HEALTH AND NUTRITIONAL STATUS OF CHILDREN (0-59) MONTHS IN HOUSEHOLDS VISITED BY COMMUNITY HEALTH WORKERS (CHWs) IN SUNEKA – KISII COUNTY

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ABSTRACT

Community health workers (CHWs) play a crucial role in improving the health and nutritional status of children (0-59 months). In Suneka in Kisii County, they serve as frontline educators, providing information and guidance to caregivers on important health and nutrition practices. By delivering targeted health education messages, CHWs empower caregivers with knowledge and skills to make informed decisions about their children's health and nutrition. While community health workers (CHWs) play a vital role in promoting the health and nutritional status of children in households they visit, there are several challenges that affect the effectiveness of their interventions in Suneka in Kisii County. Despite the challenges CHWs face in addressing the health and nutritional status of children (0-59 months), there are no studies (to the authors knowledge) that has investigated the contribution of CHW home visits towards alleviating malnutrition in Suneka. This study sought to bridge this gap. The main objective of this study was to determine the health and nutritional status of children (0- 59) months in households visited by community health workers (CHW) in Suneka – Kisii county. The specific objectives were to determine the; social demographic characteristic of the households with children 0-59months, to determine the nutritional status, immunization status, developmental milestones, and morbidity status of children (0-59) months in households visited by community health workers (CHW) in Suneka – Kisii county. A cross-sectional research design was suitable since data is collected at a specific point in time from a representative sample of the population of interest. Each Community unit had about 10 CHWs each with about 100 households. Therefore, the target population was 140 CHWs and 1,400 households. Kothari's formula was used to establish a sample size of 384 respondents. Study tools such as semi-structured questionnaires and key informant interview were used to ensure that there was the counterchecking of all the tools/supplies and also the record sheet was applied in the study. A semi- structure questionnaire was pretested to make vital adjustments to enhance reliability and validity of the study findings. Quantitative data collected was edited, coded, classified and tabulated with regard to the type and source. The data was then analysed using Statistical Package for Social Sciences (SPSS). The analysis entailed computation of descriptive statistics (frequencies and percentages). Qualitative data collected through key informant interviews was analyzed thematically. The study concluded that, the sociodemographic characteristics of households with children aged 0-59 months are diverse and multifaceted. These characteristics influence children's access to healthcare, education, nutrition, and social support, ultimately affecting their health and well-being. Understanding the specific sociodemographic factors in a given population is crucial for tailoring policies and interventions to address the unique needs of children and families. The study concluded that CHWs assess the children's growth, weight, and overall health during home visits to monitor for any signs of malnutrition, illness, or developmental delays. CHWs play a critical role in improving the health and nutritional status of children aged 0-59 months in Suneka, Kisii County. Their efforts lead to better access to healthcare, increased awareness of health and nutrition, and ultimately

contribute to healthier and better-nourished children. The study also concluded that, CHWs are instrumental in improving the immunization status of children aged 0-59 months in households they visit. Their work increases awareness, access, and acceptance of vaccines, ultimately contributing to higher vaccination coverage and better protection of children against vaccine-preventable diseases. Moreover, the nutritional status (r = 0.061; p-value = 0.276), immunization status (r = 0.128; p-value = 0.022), and morbidity status (r = 0.044; p-value = 0.434) showed a positive correlation with the effect of the CHW visits with varying degrees of significance. This implies that CHWs visits resulted in better immunization, nutritional and morbidity status respectively. The frequency of visits and activities during visits also showed a positive correlation with the effect of the CHW visits with varying degrees of significance (r= 0.050; p-value =0.377).

Key Words: Social Demographic Characteristic, Frequency of Home Visits And Activities And Nutritional Status, Morbidity Patterns, Immunization Status

INTRODUCTION

The health and nutritional status of children aged 0 to 59 months is of utmost importance for children' development. This period is critical for physical, cognitive, and socio-emotional development. Consequently, adequate nutrition and good health during this time lay the foundation for lifelong health, learning, and well-being(Joubert & Reid, 2023). For instance, proper nutrition supports optimal brain development, motor skills, and immune function. Likewise, good health and nutrition reduce the risk of infectious diseases and contribute to a strong immune system(Abaasa et al., 2021). Therefore, well-nourished children are more resilient against illnesses, including common childhood infections like respiratory infections, diarrhea, and malnutrition-related diseases. Additionally, health and nutrition in early childhood significantly impact long-term health outcomes(Berini et al., 2022). For instance, malnutrition and poor health during this period can lead to irreversible consequences, such as stunting, impaired cognitive development, and an increased risk of chronic diseases like diabetes, cardiovascular diseases, and obesity later in life.

The health and nutritional status of children aged 0 to 59 months is also important for socio-economic development. Well-nourished children are more likely to reach their full potential, succeed in school, and secure better employment opportunities, contributing to economic growth and poverty reduction in the long run(Haba et al., 2023). Studies(Adedokun & Yaya, 2021; Carboo, Lombard, et al., 2020; Nimmagadda et al., 2019) have shown that every dollar invested in nutrition interventions during early childhood can yield significant returns, ranging from improved productivity and reduced healthcare costs to increased lifetime earnings. Therefore, ensuring good health and nutrition for all children is a matter of social equity and human rights. Prioritizing the health and nutritional status of children aligns with the United

Nations Sustainable Development Goals (SDGs), particularly Goal 2 (Zero Hunger), Goal 3 (Good Health and Well-being), and Goal 4 (Quality Education). It contributes to achieving targets related to reducing malnutrition, child mortality, and ensuring inclusive and equitable education(Ateudjieu et al., 2022; Njuguna, 2021).

The health and nutritional status of children aged 0 to 59 months encompasses multiple components that provide a comprehensive understanding of their overall well-being. There are anthropometric measurements that assess physical growth and nutritional status including; height, weight, body mass index (BMI). Another important component is nutrient intake which indicates if children are receiving adequate quantities of essential nutrients especially macronutrients and micronutrients essential for various bodily functions. Similarly, breastfeeding is critical for infant health and nutrition including exclusive breastfeeding, duration of breastfeeding and frequency of breastfeeding. Complementary feeding is an equally component of the health and nutritional status such as introduction of diverse food groups, adequate meal frequency, and food consistency. Gradually transitioning from pureed to semi-solid and solid foods appropriate for the child's age and developmental stage. Various health indicators provide insights into a child's overall health status and potential risks including; immunization status, disease prevalence, and developmental milestones. Additionally, socioeconomic factors can significantly influence a child's health and nutritional status including; household income and poverty levels, parental education, access to healthcare and sanitation facilities.

