

Effects of Community Health Strategy Implementation on Health Care Utilization Among Residents of Nakuru Central Sub County, Nakuru County

Tabitha Mukolwe, Kwasira,, emailaddress:tabithakwasira@yahoo.com,,Dr Stanley Makindi ,email Address
mankidsm@gmail.com, Dr Eliab Some,email@gmail.com, Joseph Muchiri;

Mount Kenya University,Nakuru, Kenya

Egerton University, Nakuru, Kenya

ABSTRACT

Background: Community health strategy (CHS) is an approach of one of the Kenyan Vision 2030 flagship projects that intends to improve the health status of communities. The overall goal of CHS is to enhance community access to health care in order to improve productivity and thus reduce poverty, hunger, child mortality, maternal death, as well as improve education. The community is empowered to have knowledge and skills in health promotion, disease prevention, care seeking and compliance with treatment, governance and management of health services and claiming their rights. International initiatives have been taken to address both existing and emerging issues. There has been no breakthrough in improving the health situation of households entrapped in the vicious cycle of poverty and illness. The millennium development goals (reduce child mortality, improve maternal health and combat HIV and Aids, malaria and other diseases) and primary health care targets have not been fully realised in low income countries.

Methods: This study was carried out to assess the effects of Community Health Strategy Implementation on Utilization of Health Care Services since its implementation in the year 2009 in Nakuru, Kenya and specifically, to assess perceived level of disease burden, to determine level of awareness the community members have on Community Health Strategy, to evaluate the achievements of Community Health Strategy implementation and to determine the level of community involvement on Community Health Strategy among residents of Nakuru central sub county. The study area was Nakuru central sub county. A descriptive- cross sectional study design was used. Purposive sampling was employed to select sub counties, division, locations and age of respondents. Simple random sampling (for locations and Sub locations, community Units, villages and starting points), Multi-stage sampling technique (to arrive at the respondents), cluster sampling (plots/blocks) and systematic sampling (households). A pilot study was done to determine the clarity and consistency of the questions in the questionnaire. The study used both quantitative and qualitative data collection methods. Quantitative approach enabled the researcher to systematically collect the data for generalization purposes. Qualitative data enabled the researcher to obtain in-depth information about respondent's views in relation to the variables under study. The data was analyzed using descriptive and inferential statistics. Use of the statistical package for the social sciences (SPSS) and description through frequency distributions tables, pie charts and bar charts and percentages).

Results: The findings of the study is expected to inform decision making in enhancing the positive Effects of the strategy in order to encourage initiation of more community units to reverse disease trends.

Conclusion:

Community is yet to overcome malaria disease, the community has awareness on Community Health Strategy, the community is able to control their own health and involve themselves in Community Health Strategy activities. They ensure they seek for health services like completing immunization schedules of their children, treating their

drinking water by boiling, adding disinfectants to avoid infections transmitted through water. They participate in wash activities by washing hands after toilet and use various means such as washing hands on running tap, placing tilt tins outside the toilets and fill with water and using water jug. They utilize government health facilities as directed in the strategy, consequently influencing behaviours from bad to healthy behaviours.

Keywords: Health Care Utilization, Disease burden, Awareness, achievements, community involvement

I. INTRODUCTION

Community Health Strategy (CHS) is an approach that aims to improve the health status of communities globally. This approach is an effort to revitalize comprehensive Primary Health Care. In USA, by 1898 when they started community health strategy, there were 12,000 nurses. These nurses supervised health issues in public and parochial schools to prenatal and infant care, handling communicable diseases such as Tuberculosis (U.S Public Health Service, 1923). In 1978 International declaration of Alma-Ata on Primary Health Care, expressed need for urgent action by all governments, all health and development workers, and the world community to protect and promote the health of all people of the world and should work for global health. In Africa, community health was started as a means to stop neocolonialism hence it focused on Primary health Care, HIV/AIDS and challenges for Africa to date as a result of globalization. A formal knowledge was created under the auspices of Africa Regional Office (AFRO) to foster an understanding of the historical forces shaping the present and future of health status, health systems and health services in Africa [49].

Kenya was a signatory to the international declaration to achieve Health for all by the year 2000, through the conference held at the Alma – Ata in 1978. Efforts to achieve the goals of the declaration and of Bamako initiative of 1988 are yet to be realized [33]. Primary health care interventions in Kenya were enhanced by Bamako initiative which aimed at increasing access to health care by raising the effectiveness, efficiency, financial viability and equity of health services. This accelerated the uptake of health promotion and disease prevention programmes. This led to availability of essential drugs at an affordable cost, through the sale of essential drugs in community pharmacies that clearly reduced both financial and geographical barriers to access [44].

