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Promotion of Reproductive Healthcare and Services by Community Health Promoters in Narok West sub-county, in Narok County, Kenya

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ABSTRACT

Reproductive health (RH) is a critical component of community well-being both globally and in Kenya. However, the limited number of RH professionals and the unequal access to RH services, particularly in the low- and middle-income countries (LMICs), remain persistent challenges. In Kenya, rural and remote areas, especially the previously marginalized communities such as Narok West sub-county are disproportionately affected. This study aimed to investigate the level of RH care promotion by community health promoters (CHPs) in Narok West sub-county, in Narok county, Kenya. Employing a cross-sectional survey design and mixed-methods approaches, the study collected and analyzed both quantitative and qualitative data from randomly selected CHPs serving in the sub-county and purposefully sampled community members who were residents of the subcounty during the study period. Secondary data on the key indicators of level of RH promotion by the CHPs for this study, were also obtained from the Kenya Health Information Management System (KHIMS). Quantitative data were processed and analyzed using descriptive statistics (frequencies, means, medians, percentages) and inferential methods for relationships between the variables, such as multivariate regression (with statistical significance level set at $P < 0.05$). The results of quantitative data analysis were summarized and presented using tables. The qualitative data was analyzed thematically, interpreted using direct quotes of the respondents to represent participant voices. This study reveals that there was sufficient level of RH promotion by the CHPs in the sub-county during the specified study period (2024) as indicated by the total of 7,599 RH promotional activities, 4,288 of which were household visits, 2,237 maternal healthcare support and 1,074 childbirth and pregnancy-related referrals to health centers by the CHPs. More importantly, the study shows that the current CHPs have made substantial differences in the promotion of the RH services in the sub-county, by increasing the overall RH-related promotional activities by 53.3%, compared to previous promotion. Worth noting is the remarkable increase of 244% in the referrals and 34.6% in household visits, compared to the level of promotion in the year 2023. Some of the factors identified by this study as influencing the level of promotion by the CHPs include: formal training in RH services, methods used, community's RH awareness, previous experience, and traditional and cultural beliefs on health. The formal RH-specific training was identified as an independent predictor of the number of maternal healthcare supports provided by the CHPs in this study. However, compared with the year 2023, the type of RH services promoted in the sub-county remained the same, meaning the training of CHPs was not adjusted to align it with the emerging and re-emerging RH-issues of RH-related cancers, teenage pregnancies and abortions, adolescents born with and living with HIV/AIDS, which was identified as key gap that need to be addressed. In summary the study reveals that the engagement of the current CHPs in promotion of RH services was not only working, but also may be feasible strategy to improve accessibility and availability of the RH services, especially in rural, remote and underserved areas such as the Narok West sub-county. But the scope should be expanded to address the identified key gap. These findings are significant for stakeholders, offering valuable insights into the role of the newly commissioned CHPs in advancing RH at level one of the healthcare system and contributing to Kenya's broader goal of achieving Universal Health Coverage (UHC) through community-based healthcare.

Keywords: Reproductive Healthcare and Services, Community Health Promoters (CHPs), Community and Household (Level 1) Health and Promotion, Role of CHPs in Reproductive Healthcare Promotion, Primary Healthcare (PHC), Community and Household Health Promotion

Introduction

Reproductive health (RH) is a fundamental aspect of overall well-being, encompassing physical, mental, and social factors related to the reproductive system and its functions (WHO, 2017). In many communities, especially in low-and middle-income countries (LMICs) like Kenya, access to reproductive health care services is limited and inadequate, due to several factors, including scarcity of manpower, lack of or poor integration of RH services into community-based health practices/care, inadequate resources, lack of sustainable funding, cultural and religious barriers, among others

Globally, reproductive health programmes have been guided by international initiatives for decades, including the 2000 Millennium Development Goals (MDGs) previously and the current Sustainable Development Goals (SDGs). Subsequently, the initiatives have included targets and indicators related to universal access to reproductive health for all women and men regardless of their background (WHO, 2019). As the first point of contact in the community, and a crucial link between the patient with the primary health care (PHC), community health promoters (CHPs), play a critical role in promoting health in general at the community or household levels, thus may also play a substantial role in promoting reproductive healthcare (RH)-specific services. Given

their well-established significant roles (Adams et al., 2020), the CHPs may be utilized to collect specific data and provide targeted RH-related interventions especially in rural, remote, and underserved areas and communities which may greatly assist the national and county government to address the historical health inequities in counties like Narok, where localized research is lacking.