Ensuring optimal health and nutritional status for children aged 0 to 59 months faces several challenges. Malnutrition, including undernutrition and overnutrition, remains a significant challenge with factors such as inadequate access to nutritious foods, poor feeding practices, limited dietary diversity, and poverty contributing to malnutrition in young children. Insufficient access to safe, nutritious, and culturally appropriate food is also a major challenge for many families. Food insecurity, driven by poverty, conflict, climate change, and economic instability, affects the quantity and quality of food available to children and their families. Moreover, despite the numerous benefits of breastfeeding, challenges exist in promoting and supporting exclusive breastfeeding for the first six months of life. Factors such as lack of knowledge, limited support systems, cultural beliefs, and workplace practices can hinder successful breastfeeding. Similarly, inappropriate feeding practices, such as delayed introduction, inadequate diversity, and improper food consistency, can contribute to malnutrition and nutrient deficiencies.

Optimal health and nutritional status for children aged 0 to 59 months is further challenged by limited access to quality healthcare services, including prenatal care, immunization, and routine check-ups, hampering early detection and timely management of health issues in children. Additionally, inadequate access to clean water, sanitation facilities, and proper hygiene practices increases the risk of infectious diseases. Increasing frequency and intensity of natural disasters, water scarcity, and changes in agricultural productivity affect food availability, access, and quality, exacerbating the risk of malnutrition. Moreover, children from marginalized communities, low-income families, and disadvantaged backgrounds often face

higher risks of malnutrition and poor health outcomes. Socioeconomic disparities, including poverty, limited education, and lack of resources, also create barriers to accessing adequate healthcare, nutritious food, and essential services. Correspondingly, weak implementation of policies and programs aimed at improving child health and nutrition hinders progress. Insufficient funding, lack of coordination among sectors, limited capacity, and inadequate monitoring and evaluation systems contribute to the challenges faced in addressing the health and nutritional needs of children.

Global statistics on the health and nutritional status of children aged 0 to 59 months reveal significant disparities. According to the World Health Organization (WHO), an estimated 149 million children under the age of five worldwide were stunted in 2020. This represents approximately 22% of children in this age group. Africa has a high prevalence of stunting among children. According to UNICEF, in 2020, approximately 36% of children under the age of five in Africa were stunted. This indicates that over one-third of children in this age group experience chronic undernutrition and impaired growth. According to the Kenya Demographic and Health Survey 2021, approximately 26% of children under five years old in Kenya were stunted.

Wasting, a severe form of malnutrition, is also a concern in Africa. Globally, around 47 million children under five years old were affected by wasting in 2020, which accounts for about 7.3% of children in this age group. In 2020, the prevalence of wasting in children under five years old was around 7.1% in Africa, higher than the global average. Acute malnutrition, indicated by wasting, is also a concern with the Kenya Demographic and Health Survey (2021) reporting that around 4% of children under five years old in Kenya were wasted.

The global prevalence of exclusive breastfeeding for the first six months of life remains low. According to UNICEF and WHO, only about 41% of infants under six months of age were exclusively breastfed in 2020. According to UNICEF, in 2020, about 43% of infants under six months of age in Africa were exclusively breastfed. While this figure shows improvement, it still falls below the recommended global target of at least 50%. The prevalence of exclusive breastfeeding in Kenya has been improving as the KDHS (2021) estimated that 61% of infants under six months of age were exclusively breastfed.

Micronutrient deficiencies are a significant concern globally. For instance, vitamin A deficiency affects an estimated 190 million children, while iron deficiency anemia affects about 273 million children under the age of five worldwide. It is estimated that around 48% of children aged 6 to 59 months in Africa are vitamin A deficient, while approximately 61% suffer from anemia. In Kenya, vitamin A deficiency affects approximately 19% of children aged 6 to 59 months, while an estimated 45% suffer from anemia. Childhood obesity is also a growing problem. In 2020, an estimated 38 million children under the age of five were overweight or obese globally. Africa is also witnessing an increase in childhood obesity. According to the World Obesity Federation, in 2020, around 9.5 million children under the age of five in Africa were overweight or obese. The Kenya STEPwise Survey for Non-Communicable Diseases Risk Factors 2020 reported that 6% of children aged 5 to 17 years were overweight or obese.

Malnutrition plays a significant role in child mortality. In 2020, approximately 5.7 million children under the age of five died globally, and malnutrition was a contributing factor in about 45% of these deaths. It is estimated that malnutrition contributes to about 45% of deaths among children under five in Africa. Malnutrition is a leading cause of child mortality in Kenya. According to the World Bank, in 2019, approximately 28,000 children under the age of five died in Kenya, with malnutrition contributing to a significant proportion of these deaths.

Health and nutritional challenges vary across regions. Within countries, disparities exist between rural and urban areas, with rural areas often experiencing higher rates of malnutrition. While challenges persist, progress has been made in some areas. Over the past few decades, global stunting rates have declined, and the prevalence of underweight children has decreased in many countries. However, progress has been uneven, and disparities remain among different regions and population groups. Improving child health and nutrition is a priority under the United Nations Sustainable Development Goals (SDGs). SDG 2 aims to end all forms of malnutrition by 2030 and ensure access to safe and nutritious food for all children. Optimizing the health and nutritional achievements for children requires targeted interventions and policies that address issues such as poverty, food insecurity, inadequate healthcare access, and education.

Community Health Workers (CHWs) play a crucial role in achieving the health and nutrition of children aged 0 to 59 months. According to WHO, "CHWs- Community Health Workers" are referred to as women and men that have been selected from the community and have undergone training to handle both individual and community health issues and also to have a close working relationship with the health services. The involvement of CHWs in promoting the health and nutrition of children aged 0 to 59 months is essential, particularly in resource-constrained settings where access to formal healthcare services may be limited. Their proximity to communities, cultural understanding, and ability to deliver context-specific interventions make them effective agents of change. By empowering CHWs and integrating their role into comprehensive healthcare systems, countries can enhance the reach and impact of interventions, ultimately improving the health and nutritional outcomes of young children.

CHWs serve as trusted sources of health information and provide education on topics such as breastfeeding, complementary feeding, hygiene practices, immunization, and prevention of common childhood illnesses. They engage with families and communities to promote healthy behaviors and create awareness about the importance of proper nutrition and healthcare for young children. Consequently, CHWs are often the first to identify signs of malnutrition, developmental delays, and other health issues in young children and refer cases that require further diagnosis or treatment to appropriate healthcare facilities, ensuring timely intervention. CHWs also support caregivers in implementing appropriate feeding strategies, including exclusive breastfeeding, introduction of complementary foods, and dietary diversification. Moreover, CHWs play a vital role in immunization programs, ensuring that children receive essential vaccinations according to the recommended schedule by educating families about the importance of immunizations in preventing infectious diseases and help increase immunization coverage rates in the community.

CHWs conduct home visits to assess the living conditions, hygiene practices, and caregiving environment of families hence offering guidance on creating a nurturing and child-friendly environment, provide support to parents, and address concerns related to child health and nutrition. CHWs also act as advocates for child health and nutrition within their communities by raising awareness about the importance of investing in children's health, collaborate with local leaders, and mobilize community members to take collective action. Additionally, CHWs play a critical role in collecting data on health indicators, such as immunization coverage, growth parameters, and disease prevalence. They contribute to the surveillance and monitoring of child health and nutrition outcomes, helping identify gaps and trends that inform program planning, evaluation, and policy development at the local level.

