

**AN ASSESSMENT OF FACTORS THAT INFLUENCE THE DELIVERY OF
MATERNAL HEALTH AWARENESS BY CHVS IN THIKA SUB-COUNTY, KIAMBU
COUNTY, KENYA**

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**A RESEARCH PROJECT SUBMITTED TO THE SCHOOL OF EDUCATION IN
PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE
DEGREE OF BACHELOR OF (ARTS) OF GREYSA UNIVERSITY**

OCTOBER, 2025

Declaration

Declaration

This research project is our original work and has not been presented for award of a degree or for any similar purpose in any other institution


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
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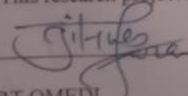
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Abbreviations and Acronyms

CHV – Community Health Volunteer

HBM – Health Belief Model

SCT – Social Cognitive Theory

WHO – World Health Organization

Operational Definitions of Terms

Community Health Volunteer (CHV): An individual who is from a community and also offers health services whereby he or she educates the community on health, promotes maternal health, and encourages them to change their behavior through countering the word in hard to reach areas where formal health services cannot easily reach.

Education Level of CHVs: The literacy level of a Community Health Volunteer that may portray their level of education namely, primary, secondary or higher education. This compromises their capacity to understand and relay health information as it is to the community

Maternal Health Awareness: Information: The extent of knowledge of health practices and behaviors during maternity care, childbirth, and postnatal care that is meant to enhance the both the lives of the women and their infants.

Abstract

This paper examines the involvement of the community health volunteers (CHVs) in improving maternal health Awareness in Thika, Kiambu County, Kenya, given the perennial maternal health problems in low-middle-income countries. Although the communities CHVs work with need them to bridge gaps between service delivery and communities, little is known regarding how CHVs' education, training, age, and engagement in activities within the selected communities affects their ability to facilitate awareness of maternal health. Specifically, an aim is to evaluate factors as education, training, age, and engagement and the ways they influence maternal health Awareness. The study therefore present hypothesis, claiming that there are no correlation between education, training, age, community engagement and awareness on maternal health among the CHVs. This research design adopted a descriptive survey design the research targeted about 100 CHVs and mothers in Thika district and used a stratified sampling method in order to get equal representation. Structured questionnaires and triad-based key informant interviews for quantitative collection methods. The hypothesis was tested using both descriptive and inferential statistics, with chi-square as the statistic of interest for the latter while content analysis and thematic coding for the qualitative data. The reliability was tested internally via Cronbach's alpha and is set at a minimum of 0.7 validity was tested internally via pilot testing and expert review. These comprise of issues to do with consent and approval from the applicable review boards. Therefore, by filling the gaps found out in the existing literature, it is believe that this study shall provide useful information to the health policymakers, non-governmental organizations, and training programmes so that maternal mortality rates down in Kenya and quality of maternal health services improved. The results are expected to be useful in enhancing the sustainable improvements in the effectiveness of CHV through education, training, and resource management planning to the goals of the sustainable development index in the aspect of maternal health.

CHAPTER ONE: INTRODUCTION TO THE STUDY

1.0 Introduction

This chapter introduces the study on the role of Community Health Volunteers (CHVs) in enhancing maternal health awareness in Thika, Kiambu County. It begins by outlining the background of maternal health challenges and the critical role CHVs play in addressing these issues in underserved regions. By bridging gaps between healthcare services and the community, CHVs provide essential health information, support, and resources to expectant mothers, which can lead to improved maternal health outcomes

1.1 Background to the Study

Since the inception of the millennium, the goal of enhancing maternal health emerged as an essential imperative of health systems worldwide more so in low-middle-income countries, Kenya included (Chersich et al., 2016). This improvement is crucial for the decrease of maternal mortality levels and the increase of the quality of mother and child's lives. Community Health Volunteers (CHVs) are critical in promoting the progress of women's maternal health and information, especially in areas deemed to be of limited resources. CHVs serve as intermediaries between health facilities and the community; they educate pregnant women on healthy practices leading to a healthier maternal setting (Feyissa et al., 2018). The success in those capacities of CHVs is a testament to their role in entrenching and supporting positive maternal health by contributing to the attainment of the Sustainable Development Goals (Abredu, Alipitio, Dwumfour, Witter, & Dzomeku, 2023)

Currently, maternal health is an important area of concern in the healthcare delivery systems across the world. Sustainable Development Goal number 3 seeks to ensure healthy lives and

promote well-being for all at all ages, including improving maternal mortality ratio (World Health Organization, 2015). These activities involve Community Health Volunteers (CHVs) most emphatically in low and middle-income countries (LMICs) where constrained healthcare, infrastructure, and resources are well-known challenges (World Health Organization, 2015) CHVs play a crucial health role in providing support and encouraging prompting services on antenatal care, safe delivery and basic maternal health information and education, thus improving access to health care for all the vulnerable groups (Woldie et al., 2018). Studies have shown that through their intervention, CHVs help in reducing barriers towards maternal health service utilization specifically enhancing maternal and neonatal health (Tumbelaka et al., 2018) (Munyuzangabo et al., 2021)

In Africa, much of the work of CHVs remains important as most nations continue to struggle with high levels of maternal mortality caused by poor health infrastructure, lack of human resources, and geographical access constraints (Mwaniki, 2022) The major roles of CHVs entailing health promotion, education and facilitating antenatal and postnatal care are important in filling the gaps for women who seek these services. Such programmes have been demonstrated to have positive effects on changes in maternal health among the CHVs across the continent (Ndu et al., 2022) Nonetheless, African CHVs work under constrained contexts, are recognized and rewarded poorly, they receive little financial incentives for the job they do, a situation that hampers their performance and sustainability (Sakeah et al., 2021; Jigssa et al., 2018). Since they are home-grown and culturally sensitive, CHVs are of great use in raising awareness for maternal health and in reaching out to communities at the base (Panday et al., 2024).

Maternal health has continued to receive a commitment within the Kenyan healthcare setting and community health strategies clearly define the entailments of CHVs to promote maternal and child health (McLeish & Redshaw, 2019) CHVs in Kenya aid in matters concerning maternal health and provides information on nutrition and related issues like checkups and supplementation (Fleming et al., 2015, Kamau, 2019). Since the country is economically unstable, CHVs are an economical way towards increasing healthcare access, especially in the peripheral regions. Research into the performance of CHVs across different counties of Kenya has demonstrated that they are benefiting the community by enhancing a positive outlook on health (Ongachi, 2018).

Motivation is a core factor in the performance and retention of CHVs. Many CHVs operate on a voluntary basis or with minimal financial incentives, which can lead to decreased motivation over time. Lack of adequate compensation and appreciation often results in high turnover rates, as volunteers may feel undervalued despite the critical roles they play in supporting maternal health. Studies show that CHVs are more effective when motivated through recognition, incentives, and a supportive work environment (Kok et al., 2015). Without these motivational drivers, CHVs may lack the enthusiasm required to perform their duties effectively, which in turn impacts maternal health services within the community (Kiplagat et al., 2021).

Proper training is essential to empower CHVs with the skills and knowledge needed for effective maternal health service delivery. When training is inadequate or irregular, CHVs may lack critical information on best practices for maternal health, reducing their ability to offer quality support. According to studies, well-trained CHVs have better health literacy, which enables them to educate mothers more effectively on maternal health issues such as antenatal care and safe childbirth practices (Perry & Zulliger, 2012) and (CHAI, 2022)

A lack of essential resources such as medical supplies, transport, and educational materials limits the impact CHVs can have in their communities. CHVs often struggle to perform their duties efficiently when they lack the tools required to support maternal health awareness and services. The lack of these resources not only hampers service delivery but also frustrates the CHVs, further diminishing their motivation and effectiveness (Chin-Quee et al., 2019). Ensuring that CHVs in Kiambu County, have access to necessary resources would enable them to conduct home visits, provide accurate health information, and refer patients to health facilities when needed (Idara, 2021)

In the Thika sub-county, Kiambu County, the CHVs act as the interface to the community on maternal health, mobilization, and promotion and support of maternal health services in accredited health facilities (Idara, 2021). Like every other region, Thika has its unique characteristic issues in healthcare such as population dimension, and inequity in healthcare access which further emphasizes the importance of CHVs. Studies by Mithanga et al. (2023) and Ndu et al. (2022) shows that CHVs in this area restrict themselves to informing their communities about mothers' health, helping with basic screenings and promoting institutional deliveries.