In Kenya, although efforts to improve community-based reproductive healthcare services have been made, such as training, recruitment, and deployment of more reproductive health professionals, CHPs, and engagement of community health extension workers, the implementation of these services has been inconsistent. In particular, the implementation of the services has been hampered by a number of factors, including inadequacy of personnel, funds/resources, and lack of prior formal recognition of the CHWs and their utility in promoting RH services by stakeholders. In Kenya, access to reproductive healthcare services is inadequate and limited, especially at the community level and in remote rural areas, leading to various challenges such as high maternal mortality rates, prevalence of STIs, and inadequate family planning services. This makes the subject of RH promotion at the community level an important one that warrants further investigation. Therefore, any approach that may help in addressing the inequities in healthcare and in particular RH accessibility and availability, especially in the disproportionately affected remote and underserved areas such as this sub-county such as engagement of the current CHPs, is highly welcome. For that reason, understanding better the role, utility, effectiveness of the CHPs in promoting RH services in the community and the factors that may be influencing the level of the promotion, particularly in underserved, rural and remote regions like the Narok West sub-county, Narok County, Kenya, justifies the need for such a study at this point (WHO, 2022). The main aim of this study was to investigate the level of RH promotion by CHPs in the sub-county, determine the factors that may be influencing the promotion and their association with the level of promotion observed. In this study, the target population is community health promoters working in Narok West sub-county, Narok County, in Kenya, and some of the resident community members of the sub-county

Methods

Study site, design, and population

This study which was conducted in the three health centers and a number of dispensaries where the CHPs are linked to, adopted a cross-sectional survey design to address the complex issue of promoting reproductive health by CHPs at the community level. The study also used the mixed methods research approach and methods to collect both quantitative and qualitative data. The target population for this study were randomly selected CHPs working in the Narok West sub-county and a few community members serving at various roles in the community and who were residents of the sub-county, selected purposely as the key informants for the interview. From the target population, an adequate and representative study/sample population ($n = 100$) was randomly selected and a few key informants ($n = 11$) purposefully selected for the study. The sampling frame was the record of all the Narok West sub-county CHPs, while the sampling unit was the specific list, of only those CHPs that were actively working in the sub-county during the time of the study.

Data Collection and Analysis

This study specified the duration between 1st January, 2024 and 31st December, 2024, a period of 12 months in the year 2024, as the “study period”, and the period of which data would be collected. Likewise, a similar period of 12 months (1st January, 2023 and 31st December, 2023) was specified as the comparison year, on which the “documented baseline information”, for the relevant indicator variables, was extracted from the Kenya Health Information Management System (KHIMS). The quantitative data was collected using the structured questionnaire, while the quantitative data was collected using face-to-face interviews of the key informants. The collected data were extracted from the study tools (questionnaire and smartphone recorder) were and processed appropriately. Secondary data in the form of “documented baseline information” relevant to the same indicator variables for the study was also extracted from the KHIMS, to identify how the RH situation was like in the sub-county before the current CHPs, assess any differences they may have made, and on which the problem analysis was based. The easily quantifiable (categorical) data collected were coded, cleaned, and analyzed statistically together with the quantitative data, using IBM SPSS version 26 and both descriptive and inferential statistics. The audio-recorded qualitative data was transcribed from the smartphone, translated into the English language, where applicable, deductively and posteriorly coded, after data had been collected. Narrative analytical methods using thematic analysis were used to analyze the responses from the key informants, and the most representative direct quote of the participants chosen to represent and illustrate the relevant theme or subtheme that had been derived using the study broad and specific objectives. Where study variables were categorical and nominal, data were summarized using the mode. To determine the level of RH promotion by the CHPs in the sub-county, three indicator variables for the outcome (number of household visits, number of maternal healthcare support provided and number of pregnancy and childbirth-related referrals to the health centers. The Spearman’s rank correlation tests were used to find the factors that may be influencing the level of RH promotion by the CHPs in the sub-county. A pre-specified “alpha”, ($p < 0.05$) stated at 95% confidence level was used to interpret statistical significance of the presumed predictor variables and the three (3) outcome indicator variable used for this study.