Community health worker (CHW) organizations play a significant role in supporting and empowering community health workers in their efforts to promote health and nutrition among children aged 0 to 59 months. CHW organizations provide comprehensive training programs to equip community health workers with the necessary knowledge, skills, and tools to effectively carry out their roles. Additionally, CHW organizations provide regular supervision and support to community health workers offering guidance, mentorship, and on-the-job training to ensure CHWs adhere to best practices, maintain quality standards, and address any challenges they encounter in the field. Furthermore, CHW organizations advocate for the recognition and integration of community health workers into the formal healthcare system by engaging with policymakers, government agencies, and other stakeholders to promote policies that prioritize community health and strengthen the role of CHWs. These organizations also facilitate networking opportunities for CHWs to share experiences, exchange knowledge, and learn from each other.

CHW organizations also play a crucial role in mobilizing resources to support the work of community health workers by seeking funding from government agencies, philanthropic organizations, and other sources to ensure adequate resources are available for training, supervision, and the implementation of community health programs. Moreover, CHW organizations contribute to the development and implementation of community health programs targeting children aged 0 to 59 months by collaborating with stakeholders to design interventions, develop guidelines and protocols, and adapt evidence-based practices to the local context. CHW organizations further conduct research and generate evidence on community health interventions, including those related to child health and nutrition to inform policy and programmatic decisions and contributes to the overall improvement of child health and nutrition outcomes. Therefore, the role of CHW organizations is essential in supporting and strengthening the impact of community health workers contributing to the overall improvement of child health and nutrition outcomes and promoting the integration of CHWs into the healthcare system.

LITERATURE REVIEW

Every year millions of children globally who are under the age of 5 die. Most of the deaths are caused by illnesses that are preventable such as diarrhoea, pneumonia and malaria. Carboo et al., (2020)observes that malnutrition is key in almost all of the illnesses coupled with the presence of hygiene and sanitations-based cases. It has been the strongest reason as to why child mortality is a significant indicator when it comes to the health of the child and also the Sustainable Development Goals (SDG). As the Millennium Development Goals came to an end the international community had an agreement on new ideas and ideals for the SDGs. The SDG is aimed at ensuring that there is new commitment that is made towards the ending of child mortality and also to prevent preventable deaths by 2030 among children under the age of 5. It is aimed at having at least 12 death per 1000 live births (WHO, 2017).

Although the world as a general has been accelerating progress towards the reduction of the mortality that is facing the under 5-year-olds, there are regional disparities and also based ion continents and countries on the progress. The region that remains with the highest levels of malnutrition is sub-Saharan Africa with 1 in 13 children tend to die before they reach their fifth birthday(Abaasa et al., 2021). There is also inequity that is faced by the countries based on their geographically or based on the socio-economic measures. The latest data indicates that 99 countries that are either low or middle income, the rate of child mortality is highest within poor households. If the challenges were eliminated in 201, there would have been 2 million lives that would have been saved (MoH, 2013). The sad situation that there are more deaths among the under 5 children that are mainly from causes that are ailments that are preventable and treatable that have robbed children of the chance to see their 5^{th} birthdays(Agho, Mukabutera, et al., 2019).

Health Systems need to be strengthened to provide or compliment such interventions to all households and children thus save many young lives and many more children. Malnourished children, and more so those who have been diagnosed with severe acute malnutrition, there is a higher risk in terms of theme dying based on having common illnesses that children have such as pneumonia, diarrhoea and malaria(Njuguna, 2021). Other nutrition-related factors have been found to make about 45% of the deaths that are faced by the under 5 years (WHO Fact sheet October, 2017). To address the issue of malnutrition a number of strategies have been employed in various levels of the health system and one major one that has gained momentum over the years is the use of CHWs in their communities to visit households.

The term “community health worker” (CHW) includes various groups of people in the community who are handling different roles and also working within their own communities under the umbrella of those activities that have been given to them(Joubert & Reid, 2023). Such is the only CHW definition that has been accepted by the WHO. The community workers should be a member of the community that they are serving and they should be selected by the community members and should be responsible to the community and also, they should be able to receive support from the health system of their county (WHO, 1989;Berini et al., 2022). Globally, CHWs have been given different names based on the country that they are in. There are 36 different names that CHWs are called which has been captured in *appendix 2*, which is not exhaustive as they are also called based on the different roles that they have(Berini et al.,

2022; Feroz et al., 2021; Nimmagadda et al., 2019).

The evolution of CHWs can be traced back to the 1800s where community members who were not trained physicians were trained and expected to carry out a number of duties that on a normal day fell under the docket of physicians(Feroz et al., 2021). In Russia in the late 1800 some of the community members were trained as health promoters to assist the then physicians and it was mostly for them to assist in their rural arears and neighbouring remote regions where there are no physicians due to them being too few a high population ratio to patients and physicians was really high. The commoners would be taken in Russia's Feldshers who ensured that paramedics trained in the 1800s to help the then physicians and mostly to function in remote areas where there was unavailability of physicians due to scarcity of them(Joubert & Reid, 2023). The said paramedics would go through three years of formal training of which would also be part of the literacy program and then many would go ahead to get training in midwifery and then would be authorised by the government to ensure services are available for people in remote areas.

China is famous for its Barefoot Doctors and their forerunners at Ding Xian in the 1920s. This is the first known and documented example of program that involves CHW in large scale. According to Kanté et al., 2019), the Rockefeller Foundation had assigned one Dr. John B. Grant to Peking Medical University and a Chinese community development specialist by the name Jimmy Yen to come up with a program where they were expected to educate the farmers who were considered to be illiterate on how to record births and deaths. They were also to train them on how to vaccinate against small pox and other common diseases, and to give first aid as well as health educational talks that would help the communities keep their wells clean thus reducing on spread of diseases(Lukama, 2022).

The Christian Medical Commission (CMC) is one of the units if the World Council of Churches in Geneva. It created a new approach that was key in terms of the health services that were being provided to the poor countries(Ursua et al., 2018). They were based on the application of the principles of justice, community participation, equality, disease prevention, devolving health services among others. The unit employed the use of appropriate technology which was lauded by the WHO as being a major means in ensuring that there is effective uptake of health services within poor communities(Nimmagadda et al., 2019). The idea used by the Christian Medical Commission (CMC) is reflected in the WHO booklet that was published in 1975 titled, 'Health by the People.' It is booklet based on the case studies that have been done in different countries involving the CHW programs(Kanté et al., 2019). The book was the foundation for the intellectual aspect of the Global conference Primary Health Care that took place Alma-Ata Kazakhstan in 1978 on which sponsored by WHO and UNICEF(Berini et al., 2022). Officials from different government under WHO attended the conference. The conference led to the Declaration which resolved to ensure that by the year 2000, there will be there will be universal 2000 through PHC (alma mater declaration, 2000).

The Declaration was explicit CHWs duties. Article VII.7 of the Declaration states: "Primary health care should rely at the local and referral levels on the health workers which include the

midwives, physicians, auxiliaries, nurses and the community workers as applicable. Also, there should be the inclusion of the traditions practitioners where they are needed and they should be social and technical aspects in order to allow them work with the health team and also to be able to respond to the demanding community's health needs."