Community Health Volunteers (CHVs) encounter several significant challenges that impede their effectiveness. First, inadequate training limits their ability to provide quality health services, leading to gaps in knowledge and skills (Karani & Mwaniki, 2019;). Second, the lack of incentives discourages volunteer participation and commitment, which can result in high turnover rates among CHVs (Kibera & Mutiso, 2021). Third, limited access to essential resources, such as medical supplies and transportation, hinders their ability to implement health interventions effectively (Namasasu et al., 2022). These obstacles can undermine the

sustainability of maternal health initiatives (Karani & Mwaniki, 2019). Addressing these challenges is crucial to maximizing the contributions of CHVs and transforming them into invaluable assets within the framework of community health policy. This study aims to assess the role of CHVs in promoting maternal health awareness and improving service delivery, ultimately striving to reduce maternal mortality rates in Kenya.

1.2 Problem Statement

The role of Community Health Volunteers (CHVs) in promoting maternal health awareness has been highlighted as essential in many developing regions, including Thika, Kiambu County. Among the roles are Educating women on warning signs during pregnancy, such as severe bleeding, swelling, headaches, or reduced fetal movement, Advocating for Locally Available, Affordable, and Nutritious Foods. Although the CHVs work with the need to bridge gaps between service delivery and communities, little is known regarding how CHVs' age, education, training, and engagement in activities within the selected communities affects their ability to facilitate awareness on maternal health. This study seeks to assess factors that influence the ability of CHVs to deliver on maternal health awareness in Thika sub-County, Kiambu County, Kenya. Further, the study examined elements that may enhance or hinder maternal health awareness in the region..

1.3 Purpose of the Study

This study aims to assess the role of CHVs in improving maternal health awareness in Thika, Kiambu County. It was evaluated on how variables such as the CHVs' education, training, age, and community engagement activities impact maternal health awareness.

1.4 Conceptual Framework

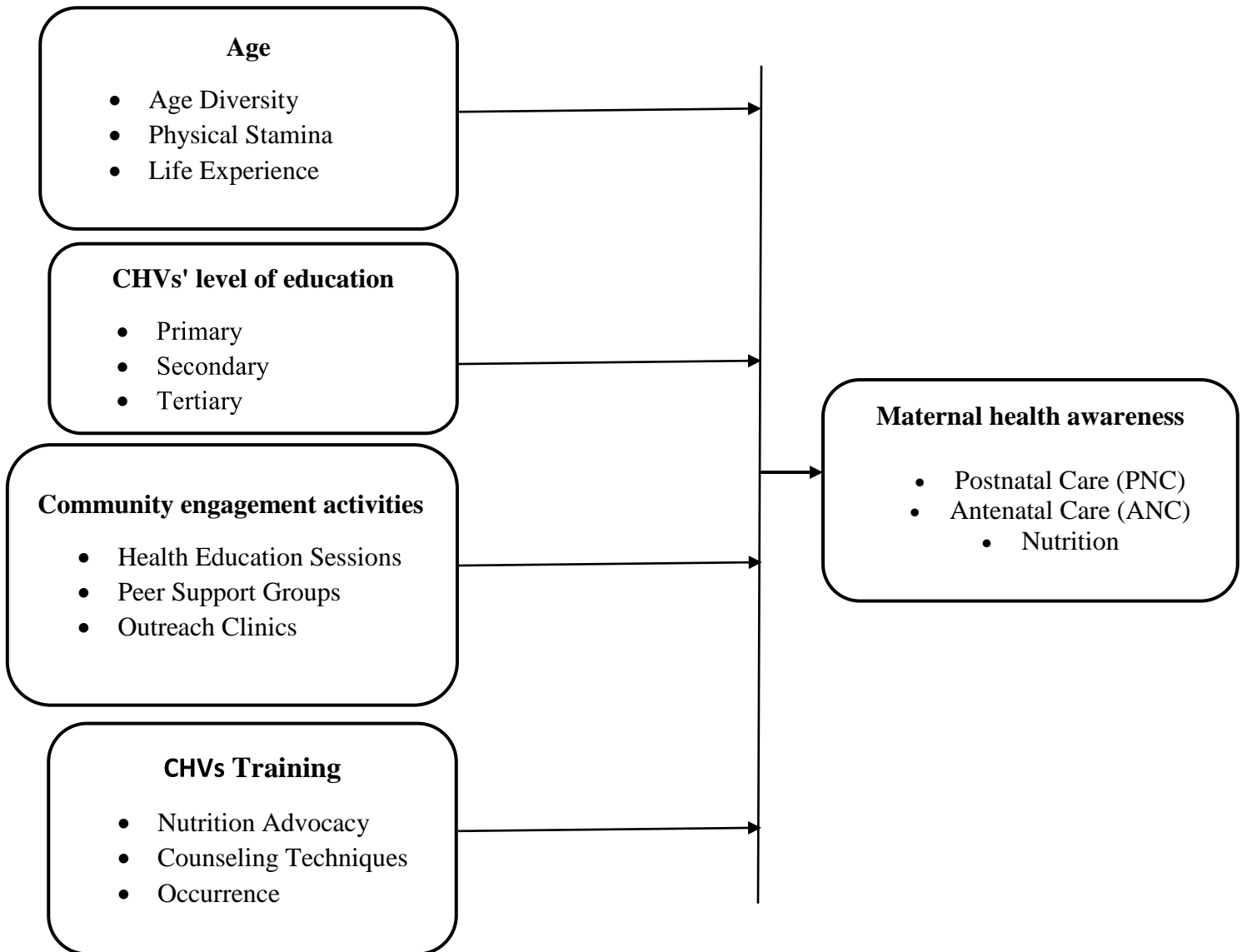


Figure 1 Conceptual Framework

1.5 Research Questions

- i. How does the age of CHVs influence their effectiveness in promoting maternal health awareness?
- ii. How does the education level of CHVs affect maternal health awareness?
- iii. How do community engagement activities contribute to maternal health awareness in Thika?
- iv. What impact do in-service training and workshops for CHVs have on maternal health awareness?

16 Objectives of the Study

1.6.1 General Objective

To assess the factors that influence the delivery of maternal health awareness by CHVs in Thika, Kiambu County.

1.6.2 Specific Objectives

- i. To evaluate the influence of CHVs' age on maternal health awareness.
- ii. To determine the effect of CHVs' education level on maternal health awareness.
- iii. To analyze the role of community engagement activities in promoting maternal health awareness.
- iv. To assess the impact of in-service training and workshops on maternal health awareness.

1.7 Hypotheses of the Study

H0: Age does not significantly influence the effectiveness of CHVs in promoting maternal health awareness.

H0: There is no significant relationship between the CHVs' level of education and maternal health awareness.

H0: Community engagement activities have no significant contribution to maternal health awareness.

H0: In-service training and workshops do not have a significant impact on maternal health awareness.

1.8 Significance of the Study

The findings informed the health policymakers, provide insights to non-governmental organizations (NGOs), guide training programs for CHVs, benefit local communities, and contribute to academic awareness in community health.