Ethical consideration

Ethical approval for the study was obtained from the Institutional Research Ethics Committee (IREC) of Baraton University. In addition, a research license to conduct the study in Kenya, was issued by the National Commission for Science, Technology and Innovation (NACOSTI), and additional authorization was granted by the Narok County Government, department of preventive and promotive services, and further authorization was granted by Narok west sub-County medical officer of health (MOH) to access the community health promoters (CHPs) and health information system for qualitative and quantitative data collection. An informed consent was sought and obtained from every participant including the key informants after being briefed about their rights and freedoms shall be respected, before being allowed to participate in the study. To ensure anonymity and confidentiality of the information provided, all participants were anonymized using unique codes, and no personally identifiable information was recorded or used during the study.

Results

Baseline Characteristics of Study Participants

The cross-sectional survey using structured questionnaires included 100 randomly selected CHPs. All 100 structured questionnaires were returned filled, thus available for analysis. This represents a 100% response rate which was good for not only study validity, but also in addressing potential biases such as selection and non-response/low-response. With regard to the gender distribution of the survey participants, the males were the majority at 62%, and the females were 38%. The mean age of the participants was 36 years (range: 23–66 years). Regarding education, the majority of the study participants had secondary-level education, while the rest had either primary-level (13%) or tertiary-level education (15%).

The key informant interviewed were 11 in total with diversity in terms of their gender and roles. More than half of the participants were male and the remaining 40% were female. In relation to their roles, **kii1**-was and administrator (area chief), **kii2** a local NGO representative who is also a member of the local community, **kii3** was a community member while **kii4** was a religious leader of one of the local churches, **kii5** a women representative of one of the local CBO, **kii6** was the community health coordinator of the sub-county while **kii7** was an in-charge of one of the health facility. **kii8** was one of the in-charge of a community unit where community health promoter operate and **kii9-11** were members of the community.

Table 1: Level of Reproductive Healthcare Promotion by CHPs in the Sub-county

Indicator	Responses/Frequency	Frequency (Counts)	Relative Frequency (% out of Total)
Household Visits			
Yes		100	100
No		0	0
Numbers (If Yes)		4288	56.4
Maternal Healthcare Support			
Numbers		1074	14.1
Referral to Health Centers			
Yes		100	100
No		0	0
Numbers (If Yes)		2237	29.4
Total		7,599	100

Table 1 summarizes the frequencies and relative frequencies of the responses of the participants on the questions of household visits, maternal healthcare support provided and pregnancy and childbirth-related referrals done by the CHPs in the specified study period (2024). According to the table 1, all the CHPs to whom the structured questionnaire was administered reported conducting at least one household visit per week in their area of jurisdiction. In particular, a total of 4,288 “Household visits” for the study period, by the CHPs, were made. On further analysis, the types of reproductive services promoted by the studied CHPs included: family planning and contraceptive use, antenatal and postnatal care, as well as sexually transmitted infections/human immunodeficiency virus (STI/HIV) prevention and treatment. In addition, during the study period, a total of 1,074 maternal healthcare supports in the sub-county were reported by the CHPs. Furthermore, 2,237 referrals to health centers were made by the CHPs. In total, during the study period (1st January, 2024 to 31st December, 2024), there were 7,599 activities and/or tasks that were performed by the CHPs in the sub-county to promote the reproductive healthcare services at the community level, with “household visits” to promote the aforementioned RH services making the largest proportion of promotion activities by the CHP (56.4%), followed by “referral to health centers” with 29.4%, and the “maternal healthcare support” with 14.1%. This implies that a total of 5,362 out of the 7,599 activities or tasks (or 70.6%) directly related to the promotion of reproductive healthcare services in the sub-county, by the CHPs, were conducted. The remaining 29.4% were activities or tasks that were referrals of childbirth and pregnancy-related referrals to the health centers, thus indirect indicators of the level of promotion of RH services by the CHPs.