Primary healthcare is mainly depending on the CHWs at the local and the referral levels. Additionally, it relies on the nurses, physicians, midwives, community workers, the auxiliaries and also in some cases the traditional practitioners. Such people are need to be well trained in order to ensure that there are effective health services that are offered(Joubert & Reid, 2023). The Declaration explicitly regarded a CHW as among the essential providers of the PHC in specific circumstances. The movement in the early periods of experimenting with the CHWs had two agendas(Feroz et al., 2021). The agendas were to ensure that there are inclusions of the services that would allow the preventive and curative medicine to be extended in the health system. Another agenda was in terms a transformative agenda that would have ensured the communities were on the fore front(Berini et al., 2022). In among those to ensure that the community health was addressing their socio-cultural and environmental factors that are capable of affecting the community's health which was strong within the Latin world(Kanté et al., 2019).

New and different approaches in terms of health service delivery was important in many African countries after the end of colonization and also in some of the well organised economies globally. According to Feroz et al., (2021)the emergence of the CHW programs under governments like in Malawi, Tanzania, Indonesia and Mozambique and other Latin countries were using CHW in the management of health. This was mainly in the 70s and 80s. during the period, there were also instances of CHW programs that were being managed in many low-income countries by the NGOs (USAID, 2015).

Kenya's health service is based on four tiers. The four tiers are; community, primary care, primary and referral/tertiary (national) (Ministry of Medical Services and Ministry of Public Health and Sanitation 2012). Based on the new decentralised system, sub-counties have been given the responsibilities of making sure that there is the implement of the health programmes (National Coordinating Agency for Population and Development et al. 2010; (Benzaken et al., 2020)MoH, 2022). The Community Health Worker (CHW) program in Kenya was established in the early 2000s as a strategy to address the shortage of health workers and improve health outcomes in underserved communities(Heerboth et al., 2020). The program involves training and deploying CHWs to provide basic health services, health education, and referrals to formal health facilities. The CHWs are members of the community they serve, which makes them well placed to understand and respond to the health needs of the population(Benzaken et al., 2020). This literature review aims to provide an overview of the CHW program in Kenya and the evidence base supporting its effectiveness

The Kenya community health strategy (CHS), that was rolled out in 2006 (Ministry of Health 2006; 2022), has a strategy that is aimed at expanding the community access to healthcare with the various stages of the life cycle. The strategy has captured the district health management

team (DHMT), now called sub-county health management team (SCHMT) that ensures that all the community activities are well coordinated with a focal person who acts as the supervisor to ensure that there is the monitoring of activities as well as planning the health of the community. At the community, there are units that are used to deliver the community health services(Scott et al., 2020). Each of the units that are captured in the community health consists of 50 people and this including50 volunteer CHWs who are responsible for 20 households. The strategy has captured the role the responsibilities of the CHWs in terms of the disease prevention and measures to ensure that there is the reduction of mortality, morbidity and the provision of the family health services as well as maternal and child and youth services. Also, there is the provision of the environmental sanitation. CHWs are also involved in other activities within the community such as home-based care, observing treatment and also curative care based on location (Perry & Zulliger, 2012; MoH, 2022).

The CHW position is based on their role being the link that is there between primary facility and the community (Vedanthan et al., 2019). They act as the link through working together with the government health workers such as community health extension worker (CHEW). CHEW is a trained government health worker who is employed to ensure that there is the linking of the community the primary health care facility. CHEW supports 25 CHWs. There are 2 CHEWs per unit of 50 CHWs and five thousand people(Henry et al., 2019). A community health committee is made up of the volunteer representatives of the community as indicated in the strategy. The committee role is to ensure that there is the supervision and the governance of the CHWs and also to foster community participation in various activities related to health. Two primary care services link the level community services that are provide within the dispensaries and health centres. There is also the referral of the patients by those who are providing CTC service within the community to the facility(Njororai et al., 2021).

A child's overall health represents their nutritional status. Having food supply in adequacy is key to children in order to avoid any cases of theme being exposed to nutritional related diseases. When children are well taken care and fed well, they tend to reach their growth potential(Njuguna, 2021). Malnutrition is the cause of almost half of the deaths in the world that are faced by children. Common childhood ailments are responsible for the deaths of most of the children due to their malnourished status(Abaasa et al., 2021). Such common ailments include malaria, pneumonia among others. Three quarters of the children who succumb to malnutrition are either mild or moderately malnourished and in most of the situations, they fail to show the vulnerabilities that they have. The MDG target was to ensure that there was reduction by half among the populations that are suffering from malnutrition globally (Chege et al., 2016).

The reference distribution is height and weight for children under five years is applied when a comparison is done among children who are undernourished. This is applied based on the standards that have been adopted by WHO and also based on the 3 indicators that are used when it comes to the nutritional status(Agho, Mukabutera, et al., 2019). The indicators can be applied based on the standard deviation units or z- scores from the median of the reference

population. Some of the most common and used measurements in nutritional assessment are(Carboo, Lombard, et al., 2020):

Weight-for -age: it is a measurement that is used when it comes to acute and chronic malnutrition. It is mainly applied when handling children who have not reached the age of five. In this measurement, children whose weight for age is more than 3 standard deviations >3 below the median are grouped as being severely underweight(Adedokun & Yaya, 2021).

Height-for-age: this is measurement that is used in assessing the linear growth. Children whose height-for-age is greater than 2 standard deviations that is below the referenced median, then they will be referee as being short when compared to actual height that they should be having for their age. They are either moderately or severely stunted(Beal et al., 2018). On the other hand, those whose height-for-age is greater than 3 standard deviations that is also below the referenced median are classified as *severely stunted*. Stunting is defined as a rection that is based on the chronic malnutrition based on the low or inadequate supply of nutrition within a longer period and also based on recurrent or chronic illnesses that one faces(Agho, Akombi, et al., 2019).

Children whose weight-for-height is greater than 2 standard deviations and below referenced median for the population are grouped as *moderately or severely wasted*. On the other hand, children who fall greater than standard deviations below the median are classified as *severely wasted*(Ayienda et al., 2020). Wasting is based on the current results of the nutritional status of the child where there is deficiency that has been noted due to the lack of food. The indicators in some cases can be able to exhibit significant seasonal shift based on food's availability or a disease that is prevalent within a given population(Di Gennaro et al., 2022).

Adedokun and Yaya, (2021) examined the factors that influence adverse nutritional status of children in sub-Saharan Africa. The study used data from the Demographic and Health Surveys (DHS) of 31 countries, which involved 189,195 children under age 5. Binary logistic regression was used to examine the relationships between the independent variables and adverse nutritional status of children. About 26% of the children in the 31 countries in sub-Saharan Africa considered in this study are stunted, 6% are wasted and 21% are underweight. Close to 31% of children whose mothers have no education are stunted, 9% are wasted and 28% are underweight. Adverse nutritional status of children is significantly associated with maternal age, education, household wealth, residence, antenatal care attendance, mass media exposure, child's sex and size of child at birth. This study has shown that adverse nutritional status of children is a major challenge in sub-Saharan Africa. Efforts at improving nutritional status of children should include poverty alleviation initiatives at individual and household levels, increase in women's educational level and improvement in living conditions in rural areas.