In September, 2000 there was urgent need for UN member states to adopt Millennium Development Declaration, whose intension was to define a global vision by 2015 and Kenya was among the first signatories to this declaration. Lack of progress with the Millennium Development Goals (MDGs) and Primary Health Care in many poor countries have encouraged those in favour of comprehensive primary health care to question whether the failure to address community and participation effectively within health programmers is the major reason for poor sustainability and ineffective scaling up of interventions with proven efficacy [6]. Community Health Strategy is an approach of vision 2030 flagship project in Kenya that intends to improve the health status of the community. The second National Health Sector Strategy Plan in Kenya (2005 -2010) came up with new approach that would deliver health care services to Kenyans [45]. Community Health Strategy was launched 2006 and implemented started 2007 in Kenya

In the year 2007, the then Ministry Of Public Health and Sanitation (MOPHS) adopted community health strategy (CHS) to reverse the poor health outcomes in order to meet Millennium Development Goals 4, 5 and 6 (Reduce the child mortality, to improve maternal health and to compact HIV and AIDS, malaria and other diseases). Kenya's second National Health sector strategic plan (NHSSP II- 2005 – 2010) defined a new approach to the way the sector will deliver health care services referred to as the Kenya Essential Packages for Health (KEPH). The KEPH introduced six life cycle cohorts and six service delivery levels. Of the key innovations of KEPH is the recognition and introduction of level one services, which aimed at empowering Kenyan households and communities to take charge of improving their own health [MOH, 2006]. The overall goal of CHS is to enhance community access to health care in order to improve productivity and thus reduce poverty, hunger, child and maternal deaths, as well as improve education performance across all the stages of the life cycle [20]

The CHS intends to improve the health status of Kenyan communities through the initiation and implementation of life-cycle which are in six level cohorts as follows: Pregnant women, Delivery and new born (first 2 weeks of life), Early childhood (2 weeks to 5 years), Late childhood (5 to 12 years - school age), Adolescent and youth (13 to 24 years), Adults (25 to 59 years) and the Elderly (over 60 years). The cohorts are focused health actions at community level that involve; providing community level services for all cohorts and socio-economic groups, including the “differently-abled”, taking into account their needs and priorities, building the capacity of the community health extension workers (CHEWs) and community health workers (CHWs) to provide services at community level, strengthening health facility–community linkages through effective decentralization and partnership for the implementation of community level, and strengthening the community to progressively realize their rights for accessible and quality care and to seek accountability from facility based health services. The CHS is being implemented through establishing sustainable community level services aimed at promoting dignified livelihoods throughout the country through the decentralization of services and accountability. Coordination structures are established at national, sub county and local levels. At local levels, the workforce involved in the implementation of CHS include: Community Health Workers (CHWs) - Selected by the community and represent a village; Community Health Extension Workers (CHEWs)- Public Health Officer/Public Health Technician-(PHO/PHT) and a Nurse from the sub location to represent a unit; and Community Health Committee (CHC)- 9 to 11 community members selected to represent a unit [20].

The key role of households and communities in addressing health needs at all stages in the life cycle are health promotion which entails-Building the capacity of the community health extension workers (CHEWs) and community Health Workers (CHWs), provide services at community level strengthening health facility–community linkages through effective decentralization and partnership for the implementation of community level, strengthening the community to progressively realize their rights for accessible and quality care and to seek accountability from facility based health services.

2 METHODOLOGY

2.1 Study setting

The study was carried out in Nakuru Central Sub County, Nakuru County. There are three divisions namely; Municipality, Lanet and Barut.. It lies within the Great Rift Valley and borders four Sub- Counties namely; Naivasha to South East, Nakuru North to the North, Molo to the West, Rongai and Laikipia to the North East. The total population is 309424. There are a total of twenty four units in Nakuru Central Sub County with 17 units in municipality division.

Nakuru central sub county is characterized by poor drainage as it lies on the floor of the Rift Valley. Long rains fall between months of mid March and June. It has a total population of 309,424 with 156,565 males and 152,859 females. The sub county has three divisions, eleven wards, seven locations and twenty one sub locations.

2.2 Interventions

One community health strategy unit serves 5,000 people and requires 50 community workers and two Community Health Extension workers PHO/PHT and a nurse to support the CHWs and CHCs. One CHW serve 20 households or 100 people. CHWs. They identify community health problems and give advice. They health education and refer the sick to hospital.