Table 2: The Comparison Between the Current and Previous Promotion of RH by CHPS and CHVs

Entity Involved in Previous Promotion	Indicator of Previous Promotion Level Prior Current community health promoters(CHPs)	Previous (2023) RH Promotion (Frequency (Counts)	Current (2024) RH Promotion by CHPs	Remarks (Any Differences in Awareness, Incentives, Status of RH & Promotion and Scope
Community health workers(CHW)community health volunteers(CHVs)	Household Visits	3,186	4,288	1,102
CHWs/CHVs	Types of Reproductive health(RH) Services Promoted	Family planning(FP) & Contraceptives, Maternal & Child Health, STI/HIV prevention and Treatment.	FP & Contraceptives, Maternal & Child Health, STI/HIV prevention and Treatment.	No difference
CHWs/CHVs	Referral to Health Centers	312	1,074	762
	Total	3,498	5,362	1,864

Discussion

This study used three outcome indicators variables to measure the level of reproductive healthcare promotion by the CHPs in the Narok West sub-county, Narok County. That is: the number of household visits and the types of RH services promoted, the number of maternal healthcare support given by the CHPs, and the number of pregnancy and childbirth-related referrals to health centers done during the specified study period. These metrics were in line with what other previous, similar studies have used to determine the level of RH promotion by CHPs (Olaniran et al., 2017; Kalyango et al., 2012).). Given that each of the 100 CHPs studied is allocated at least 100 households to serve in a community unit, and the reported total households visited during the specified study period were 4,288, it means out of the possible 10,000 households, 43% of them were visited. The household visits to promote the RH services comprised 56.4% of CHPs' RH promotional activities, while the referral to health centers and maternal healthcare support made up 29.4% and 14.1%, respectively). All CHPs reported conducting at least one household visit per week, with an average of 49 pregnancy and childbirth-related referrals per month, indicating that approximately half facilitated at least one referral monthly and WHO recommends a minimum of the above four services for the holistic RH promotion at the community level (WHO report, 2014). The type of services promoted by the CHPs in the two comparison periods included Family planning (FP) & Contraceptives, Maternal & Child Health, STI/HIV prevention and Treatment. In agreement with the quantitative results the qualitative findings support this when one of the key informants said; *"The CHPS offer RH services like family planning, monitor ANC and check whether they have visited ANC clinic and if not are asked to attend, monitor HIV positive individual to ensure they adhere with medication and also do refill in cases of stock outs and follow up on post-natals to check for any danger signs"*, KI-4. To further evaluate the level of RH services promotion by the current CHPs, the study utilized secondary information from the Kenya Health Information Management System (KHIMS) as the documented baseline evidence to assess the difference, if at all, between previous and current promotion of RH services. By using the data for the year 2023 as the baseline information and 2024 as the comparison year, household visits and referrals to health centers increased by 34% and 244%, respectively. These indirect indicators of the level of promotion of RH services by the current CHPs indicate a substantial improvement in the level of RH promotion, which may be associated with the engagement of the current CHPs. To complement the quantitative results, qualitative findings were in agreement as indicated by one of the key informants when he said; *"CHPs can visit everyone in the village they come from, and therefore, they know the problems of each member of that community, and that is why there is some improvement in referrals and maternal support care"*, KI-6