Blankenship et al., (2020) identified key drivers of child stunting (low height-for-age) and wasting (low weight-for-height) in a nationally representative sample (n = 3,981) of children 0–59 months of age. The national prevalence of child stunting and wasting was 28% and 7%, respectively. Boys were more likely to be stunted or wasted than girls. Older children 24–35

months were at the highest risk of stunting compared with children under 6 months whereas the youngest, under 6 months, were at the highest risk of wasting compared with children 36–59 months. Maternal height <145 cm, perceived small child size at birth, and not benefiting from institutional delivery were associated with an increased risk of child stunting. Similarly, maternal occupation, unimproved household drinking water, living in delta, coastal or upland areas, and poorer household wealth index quintile. Increased risk of child wasting was associated with maternal underweight and open defecation as well as maternal occupation and residence in a coastal area. The study concluded that, the key drivers of child undernutrition in Myanmar are multifaceted and start in utero.

Adedokun and Yaya, (2021)examined the factors that influence adverse nutritional status of children in sub-Saharan Africa. The study used data from the Demographic and Health Surveys (DHS) of 31 countries, which involved 189,195 children under age 5. Binary logistic regression was used to examine the relationships between the independent variables and adverse nutritional status of children. About 26% of the children in the 31 countries in sub-Saharan Africa considered in this study are stunted, 6% are wasted and 21% are underweight. Close to 31% of children whose mothers have no education are stunted, 9% are wasted and 28% are underweight. Adverse nutritional status of children is significantly associated with maternal age, education, household wealth, residence, antenatal care attendance, mass media exposure, child's sex and size of child at birth. This study has shown that adverse nutritional status of children is a major challenge in sub-Saharan Africa. Efforts at improving nutritional status of children should include poverty alleviation initiatives at individual and household levels, increase in women's educational level and improvement in living conditions in rural areas.

Nuraeni and Suharno, (2020)determined the relationship between socio-economic status and the incidence of stunting among children aged 24-59 months in the Work Area of Kadipaten Community Health Center, Majalengka District in 2019. This was a quantitative study with cross sectional design. The samples in this study were 328 children and parents of children aged 24-59 months in the work area of Kadipaten CHC, Majalengka District taken with simple random sampling technique. Data were analyzed using univariate analysis with frequency distribution and bivariate analysis with chi square test. The results showed that among children aged 24-59 months in the Work Area of Kadipaten Community Health Center, Majalengka District in 2019, 11.3% experienced stunting, 36.6% had families with socio-economic status below the Regional Minimum Wage/UMR, and there was a significant relationship between socio-economic status of the family and the incidence of stunting in the Work Area of Kadipaten Community Health Center, Majalengka District in 2019 (r value = 0.02).

Hossain et al., (2023) examined the prevalence, clinical presentation, and seasonality of Cryptosporidium in children to understand its relative burden after the introduction of rotavirus vaccine. Clinical and epidemiologic data were collected at enrollment, and a stool sample was tested for enteropathogens by quantitative PCR. Cryptosporidium infections peaked in The Gambia and Mali during the rainy season, while in Kenya they did not have clear seasonality. Compared with cases with watery MSD who had a negative PCR for Cryptosporidium, cases with watery MSD attributed to Cryptosporidium were less frequently dehydrated but appeared

more severely ill using a modified Vesikari scale, likely due to higher rates of hospitalization and intravenous fluid administration, higher prevalence of being wasted or very thin very thin, and having severe acute malnutrition. On follow-up, Cryptosporidium-attributed cases had more prolonged and persistent episodes and linear growth faltering. The study concluded that, the burden of Cryptosporidium remains high among young children in sub-Saharan Africa. Its propensity to cause illness and further impact children longer term by compromising nutritional status early in life.

Gallagher et al., (2023) aimed to measure the effect of PCV10 on population immunity. In the observational study, repeated cross-sectional serosurveys were conducted in independent random samples of 500 children younger than 15 years every 2 years between 2009 and 2017. Of 3673 volunteers approached, 2152 submitted samples for analysis across the five surveys. Vaccine introduction resulted in an increase in the proportion of young children with protective IgG concentrations, compared with before vaccine introduction (from 0–33% of infants with VT-specific levels over the correlate of protection in 2009, to 60–94% of infants in 2011). Despite rapid waning of IgG after vaccination, disease incidence among young children in this setting remains low, suggesting that lower thresholds of antibody, or other markers of immunity (eg, memory B cells), may be needed to assess population protection among children who have aged past infancy.

Venancio et al., (2021) analyzed the psychometric properties of the Child Development Assessment Questionnaire (QAD-PIPAS). The methodological study comprised of two axes. The first one aimed to analyze the instrument's construct validity (discriminant and concurrent validity) and internal consistency, and the second one examined test-retest reliability, involving two different samples and procedures. Multivariate analyses of construct validity showed that the QAD-PIPAS was able to identify the association between the outcome (suspected child development delays) and expected risk and protective factors based on Nurturing Care Framework (OMS/UNICEF). A significant positive correlation was achieved between the scores of the QAD-PIPAS and CREDI in six of the eight age groups analyzed, with the most significant correlations being in the age groups from 25 to 30 and 31-36 months. Acceptable internal consistencies were identified in all age groups, with better performance above 36 months of age (Cronbach's alpha between 0.61 to 0.80). We also found an adequate test-retest reliability (global Kappa 0.81).

Pavlinac et al., (2021) aimed to assess the efficacy of azithromycin administered at hospital discharge on risk of death and rehospitalisation in Kenyan children younger than 5 years. In the double-blind, placebo-controlled randomised trial, children were randomly assigned (1:1) to receive a 5-day course of azithromycin (oral suspension 10 mg/kg on day 1, followed by 5mg/kg per day on days 2–5) or identically appearing and tasting placebo at discharge from four hospitals in western Kenya. Children were eligible if they were aged 1–59 months at hospital discharge, weighed at least 2 kg, and had been admitted to hospital for any medical reason other than trauma, poisoning, or congenital anomaly. The study did not observe a significant benefit of a 5-day course of azithromycin delivered to children younger than 5 years at hospital discharge despite the overall high risk of mortality and rehospitalisation. These

findings highlight the need for more research into mechanisms and interventions for prevention of morbidity and mortality in the post-discharge period.

RESEARCH METHODOLOGY

A cross-sectional research design is a type of observational study that involves data collection from a representative sample of a population at a specific point in time. The primary objective of a cross-sectional study is to examine the prevalence of certain characteristics or variables in the population at that particular moment(Wang & Cheng, 2020). It differs from longitudinal studies, which follow participants over an extended period to observe changes over time. A cross-sectional research design was found suitable for studying the health and nutritional status of children aged 0-59 months in households visited by Community Health Workers (CHWs) in Suneka, Kisii County. In a cross-sectional study, data is collected at a specific point in time from a representative sample of the population of interest.

