Who are the mothers?

Pregnancy-related deaths in Kenya, 2014

Age at death & educational attainment

of mothers

(Izugbara, 2021)

Age

Secondary

23.9%

15-24yrs

37.7%

Higher

**6.7**%

No schooling

12.7%

35-44yrs

25-34yrs

39.3%

Primary

56.8%

Edycation

23%

Relationship Between

In Mottality EDUCATION SDG 3.1 reduce alphalmate. Who are

**Abortion** 

Maternal mortality 355 / 100,000 live births

(Roser and Ritchie, 2013)

26%

since 2000

10th

highest in

Africa

(Roser and

*Ritchie, 2013)* 

Three delays model

1 Recognising a need to seek care

Reaching healthcare facilities

Recieving care at facilities

(Thaddeus and Maine, 1994).

(Roser and

*Ritchie, 2013)* 

Introduction

Kenya faces one of the highest maternal mortality rates in Africa. Although rates have declined in recent decades, they remain above the United Nations' Sustainable Development Goal (SDG) target 3.1. To meet this target by 2030, Kenya must reduce maternal mortality by 8.62% annually (Roser and Ritchie, 2013; United Nations, 2023; Masaba and Mmusi-Phetoe, 2023). This poster explores the relationship between education, a powerful tool for empowering women and enabling informed health decisions, and maternal mortality in Kenya, alongside socio-cultural factors and other challenges contributing to the issue (Thaddeus and Maine, 1994).

> **Obstructed** labour & Uterine Haemorrhage 19.6% rupture 25.7%

Causes of maternal mortality in Kenya, 2019 (of total maternal deaths) (Roser and Ritchie, 2013)

### **Definitions**

Maternal mortality ratio = number of maternal deaths per 100,000 live births (WHO)

Maternal death = death of a woman while pregnant or within 42 days of termination of pregnancy (WHO)

Adolescent pregnancies = anyone pregnant between 10-19 years old (Stats et al., 2022)

### Methods

A literature search was performed using Web of Science, with the search terms; Kenya AND maternal mortality AND

education. Relevant abstracts were subjected to full text assessment. Further research was conducted into

causes of maternal mortality, SDG 3.1, health and education policies as well as socio-cultural norms in Kenya.

#### Maternal Health Policies in Kenya

User fees introduced for use of public health facilities, marginalising lower income citizens (Chuma et al., 2009).

Charges abolished - public health facilities provide free maternity care, reimbursed via MoH capitation fund (Orangi et al., 2021; Gitobu et al., 2018).

Linda Mama - free service improving access for women to deliver in health facilities, reducing maternal deaths.

- Policy critiqued for its narrow benefits, covering only deliveries, not complications.
- 3-27% of women still incur out of pocket payments (Orangi et al., 2021).

## **29.5**% in number of facility deliveries

However, had no impact on maternal mortality rates. Cost may not be the sole determinant of pregnancy-related deaths & low utilisation of healthcare facilities - inadequate quality and accessibility is significant (Gitobu et al., 2018)

2 years post elimination of user fees, June 2013

## Socio-cultural norms within Kenya

Both education and maternal health are shaped by religion, culture and societal traditions, especially in rural areas (Masaba and Mmusi-Phetoe, 2023). Thus, balancing traditional practices with modern healthcare requires collaboration with these communities.

## Beliefs & traditions preventing help-seeking behaviour

- Maternal mortality includes any maternal death occurring within 42 days post-childbirth (WHO)
- In certain Kenyan communities, women remain in isolation 40 days following delivery to ward off "evil eyes", deterring women from help-seeking if complications arise, thus potentially contributing to maternal mortality rates.
- Postnatal check-ups are essential for assessing the wellbeing of both mother and baby and providing further health education, yet over half of Kenyan women miss their postnatal check-ups, perhaps also linked to the tradition (Mochache et al., 2020).

## **Traditional Birth Attendants (TBAs)**

- "Wakunga" or TBAs play a key role in maternal healthcare in rural communities, possessing a wealth of experience, assisting with home deliveries.
- Although highly respected, TBAs may contribute to helpseeking delays in emergencies, posing maternal safety
- Educating communities and TBAs on warning signs and benefits of skilled birth attendants and facility deliveries is essential. Complications can be identified early, and mothers referred to advanced care (Wanyua et al., 2014).
- More research is needed on the impact of education on TBA usage in traditional communities, where access to medical healthcare may be limited and TBAs may be the only option (Mochache et al., 2020).



of births in Kenya in 2017, had a skilled birth attendant present increase from 42% in 2000 (Roser and Ritchie, 2013)

## Limitations

- Further research is required considering education's impact on maternal mortality in Kenya.
- Several studies have been limited in population size and only focused on specific rural Kenyan communities.
- Other socioeconomic and cultural factors affecting maternal health outcomes as well as barriers to help-seeking barriers must also be considered.