This implies that the current CHPs had made substantial differences in increasing the level of RH promotion in the sub-county, which were supported by most of the community opinion leaders interviewed in this study as shown by one of their quote saying; *"Now days CHPS don't worry of delayed reporting or taking much time conducting household visit and collecting data because the app called E-CHIS has made it easier and less time consuming enabling them to reach the target household quickly except for areas with much geographical challenges, like vastness and wild animals"*-KI-3. These findings are in agreement with those of previous investigators who reported the instrumental role played by CHPs in promoting RH services in the community (Abuya et al., 2019; Admasu et al., 2016; Schneider et al., 2016).

To simultaneously determine the factors influencing the level of promotion of the RH services by the CHPs, and their associations with the level, Spearman's rank correlation test was run with all the identified factors and the 3 indicator variables (household visits, number of maternal healthcare support, and number of referrals) for the study. Monotonic, "Weak" correlations ($r_s = 0.10 - 0.3$, $n = 100$) were found between the following explanatory factors, and the 3 indicator variables for the study; Age, Marital Status, Religion, Education Level, Baseline RH Knowledge, Previous Experience, Value of Education Sessions to the Community, Community's RH Awareness, the RH Services Promoted, Receptiveness of the Community to Education

Sessions, Observed Behavioral Changes, RH Topics Requested, Methods Used and Traditional and Cultural Beliefs on Health. The correlations observed, although “weak,” imply an association between these factors and the respective indicator variables, and thus were influential to the level of reproductive health promotion by the CHPs. This, was in agreement with other previous studies (Otieno et al., 2018; Srivastava et al., 2016; Glencon et al., 2013; Kisia et al., 2012). In addition, a correlation between the level of RH promotion and the challenges faced by the CHPs was run separately using Spearman’s rank correlation test. There was no significant correlation between the identified individual, socio-economic, and environmental factors and the nine challenges and the variable indicators of the level of promotion. The non-statistically significant association does not mean there were no associations, but means that the factors were not “independent” contributors to the level of promotion of the RH services, which was confirmed by multicollinearity that was observed among various predictors themselves. In agreement with the quantitative results, qualitative findings echo this fact when one of the key informant said that; *‘We very happy with provision of incentive to CHPs because even them need some financial support as they go about their work of enlightening the community on issues pertaining reproductive health and that’s why nowadays they can visit us almost every week to check for various illness including reminding ANC mothers on the next ANC visit and when they should go for check -ups which is a good thing’* KI-1.

However, one challenge, “Traditional and Cultural beliefs,” was notable due to its high relative frequency of 55%. To determine the important factors influencing the level of RH services by the CHPs, three categories of predictor variables; Individual, Socio-Economic, and Environmental Factors were analyzed to determine their relationship with the 3 indicator variables of the level of RH promotion by CHPs (Household visits, maternal healthcare support and referral to healthcare centers). Among the aforementioned factors in the three categories of predictor variables, only the relationship between the “formal RH-specific training” and the “number of maternal healthcare supports” was statistically significant. The correlation was positive, though weak, indicating that formal RH-specific training of the CHPs increases the number of maternal healthcare support aspects of RH promotion. Since the CHPs were only trained immediately upon selection as part of their curriculum before they commenced promotion, and not specifically on RH services, this may account for the weak correlation observed between the two variables. The qualitative findings support this fact as indicated by the view of one of the key informants, who said *“With the provision of stipend and smartphone to CHPs, they are now able to visit more households and provide more services due to fore mention incentive and therefore we are seeing much improvement between now and before such incentives”*, KI-2’

Therefore, regular and RH-specific training of the CHPs might enhance the correlation with the level of RH promotion, as suggested by a previous study by Kisia et al., 2012. The quantitative results on the importance of “formal RH-specific training on the level of promotion were complemented by the qualitative findings of this study as echoed by one of the key informants interviewed when he said; *“CHPs who went through some RH training which was conducted by ACK-Kenya are more proactive in RH care provision especially provision of family planning services since they were trained on the same and are hence called community health promoters and I belief they are the one, though not many, can make some differences in the provision of reproductive health services”* KI-9.

