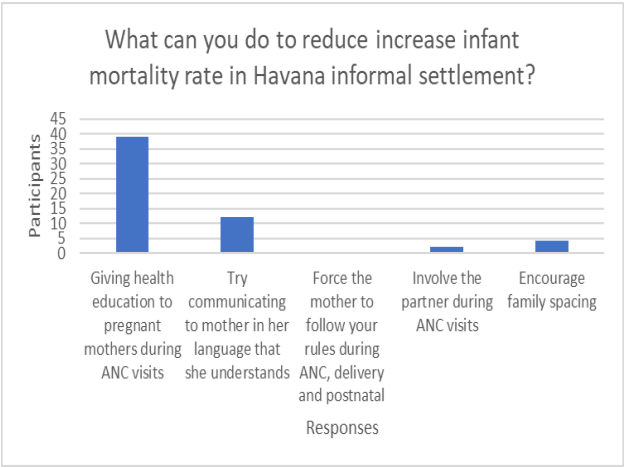

Figure 6: Ways to reduce infant mortality rate in Havana informal settlement.

DISCUSSION

A total of 52% participants indicated that poverty is the cause of increased infant mortality, this is consistent with Giedraitis et al who found that economic determinants were predictors of infant mortality and that mortality rates were higher in the poorer classes.[7] Gabaitiri et al found that infant mortality is determined by education, wealth and age in Angola.[8] Leduc et al found a relationship between infant mortality indicators and employment, with household income being considered as a shield against infant mortality.[9] While on the other hand, Nutiye revealed that there is no direct effect on infant mortality. Wealth can only influence the health of the infant for instance infants born in wealthy families have access to a healthy diet compared to those born in poor families.[10] A total of 50,9% participants indicated that the major cause of infant mortality rate in Havana settlement is maternal pregnancy complications. Women with pre-eclampsia were found to be at higher risk of stillbirth compared to

women with complicated pregnancy according to Schuurmans et al 78% of the participants indicated that giving health education to pregnant mothers during ANC visits can be done to help reduce the causes of infant mortality rate.[11] The study found that 83% participants agreed that they encourage mothers to go for ANC follow up. Kimanzi in Kenya confirmed that 93% of adolescent mother had at least one ANC visit and that only 2% of the mothers experienced infant mortality. Terye also found that ANC is a determinant of infant mortality and that mothers who did not have access to ANC experienced pregnancy complications which caused infant mortality.[12,13]

Table 1: Attitudes towards causes of infant's mortality rate.

Statements	Agree (%)	Disagree (%)	Not sure (%)
Infants whose mothers had no ANC follow up are more likely to die than those whose mothers have at least one follow up. Do you encourage mothers to come for ANC follow up?	83	5.6	13.2
Improving nutrition reduces infant mortality. Do you encourage mothers to improve nutrition?	98.1	1.8	0
Breast milk help reduce infant mortality rates. Do you encourage healthy mothers to breastfeed?	94.3	1.8	0
Maternal vaccinations help reduce infant mortality rates. Are expecting mothers vaccinated?	79.2	11.3	9.4
Infants that did not complied with immunization schedule are more likely to be at risk of death.	77.3	1.8	20.7
Pregnant mothers that smoke/ use alcohol is putting their infant at risk of death.	90.5	0	5.6

In this study, 94.3% participants agreed to encourage healthy mothers to breastfeed. Tafere et al in their study in North West Ethiopia found that nutritional advice offered to pregnant women during ANC visits had a significant effect on the child's weight.[14] This study highlighted that 79.2% participants agreed that maternal vaccinations help reduce infant mortality. Most of the participants 77.3% agreed that infants that did not comply with immunization schedule are more likely to be at risk of death. This is consistent with Bland who found that strategies used to reduce infant mortality include immunisations and breastfeeding. The findings are also similar with Bohara that most of the mothers followed complimentary infant feeding at the age of 6 months with 54% of the mother doing so at the age of 4 months. Furthermore, 75.4% of the mother breastfed their infant 1 hour after birth while 64.9% of the mother exclusively breastfed their infants for the first six months. This signifies the importance of breastfeeding and nutrition in infants.[15,16] This study also found out that 90.5% participants agreed that pregnant mothers that use smoke/alcohol are putting their infants at risk of death. This is in accordance with Klaman et al., who argued that consumption of alcohol can harm the growth of the fetus.[17]

Limitations

This study was limited to Havana informal settlement, therefore the findings of the research focused on a small part of Windhoek. The study affected by limited financial resources and only focused on the under 5 mortality rates and no other disaggregation was done.