2.3 Study Design, population. Sampling

Descriptive study was carried out on the Effects of Community Health Strategy Implementation on Health Care Utilization in Nakuru Central Sub-County of Nakuru County. The study involved a one-time interaction/ interview with adults aged between 25 to 59 years (heads of households) that formed the selected group for the study (cross

sectional study). The study utilized both quantitative and qualitative approaches. The target population in Nakuru central is 120,676 comprising of males and females aged between 25 to 59 years who are heads of households. These are adult cohorts (39% of the proportional population) as recommended by Kenya Essential Package for Health (KEPH). The sampling methods used were, purposive sampling, simple random sampling, multistage, cluster and systematic sampling. The Nakuru Central Sub County, municipality division and locations were sampled purposively. Simple random sampling was used to sample sub locations, community health units, villages and starting points. Multistage was used to arrive at the respondents. Cluster method was used to select plots /blocks and systematic sampling method was used in sampling households.

Respondents were sampled purposively as long as they met the inclusive criteria (age 25- 59 years, male or female who is head of the house and has been residing in the area for not less than 3 months). These were obtained from the nearest household. In case the head of the household was not present, he/ she was represented by the next respondent of the target population in the same household. In every village there was a starting point (direction) selected by simple random sampling using four directions of compass (north, east, south and west) which was listed on a piece of paper and one was picked at random. From one plot to another, two plots were skipped systematically and the respondent was obtained from the third plot.

2.4 Data Collection and quality control

Structured questionnaires were used. in data collection. The respondents who were interviewed were males and females aged 25 – 59 years who were the head of a household and were a resident for not less than three months. The questionnaires were piloted before the researcher started collecting the data. Pre-testing of the questionnaires was done by interviewing a few residents of Lanet division and of a different target group who were not part of the actual sample. This was to evaluate its practicability. Any question that was missing was added to increase clarity and that which appeared confusing or not clear was modified or replaced. Pilot testing determined clarity and consistency of questions in the questionnaire. Data collection exercise took ten days.

Quality control measures were put in place including selecting experienced research assistants and training them for two days, pre- testing the questionnaires, supervision of interviews, editing completed questionnaires and monitoring quality of data entry by verifying entered records.

2.5 Data analysis and presentation

Descriptive statistics was used to analyze the data. The quantitative data was entered using Statistical Package for the Social Sciences (SPSS) data builder version 20 which is access based data base software. Quantitative data was analyzed on socio demographic characteristic. Analyzed data was presented by use of frequency distribution tables, pie charts and bar

charts in numbers and percentage and their relationship on effects of CHS e.g. household income and other variables were done. Inferential statistics were also done at $P < 0.05$ level of significance.

Qualitative data analysis was done by a quick impression summary of the findings from the key informants' response, transcribing preliminary analysis, making connection with research questions and interpreting the findings after and during analysis.

3 RESULTS AND DISCUSSION

The results were presented basing on the four specific objectives of the study.

The profile of the respondents identifies the main information related to gender, age, education level, occupation, marital status and religion.

Female respondents were the majority with 66.2% while males were 33.8%. This is shown in figure 1

High number of female respondents corresponds to African culture that women are mostly present at home to attend to house chores and men go out to look for daily bread. Furthermore, the areas of the study are predominantly inhabited by people of low income. Most men are expected to be out and seek for daily bread. Women compared to men are most of the time available and can participate in community affairs, including CHS meetings and household education delivered by CHWs receiving information education materials.