### **Discussion**

Education significantly impacts women's capacity to make informed healthcare decisions and advocate for their health rights, thus playing a vital role in reducing maternal mortality. The following outlines the specific ways in which education can contribute to improving maternal health outcomes.

#### Education on warning signs & recognising when to seek care

- o In Kenya most maternal mortalities result from haemorrhage or obstructed labour (Roser and Ritchie, 2013).
- o Informed women can recognise obstetric warning signs, reducing phase 1 delays part of the 'three delays' maternal mortality model (Thaddeus and Maine, 1994).

### **Education on Maternal Health Services**

Delivering in health facilities

- Giving birth in a health facility significantly increases a women's chances of survival, reducing maternal mortality rates.
- Health facilities are equipped with skilled professionals and low-cost, highefficacy medications for treating complications.
- o Despite the benefits, many mothers still deem hospital deliveries unnecessary with traditional reasons for home births (Kitui et al., 2013).

Mothers with higher education are than those without education (Achia and Mageto, 2013).

Mothers with primary education or higher are ...more likely to seek a skilled birth attendant 6.6x (Nyongesa et al., 2018)

#### Antenatal clinics

- Antenatal clinics are crucial in ensuring safe motherhood, particularly in lowresource settings (Perumal et al.,). WHO recommend women attend at least 4 during pregnancy (WHO, 2016).
- o These clinics provide a platform to educate expectant mothers, give safety netting advice and monitor the health of both the mother and baby (Nyongesa et al., 2018). Increasing awareness and initiatives that promote attendance is necessary.
- o A mother's level of education also plays a role in her decision to seek antenatal care. According to research, mothers with primary education alone, were less likely to attend their first antenatal **appointment** compared to those with secondary education (Ochako et al.,)
- Although antenatal coverage in Kenya is relatively high, barriers remain preventing some women from attending, such as accessibility and cost.



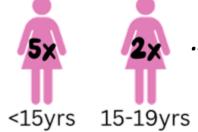


of babies are delivered in health facilities despite 88% of women living within 5km from a maternal health centre (Kitui et al., 2013)

## Family planning and sexual & reproductive health

- SDG 3.7 calls for universal access to sexual and reproductive healthcare by 2030 (United Nations, 2023).
- o Education on contraception, family planning and risks of HIV and unsafe abortion is essential in reducing maternal mortality.
- Many traditional Kenyan communities face limited access to family planning education.
- Misconceptions about contraception in Masai communities, such as fears that contraceptives cause 'cancer' or are only for 'women who have finished childbearing' prevent their widespread use (Stats et al., 2020).
- A lack of access to contraception contributes to unplanned pregnancies, with most pregnancies mistimed rather than unwanted.
- Contraceptives also reduce the spread of sexually transmitted diseases like HIV, another contributor to maternal mortality.
- With abortion illegal in Kenya, unsafe abortions performed in unhygienic conditions by unskilled providers, result in mortality, accounting for 8.3% of all maternal mortalities in Kenya (Roser and Ritchie, 2013; Mutua et al., 2015; Stats et al., 2020). 🌘

of births among adolescents in Kenya are unintended (Stats et



..more likely to die during pregnancy than women who are 20 years old (Stats et al., 2022)

## Education on adolescent pregnancies

 Raising awareness about the risks of adolescent pregnancy and importance of family planning should involve the entire community,

al., 2020).

- Kenya has a high rate of adolescent pregnancies, with 40% of Kenyan women giving birth before the age of 19.
- o The younger a mother is when pregnant, the greater their risk of her mortality (Stats et al., 2022).
- Additionally, forced marriages often incentivised by large dowries, contribute to adolescent pregnancies rates and increased mortality, with the average Kenyan bride 12 years old.

# **Educating communities**

- o Cultural norms can restrict women's autonomy in making healthcare decisions, regardless of their educational attainment.
- Community outreach programs are essential educating women, spouses, household heads, village elders, and traditional healers.
- Educating men: Women with educate spouses are 1.8 times more likely to utilise maternal healthcare compared to those with uneducated partners (Achia and Mageto, 2015).
- Educating elders: Older women influence the fertility and health choices of younger women (Nguyen-Phung and Nthenya, 2023). Future generations: Educated women create better opportunities for their

poverty (Nguyen-Phung and Nthenya, 2023; Stats et al., 2022).