Kisii County is located in the middle part of Kenya. The region has various hills, valley and ridges. There are three distinct topological regions within Kisii County. The first zone if the region of the one laying below the 1500m and it is in the western boundaries, it includes areas like Marani, Suneka and Nyamarambe. The second topographical zone is found within regions that are between 1500m and 1800m. It is located in the western parts of Sameta and Keumbu divisions and also between the Gucha River basin and the Eastern Marani. The third zone is found within areas that are over 1800m and they are part of Mosocho. Masaba and eastern and southern Keumbu.

Notable features are Nyamasibi (2170m), Kiongongi, Kiombeta, Kiamwasi (1785m), Kiong'anyo (1710m) and the hills of Nyanchwa, Sombogo and Kegochi hills. The slope that is common within the land is from east to west. There are permanent rivers within the regions that have dissected it. Kisii County's slope is from east to west. There are permanent rivers that have dissected the county. Kisii county is also divided into constituencies and has nine constituencies namely South Mugirango, Bobasi, Bomachoge Chache, Bonchari, Borabu,Kitutu Chache, South Nyaribari Chache, North Kitutu Chache. The main economic activity carried out in Kisii County is subsistence/ small scale farming and the main crops produced in Kisii county are bananas, maize. tea, potatoes and sugarcane.

The current average distance of household to a health facility is 4km. There are seventy-one Level 2 facilities, eighteen Level 3 facilities, eight Level 4 and one Level 5 hospital- the Kisii Level Five Hospital. This hospital includes both private and mission hospitals. Most of the hospitals lack adequate personnel and even dugs forcing the residents to flood the Kisii Level 5 hospital. The Doctor/ population ratio is said to be at 1:500,000, and the nurse / population ratio is 1:10,000. The morbidity rate in the county of Kisii is at 25.1%. The five most common diseases in the county are Diarrhoea, pneumonia, skin diseases, Malaria, respiratory diseases and Urinary tract infections. Infant mortality is 90/1000, child mortality rate at 52/1000 and under five mortality at 75/1000. Immunization coverage being at 90%. Below is a table showing the county's malnutrition status in comparison with the Country's.

The target population for the study on the health and nutritional status of children (0-59) months in households visited by Community Health Workers (CHWs) in Suneka, Kisii County, was households with children aged 0-59 months visited by Community Health Workers in Suneka, Kisii County. The study participants were a sample nested in 18 Community Units. Each Community unit has about 10 CHWs each with about 100 households. Therefore, the target population would be 180 CHWs and 1,800 households.

Suneka-Bonchari sub-county was purposively sampled as location of the study because of high levels of malnutrition despite Kisii being a very rich and productive agricultural land fertile in soils and crops maturing all year round. Stunting is at 38.2%, Underweight at 35.4% and wasting at 16.6%.

Kothari's formula for sample size selection was applied when conducting research studies with a finite population. A finite population refers to a population where the total number of elements or units is known and limited(Dubey & Kothari, 2022). In such cases, it would be essential to consider the size of the population when determining the appropriate sample size to ensure representativeness and accuracy of the study findings. Kothari's formula is given by:
Sample Size (n) = (Z^2 * p * q * N) / [(N - 1) * e^2 + Z^2 * p * q]

Where:

- Z is the Z-score corresponding to the desired confidence level (for a 95% confidence level, Z ≈ 1.96).
- p is the estimated proportion of the characteristic in the population (if unknown, use p = 0.5 for maximum sample size).
- q = 1 - p.
- N is the size of the target population (in this case, N = 1,800 households).
- e is the desired margin of error (in decimal form, so 5% margin of error would be e = 0.05).

The formula shall be applied in this study as follows at a 5% margin of error with a 95% confidence level:

n = (1.96^2 * 0.5 * 0.5 * 1800) / [(1800 - 1) * 0.05^2 + 1.96^2 * 0.5 * 0.5]

n = 323.201

Since the sample size cannot be a fraction, it was round up the result to the nearest whole number:
Sample Size (n) ≈ 323
Finally, Systematic sampling was used to identify the actual respondents from the selected sample size. Systematic sampling is a statistical method involving the selection of elements from an ordered sampling frame. The most common form of systematic sampling is an equal-probability method, in which every k^{th} element in the frame is selected, where k is the sampling interval.

$$k = \frac{N}{n}$$

Where *n* is the sample size, and *N* is the population size.

N= 1,800 respondents
n=323 respondents
k = 1,800/323 = 5.57 ~6

The study thus used a sampling interval of 6. To achieve, two pairs of major landmarks (permanent features such as a school, a church, a trading centre) in the town were randomly selected on a map and transect lines drawn joining each pair. Sampling was then be done and followed as closely as possible the marked transects. Trained enumerators interviewed each third household, first on the left, then on the right, and back to the left using a formal pre-tested questionnaire.

Study tools such as focus group discussion, structured questionnaires and key informant interview and check lists were used to ensure that there is the counterchecking of all the tools/supplies and also the record sheet was applied in the study. The household questionnaire for a study on the health and nutritional status of children (0-59) months in households visited by Community Health Workers (CHWs) in Suneka, Kisii County, covered a range of topics to gather relevant information about the households and their children. The researcher ensured that the questionnaire was clear, concise, and culturally sensitive. Also, the researcher did consider translating the questionnaire into the local language(s) to facilitate better participation from the households in Suneka, Kisii County.

Furthermore, a child health record review was conducted to gather valuable information from the children's medical records. This process will involve reviewing existing health records to obtain data on their health history, immunization status, growth monitoring, and other relevant health indicators. The researcher ensured that the child health record review adheres to ethical guidelines and legal requirements concerning data access and confidentiality. Collaboration with local health authorities and healthcare facilities will be essential to obtain the necessary permissions and access to the health records.

Interview schedule was used to collect data from the health leaders, in the study area. This was useful because key informants have more knowledge, better communication skills or different perspectives than other members of the defined population (Gall, Borg & Ball, 1996). from leaders in the community and officers in the program from the sub-county health team. These people provided an insight into the nature of the program and the nature of problems and challenges the community health workers face.

Secondary data required was extracted from various health journals, books, published materials, internet, census reports, newspapers and research reports and research reports on health and nutrition status of children (0-59 months) and the role played by Community Health Workers was be collected from library sources, government offices and internet data base. Retrospective data will be obtained from the children's immunization booklet (Road to Health), CHW training report and data as well as the program data and monitoring report. Hospital records and CHEW reports will also be used to collect secondary data- The MOH 515 reports.

On third day of the training, the pretesting was done. The semi- structure questionnaires were pretested. This assisted in making vital adjustments to enhance reliability and validity of the study findings.

The questionnaires were administered by the researcher with the assistance of five research assistants through direct interaction with the respondents. This helped to explain the motive of the study and for purposes of creating rapport that will facilitate the carrying out of interviews with these respondents.