Informing Health Policymakers

The assessment provides evidence for policymakers to address challenges like resource gaps, cultural barriers, and infrastructure deficiencies in Thika Sub-County. Findings guide resource allocation to maternal health programs and improve infrastructure, such as transport and healthcare facilities. This ensures targeted and sustainable strategies to enhance maternal health outcomes

Providing Insights to NGOs

NGOs can use the findings to design localized maternal health programs by addressing specific barriers faced by CHVs, such as cultural resistance and resource shortages. The assessment enables better alignment with community needs, fosters collaboration with government efforts, and enhances the overall impact of NGO interventions.

Guiding Training Programs for CHVs

The findings highlight gaps in CHV knowledge, such as handling cultural norms or illiteracy, and logistical challenges like patient referrals. Training programs can address these needs, equipping CHVs with practical tools and strategies to deliver maternal health awareness more effectively

Benefiting Local Communities

Communities benefit from better-trained CHVs who can provide accurate health information and support, increasing trust and participation in maternal health programs. Addressing cultural misconceptions and logistical barriers ensures that vulnerable populations receive the necessary care, improving maternal and neonatal health outcomes.

1.9 Delimitations (Scope) of the Study

This study focuses on CHVs working in Thika Sub-County, Kiambu County, due to the area's unique blend of urban and peri-urban populations, which present diverse maternal health challenges. Thika's reliance on CHVs for health awareness, coupled with disparities in healthcare access, makes it an ideal location for assessing their effectiveness. The selected variables such as age, CHVs' level of education, training community engagement, CHVs Training are critical factors influencing the quality and reach of maternal health awareness efforts. By examining CHVs' roles in educating communities, linking families to healthcare, and

addressing maternal health challenges, the study aims to identify gaps and provide actionable insights to enhance maternal health programs in Thika Sub-County

1.10 Limitations of the Study

Potential limitations include limited access to some CHVs, respondent bias, and availability of up-to-date data. The researcher had to mitigate these by scheduling interviews with CHVs and ensuring confidentiality.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

This chapter discusses related literature that defines the study's variables especially on how CHVs can contribute to maternal health promotion. It embraces the role of education level of CHVs, in-service training, and workshops, age and community engagements on maternal health. Further, it uses theoretical framework to underpin the part played by the CHVs in determinants such maternal health behaviors.

2.1 Impact of Education Level on Maternal Health Awareness

The level of education has been known to affect the performance of CHVs particularly in terms of conveying and comprehending of measles health concepts (Chen et al., 2021). Since education increases ones confidence and competence when explaining matters health to the community members, Health Communication Volunteers derived from this cadre provided enhanced Maternal Health awareness. This is especially crucial in an area such as prenatal, nutrition and vaccination discussion, where cultural and health-related information is important (Miller & Johnson, 2018).

A study by Anbazhagan and Kumar (2019) reveal that CHVs with more formal education are capable of responding to questions posed by the mothers thereby ensuring development of better health literacy among the targeted community. Furthermore, through education CHVs can understand training documents and health policies more comprehensively through which they can provide accurate information to expectant mothers (Brown, 2021). This capability of being able to handle such information is most important when it is introducing new health practices or whenever there is a need to debunk myths surrounding matters such as maternal health.

Also, formal education increases the CHVs' effectiveness in the community since educated persons are believed to be more accurate in their information. Smith et al (2020) discovered that; CHVs with a secondary or higher-level education are more likely to be trusted by the community and this increases the maternal health knowledge. Thus, it is obviously important to ensure that CHVs are well educated for their technical competencies as well as for community acceptance.

2.2 Influence of In-Service Training and Workshops on Maternal Health Awareness

The training also provides CHVs with updated knowledge and skills that empowers them to improve activities related to raising awareness of appropriate maternal care (Kimani et al., 2018). Championing training usually embraces basic interventions like antenatal, during birth and post delivery care that can help promote maternal health. A number of research conducted indicates that the CHVs who depict high level of participation in the training sessions are well placed to help educate the mothers on the best practices that exist today, hence a better way to improving the health of both the mothers and children (Jones et al., 2020).

Training programs also give CHVs practice time to conduct skills and interaction with other professionals in the health fraternity that assuages their confidence. Makoni et al. (2019)b further agreed that regular attendance of the workshops made the CHVs better conversant with questions and issues that people in the community had regarding maternal health thus enhancing the awareness. Such practical activities enable CHVs to apply knowledge gained in classes into practical advice to be given to mothers within their every day practices.

Moreover, the findings of this study supported previous studies in the sense that in-service training has a positive relationship with CHVs motivation and commitment to their duties (Miller & Smith, 2021). These obtained results show that when CHVs are satisfied that they have

enough support, they was proactive in dealing with the mothers, dispensing horn-specific advice and advice. This training is especially important because areas such as Thika require women to have adequate knowledge about maternal health that would help to decrease cases of maternal as well as infant mortality. Therefore, these special training sessions are essential to the effectiveness of the CHVs in enhancing maternal health improvement.

2.3 Effect of Age on CHVs' Effectiveness in Promoting Maternal Health Awareness

One of the factors that contribute to the success of CHVs is age since it will determine their effectiveness in relating to mothers in the community (Taylor et al., 2019). Adolescent and young mothers might have better contact with younger CHVs because of their cultural preferences of talking about topics related to maternal health with an individual of comparable age. On the other hand, the advantages of using older CHVs include that they could be more authoritative and respected within the community and thus they are more effective at raising awareness of health (Kim & Lee, 2020).

As we have seen the age variation of experience and ways of communication may interfere with the approach of the CHVs towards the maternal health promotion. Experience One factor could be the experience that older CHVs may possess, having spent a long time in the country and having a delicate feel about the way things work in the community (Jones et al., 2018). According to research conducted by Brown (2021), older CHVs are perceived as a motherly figure and can motivate young mothers, making them change healthful habits. Nonetheless, it can be different according to the cultural views on age and power.

Age is also a factor that can impact CHVs physically and make them more capable of conducting activities; younger CHVs can be more mobile and have a possibility of reaching remote areas in

Thika (Smith & Chen, 2020). On the other hand, the older CHVs could be physically incapacitated but they could use their experience to promote awareness on the issues regarding maternal health in more reachable locations. Therefore, age discrepancy in CHV programs is healthy because it allows the volunteers access the larger population base.

2.3 Role of Community Engagement Activities in Promoting Maternal Health Awareness

Such Community engagement activities are crucial in an establishment of rapport or relationship between the CHVs and the communities wherein they operate such as in Thika among other areas (Norris et al., 2022). These include home visits, contact and health talks in community meetings, and health fairs that give the CHVs direct access to the mothers and this enable her to assess their situations individually and respond to their concerns. Research has shown that as a result to forms of interaction with CHVs through such activities the mothers have a greater awareness on maternal health (Jones et al., 2019).

Such engagement activities also allow CHVs enough time to foster bonding with the mothers that is so crucial in ensuring behavior change over the longer-term. Writing in 2020, Taylor et al., posited that the CHVs who engage in community functions are recognized as go-to stakeholders. This level of engagement assists CHVs overcome some of the cultural beliefs that are likely to affect maternal health practices. For instance, frequent practices can enable CHVs to be in a position to demystify myths concerning pregnancy and child birth since most of these do happen in the rural areas.

The high turnout in communities means that CHVs get feedback from mothers on the health education they receive and in turns received. This information helps CHVs organize their maternal health promotion most appropriately given specifics of the target community (Brown et

al., 2021). Within the Thika population outcome 1 means that community involvement affords CHVs the chance to target educate the community in issues to do with maternal health hence creating a conducive environment for change among mothers.

2.4 Theoretical Framework

The theoretical framework for this study explores the interplay of factors influencing the delivery of maternal health awareness by Community Health Volunteers (CHVs) in Thika Sub-County, Kiambu County, Kenya. Grounded in the Health Belief Model (HBM), which emphasizes how perceptions of health risks and benefits drive behavior change (Rosenstock, 1974), and systems theory, which highlights the importance of interconnected components in achieving health outcomes (von Bertalanffy, 1968), the study postulates that effective maternal health awareness delivery is contingent upon several interrelated variables. CHVs' training provides the necessary skills and knowledge (WHO, 2007), while community engagement activities foster trust and participation, amplifying the reach and impact of awareness efforts (Glanz et al., 2008). Furthermore, the level of education and age of CHVs are posited to influence their communication effectiveness, adaptability, and credibility within the community (Friedman & Allen, 2011). These variables collectively shape the capacity of CHVs to address cultural, socio-economic, and structural barriers, thereby enhancing maternal health outcomes in the region.