The important role of CHPs in promoting RH services in the community, notable changes such as differences and improvements of the RH services awareness in the community and acceptance of the CHPs and their promotional activities in the community highlighted by the quantitative results was further confirmed by the qualitative findings when the same key informant (K-9) went on to say;

“It’s also worth to note that the community through the CHPS are now progressively accepting and acknowledging the advice offered by CHPs in regards to reproductive healthcare and services especially issues to do with ANC, PNC, FP and skilled deliveries which I can say has some improvement especially in an area where I come from”-KI-9.

However, three predictor variables: “Methods Used”, “Community’s RH Awareness”, and “Previous Experience”, showed a trend towards statistical significance with the level of RH promotion by the CHPs. This means that increasing the sample size of the study might improve the subtlety of the above relationship.

The findings of this study have contributed significantly to the field of clinical medicine and subject of reproductive healthcare services by providing important data/information that has not only increased our knowledge but also deepened our understanding of the role of CHPs in the promotion of RH services especially at the community level. More importantly it has determined the substantial role the CHPs can make in increasing the level of RH services promotion in the community. And to the body of knowledge, and community of researchers, the study has identified key gaps in the type of RH services promoted currently, that are not aligned with the emerging and re-emerging RH issues that need to be addressed to leverage and optimize the CHPs promotion in the community.

Despite the inherent limitations of cross-sectional design in determining “causal association”, cause-effect” relationships, and the modesty sample size (n =110) used in this study, the study has many strengths, that include; the use of a hybrid design for a comprehensive and holistic investigation of the promotion of RH services by the CHPs, mixed methods research approach to collect both quantitative and qualitative data to supplement or complement each other, triangulation of data by collecting different data and from three different sources (KHIMS, survey and face-to-face interviews) to confirm the same things, and more importantly, the use of “document baseline information” to assess any differences the engagement of the current CHPs any have made in the context of promotion of RH services at the very basic level of primary health care (PHC), that is the community, household levels. To the best of my knowledge this study may be the first in Kenya to investigate the role and effectiveness of the current CHPs in the promotion of not just the health but also RH services at the core of PHC, the community, and/or household levels.

Conclusion

As the frontline healthcare workers serving in the first level of primary health care (PHC), the engagement of CHPs to promote reproductive healthcare services may be a feasible strategy for enhancing accessibility and availability of the RH services at the community level. The reproductive healthcare promotion by the current CHPs has shown some improvement from the previous status, particularly in terms of household visits and referrals to health care centers, while CHPs demonstrate consistent efforts in RH promotion; the effectiveness is moderately influenced by formal training. Although the level of RH promotion by the CHPs in Narok West sub-county may be considered adequate, the lack of differences between the types of RH services promoted by the current CHPs and by the CHVs previously, implies the promotion is not adapting or adjusting itself to align with the emerging issues such as RH-related Cancers (Breast Cancer, Cervical Cancers, Ovarian Cancers and Prostate Cancers), teenage pregnancies and abortions, adolescents born with and living with HIV/AIDS, which are gradually but surely becoming public health issues of concern. These have been identified by this study as key gaps in the current approaches and strategies of promoting RH services that need to be addressed. These might necessitate the review of the curriculum for the CHPs to include services and topics on reproductive health-related cancers, such as breast cancer, cervical cancer, and prostate cancer, which have become rampant in the country.

The weak correlation between the formal rh training and number of maternal healthcare support variables, suggest that training received upon recruitment and deployment of the CHPs may not be sufficient to sustain the impactful reproductive health promotion in especially in underserved communities like Narok West sub-county in Narok County, Kenya.

Conflict of Interest

The authors declare no any conflict of interest in writing this manuscript.

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