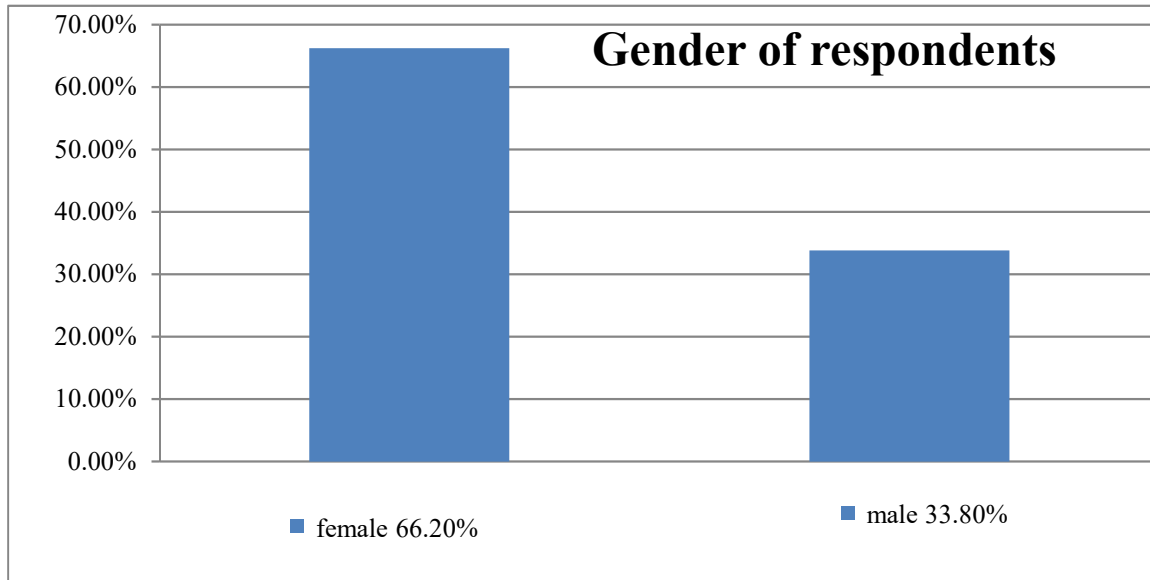


Figure 1: Gender of respondents

According to the findings as illustrated in Table 1, 44 respondents representing 57.1% were aged 25-34 years, 24 respondents representing 31.2% were aged 35-44 years, 8 representing 10.4% were aged 45-54 years while one respondent representing 1.3% was aged 54- 64 years. This indicates that the younger adults are the most available in the community. The mean age of respondents was 32 years, with the standard deviation of 2.6. The range between the youngest and the oldest age was 34 years.

Table 1: Age Distribution

Age Bracket	Frequency	Percentage
25 – 34	44	57.1
35 – 44	24	31.2
45 – 54	8	10.4
55.- 64	1	1.3
TOTAL	77	100

The highest education level of the respondents was Primary level of education were 33.8%. Statistical significance relationship between the level of education and level of knowledge on cCommunity Health Strategy ($\chi^2 = 19.65$, $P = 0.002$). Level of knowledge has been associated with health care utilization. Statistical relationship between occupation and the level of knowledge on the CHS. Self employed had a significantly higher level of knowledge compared to their employed counterpart. a significance between marital status and level of knowledge on CHS ($\chi^2 = 17.69$, $P = 0.004$). Respondents who are in marriage relationship presented a higher level of knowledge as compared with other marital status.

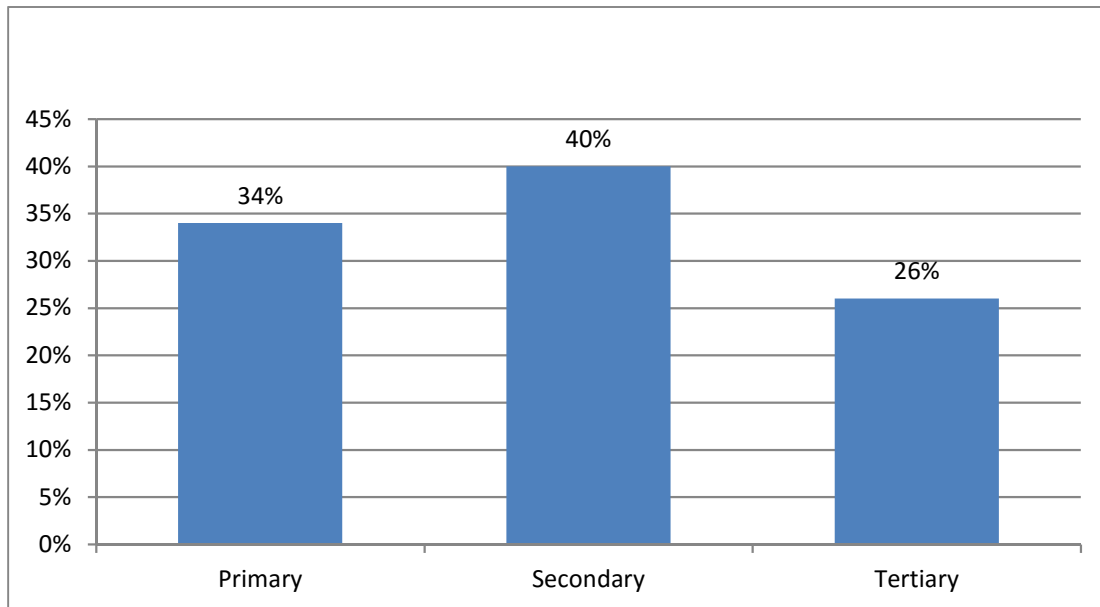


Figure 2. Level of Education of the Respondents

On assessment on the level of a disease burden for the last five years. in Nakuru Central Sub County The majority (77.9%) of the respondents mentioned malaria as the most common disease in the area for the last five years, 14.3% mentioned diarrhea, 6.5% said there was none and 1.3% mentioned tuberculosis as illustrated in Figure 3 Chi square test revealed there was a relationship between the perceived level of knowledge on malaria disease and prevention and control at community level 1 (community), level 2 (dispensary) and level 3 (health center) Chi square test- ($\chi^2 = 21.92$, $P = 0.002$). Disease prevalence and endemicity has been correlated with high level of knowledge among the community members. This is an indication that they mark the disease which is a problem to them. It also show how other diseases have been compacted by CHS and what is most high is malaria that the Ministry of Health in the Sub-County should have more ways of protecting the community such as provision of treated mosquito nets because very few people will afford draining off stagnant water during rainy seasons and this should be done by the community itself. Most of the low income areas have partial natural storm water drains and lack waste water drains leading to mosquito breeding In the current study, malaria prevalence was high because the area is predominantly poorly planned and therefore it sustains a lot of stagnant water during rainy season. There is therefore a need for the MOH in the Sub County to increase campaigns against malaria control activities. This can be achieved through the community cooperating with the CHEWs and CHWs to reduce malaria in the community as prevention is better than cure. Annual report of sub county Health information office, malaria was number 2, following diseases of respiratory tract infection.

