Review of: "Using a Health and Demographic Surveillance System to Assess Stillbirths Trends and Risk Factors in Siaya County, Kenya between 2008 and 2019"

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Potential competing interests: No potential competing interests to declare.

Overall a very interesting topic especially for developing countries.

Abstract

In total, we analyzed 59,028 records out of which 1,250 (2.1%) were stillbirths. Over the years, the prevalence of stillbirths reduced from 3.69% to 1.77% from 2008 to 2019.

The trend was irregular especially in Gem sub-County. What is irregular trend?

Results: Risk factors included mother's age >36 years, having no formal education, living in Rarieda sub-County, low wealth index and year of pregnancy, particularly in 2008 and 2012. Important to report significant risk factors, unable to identify any analysis on low wealth index in the results section. Researcher should also show the evidence for 2008 & 2012 as risk factors.

Conclusion: We propose working with the Community Health Volunteers to by sensitizing women on safe pregnancy and encouraging deliveries at the community level. Was improving the ANC coverage and delivery at community level independent variables of the study? Results in abstract is not saying anything about ANC coverage and delivery. Conclusion should be in line with the results of the study .

Introduction:

The full extent of stillbirth rates is challenging to assess given the small number of studies.

In order to reduce the stillbirth rates, the World Health Organization (WHO) set the global target for all countries to achieve a rate of 12 or fewer per 1000 total births by 2030 (WHO, 2014). **To be able to meet this target however, detailed surveillance data is required to decide on implementation of the most likely effective interventions to reduce stillbirth rates. Rephrase this statement, as surveillance data is one of the many ways to determine the risk factors contributing to still birth.**

The WHO recommends eight antenatal care (ANC) clinic visits, which is an increase from the previous four visits (WHO, 2016) because there is evidence that frequent contacts with health providers reduces the likelihood of experiencing a stillbirth. (Apart from still births what are the other benefits?). The author however is using 4 ANC visit as independent

variable in results and discussion. I suggest for author to also read WHO FANC 2016 model

Methods: We used data collected by the Kenya Medical Research Institute's Health and Demographic Surveillance System to analyze trends and risk factors for stillbirths in Siaya County, Kenya in the period between **2008 and 2**

Study design

We analyzed pregnancy outcomes using data collected through KEMRI-CGHR HDSS between**2011 and 2020. Author can say it was a retrospective cross sectional study & secondary data collection was used?? Having said this the readers will already have the strengths and limitations in their mind. Also was it 2011 & 2020 or 2008 and 2019?**

The pregnancy outcomes are captured as: single live birth, multiple live birth, single stillbirth, multiple stillbirth, induced abortion and spontaneous abortion. For this analysis, we grouped the pregnancy outcomes into two, live births and stillbirths. On the other hand, single and multiple stillbirths were added and reported as "stillbirths", while cases of live and stillbirths were dropped. ??? What does dropping mean? Can have another sub section as sample size

Results:

Out of these, 1752 migrated out of the study area before having a pregnancy outcome and**nformation about 2,561 pregnancies was missed.** After excluding miscarriages and abortions, we analyzed 59,028 pregnancy outcome records out of which 1,250 (2.1%) were stillbirths. Get a flow diagram done for the readers to be able to understand better the sample size. Please check the results as from calculations total analysis will be 59,152 which will give 2.1% SB rates.

Trends of stillbirths

The stillbirths' trends in Alego-Usonga and Rarieda sub-Counties are similar despite Rarieda displaying slightly higher ratesOn the other hand, the stillbirth trend in Gem is **unstable,** see Figure 1. Unstable trend?? Can say inconsistent with the other 2…

Results:

Narration of descriptive studies is missing– author to give a brief descriptive epidemiology of the sample

Factors that showed an increased chance for a stillbirth outcome are age (>36),**education status (limited or none)**, having had four and above pregnancies, living in Rarieda sub-County and experiencing a pregnancy outcome in 2008 and 2012. Attending at least four antenatal care (ANC) clinic visits shows a protective effect (OR = 0.61, 95% CI: 0.34, 1.09) although not statistically significant. Combining all the factors assessed, except ANC clinic visits, the significant determinants for stillbirth are mother's education level, number of pregnancies, sub-County of residence and year of pregnancy outcome.

Results indicated that the number of ANC clinic visits of four and above has a statistically significant protective effect (adjusted OR = 0.51, 95% CI: 0.27, 0.96). If we used AOR then the only significant predictor for the still birth is age more than 35yrs & living in Gem (which is a protective factor for still birth). If crude OR is used then it will be age, living in Gem

and educated as significant protective factors for SB. However, the author has failed to show any analysis for the ANC visit or the year of pregnancy in the table or separately.

Discussion

Another possibility for the spiked stillbirth rates is health workers' industrial action. Spiked stillbirth? Rephrasing is recommended

The study findings show unstable stillbirth rates in Gem sub-County, for instance, where Rarieda and Karemo experienced a spike in 2012 data shows a decline in Gem – Please rephrase

In their report, the rate of stillbirths jumped from 19.0 in 2011 to 24.6 per 1000 births in 2012, which could be due to the health workers' nationwide industrial action. Rephrase

Therefore, the reducing trend is an indication that the four ANC visits aimed at reducing stillbirths among other adverse pregnancy outcomes is slowly producing positive results. The above discussion did not discuss about ANC and the author is already putting implications, can be included later. However, author first needs to show the analysis of ANC visits and SB

In addition to the stillbirths' trend, we assessed risk factors and observed that mother's age, education level, number of pregnancies, sub-County of residence, number of antenatal care (ANC) clinic visits, socio-economic status and year of pregnancy outcome were important individual predictors of stillbirth. Which SE status was analyzed in the current study? Moreover, how was year of pregnancy a significant determinant of SB? Author has mentioned in the introduction that at least 8 visits are needed but she is focusing on 4 visits in the discussion, author needs to be consistent throughout.

Limitation

Author needs to mention the limitation for secondary data analysis such as missing data as was the case with ANC visits

Conclusion

Author needs to conclude how they can tackle the factors determining the risk for still birth rather than just attributing it to number of ANC

We recommend surveillance systems and research studies that target women of reproductive age directly and incorporate measures to address emotional disturbance following a failed pregnancy.

How can these studies address emotional disturbances after a failed pregnancy?

Finally, our findings advocate for quality antenatal care services, which is consistent with findings of other research studies (Afulani, 2016; Ballard et al., 2016; Wastnedge et al., 2021). How?