2.5 Summary of Identified Gaps in the Literature

As much as there is a lot of information developed in respect to the role of CHVs in health care, there is inadequate information regarding factors that affect this process in terms of promoting awareness of maternal health especially in Thika area. This study helped fill the gap by assessing

the effects of education, training, age and community engagement activities on the effectiveness of CHVs in facilitating maternal health promotion.

CHAPTER THREE: RESEARCH METHODOLOGY

3.0 Introduction

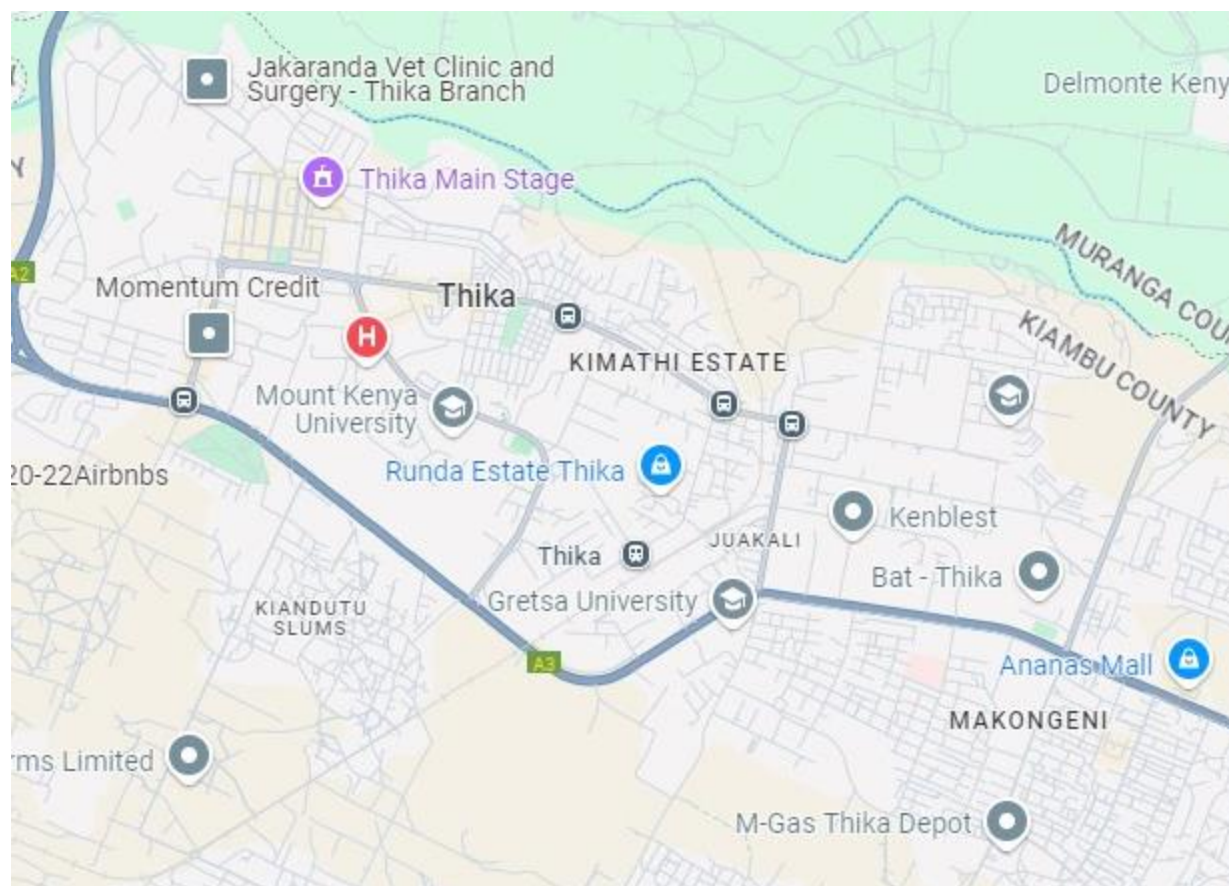
This chapter outlines the research methodology employed to assess the factors influencing the delivery of maternal health awareness by CHVs in Thika Sub-County, Kiambu County. It focuses on the study's variables, including CHVs' education level, in-service training and workshops, age, and community engagement activities, which collectively impact their ability to promote maternal health. The chapter also utilizes the theoretical framework, grounded in the Health Belief Model and systems theory, to underpin the critical role of CHVs in shaping maternal health behaviors and outcomes. By systematically detailing the research design, sampling techniques, data collection methods, and analysis procedures, this chapter provides a comprehensive guide to understanding the methodology used in this study.

3.1 Research Design

This study hence used descriptive, cross sectional survey design to gather quantitative data regarding the involvement of CHVs in maternal health. This design is suitable when assessing perceptions, knowledge and experience, and enables a deeper understanding of CHV performance in the community.

3.2 Study Area

Thika is in Kiambu County and this research was conducted there. This was done because Thika has an active and vibrant community health volunteer program to make it as study area to analysis the role of CHVs on maternal health.



3.3 Target Population

The target population for this study was CHVs and mothers from the Thika area that was 670 in total. It was effective to concentrate on these groups to facilitate an overall evaluation of maternal health awareness and the factors influenced by CHVs. Data from CHVs included their knowledge levels, training experiences, challenges in delivering maternal health awareness, resources available to them, and their perceptions of community engagement and cultural barriers. Data from mothers included their understanding of maternal health concepts, sources of information, utilization of antenatal, delivery, and postnatal care services, and their interactions with CHVs. Collecting data from both CHVs and mothers is essential to provide a comprehensive understanding of the effectiveness of CHVs in delivering maternal health

awareness. While CHVs offer insights into the delivery process and challenges, mothers' responses revealed the impact and reach of these efforts, ensuring a balanced evaluation of the awareness programs.

3.4 Sampling Techniques

A purposive sampling technique was employed to ensure the selection of participants with specific characteristics relevant to the study. Community Health Volunteers (CHVs) was selected based on their education level and training history, focusing on those actively involved in maternal health outreach programs. Additionally, mothers who have interacted with CHVs during maternal health services were also purposively selected to provide insights into their experiences and the impact of CHV interventions. Data was collected from CHVs to assess their knowledge, training, and practices and from mothers to evaluate the effectiveness and quality of maternal health outreach services

3.5 Sample Size

The research study used 30% of the total number of CHVs and mothers within Thika to determine the sample size. Out of the expected number of CHVs and mothers, a sample of 250 participants was investigated. This sampling approach ensures that the data collected is accurate, consistent, and provides meaningful insights.

3.6 Measurement of Variables

Table 1 Measurement of Variables

Variable	Measure/Indicator	Measurement Scale	Question Number
Age	<ul style="list-style-type: none"> • Age Diversity • Physical Stamina • Life Experience 	Interval	1-3
Education Level of CHV	-Primary -Secondary -Tertiary	Nominal	4-6
Community Engagement Activities	Health Education Sessions Peer Support Groups Outreach Clinics	Interval	7-9
In-Service Training Workshops	Nutrition Advocacy Counseling Techniques Occurance	Interval	10-13

3.7 Research Instruments

Structured questionnaires were used as the main instrument for data collection, giving the researcher ability to standardly record responses from CHVs and mothers. The questionnaires were developed on awareness and other factors relating to maternal health. As in the “Appendix scetions”

3.8 Validity of Measurements

Face validity was achieved through piloting of the questionnaire on the CHVs. Happen to be construct validity the results was reviewed by community health specialists to ascertain if the instrument measures the conceived variables properly.