Sub County annual health information records reveals that diarrhea is among the top ten as reported in the sub county information office of 2013/ 2014 -1.disease of respiratory infections, 2. Malaria, 3 pneumonia, 4.diarrheal disease, 5.disease of the skin, among others. Treatment of drinking water and practice of hand washing with soap regularly can reduce or eliminate diarrheal cases.

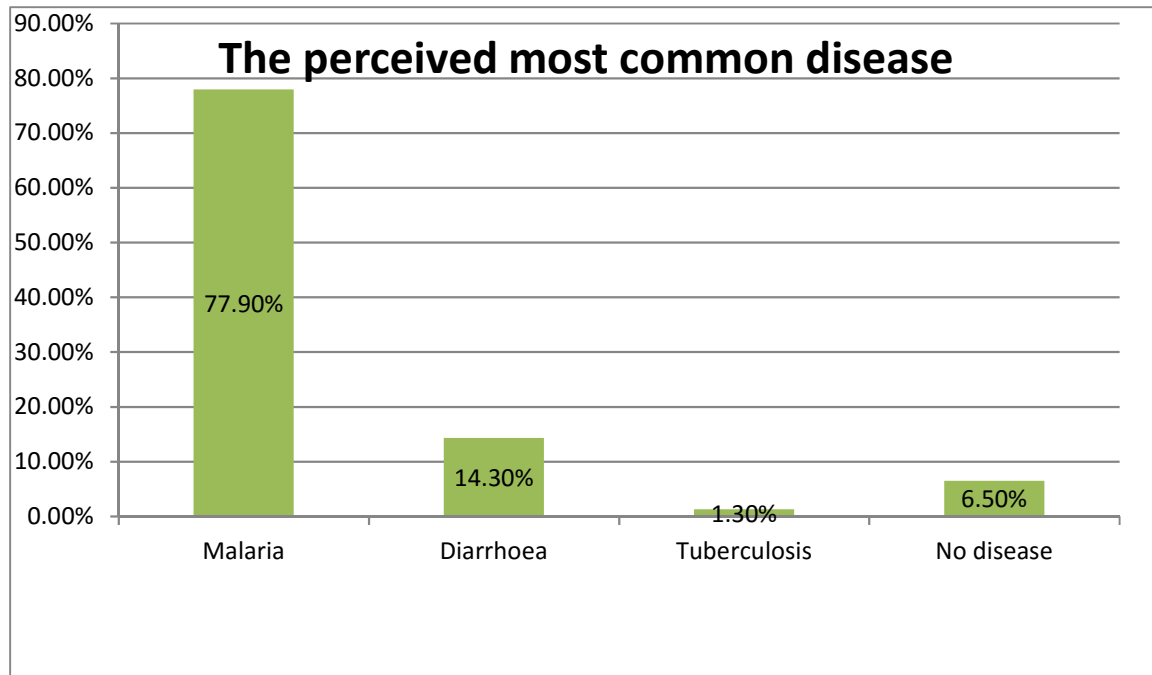


Figure : 3 The most common Disease in the Area for the last Five Years

When asked how many times a child of the respondent fall sick in a month, the majority (57.1%) said once, 14.3% said they do not fall sick, 13% said twice a month, 9.1% could not remember, 5.2% said many times while 1.3% said three times. This is illustrated in Figure 4. As the majorities (57.1%) said once. This shows their health is being improved by the individuals, families and the community as well.

