

# The prevalence of adverse pregnancy and birth complications among elderly primigravidas in Kakamega County, Kenya

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**Abstract:** Maternal age at conception seems to have a significant correlation with pregnancy and childbirth outcomes. Classically, very young childbearing women and those over 35 years have been classified as high-risk categories for child bearing.. The specific objective of the study was to determine the prevalence of adverse pregnancy birth complications among elderly primigravidas in Kakamega County, Kenya. A cross sectional survey of childbearing women and selected hospital personnel in 3 selected hospitals and tertiary institutions in Kakamega County was carried out. Sampling strategies included purposive, quota and stratified sampling. The sample size was determined using Fishers formula, which was 177 childbearing women attending clinic, 177 child bearing women from tertiary institutions and 30 medical personnel. Data collection methods included structured questionnaires, focused group discussions, interview guides and observation checklists. . Qualitative methods were used to analyze data from focus group discussions and key informant interviews. SPSS was used to analyze quantitative data. Key results of the findings revealed that the prevalence of adverse complications occurred mainly in childbearing women from age 35 years and above. The complications included pre eclampsia, ante partum haemorrhage and premature rupture of membranes among others. The recommendations to mitigate the problem include health education to women on the dangers of late age pregnancy, development of government policies on access to quality maternal health services for elderly primigravidas and maternity protection in the work place.

**Keywords:** prevalence, primigravidas, adverse, complications.

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## 1. BACKGROUND

While maternal survival has improved substantially worldwide since 1990, with 1.9% annual decline in mortality between 1990 and 2011, deaths continue to be concentrated in Sub-Saharan African and South Asian countries where the lifetime risk of a woman dying from pregnancy-related causes is about 100 times higher than that of a woman in a high income country (WHO *et al*, 2017). The past 50 years have seen immense transformations in the educational and the reproductive expectations of young people in the developing world. Investing in education is one of the most emphasized components of development (UNESCO, 2009). Late age pregnancies have been reported to result from extended education up to tertiary level, settling in employment, a desire for financial security, building a career among others (Freeman, 2002). Based on the information therefore, many women are opting to have babies late in life as opposed to the earlier generations and the risks of this cannot be ignored or overlooked because as a woman becomes older, the probability of becoming pregnant decreases leading to late age related complications or infertility. The current TFR of 3.9 for the whole country is the lowest ever recorded in Kenya (KDHS, 2014). In addition, the probability of having a miscarriage is higher and there is an increased risk of chromosomal abnormalities in the baby (Bewley, 2009). This is a potential disaster that is already in the making and an intervention needs to be taken to enable the society cope with this emerging trend.

.While the global maternal mortality rate has been decreasing at a rate of 2.3 per cent, it is still less than half of the 5.5 per cent needed to achieve the three-quarter reduction required of the WHO sustainability goal. Moreover, large geographical inequalities persisted. For example, regionally, sub-Saharan Africa remained by far the one with highest MMR at 546 maternal deaths per 100,000 live births while the average in developed countries was just 12 maternal deaths per 100,000

live births (WHO, 2014). Kenya is among the 10 countries that comprised 58 percent of the global maternal deaths in 2013, contributing 2 percent of these deaths. (National Council For Population And Development, 2015). A case in point is Kakamega County which in 2014 was ranked fifth amongst 15 counties with the worst reproductive maternal neonatal child and adolescent health statistics in Kenya (Kagweni Micheni, 2017).

## **2. STATEMENT OF THE PROBLEM**

Generally, pregnant women experience obstetrical as well as medical complications during pregnancy and childbirth. However, what is not being addressed is the fact that these obstetric risks and birth complications increase with advancing age (Cleary *et al*, 2006). Kenya had the lowest fertility rate in East Africa of 3.9 (Kagweni,2017), the lowest ever recorded (KDHS, 2014) and 15 counties (including Kakamega County) account for 98.7% of total maternal deaths in the country (KDHS 2008-2009). This is a disaster on the reproductive health of these mothers, the babies born to them and society at large as it will increase complications and consequently require more funding to mitigate the negative outcomes of this disaster. Thus, the health implications of delaying childbirth should not be ignored by women who are looking forward to motherhood. Much as recurring causes for both pregnancy and birth related complications persist among childbearing women, little is known about the risk factors underlying the continued increase to these adverse outcomes (John *et al*, 2006)

## **3. MATERIALS AND METHODS**

### **Study Site**

The research was carried out in Kakamega County in Western Kenya. Kakamega County is one of the four counties in the western region and one of the 47 Counties in the Republic of Kenya. The chosen study sites included both government and private facilities that offered comprehensive essential obstetric and neonatal care (CEmONC) and educational tertiary institutions in the County. nursing school and medical training college, Kenyatta University and Kakamega medical Kakamega County was purposively selected since it is a cosmopolitan densely populated area with a varied population of working class childbearing women, students as well as surrounded by a rural community. In addition, it has been identified as one of the counties with the highest burden of maternal mortality, 364 per 100,000 live births in the country (UNFPA, 2014).

### **Research Design**

This study was a cross-sectional survey carried out to investigate the association between birth outcomes among child bearing women and maternal age at first pregnancy.

### **Study Population**

The units of analysis in the study population included childbearing pregnant women attending clinics aged 18-27 years, 28-34 years and 35 years and above in various health facilities, Medical personnel i.e. doctors (obstetricians) doctors in charge (medical superintendents), nurses in- charge, nurse-midwives and county health officers. Childbearing women from tertiary educational institutions in the study also formed part of the study group as they constituted a large population of child bearing women in Kakamega County. This population consisted of both the indigenous/natives women and women from outside the County, making it a varied, mixed cosmopolitan population. The institutions included staff and students from Masinde Muliro University of Science and Technology, Sigalagala Technical Training Institute, Mukumu Nursing School and Kakamega Medical Training College (KMTC), all within Kakamega County.