CONCLUSION

The participants displayed good knowledge on what is causing infant mortality rate in Havana informal settlement. They further showed good knowledge on what can be done to reduce the causes of infant mortality rate in Havana informal settlement. In conclusion the participants displayed good attitude regarding the increasement of infant mortality rate in Windhoek, Havana settlement.

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Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

Recommendations

It is recommended that students be given more tours or opportunities to tour informal settlements to get exposure to more informal settlements (Havana included) to assess the situation in those settlements and be able to detect problems and give health education and interventions appropriately. Therefore, the knowledge that the students obtain might be used to improve understanding of infant mortality and UNAM body of knowledge. Moreover, studies on the factors that cause pregnancy complications in informal settlements are recommended, this will help provide more insight on the health challenges faced by pregnant women living in informal settlements.

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REFERENCES

1. Baeyens A, Goffin T. Selected Legislation and Jurisprudence: European court of Justice. Eur J Health Law. 2015;22(3):301-7.
2. Amani J, Bajraktarevic S, Awadallah Y, Obaid S. Strengthening Postnatal care in Gaza: A home-Visiting Programme for Mothers and Newborns. BMC Pediatr. 2016;3:20-1.
3. Progress for Children, a Child Survival Report Card. Available at: https://www.unicef.org/media/. Accessed on 20 November 2021.
4. World Health Statistics 2016, Monitoring Health for the SDGs. Available at: https://www.aidsdatahub.org/. Accessed on 20 November 2021.
5. Matthews TJ, Ely DM, Driscoll AK. State Variations in Infant Mortality by Race and Hispanic Origin of Mother, 2013-2015. NCHS Data Brief. 2018;(295):1-8.
6. Brink H, van der Walt C, van Rensburg G. In: Professionals, Fundamental of research methodology for healthcare professional fundamental of research methodology for healthcare. South Africa: Formeset Printing press; 2015.
7. Khadka KB, Lieberman LS, Giedraitis V, Bhatta L, Pandey G. The socio-economic determinants of infant mortality in Nepal: analysis of Nepal Demographic Health Survey, 2011. BMC Pediatr. 2015;15:152.
8. Gabaitiri M, Simao R, Gallo PR. Infant mortality in Cabinda, Angola: challenge to health public policies. Rev Bras Epidemiol. 2013;16(4):826-37.
9. Bugelli A, Boujut A, Verty LV, Maltezos S, Lussier M, Mellah S, Bherer L, Belleville S. Effects of computerized updating and inhibition training in older adults: The ACTOP three-arm randomized double-blind controlled trial. Front Neurol. 2020;11:606873.
10. Nutiye S, Aksit B. Sociocultural determinants of infant and child mortality in Turkey. Soc Sci Med. 1989; 28(6):571-6.
11. Schuurmans J, Borgundvaag E, Finaldi P, Senat-Delva R, Desauguste F, Badjo C, et al. Risk factors for adverse outcomes in women with high-risk pregnancy and their neonates, Haiti. Rev Panam Salud. 2021;45: e147.
12. Kimanzi S. Maternal health care services and infant mortality In Kenya. Available at: http://erepository. uonbi.ac.ke/. Accessed on 20 November 2021.
13. Adane AA, Bailey HD, Marriott R, Farrant BM, White SW, Morgan VA, et al. Role of maternal mental health disorders on stillbirth and infant mortality risk: a protocol for a systematic review and meta-analysis. BMJ Open. 2020;10(5):e036280.
14. Tafere TE, Afework MF, Yalew AW. Providers adherence to essential contents of antenatal care services increases birth weight in Bahir Dar City Administration, north West Ethiopia: a prospective follow up study. Reprod Health. 2018;15(1):163.
15. Bland A. Prizewinning dissertation 2020 fighting the ‘ forgotten ’ disease : list -based analysis of pneumonia prevention interventions to reduce under-five mortality in high-burden countries. Rev Panam Salud. 2017; 44(2):48-52.
16. Bohara B. Influence of infant feeding practice on the nutritional status of 6-59 months aged children in Majhi Community of Ramdhuni Municipality, Sunsari. Reprod Health. 2021;32:34-8.
17. Klaman SL, Andringa K, Horton E, Jones HE. Concurrent opioid and alcohol use among women who become pregnant: historical, current, and future perspectives. Subst Abuse. 2019;13:117.

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