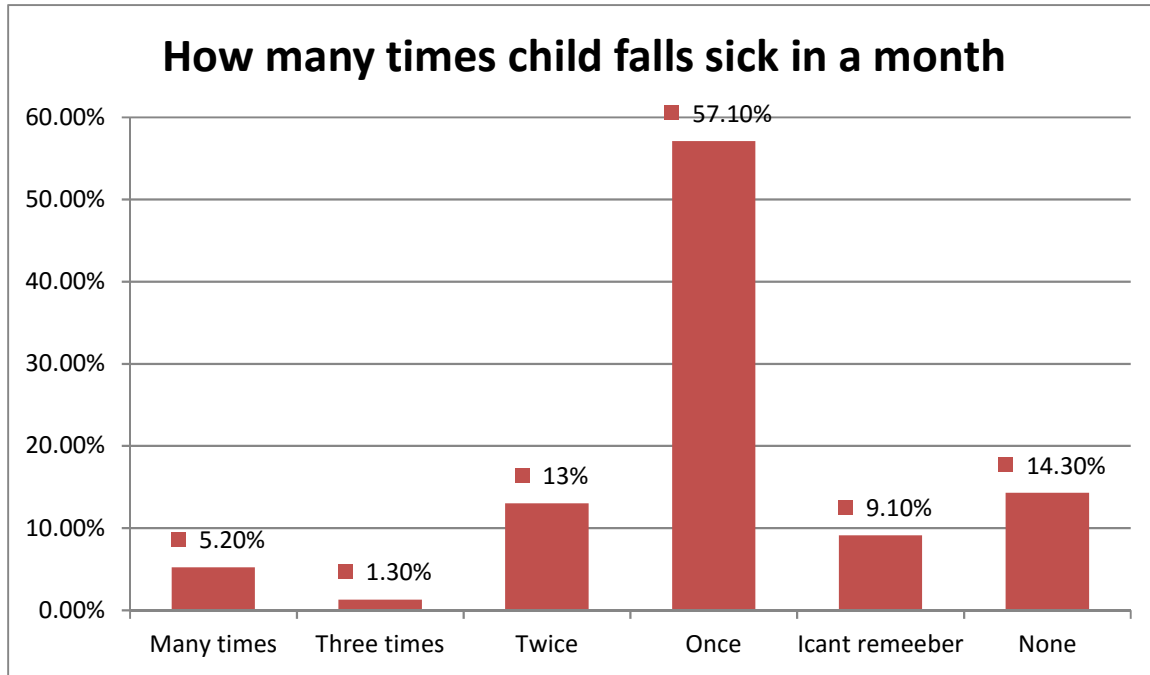


Figure 4 How many times a child falls sick in a month

The respondents who had heard of CHS were 76 and had several ideas about CHS. Out of the 76, as indicated in Table 2 the majority (42.1%) of the respondents mentioned CHS as empowerment of the community to solve their own health problems, 40.8% mentioned reversing disease trends, 15.8% mentioned having community health workers as their doctors in the community and 1.3% of respondents did not know what it was all about. This indicated that among the 98.7% who had heard about CHS, who represented 76 respondents, only one respondent did not know what CHS was about. This shows that CHS is known by the community members. CHS is an appropriate platform to deliver community based intervention. It strengthens linkage between the community and health centers and enables effective referrals from the community.

Table 2: What ‘Community Health Strategy’ is about to respondents

About CHS	Frequency	Percentage
Reverse Disease Trend	31	40.8
Empowering the Community	32	42.1
Having CHWs as doctors	12	15.8
Don't Know	1	1.7
TOTAL	76	100

To establish the perceived benefits of CHS, the majority (77.9%) of the respondents said it reduces disease occurrence, 20.8% said it provides health education, while 1.3% said that they do not know its benefit. The results are shown in Table 3. According to the results, the majority of the respondents knew how CHS was benefiting them. This implies that, CHS is a powerful tool for social transformation towards improved quality of life at the community level.

Table 3: Benefits of CHS to the Respondents

<i>Response</i>	<i>Frequency</i>	<i>Percentage</i>
Reduce Disease Occurrence	60	77.9
Health Education by CHWs	16	20.8
Don't Know	1	1.3
TOTAL	77	100

Each CHW has roles and this includes household visits of the village she/ he represent to give services. Every CHW serve the village she comes from. The service include health education, issue Information Education Communication materials, water disinfectant, demonstrates installation of leak tin amongst other services. Asked what the CHW do, 70.2% of the respondents said they find out about the family health, 22.1% said they teach on health issue, 6.5% said they give referral forms to the sick to visit link facilities for treatment and 1.3% said they don't know. For those who said they don't know, are likely to be absent during the CHWs visits. The results are indicated in Table 4

Table 4: What the CHW do during Households Visit

<i>Role of CHW in the households</i>	<i>frequency</i>	<i>percentage</i>
Find out about family health	54	70.2
Teach on health issues	17	22.1
Give referral for sick members	5	6.5
I don't know	1	1.3
Total	77	100

As per the findings, the majority (88.3%) of the respondents had immunized their children fully, 10.4% said No, and 1.3% did not know if they fully immunized their children. See illustration in Figure 4. This implies that the majority of the community has immunized their children below five years. The majority are fully protected against immunizable diseases. Immunization coverage in Nakuru Central was 92% as per sub county health information records 2014. This is largely attributed to CHS implementation. The communities are encouraged to take their under fives for immunization and complete the schedule

Research done in Kaptembwo location and kwa Rhonda settlements on immunization by Chepkemoi [5] show that immunization coverage was 76.6% in 2010 and national coverage was 77%. It also revealed that a child delivered in hospital was 2.26 times likely to receive full immunization compared to one delivering at home receive full immunization compared to one delivering at home.