### **Sampling strategy and sample size**

Purposive , quota and stratified random sampling designs were used. The sampling frame was drawn from 3 major hospitals namely Kakamega County referral Hospital, St Mary's mission hospital in Mumias and Lumakanda District hospital. The three hospitals were purposively sampled due to the age and status of childbearing women under this study. The key informants included doctors, nurses in charge, midwives, medical supriendants and county health officers and child bearing women attending antenatal clinic. And women of child bearing age in tertiary institutions. .Stratified random sample size was determined using Fisher's (2004) formula, for childbearing women attending clinic and in tertiary educational institutions. The formula was selected because it is reliable, efficient, and flexible and ensured a proper depiction of the study population.

**Formula**

$$n = \frac{z^2pq}{d^2} \dots\dots\dots$$

**Where,**

- n = required minimum sample size
- z = Standard normal deviate at the required confidence level of 95% =1.96.
- p = the proportion in the target population estimated to have the characteristics being measured. In this study an estimate of 0.5 was used since there was no estimate available.
- q = 1-p= 0.5
- d = Degree of accuracy desired (0.05) maximum error allowed at 95% level of confidence (level of statistical significance).

The calculation of stratified random sample was:

$$n = \frac{1.962 \times 0.5 \times 0.5}{(0.05)^2} = 384$$

The total sample size was 384 (calculated) which accounted for non-response and attrition. Consequently, there was a total sample of 177 pregnant women from hospitals and 177 childbearing women from tertiary education institutions and 30 key informants from the medical facilities.

**Data Collection**

Secondary data was collected through various reports and publications, primary data comprised of both qualitative and quantitative data. The researcher collected data from the respondents using focused group discussions, questionnaires and interviews. A journal note book and a checklist to note down relevant information were also utilized as well as the use of a tape recorder to record information during the focused group discussions.

**Table 1: Instruments for data collection, sample size and sampling methods for all respondents in study sites in Kakamega County, Kenya.**

Study Population Unit	Sampling Method	Sample Size	Instruments	Appendix No.
Doctors	Purposive	3	Interview	2
Nurse in – charges	Purposive	3	Interview	2
Medical Superintendents	Purposive	3	Interview	2
Nurses/midwives	Quota	18	Interview	3
Pregnant women (Primigravidas) attending clinic	Stratified random Sampling	177	Questionnaires and FGD guide	4 6
Child bearing women in tertiary education institutions	Stratified random sampling	177	Questionnaires and FGD guide	5 8
Policymakers, MOH, KKG County	Purposive	3	Interview	2

**Data Analysis and Presentation**

Continuous variables were summarized using descriptive statistics. Raw data was collected, coded and analyzed by the use of Statistical Package for Social Sciences (SPSS) version 17.0.2 (2009). Statistical techniques used to analyze were; frequencies and percentages, cross tabulation and correlational analysis. The analysis took quantitative and qualitative

forms. Descriptive statistics was done to check on the relationship between age and pregnancy outcomes. The data interpretation and report writing were drawn from the statistical techniques mentioned thereof and recommendations were drawn based on those findings.

#### 4. FINDINGS

Results on primigravidas attending clinics showed that the child bearing women in Kakamega County range from the age of 18 to 49 years. Mothers of age 26 to 30 years were the highest proportion, 102 (29 %), followed by those aged between 31 to 35 who were 99 (28%). Those aged between 18-20 were 74 (21%), In addition, a considerable number of child bearing women were found to have their first pregnancy above 35 years, 71 (20%). Education levels of the childbearing women revealed that most of them had achieved tertiary, secondary and primary levels of education. The results from childbearing women attending clinic revealed that 138 (39.3%) had attained primary school level of education, 113 (31.8%) had attained secondary level, and 93 (26.2%) had attained tertiary level, while those who had not gone to school were 9 (2.6%) of the respondents. This implies that many child bearing women in this study preferred to complete education before giving birth. The FGDs also agreed to this, by stating that highly educated women (tertiary education and above) are delaying childbirth and are more likely to have children at 35 years of age and above. The researcher found out that there is a rising trend of women getting their first pregnancy at age 35 years and above which was a predisposing factor to a high level of complications on the mother such as: miscarriages, ante partum hemorrhage (APH) and premature rupture of membranes (PROM) In addition, advanced age was found to have adverse outcomes of the baby attracting complications such as: asphyxia, small for dates (SGA), prematurity , low birth weight at birth, chromosomal disorders and retardation in newborns. Complications of child birth increased with age. Older primigravidas reported to have encountered: prolonged labour, fused bones, delay of second stage labour, inability to push the baby, haemorrhage, cephalo pelvic disproportion , excessive bleeding, still birth, postpartum, death of the mother or baby, miscarriages, perineal tear, retarded growth, obstructed labour, eclampsia and caesarean section deliveries.

#### 5. CONCLUSION AND RECOMMENDATIONS

Elderly primigravidas are prone to complications during pregnancy and at birth raising a high mortality and morbidity among child bearing women. Affirmative action on women education that enables them to balance education, career and reproductive life should be coupled with courses on marriage and family life in tertiary institutions. Health education to child bearing women in their early life stages (adolescent) ,Tax incentives, health insurance and genetic counseling should be provided by both levels of government i.e, county and national. Policies on child adoption should be made easier for couples who do not have children.

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