3.9 Reliability of Data

To assess reliability, Cronbach's Alpha was used for Likert-scale questions, with an aim for an alpha coefficient of at least 0.7, indicating acceptable internal consistency 3.5 Sample Size

3.10 Data Collection Techniques

Data was collected primarily through self-administered questionnaires for CHVs and supplemented by interviews with key informants to obtain more detailed insights into maternal health awareness and community engagement activities.

3.11 Data Analysis

The data was analyzed using both descriptive and inferential statistics. Descriptive statistics summarized the data, while inferential statistics, including chi-square tests, was used for hypothesis testing. Quantitative data obtained from interviews was analyzed thematically.

3.12 Logistical and Ethical Considerations

Ethical approval to conduct this study was obtained from the Grets University Ethics Review Board to ensure the study adheres to ethical standards and respects the confidentiality of all participants. Participants provided informed consent prior to participation in the study to ensure they fully understand the purpose, procedures, potential risks, and benefits of the research.

Informed consent upholds participants' autonomy, allowing them to make an informed decision about their involvement, and ensures they participate voluntarily without coercion. This process also reinforces trust and transparency between the researcher and participants

CHAPTER FOUR: FINDINGS ANALYSIS AND DISCUSSION

4.0 Introduction

The chapter provides the findings of the study, where both descriptive and inferential data are analyzed to help to comprehend which factors affect delivery of maternal health awareness by community health volunteers in Thika Sub-County, Kiambu County, Kenya.

4.1 Demographic information

4.1.1 Age

Table 2 Age

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20-24	35	14.0	14.0	14.0
	25-29	108	43.2	43.2	57.2
	30-34	60	24.0	24.0	81.2
	35-39	15	6.0	6.0	87.2
	40-44	32	12.8	12.8	100.0
	Total	250	100.0	100.0	

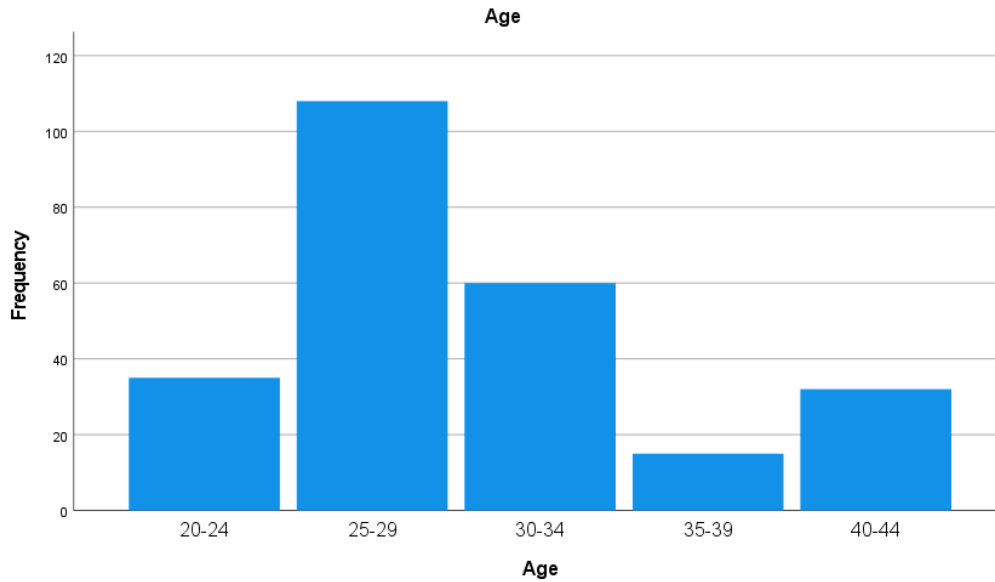


Figure 2 Age

The majority of respondents fell within the age range of 25-29 (43.2%) with a mean age reflecting an active and energetic group of community health volunteers (CHVs). This age group forms the largest portion, suggesting a strong pool of young adults engaged in delivering maternal health messages. The study also shows a reasonable representation of the 30-34 and 40-44 age groups, which collectively contribute their maturity and experience in community service delivery

4.1.2 Marital status

Table 3 Marital Status

Marital Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Single	78	31.2	31.2	31.2
	Married	120	48.0	48.0	79.2
	Widowed	52	20.8	20.8	100.0
	Total	250	100.0	100.0	

Further analysis depicts that almost one-half (48 percent) of the respondents were married, a considerable proportion (31.2 percent) was single, and 20.8 percent was widowed. This marital portrait is one that reflects well into a community setting where marriage is stable and the widowed offer their wealth of experience in nurture and advice.

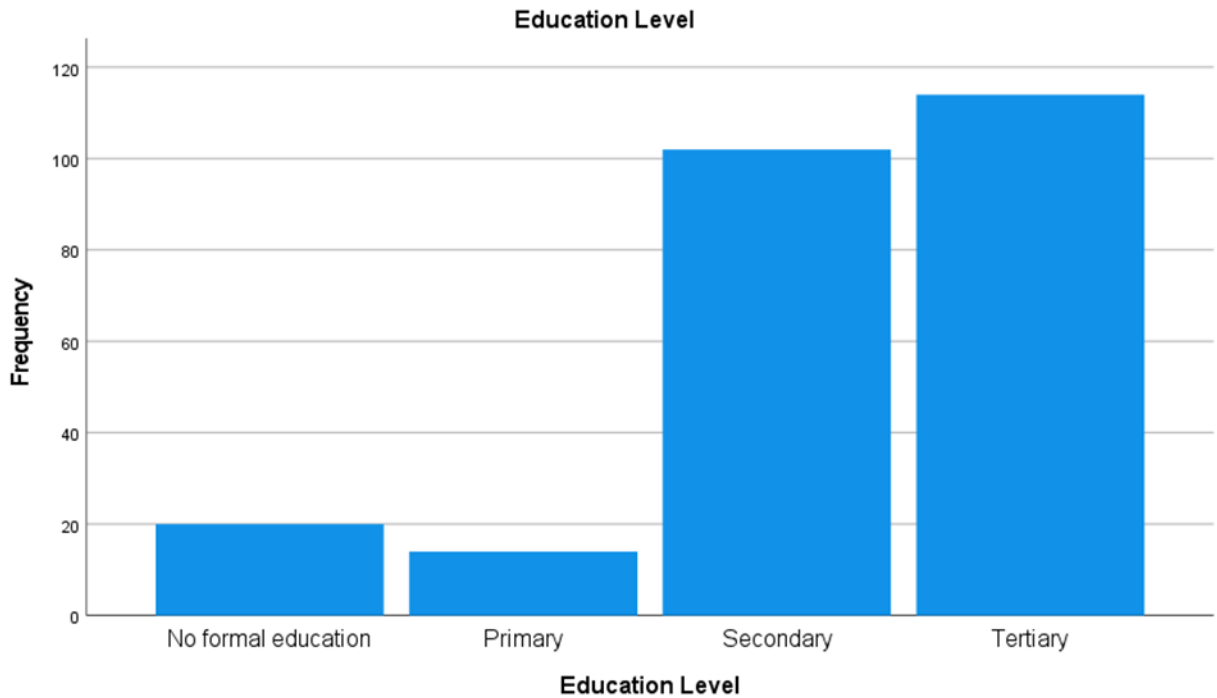
4.1.3 Education level

Table 4 Education Level

Education Level

			Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No formal education		20	8.0	8.0	8.0
	Primary		14	5.6	5.6	13.6
	Secondary		102	40.8	40.8	54.4
	Tertiary		114	45.6	45.6	100.0
	Total		250	100.0	100.0	

Figure 3 Education Level



Majority (40.8%) of them were secondary school education, and 45.6 percent had reached the tertiary level of education. This depicts a group of CHVs that is well-educated, an aspect which is likely to facilitate their role in delivering health messages since they can understand, remember, and pass health information to others..