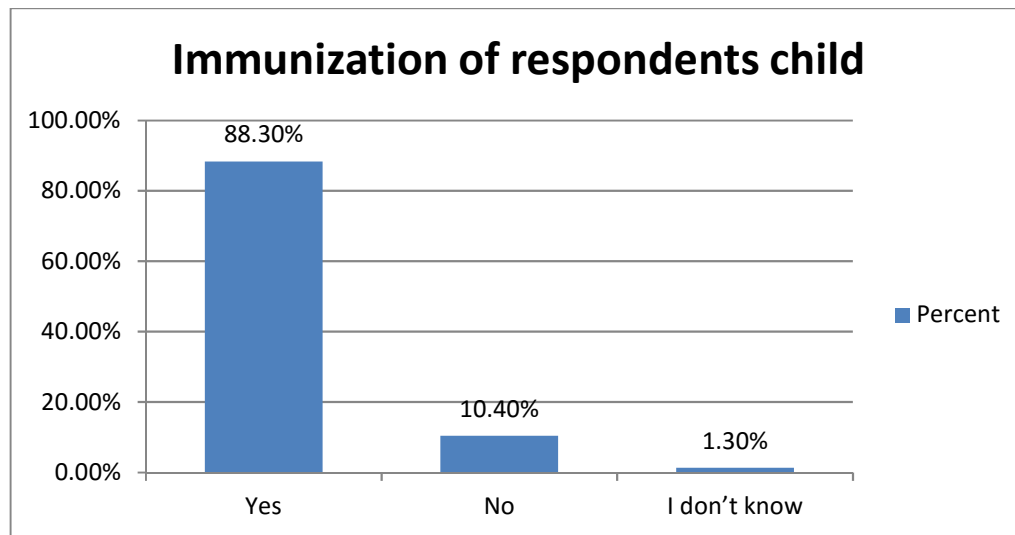


Figure 4: If the Respondent Immunized his/ her Children Fully

To ascertain whether the respondents treated drinking water, 64 respondents representing the majority (83.1%) said Yes while 13 respondents representing 16.8% said No. This is shown in Table 5. It is an indication that the majority of the respondents are involved in prevention of water borne diseases by treating drinking water. If drinking water is contaminated or polluted, if not treated the consumers can get illness.

Table 5: Whether the Respondent Drink Treated Water (n = 77)

<i>Response</i>	<i>Frequency</i>	<i>Percentage</i>
Yes	64	83.1
No	13	16.9
TOTAL	77	100

Among the respondents (64) who treated water, 67.2% boiled, 25% said they use disinfectant like water guard while 7.8% were using water from Nakuru Water Service Company (NAWASCO). This is an indication that the community knows that by treating the water diarrheal diseases will be at a lower rate (Table 6). Diarrheal diseases can be caused drinking contaminated water. Public health department need to intensify health education to people about proper personal hygiene, for stored treated drinking water, microorganisms are found in if not well handled. Treatment at household level is vital. Most children die from diarrheal diseases, live in developing world, where they face they face a double threat. They lack improved sanitation, safe drinking water, and adequate nutrition puts them at risk

Table 6. How the Respondents Treat Water (n = 64)

<i>Response</i>	<i>Frequency</i>	<i>Percentage</i>
Boiling	43	67.2
Disinfecting	16	25
NAWASCO	5	7.8
TOTAL	64	100

3 CONCLUSION

Findings of the study of objective one on perceived level of disease burden, malaria was the most common disease burden for the last five years according to the majority of the respondents. The community is yet to overcome. Therefore there is the need for the County Government Ministry of Health to campaign against malaria in the Sub County. It should also research on the cause of the high incidence of malaria as.

Concerning level of awareness on CHS the majority of the community members are aware of CHS and therefore they need to support the government by utilizing health care services, prevent diseases to improve their own health.

Finding of the objective three of the study on CHS achievements by the community in Nakuru Central Sub County since its implementation. The community members know their CHWs, they know where they live and visit their households to know their family health. They teach the community, consult from the CHWs. They have referral forms to refer the sick to the link facility. It will be rare to find a community member sick without seeking for treatment or CHW for advice.

The findings in objective four based on community involvement in CHS indicate that the community participates actively. They ensure that they seek for health services like completing immunization schedules of their children, treating their drinking water by boiling, adding disinfectants to avoid infections transmitted through water. They participate in wash activities by washing hands after toilet and use various means such as washing hands on running tap placing tilt tins outside the toilets and fill with water and using water jug. They utilize government health link facilities as directed by the strategy. The community is able to prevent diseases and improve their health.