# Women's Education in Kenya

Education is crucial to female empowerment and thus maternal health. Research shows women with less schooling are more likely to die due to pregnancy-related deaths (Izugbara, 2021). Education provides women with the knowledge to make informed health decisions, vital in achieving SDGs (Nguyen-Phung and Nthenya, 2023).

Before 1979, the first 6 years of children's education in Kenya was not free. This policy disproportionately affected girls, as societal norms prioritized boys' education (Wanjohi, 2011). Eliminating gender disparities in education is key and part of SDG 4 (United Nations, 2023).



As of 2019, only 29.8% of women received secondary education, compared to 37.3% of men (Nguyen-Phung and Nthenya, 2023)

In 1985, education reforms added an extra 2 years of schooling for all children, improving women's education and maternal health. Additional schooling delays the age at which women first concieve, reducing adolescent pregnancies linked to higher mortality (Nguyen-Phung and Nthenya, 2023).



Each additional year of schooling delays the age a woman's first conceives by 0.35 years (Nguyen-Phung and Nthenya, 2023)

Societal pressures often push women to prioritise childbearing over education, causing school dropouts due to pregnancy, impeding their education (Stats et al., 2022). Thus, extra years of schooling is protective against adolescent pregnancies and dropping out of school, positively impacting both educational and maternal health outcomes.



...Kenyan girls dropping out of school each year due to pregnancy (Stats et al., 2022).

It's a vicious cycle: inadequate education heightens the risk of adolescent pregnancy, which in turn disrupts education and consequently negatively affects maternal health outcomes and help-seeking behaviour (Nguyen-Phung & Nthenya, 2023).

## Conclusion

Education plays a crucial role in reducing maternal mortality in Kenya by raising awareness of obstetric emergencies, dispelling misconceptions about family planning, and promoting the use of maternal healthcare facilities and antenatal clinics. Educating women helps decrease adolescent pregnancies, preventing school dropouts and improving overall educational outcomes. Empowered through education, women make informed health decisions and pass their knowledge on to future generations, fostering a cycle of change.

Maternal health education must also engage men, traditional birth attendants, and other community stakeholders, alongside training healthcare professionals. However, education alone is insufficient; a comprehensive, multi-faceted approach is essential to improving maternal health outcomes, achieving SDG 3.1, and empowering women in Kenya.

## Other areas to consider to improve maternal mortality rates in Kenya:

- + Access to Healthcare: Availability, location, cost, and transportation to maternal healthcare facilities (Thaddeus and Maine, 1994).
- + Health System Failures: Shortages of birth attendants and poor care quality; enhancing the education of health professionals (Thaddeus and Maine, 1994).
- Gender Equality: Women's rights, access to education, and sexual and reproductive health services (Nguyen-Phung and Nthenya, 2023).
- 🛨 Social/Traditional Norms: Societal roles of women and traditional practices within communities (Mochache et al., 2020).

## References

children, promoting better maternal health outcomes and breaking cycles of

## References

ACHIA, T. N. O. & MAGETO, L. E. 2015. Individual and Contextual Determinants of Adequate Maternal Health Care Services in Kenya. Women and Health, 55, 203-226. CHUMA, J., MUSIMBI, J., OKUNGU, V., GOODMAN, C. & MOLYNEUX, C. 2009. Reducing user fees for primary health care in Kenya: Policy on paper or policy in practice? International Journal for Equity in Health, 8.

GITOBU, C. M., GICHANGI, P. B. & MWANDA, W. O. 2018. The effect of Kenya's free maternal health care policy on the utilization of health facility delivery services and maternal and neonatal mortality in public health facilities. BMC Pregnancy and Childbirth, 18.

IZUGBARA, C. 2021. Age differentials in pregnancy-related deaths in selected African countries. Journal of Obstetrics and Gynaecology, 41, 516-521.

KITUI, J., LEWIS, S. & DAVEY, G. 2013. Factors influencing place of delivery for women in Kenya: An analysis of the Kenya demographic and health survey, 2008/2009. BMC Pregnancy and Childbirth, 13.

LESOROGOL, C. K. 2008. Setting themselves apart: Education, capabilities, and sexuality among Samburu women in Kenya. Anthropological Quarterly, 81. MALDONADO, L. Y., SONGOK, J. J., SNELGROVE, J. W., OCHIENG, C. B., CHELAGAT, S., IKEMERI, J. E., OKWANYI, M. A., COLE, D. C., RUHL, L. J. & CHRISTOFFERSEN-DEB, A. 2020. Promoting positive maternal, newborn, and child health behaviours through a group-based health education and microfinance program: A prospective matched cohort study in western Kenya. BMC Pregnancy and Childbirth, 20.

MASABA, B. B. & MMUSI-PHETOE, R. 2023. A Strategy for Reducing Maternal Mortality in Rural Kenya. International Journal of Women's Health, 15, 487-498. MOCHACHE, V., WANJE, G., NYAGAH, L., LAKHANI, A., EL-BUSAIDY, H., TEMMERMAN, M. & GICHANGI, P. 2020. Religious, socio-cultural norms and gender stereotypes influence uptake and utilization of maternal health services among the Digo community in Kwale, Kenya: A qualitative study. Reproductive Health, 17. MUTUA, M. M., MAINA, B. W., ACHIA, T. O. & IZUGBARA, C. O. 2015. Factors associated with delays in seeking post abortion care among women in Kenya. BMC Pregnancy and Childbirth, 15.

NGUYEN-PHUNG, H. T. & NTHENYA, N. N. 2023. The causal effect of education on women's empowerment: evidence from Kenya. Education Economics.

NYONGESA, C., XU, X., HALL, J. J., MACHARIA, W. M., YEGO, F. & HALL, B. 2018. Factors influencing choice of skilled birth attendance at ANC: Evidence from the Kenya demographic health survey. BMC Pregnancy and Childbirth, 18.

OCHAKO, R., FOTSO, J. C., IKAMARI, L. & KHASAKHALA, A. 2011. Utilization of maternal health services among young women in Kenya: Insights from the Kenya Demographic and Health Survey, 2003. BMC Pregnancy and Childbirth, 11.

ORANGI, S., KAIRU, A., ONDERA, J., MBUTHIA, B., KODUAH, A., OYUGI, B., RAVISHANKAR, N. & BARASA, E. 2021. Examining the implementation of the Linda Mama free maternity program in Kenya. International Journal of Health Planning and Management, 36, 2277-2296.

PERUMAL, N., COLE, D. C., OUÉDRAOGO, H. Z., SINDI, K., LOECHL, C., LOW, J., LEVIN, C., KIRIA, C., KURJI, J. & OYUNGA, M. 2013. Health and nutrition knowledge, attitudes and practices of pregnant women attending and not-attending ANC clinics in Western Kenya: A cross-sectional analysis. BMC Pregnancy and Childbirth, 13. ROSER, M. & RITCHIE, H. 2013. Maternal Mortality. Our World in Data.

STATS, M. A., HILL, D. R. & NDIRIAS, J. 2020. Knowledge and misconceptions surrounding family planning among Young Maasai women in Kenya. Global Public Health, 1847-1856.

STATS, M. A., HILL, D. R. & NDIRIAS, J. 2022. Experiences of adolescent pregnancy among Maasai in Kenya: Implications for prevention. African Journal of Reproductive Health, 26, 36-44.

THADDEUS, S. & MAINE, D. 1994. Too far to walk: Maternal mortality in context. Social Science and Medicine, 38.

UNITED, N. 2023. The 17 Sustainable Development Goals. United Nations. [Online] Available at: https://sdgs.un.org/goals [Accessed 2 October 2024]

WANJOHI, A.M. 2011. Development of Education System in Kenya since Independence. www.kenpro.org. [Online] Available at: <a href="http://www.kenpro.org/papers/education-system-kenya-independence.htm">http://www.kenpro.org/papers/education-system-kenya-independence.htm</a> [Accessed 2 Oct. 2024].

WANYUA, S., KANEKO, S., KARAMA, M., MAKOKHA, A., NDEMWA, M., KISULE, A., CHANGOMA, M., GOTO, K. & SHIMADA, M. 2014. Roles of traditional birth

attendants and perceptions on the policy discouraging home delivery in coastal Kenya. East African Medical Journal, 91. WORLD HEALTH ORGANISATION, WHO. n.d. Indicator Metadata Registry Details [Online]. www.who.int: WHO. Available: <a href="https://www.who.int/data/gho/indicator-metadata-registry">https://www.who.int/data/gho/indicator-metadata-registry</a> [Accessed 2 October 2024].

WORLD HEALTH ORGANIZATION, WHO. 2016. WHO Recommendation on Antenatal care for positive pregnancy experience. WHO Recommendation on Antenatal care for positive pregnancy experience.

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