Validity is the accuracy and meaningfulness of inferences drawn from the researcher findings. It is the degree to which results obtained from the analysis of the data actually represent the phenomena under study (Mugenda & Mugenda, 2003). In this study, the validity was taken to mean the extent to which the instruments cover the objectives. Validity refered to quality of data gathering instrument or procedures that enable the instrument to measure what it is supposed to measure (Kumar, 2005). To ascertain content validity of the research instrument the researcher will consult experts in research methodology in the Department of food nutrition and dietetics at the University of Nairobi. This enabled the researcher to develop instruments that yielded content valid information.

Reliability is the ability of the instrument to give consistent results after a number of repeated trials (Kerlinger, 2003). It was enhanced through use of instrument triangulation technique which is an acceptable technique in survey research that is qualitative in nature since it lends credibility to the findings of the study (Kothari, 2008; Mugenda & Mugenda, 2003). Kothari (2004) argued that reliability is the consistency of measurement and is frequently assessed using the test–retest reliability method. Reliability is increased by including many similar items on a measure, by testing a diverse sample of individuals and by using uniform testing procedures.

Cronbach's Alpha will be applied to measure the co-efficient of internal consistency and therefore reliability of the instrument; $\alpha = n/n\text{-}1(1\text{-}\sum Vi/Vtest)$

Where; n = number of questions

Vi = variance of scores on each question

Vtest = total variance of overall scores (not %'s) on the entire test

A reliability coefficient of 0.71 was be considered high enough for the instruments to be used for the study (Jwan, 2010).

Quantitative data collected was edited, coded, classified and tabulated with regard to the type and source. During the editing process, the researcher carefully scrutinized the raw data collected from all the respondents with a key objective of ensuring that it is accurately, uniformly and completely entered. The edited data was then be coded according to the research themes. The data was then analysed using Statistical Package for Social Sciences (SPSS). The analysis will entail computation of descriptive statistics (frequencies and percentages). Qualitative data collected through key informant interviews was analyzed thematically. Other methods like content analysis, direct quotations and selected comments from the informants

will be used to present the findings. Verbatim quotes will be used, and where other languages have been used they will be translated into English.

In addition, the study conducted a multiple regression analysis to determine the relationship between the health and nutritional status of children (0-59) months in households visited by community health workers (CHW) in Suneka – Kisii county. The health and nutritional status of children (0-59) months variables were be regressed against households visited by community health workers (CHW) variables. The results of the regression analysis was interpreted based on the R square, significance of F statistics and the significance of beta values from the coefficients of the X variables. Significance will be tested at 5% level.

The regression model is ($Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_{3+} \varepsilon$):

Whereby Y = Households visited by community health workers (CHW)

X_1 = Nutritional status

X_2 = Immunization status

X_3= Morbidity status.

e_t = Error term and β_0 β_1 β_2 β_3 and are the regression equation coefficients for each of the variables discussed.

After the data analysis the results were presented with the aid of bar charts, frequency tables, percentages, standard deviation and mean score. The information was then presented and discussed addressing the objectives of the study. A regression model was used to show the relationship between independent and dependent variables. Pearson moment correlation coefficient was applied.

To ensure that ethical principles in research are followed namely; equitable selection of subjects, scientific merit, seeking informed consent and avoidance of coercion, a letter of study approval from the Kisii County Health Management Team was used to inform local authorities and facilities of the study. Additionally, before beginning of data collection, the researcher sort permission from relevant authorities; a letter of introduction from the university was sought. The researcher explained to the respondent the benefits expected from the research before involving them. The researcher further explained to the respondents that their rights and well-being will be adequately protected. Interviewers were obtained the informed consent of the respondent. The researcher assured the respondent that the information they provide will be used for the purpose of the study only and that their identity. A cover letter from the university was given to the interviewers to ensure that there is no mistrust. To avoid deception, the respondent was told only part of the truth or when the truth is fully compromised to prevent biasing the respondents before the survey or experiment and to protect the confidentiality of a third party.

Five field assistants were be used in the study and they will be recruited by the researcher. The field assistants had a minimum of KCSE certificate and were conversant with the local language as well as English language. This ensured that they have the ability to understand and also interpret the questionnaire. The researcher conducted a three-day training of the field

assistants. The training covered various area such as background, study's objectives. Ethical considerations, interaction methods, respondent's selection, team spirit and data collection techniques. Additionally, the training was essential in making sure that there is coordinated data collection to eliminate or minimize variations that could have a negative influence on the data that will be collected.

RESULTS AND DISCUSSIONS

Correlation Results

Interpreting the correlation results between sociodemographic characteristics of households with children aged 0-59 months in Suneka, Kisii County, and Community Health Worker (CHW) visits involved understanding the statistical values and their implications. A positive correlation ($r > 0$) suggests that as one variable increases, the other tends to increase as well. A negative correlation ($r < 0$) suggests that as one variable increases, the other tends to decrease while an r value close to 0 indicates a weak or no linear relationship. Additionally, if the p-value was less than the chosen significance level (e.g., 0.05), the study concluded that the correlation was statistically significant. On the other hand, if the p-value was greater than the significance level, the correlation was not statistically significant. Therefore, for each sociodemographic characteristic, the researcher considered its correlation with CHW visits.

A sociodemographic characteristic showed positive correlation with CHW visits was interpreted as depicting a tendency having more frequent CHW visits. This suggested that [sociodemographic characteristic] were a positive predictor of CHW visits in this population. On the other hand, a sociodemographic characteristic that showed a negative correlation with CHW visits (e.g., households with larger size tend to have fewer CHW visits), was interpreted as having a tendency to have fewer CHW visits. This suggested that [sociodemographic characteristic] was a negative predictor of CHW visits in this population.

All sociodemographic characteristic showed a positive correlation with CHW visits with varying degrees of significance. Number of individuals in a household ($r= 0.044$; p-value $=0.431$). Age of responsible household member ($r= 0.007$; p-value $=0.895$). Relationships between household members ($r= 0.098$; p-value $=0.643$). Household members highest education ($r= 0.026$; p-value $=0.431$). Average household income ($r= 0.137$; p-value $=0.015$). Access to WASH ($r= 0.022$; p-value $=0.069$) and children access to education ($r= 0.059$; p-value $=0.292$) while children birth order was ($r= 0.074$; p-value $=0.189$).

Interpreting the correlation results the frequency of home visits and activities carried out by the Community Health Workers during the home visit involved understanding the statistical values and their implications. A positive correlation ($r > 0$) suggests that as one variable increases, the other tends to increase as well. A negative correlation ($r < 0$) suggests that as one variable increases, the other tends to decrease while an r value close to 0 indicates a weak or no linear relationship. Additionally, if the p-value was less than the chosen significance level (e.g., 0.05), the study concluded that the correlation was statistically significant. On the other hand, if the p-value was greater than the significance level, the correlation was not statistically significant.