4.2 Descriptive statistics

4.2.1 Age-Related Factors

Table 5 Age-Related Factors

Descriptive Statistics

	N	Minimu m	Maximu m	Sum	Mean	Std. Deviation
Age diversity within the CHVs' team contributes positively to the delivery of healthcare services.	250	1	5	894	3.58	.925
Physical stamina is a key factor in determining the effectiveness of CHVs	250	2	5	1039	4.16	.819
Life experience enhances the ability of CHVs to address diverse community health issues	250	1	5	872	3.49	1.246
Valid N (listwise)	250					

One of the most prominent components of the successful provision of healthcare services by CHVs is physical stamina, with an average score of 4.16. This demonstrates high capacity of performing their duties. Respondents also identified age diversity (mean 3.58) and life experience (mean 3.49) as having a positive effect on CHV performance. This underlines the importance of physical capacity as well as experience in conveying health messages to the community

4.2.2 CHVs' Level of Education

Table 6 CHVs' Level of Education

Descriptive Statistics

	N	Minimum	Maximum	Sum	Mean	Std. Deviation
CHVs with primary-level education are adequately equipped to carry out their responsibilities	250	3	5	1038	4.15	.653
Secondary-level education provides CHVs with the necessary knowledge to perform effectively	250	1	5	941	3.76	1.181
Tertiary education enhances the ability of CHVs to engage in advanced community health initiatives	250	2	5	1020	4.08	.861
Valid N (listwise)	250					

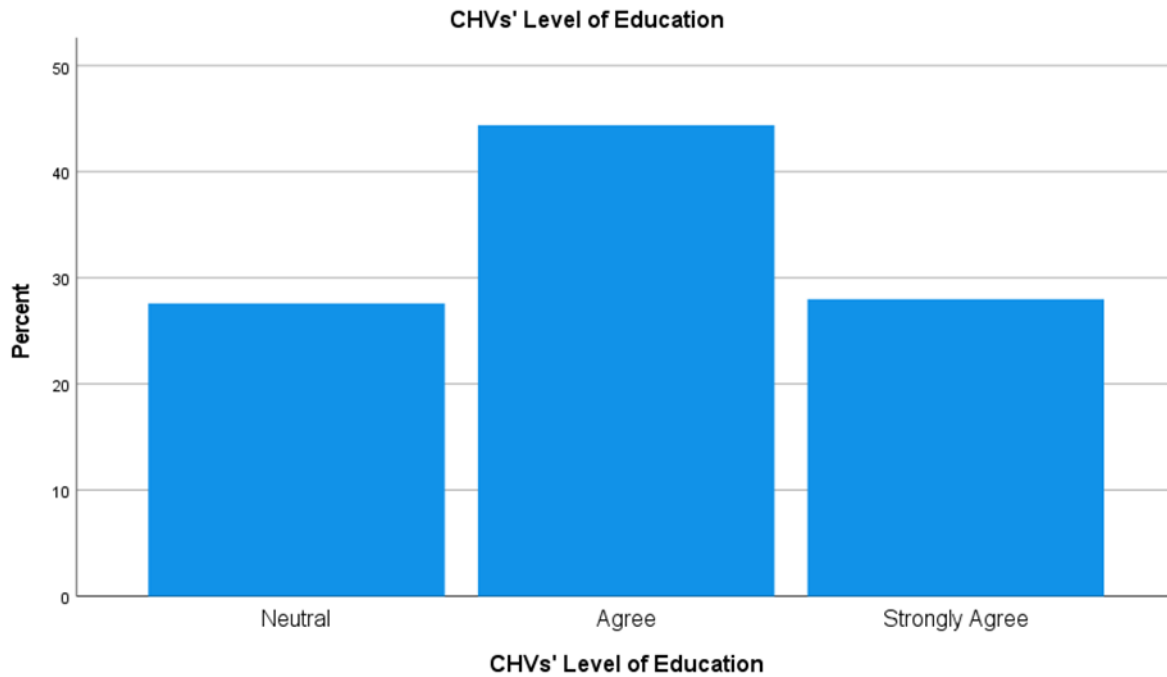


Figure 4 CHVs' Level of Education

There was a high association of the level of education and the CHV competence with secondary (mean 3.76) and tertiary education (mean 4.08) being rated significantly higher than primary education (mean 4.15). This demonstrates that the more highly educated CHVs are more skilled in health message delivery, health policy literacy and how to overcome misconceptions in the community.

4.2.3 Community Engagement Activities

Table 7 Community Engagement Activities

Descriptive Statistics

	N	Minimum	Maximum	Sum	Mean	Std. Deviation
Health education sessions organized by CHVs significantly improve community health awareness	250	2	5	1010	4.04	.922
Peer support groups are effective in fostering community health support systems	250	4	5	1121	4.48	.501
Outreach clinics conducted by CHVs improve access to essential health services in the community	250	1	5	892	3.57	1.178
Valid N (listwise)	250					

The highest rating (mean 4.48) was given to peer support groups as the way to promote community health awareness. Outreach clinics (mean 3.57) and health education sessions (mean

4.04) were also identified as doing well in building the community awareness on maternal health. This depicts the strength of interpersonal relation and community involvement in dispersion of health messages.

4.2.4 CHVs Training

Table 8 CHVs Training

Descriptive Statistics

	N	Minimum	Maximum	Sum	Mean	Std. Deviation
Nutrition advocacy training equips CHVs with the necessary skills to promote healthy dietary practices	250	1	5	829	3.32	1.440
Counseling techniques training improves CHVs' ability to provide emotional support to the community	250	3	5	968	3.87	.522
Regular training sessions on occurrences (e.g., disease outbreaks) improve CHVs' response efficiency	250	3	5	983	3.93	.801

Valid N (listwise)	250					
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Counseling techniques training has a mean 3.87 and training on disease outbreak preparedness had a mean of 3.93 this were ones rated positively by the respondents. Nutrition advocacy training show a mean a total mean of 3.32 and was recognized as helpful on the matter to having a showing people the importance of having a very good nutrition, although not as strong as the other training components. Overall, training was valued as a crucial opportunity for CHV capacity building and delivery of maternal health messages.

4.2.5 Maternal health awareness

Table 9 Maternal health awareness

Combined of all variables

Descriptive Statistics

	N	Range	Sum	Mean	Std. Deviation	Variance	Skewness	Std. Error of Skewness	Kurtosis	Std. Error of Kurtosis
Age-Related Factors	250	3	980	3.92	.582	.339	-.608	.154	1.736	.307
CHVs' Level of Education	250	2	1001	4.00	.747	.558	.006	.154	-1.201	.307
Community Engagement Activities	250	2	982	3.93	.562	.316	.021	.154	.146	.307
CHVs Training	250	1	943	3.77	.420	.177	1.304	.154	-.301	.307
Valid N (listwise)	250									

Composite

In the descriptive analysis, it was observed that the respondents had mostly positive perceptions in all the variables that were measured. In Age-Related Factors, the average score was 3.92, which implied that the majority of the respondents were in agreement that age was relevant in view of the study. The standard deviation value was 0.582 which indicated that there was a relatively low variability in responses and the skew value was -0.608 which indicated that the responses were skewed towards the left slightly with higher numbers of participants choosing higher rating categories. On the same note, the Mean of the variable indicating Level of Education of CHVs was equal to 4.00, which indicates that most of the respondents felt that the level of education of CHVs was satisfactory. The standard deviation was 0.747 indicative of a slightly wide distribution of responses. The value of skewness was -0.006 indicating almost a symmetrical distribution and the value of kurtosis was -1.201 indicating relatively flat distribution, which represented a wider span of responses.