Findings of the study indicate that the disease burden for the last five years is known to the respondents, malaria being the most common disease in the community. and this is related to sub county health information. Indicating that they understand the disease burden since the implementation of CHS, they are seeking ways of reducing the rate of the most common disease. They utilize the link facility when sick as required by the strategy. and with teachings and activities in the CHS all the disease will be well managed as the saying goes, prevention is better than cure.

For community strategy goals to be achieved in a community, awareness should be created/ intensified, and the community to know its aim. The CHS is known to the community, they know the activities of the CHWs in the households and in the community at large. The community know that CHS is about reversing of disease trends, the community is empowered to solve their own problems, CHWs act as their village doctors for they are consulted by the community on many issues and not only health problems. The community know benefits of CHS is to reduce disease occurrence, health education to the community on safe water, safe waste water and solid waste management among other things including income generating activities. The community is aware of meetings by CHS members and they also attend those that concern them. On community involvement in CHS indicates that the community participates actively. They ensure they seek for health services like completing immunization schedules of their children, treating their drinking water by boiling, adding disinfectants to avoid infections transmitted through water. They participate in wash activities by washing hands after toilet and use various means such as washing hands on running tap, placing tilt tins outside the toilets and fill with water and using water jug. They utilize government health facilities as directed in the strategy, consequently influencing behaviours from bad to healthy behaviour

The findings of the study is expected to inform decision making in enhancing the positive impact of the strategy in order to encourage initiation of more community units to reverse disease trends.

APPENDIX

List of Abbreviations

AFRO: Africa Regional Office
AIDS Acquired Immune Deficiency Syndrome

ANC:	Ante-natal clinic
APHIA PLUS:	AIDS Population and Integrated Assistant People centered, Local leadership, Universal Access and Sustainability
CBA	Community Based Approach
CHC:	Community Health Committee
CBHIS:	Community Based Health Information system
CBO:	Community Based Organization
CDF:	Constituency Development Fund
CHEW:	Community Health Extension Worker
CHV:	Community Health Volunteer
CHW:	Community Health Worker
CORPs:	Community Owned Resource Persons
DHIO:	District Health Information Office
DHMT:	District Health Management Team
FBO:	Faith Based Organization
HENNET	Health NGOs Network
HSSF	Health Sector Service Fund
HIV	Human Immuno Virus
ICPHC	International Conference Primary Health Care
IEBC	Independent Electoral Boundary Commission
IEC	Information Education Communication
JICA	Japan International Cooperation Agency
KSHs	Kenya Shillings
KEPH	Kenya Essential Packages of Health
LLITNs	Long Life Integrated Treated Nets
MDGs	Millennium Development Goals
MOH	Ministry of Health
MOMs	Ministry of Medical Services
MOPHS	Ministry of Public Health and Sanitation
NHSSP	National Health Sector Strategic Plan
PHC	Primary Health Care
PHO	Public Health Officer
PHT	Public Health Technician
SPSS	Statistical Package for the Social Sciences
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children Education Fund
USA	United States of America
WHO	World Health Organization

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Competing interest

The author(s) have no competing interest

Authors' contribution

First Author -Tabitha Kwasira : Problem identification, Title and literature search, development of research proposal and work plan, Design methods and material of the study, Clear with ethics Training research assistants, pilot testing, data collection, supervision and data entry. Data analysis and Manuscript development.

Second Author- Dr Stanly Makindi: Contribution to conception of the topic, design methods and material of the study Review and provide technical assistance of the research proposal development. . Contribution to conception of



data collection and providing managerial and administrative aspect of the study. Review research findings and presentation. Review manuscript and provide technical assistance.

Third Author - Dr Eliab Some: Contribution to conception of the title, data collection and providing managerial and administrative aspect of the study. Review research findings and presentation. Review manuscript and provide technical assistance.

Fourth-Author- Mr. Joseph Muchiri: Contribution on to conception of the topic, design methods and material of the study Review and provided technical assistance of the research proposal development. . Contribution to conception of data collection and providing technical assistance. Review research findings and presentation. Review manuscript and provide technical assistance.

Authors' information

Kwasira M.T,

MPH (email tabithakwasira@yahoo.com)

Mount Kenya University

Makindi S, Ph.D

Senior lecturer, Department of Environmental Science (mankidsm@gmail.com)

Egerton University

Eliab S, MBChB, MPH PhD

Lecturer school of Health sciences eliabsome@yahoo.com)

Mount Kenya University

Muchiri J

Lecturer, School of Health Sciences, (mutitu.muchiri@yahoo.com)

Mount Kenya University

Correspondence author- Kwasira M. T(email:tabithakwasira@yahoo.com Mount Kenya University 0722477914