Therefore, for each sociodemographic characteristic, the researcher considered its correlation with CHW visits. The frequency of visits and activities during visits showed a positive correlation with the effect of the CHW visits with varying degrees of significance. How often does the Community Health Worker (CHW) visit respondents household (r= 0.050; p-value =0.377).

		How often does the Community Health Worker (CHW) visit your household?	CHW visit effect
How often does the Community Health Worker (CHW) visit your household?	Pearson Correlation	1	-.050
	Sig. (2-tailed)		.377
	N	318	318
CHW visit effect	Pearson Correlation	-.050	1
	Sig. (2-tailed)	.377	
	N	318	318

Interpreting the correlation results of the nutritional status, morbidity patterns, and immunization status of children (0-59) months involved understanding the statistical values and their implications. A positive correlation ($r > 0$) suggests that as one variable increases, the other tends to increase as well. A negative correlation ($r < 0$) suggests that as one variable increases, the other tends to decrease while an r value close to 0 indicates a weak or no linear relationship. Additionally, if the p-value was less than the chosen significance level (e.g., 0.05), the study concluded that the correlation was statistically significant. On the other hand, if the p-value was greater than the significance level, the correlation was not statistically significant. Therefore, for each nutritional status, morbidity patterns, and immunization characteristic, the researcher considered its correlation with CHW visits. The nutritional status (r = 0.061; p-value = 0.276), immunization status (r = 0.128; p-value = 0.022), and morbidity status (r = 0.044; p-value = 0.434) showed a positive correlation with the effect of the CHW visits with varying degrees of significance. This implies that CHWs visits resulted in better immunization, nutritional and morbidity status respectively.

		Morbidity status	Nutritional status	Immunization status	CHW Visits
Morbidity status	Pearson Correlation	1	.032	-.039	.044
	Sig. (2-tailed)		.568	.487	.434
	N	318	318	318	318
Nutritional status	Pearson Correlation	.032	1	.046	.061
	Sig. (2-tailed)	.568		.411	.276

	N	318	318	318	318
Immunization status	Pearson Correlation	-.039	.046	1	.128*
	Sig. (2-tailed)	.487	.411		.022
	N	318	318	318	318
CHW Visits	Pearson Correlation	.044	.061	.128*	1
	Sig. (2-tailed)	.434	.276	.022	
	N	318	318	318	318

*. Correlation is significant at the 0.05 level (2-tailed).

Descriptive Analysis

The study found that majority of the respondents indicated that they had 3 individuals living in their household, including adults and children, majority of the respondents indicated that mothers were responsible for the households, most of the respondents indicated that most of the caregivers to the children between 0-59 months were the children's parents, most of the respondents indicated that the highest educational attainment of household members especially parents or caregivers was a primary school certificate, majority of the respondents average household income was 0 to 5,000 shillings, most of the respondents had access to clean water and sanitation facilities, majority of the respondents indicated that children in their households had access to early childhood education or were attending school and most of the respondents indicated that the birth order of children in terms of age were 13 to 24 months.

The study also found that most of the of the respondents indicated that the Community Health Worker (CHW) moderately visited their household to provide health-related services and information, majority of the respondents indicated that on average, the CHW visited the respondent's households four times in a month, majority of the respondents indicated that the most recent home visit by the CHW was 4 to 7 days ago, most of the respondents 98% indicated that they carried out activities such as health education on child nutrition, hygiene, and breastfeeding during the CHW visits, 97% indicated that they carried out activities such as monitoring and screening of child growth and development during the CHW visits, 98% indicated that they carried out activities such as immunization tracking and support during the CHW visits, 97% indicated that they carried out activities such as providing essential health supplies (e.g., vitamin A supplements, oral rehydration salts) during the CHW visits, 95% indicated that they carried out activities such as identification and referral of sick children during the CHW visits, 96% indicated that they carried out activities such as family planning and maternal health counseling during the CHW visits, 90% indicated that they carried out activities such as promotion of antenatal and postnatal care during the CHW visits and 92% indicated that they carried out activities such as counseling on birth spacing and maternal health during the CHW visits. Majority of the respondents indicated that the health education provided by the CHW during home visits in terms of improving their family's health practices was moderately effective, most of the respondents indicated that the CHW's home visits contributed moderately to the health and well-being of their household, particularly for children aged 0-59 months and majority of the respondents indicated that they had observed positive changes in health practices, hygiene behaviors, or child health outcomes as a result of the CHW's home visits.

The study further found that majority of the respondents indicated that in the past year, children in their household aged 0-59 months had experienced health issues or illnesses, most of the respondents indicated that health issues or illnesses occurred occasionally within the children in their household; majority of the respondents indicated that fever was the most common type of health issue or illness that the children in their household had experienced, most of the respondents indicated that children in their household had missed days of school or other activities due to these health issues or illnesses and majority of the respondents indicated that the overall health status of the children in their household was fair.

The study also found that most of the respondents indicated that the nutritional status of the children aged 0-59 months in their households was normal, majority of the respondents indicated that children in their households had not been diagnosed with malnutrition or received treatment for malnutrition in the past year, most of the respondents indicated that they had noticed changes in the growth and development of the children in their households since the CHWs began visiting and majority of the respondents indicated that the food security situation in their households was mildly insecure.

The study further found that most of the respondents indicated that they ensured that the children aged 0-59 months in their households had received all their immunizations according to the recommended schedule, majority of the respondents indicated that the CHWs provided information, support, or reminders to them regarding the immunization schedule for their children and most of the respondents indicated that they were somewhat familiar with the importance of immunizations for the health and well-being of their children.

The study finally found that respondents agreed to a great with the statements on effects of CHW household visits on the health and nutritional status of their children.

Conclusions

In conclusion, the sociodemographic characteristics of households with children aged 0-59 months are diverse and multifaceted. These characteristics influence children's access to healthcare, education, nutrition, and social support, ultimately affecting their health and well-being in Suneka, Kisii County. Understanding the specific sociodemographic factors in a given population, such as Suneka, is crucial for tailoring policies and interventions to address the unique needs of children and families.

The study also concluded that CHWs assess the child's growth, weight, and overall health during home visits to monitor for any signs of malnutrition, illness, or developmental delays. CHWs also often conduct regular home visits to ensure that children's health needs are met and to provide health education and support to caregivers. Moreover, CHWs ensure that children receive their vaccines on schedule by carrying out immunization campaigns and providing information about the importance of vaccinations.

Further conclusions are that, CHWs play a critical role in improving the health and nutritional status of children aged 0-59 months in Suneka, Kisii County. Their efforts lead to better access to healthcare, increased awareness of health and nutrition, and ultimately contribute to healthier and better-nourished children. However, the extent of these impacts vary based on the quality of CHW training, program implementation, community engagement, and other contextual factors.

Finally, the study concludes that CHWs are instrumental in improving the immunization status of children aged 0-59 months in households they visit. Their work increases awareness, access, and acceptance of vaccines, ultimately contributing to higher vaccination coverage and better protection of children against vaccine-preventable diseases. However, the effectiveness of CHWs in this regard aree influenced by factors like training, community engagement, and the overall healthcare infrastructure in the region.

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