The average score was 3.93 as far as Community Engagement Activities are concerned, which means that respondents were in high agreement with the importance of these activities. The standard deviation value was 0.562 indicating that the responses were close to the mean. The value of skew of -0.021 showed that the distribution was almost symmetrical and the value of kurtosis was 0.146 which showed that the data was close to normal distribution. Conversely, CHVs Training obtained a mean score of 3.77 which was a positive yet slightly weaker agreement than the rest of the variables. The standard deviation was also very low (0.420) which shows very consistent responses. Nevertheless, the value of skewness of -1.304 indicated a greater negative skew that most respondents gave higher ratings while few chose lower values.

Taken together, these results indicate that the participants had quite positive and homogenous opinions regardless of the variables involved.

4.3 Inferential statistics

4.3.1 Chi-Square Test

4.3.1.1 Age-Related Factors

Table 10 1 Age-Related Factors - Chi-Square Test

Age-Related Factors * Maternal health awareness Cross tabulation

Count

		Maternal health awareness			Total
		Neutral	Agree	Strongly Agree	
Age-Related Factors	Disagree	5	0	0	5
	Neutral	27	11	0	38
	Agree	10	169	0	179
	Strongly Agree	0	0	28	28
	Agree				
Total		42	180	28	250

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	373.311 ^a	6	.000
Likelihood Ratio	267.844	6	.000
Linear-by-Linear Association	173.932	1	.000
N of Valid Cases	250		

a. 6 cells (50.0%) have expected count less than 5. The minimum expected count is .56.

A cross-tabulation and chi-square test of independence were used to determine the relationship between age-related factors and maternal health awareness. The cross-tabulation outcome indicated that most of the respondents that agreed with the age-related factors also agreed with maternal health awareness where 169 respondents were in this group. The Pearson chi-square statistic has the value of 373.311, 6 degrees of freedom, and the p-value of .000, which is significant, thus demonstrating that the relation between the two variables is statistically significant. The likelihood ratio (267.844, $p = .000$), and linear-by-linear association (173.932, $p = .000$) also indicated the existence of a significant association. It should be noted, though, that 50 percent of the cells had expected counts below 5, and the lowest expected count was .56 which could influence the chi-square results. Notwithstanding this shortcoming, the results indicated that there is a great and significant relationship between age-related factors and maternal health awareness amongst participants of the study.

4.3.1.2 Check square test for CHVs' level of education

Table 11 Check square test for CHVs' level of education

CHVs' Level of Education * Maternal health awareness Cross tabulation

Count

			Maternal health awareness			Total
			Neutral	Agree	Strongly Agree	
CHVs' Level of Education	Neutral	42	27	0	69	
	Agree	0	111	0	111	
	Strongly Agree	0	42	28	70	
Total		42	180	28	250	

Chi-Square Tests

	Value	df	Asymptotic Significance (2- sided)
Pearson Chi-Square	206.014 ^a	4	.000
Likelihood Ratio	204.109	4	.000
Linear-by-Linear Association	127.023	1	.000
N of Valid Cases	250		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.73.

Cross-tabulation and chi-square tests were used to identify the relationship between the level of education of the CHVs and the awareness of the maternal health. The Pearson chi-square value was 206.014 with 4 degrees of freedom and a p-value of .000 was statistically significant which shows that there is a relationship between the two variables. The significance was also supported by the likelihood ratio test and the linear-by-linear association test, which were 204.109 and 127.023 respectively, and at $p = .000$. None of the cells had an expected count of less than 5, and all were sufficient, which indicates that the results of the chi-square are not marginal and can be trusted.

4.3.1.3 Chi-Square test Community Engagement Activities

Table 12 Chi-Square test Community Engagement Activities

Community Engagement Activities * Maternal health awareness cross tabulation

Count

		Maternal health awareness			Total
		Neutral	Agree	Strongly Agree	
Community Engagement Activities	Neutral	42	7	0	49
	Agree	0	148	22	170
	Strongly Agree	0	25	6	31
Total		42	180	28	250

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	208.419 ^a	4	.000
Likelihood Ratio	189.054	4	.000
Linear-by-Linear Association	100.935	1	.000
N of Valid Cases	250		

a. 1 cells (11.1%) have expected count less than 5. The minimum expected count is 3.47.

Cross-tabulation and chi-square tests of independence were used in examining the relationship between community engagement activities and maternal health awareness. The chi-square statistic used was Pearson with a value of 208.419 and 4 degrees of freedom and a p-value of .000 that was significant showing that there was a relationship between the two variables. The likelihood ratio test provided a value of 189.054 ($p = .000$) and the linear-by-linear association provided a value of 100.935 ($p = .000$) that indicates that there is a significant association present. Even though there was one cell (11.1 percent) in which the expected count was below 5, where the lowest expected count was 3.47, most of the cells fulfilled the requirement of the expected count, and therefore, the results of the chi-square test are valid and reliable.

4.3.1.4 Chi-square CHVs Training

Table 13 Chi-square CHVs Training

CHVs Training * Maternal health awareness cross tabulation

Count

		Maternal health awareness			Total
		Neutral	Agree	Strongly Agree	
CHVs	Neutral	10	47	0	57
Training	Agree	32	133	28	193
Total		42	180	28	250

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	9.415 ^a	2	.009
Likelihood Ratio	15.601	2	.000
Linear-by-Linear Association	3.789	1	.052
N of Valid Cases	250		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.38.

Cross-tabulation and chi-square were used to determine the relationship between the training of CHVs and awareness creation on maternal health. The Pearson chi-square value was 9.415 with 2 d.f and p-value of .009, which was statistically significant, thus showing that there was an association between the two variables. The likelihood ratio test produced the value of 15.601 (p = .000), which once again confirms the significance of the relationship. None of the expected cell counts were less than 5 and the lowest expected cell count was 6.38 which shows that the result of chi-square is valid and reliable.

4.3.2 Correlation

Table 14 Correlation

Correlations

		Age-Related Factors	CHVs' Level of Education	Communit y Engagemen t Activities	CHVs Training	Maternal health awareness
Age-Related Factors	Pearson Correlation	1	.647**	.510**	-.075	.836**
	Sig. (2-tailed)		.000	.000	.238	.000
	N	250	250	250	250	250
CHVs' Level of Education	Pearson Correlation	.647**	1	.440**	.233**	.714**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	250	250	250	250	250
Community Engagement Activities	Pearson Correlation	.510**	.440**	1	.049	.637**
	Sig. (2-tailed)	.000	.000		.439	.000
	N	250	250	250	250	250
CHVs Training	Pearson Correlation	-.075	.233**	.049	1	.123
	Sig. (2-tailed)	.238	.000	.439		.051

	N	250	250	250	250	250
Maternal health awareness	Pearson Correlation	.836**	.714**	.637**	.123	1
	Sig. (2-tailed)	.000	.000	.000	.051	
	N	250	250	250	250	250

. Correlation is significant at the 0.01 level (2-tailed).

Correlation analysis was undertaken to look into the association of the study variables. The consideration of age-related factors had a positive and statistically significant correlation with maternal health awareness ($r = 0.836$, $p < 0.01$), which implies that the greater the consideration of age-related factors, the higher the maternal health awareness. On the same note, the level of education among CHVs was faintly but considerably correlated with maternal health awareness ($r = 0.714$, $p < 0.01$), whereas community engagement activities were also significantly and positively associated with maternal health awareness ($r = 0.637$, $p < 0.01$). CHVs training, in its turn, showed weak and insignificant correlation with the maternal health awareness ($r = 0.123$, $p = 0.051$), indicating that these two variables have little to no association. Also, age-related factors, level of education of the CHVs and community engagement activities were found to have strong positive correlations, which showed interdependent relationships among them within the context of maternal health awareness.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1: Introduction

In this chapter, the researcher will summarise the key findings of the study, conclude and provide policy and practice recommendations to stakeholders in the delivery of community health care in Thika Sub-County, Kiambu County. The article shows that Community Health Volunteers (CHVs) are important in the provision of maternal health awareness. A number of factors determine how well they fulfill this role such as their age, level of education, training and community engagement activities. Also, the paper sheds light on the need to emphasize the critical elements of maternal health awareness, including antenatal care (ANC), postnatal care (PNC), and nutrition, among others that can be pooled to achieve better maternal and child health outcomes

5.2: Conclusion on findings

5.2.1 CHVs' age on maternal health awareness.

At the end of the study, the researcher comes up with a conclusion that age-related factors play a critical role in determining the capacity of CHVs to provide maternal health awareness. CHVs of advanced age come with rich life experience, physical endurance, and social skills that help them to relate better with members of the community. These attributes improve their ability to express and promote maternal health programs. The existence of strong correlations and significant associations ($p < 0.000$) supports the significance of age as a factor of determination. Thus, age-related issues needs to be factored during selection and training of CHVs in order to maximize provision of maternal health messages.

5.2.2 CHVs' education level on maternal health awareness.

The level of education, especially the secondary and tertiary level, was positively and significantly associated with the performance of CHVs in regard to maternal health message distribution. Education will improve their understanding, believability and capability to explain complex health information to the members of the community in a way that they understand. The significant Pearson correlation ($r = 0.71$; $p < 0.000$) demonstrates the central importance of education to empower the communication and delivery process of the health promotion messages by CHVs.

5.2.3 Community engagement activities in promoting maternal health awareness.

The activities to engage the communities, such as the health education sessions and peer support groups as well as outreach clinics, proved to have an enormous impact on the maternal health awareness. Through these activities, inter-personal relationship is promoted, participation in the community is enhanced and myths and misconceptions surrounding maternal care are assisted to be dispersed. The positive correlation between the community engagement and improvement of health literacy and promotion of maternal health behaviors is statistically significant ($p < 0.000$), which implies the exceptional importance of the former factor..

5.2.4 Impact of in-service training and workshops on maternal health awareness

In-service training sessions and workshops were observed to equip CHVs with updated knowledge and interpersonal skills that enhance their performance. The study found a significant but weaker correlation ($r = 0.12$; $p < 0.051$) between training and the delivery of maternal health messages. Trainings that focus on nutrition, disease outbreak preparedness, and interpersonal communication were particularly effective in enhancing CHVs' credibility and increasing community trust in their messages, thereby improving maternal health outcomes.

5.2.5 Maternal Health Awareness

The researcher determined that the awareness of the community members on maternal health was greatly enhanced by the role of the CHVs in the promotion of the key elements of maternal health, which are antenatal care, postnatal care, and nutrition. Efficient information sharing on antenatal care empowered pregnant women to observe frequent check-ups, get timely medical services, and observe healthy pregnancy habits that are vital to the maternal and neonatal health. Similarly, the postnatal care education provided information on breastfeeding, neonatal care, family planning and postpartum healing thus lowering maternal and infant morbidity and mortality. Nutritional counseling also enabled mothers to be knowledgeable on what to do towards proper eating during pregnancy and when breastfeeding in order to achieve better nutrition of the mother and optimal development of the child. The paper confirms that increased awareness in these spheres empowers maternal health literacy and promotes the constructive health-seeking behaviour among the population.

5.3: Recommendations

Considering study findings, a number of policy and practice suggestions are put forward to expand the contribution of CHVs in maternal health promotion:

Enhance CHV Training in this case design and introduces thorough training programs that take into account the level of education of the CHVs. They should also be equipped with specialized training modules on areas such as interpersonal communication, disease outbreak preparedness and nutrition in order to increase their ability to convey messages on maternal health.

Deploy based on Age and Experience is also a factor when it comes to deployment it is this plans that should leverage physical capability and life experience of CHVs and maximize on their

interpersonal skills to ensure the effectiveness of the maternal health information delivery and community outreach activities.

Increase Education: Put in place a support system, i.e. scholarships, educational incentives or modular trainings, to allow CHVs to advance their education. The level of education achieved is directly proportional to the better understanding and passing on of the information on maternal health.

Increase Community Involvement: Develop and advocate activities that increase the community involvement, which might include the organization of health fairs, peer support groups, outreach clinics, and health education classes. By improving the relationship within the community, it was easier to disseminate awareness messages about maternal health

Enhance Supervision and Incentives: Give CHVs the necessary financial incentives, tools and motivation to remain active and successful in provision of maternal health services even after the initial period.

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APPENDICES

Appendix 1

Work layout

planning and budgeting

Appendix 2:

Informed Consent Form

Informed Consent for Participation in the Study

Title: An Assessment of Factors Influencing the Delivery of Maternal Health Awareness by
Community Health Volunteers in Thika Sub-County, Kiambu County, Kenya

Introduction:

You are being invited to participate in a research study. Before you decide to participate, it is important for you to understand the purpose of the study, what was involved, and any potential risks. Please read this form carefully and ask any questions you may have.

Purpose of the Study:

This study aims to assess the role of Community Health Volunteers (CHVs) in delivering maternal health awareness and the factors influencing their effectiveness in Thika Sub-County.

Study Procedures:

If you agree to participate, you was asked to fill out a questionnaire and, in some cases, engage in an interview. The study will take approximately [time duration] to complete.

Confidentiality:

Your responses was kept confidential, and your name will not be used in any reports or publications. All data was stored securely.

Voluntary Participation:

Your participation is entirely voluntary. You may choose not to participate, and you may withdraw at any time without any consequences.

Potential Risks:

There are no known risks to participating in this study. However, you may skip any question you are uncomfortable with.

Benefits:

By participating, you will contribute valuable insights into improving maternal health awareness and community health programs in Thika Sub-County.

Contact Information:

If you have any questions or concerns about this study, please contact Us

Consent:

By signing below, you indicate that you understand the information provided and agree to participate in the study.

Participant's Name: _____

Signature: _____

Date: _____

Appendix 3: Questionnaire

Questionnaire

Section A: Background/ Demographic information of the respondent

Age: _____ used age Brackets

Marital Status:

- Single
- Married

- Widowed

Education Level:

- No formal education
- Primary
- Secondary
- Tertiary

Section B: Objective 1

STRIKE THROUGH YOUR ANSWER WITH 1-STRONGLY DISAGREE TO 5-STRONGLY AGREE

Age-Related Factors

1. Age diversity within the CHVs' team contributes positively to the delivery of healthcare services.

Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree

2. Physical stamina is a key factor in determining the effectiveness of CHVs.

Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree

3. Life experience enhances the ability of CHVs to address diverse community health issues.

Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree

Section C: Objective 2

CHVs' Level of Education

4. CHVs with primary-level education are adequately equipped to carry out their responsibilities.

Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree

5. Secondary-level education provides CHVs with the necessary knowledge to perform effectively.

Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree

6. Tertiary education enhances the ability of CHVs to engage in advanced community health initiatives.

- Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree

Section D: Objective 3

Community Engagement Activities

7. Health education sessions organized by CHVs significantly improve community health awareness.

Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree

8. Peer support groups are effective in fostering community health support systems.

Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree

9. Outreach clinics conducted by CHVs improve access to essential health services in the community.

Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree

Section E: Objective 4

CHVs Training

10. Nutrition advocacy training equips CHVs with the necessary skills to promote healthy dietary practices.-

Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree

11. Counseling techniques training improves CHVs' ability to provide emotional support to the community.

Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree

12. Regular training sessions on occurrences (e.g., disease outbreaks) improve CHVs' response efficiency.

Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree

Section F: Maternal Health Awareness

Postnatal Care (PNC)

Awareness of the importance of attending postnatal care (PNC) visits after childbirth is high in the community.

Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree

Antenatal Care (ANC)

The importance of attending antenatal care (ANC) throughout pregnancy is well known among community members.

Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree

Nutrition Awareness

The importance of proper nutrition for pregnant and breastfeeding mothers is well emphasized in the community.

Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree