# Impact of Community Health Strategy on Provision of Health Services Among Residents of Nakuru Central

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***Abstract-*** 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, through initiation and implementation of life-cycle focused health actions at level one in Kenya. 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.: This study was carried out to assess the impact of the CHS on provision of health services since its implementation in the year 2009 in Nakuru, Kenya and in particular, community involvement on CHS among residents of Nakuru central sub county. A descriptive- cross sectional study design was used.. 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. The data was analyzed using descriptive and inferential statistics by use of the statistical package for the social sciences (SPSS) and described through frequency distributions (tables, pie charts and bar charts and percentages). 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.

***Index Terms-*** Provision of health service, Disease burden, awareness, Community health strategy achievements, community involvement

## I. INTRODUCTION

Community based health care principles decentralize planning and service delivery to formalize people to determine their own health priorities. Community Health Strategy (CHS) is an approach that aims to improve the health status of communities through initiation and implementation of life-cycle focused health actions at level one. It is an approach of vision 2030 flagship project in Kenya that intends to improve the health status of the community. In September 1978, the International Conference on Primary Health Care (ICPHC) was held in Alma-Ata, USSR (now Almaty, Kazakhstan). The Declaration of Alma-Ata, expressed the need for urgent action by all governments, all health and development workers, and the world community to protect and promote the health of all the people of the world. It was the first International declaration stating the importance of primary health care and outlining the World governments' role and responsibilities to the health of the world's citizens. The Declaration of Alma-Ata conference called for all governments, regardless of politics and conflicts, to work together toward global health. These are still some of the fundamental tenets that guide the work of the WHO today. Those who ratified the Declaration of Alma-Ata hoped that it would be the first step toward achieving health for all by the year 2000. Although that goal was not achieved, the Declaration of Alma-Ata still stands as an outline for the future of international healthcare [18].

To ensure that community's global health strategy is coherent, there has to be a close link between Public Health measures and health related initiatives in other policy areas such as the single market consumer protection, social protection, employment and environment. The links also have to be supported by new mechanisms and instruments guaranteeing the contribution of other community policies to health protection. European Union citizens rightly attach great importance to their health and expect to be protected from possible dangers. The community has a crucial role to play and is obliged to guarantee a high level of protection for its citizens. Due to the emergence of new challenges and priorities in the field of health, such as enlargement, the emergence of new illnesses, pressures on health systems and increased community obligations following the amendments to the Treaty (Articles 3 and 152), it was necessary to develop a new strategy. This new strategy is the result of the debate launched in 1998 with the communication of the Commission on the development of public health policy. This new strategy represents a major commitment on the part of the community and shows the importance which the commission attaches to public health in community policies [24].

In USA, by 1898 when they started a 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 Africa, community health was started as a means to stop neocolonialism focusing on Primary health Care, HIV/AIDS and challenges for Africa today 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. 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 [4]..

Kenya is a signatory to the international declaration for achieving health for all by the year 2000 through the conference held at the Alma – Ata. Efforts to achieve the goals of the declaration and of Bamako initiative of 1988 are yet to be realized. 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 resulted to acceleration of 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 [20].

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 service 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. However, the government introduced a policy on free health services for children below five years and pregnant mothers. Community Health Strategy is one way of working strategies towards providing health care for all. Therefore, the ministry of Public Health and Sanitation (MPHS) in 2006 actively engaged the communities to improve their own health. An approach which was developed to support delivery of KEPH to the community, through a Community Based Approach (CBA), sets out the mechanism through which households and communities take an active role in health-related development issues. 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 [7].

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/Pubic 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 [7].

There is a total of 66 community set units in Nakuru County according to the county CHS focal person. Nakuru central sub county has a total of 24 community strategy units, a total of 48 CHEWs (two per unit- a Public Health Officer/Technician and a Nurse), 480 CHWs (20 per unit). Funding community health services remains a major challenge. In addition to support from partners, options need to be explored on further support from Health Insurance Scheme and Cooperative Movement, Constituency Development Funds (CDF) and Health Sector Service Fund (HSSF). Community support in income generating activities should enhance financing CHS. The Government has approved a performance based incentive for community health care workers of Kenya Shillings (Kshs) 2,000 which was to be based on performance indicators developed from high impact interventions e.g. Immunizations, Long Life Integrated Treated Nets (LLITN), Hand washing with soap, Complementary feeding, Early initiation of breastfeeding, ACT for malaria, ORT and Zinc in management of diarrhoea, Vitamin A, New born temperature management and cord care, and Early care seeking for illness and antibiotics for pneumonia (MOPHS, 2008). In Nakuru central, 22 out of 24 community Health strategy units were being supported by AIDS Population and Health Integrated Assistant People centered Local leadership Universal Sustainability (APHIA PLUS) used to give CHWs an incentive known as stipend of Kshs. 2000 per month which was not concurrent to those whose performance is above 80%. The incentive has been stopped and the APHIA PLUS withdrawn. 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, ensuring a healthy diet for people at all stages in life in order to meet nutritional needs. On disease prevention, the community is required to practice good personal hygiene in terms of washing hands, using latrines, etc. Also, there is need to ensure use of safe drinking water, adequate shelter and protection against vectors of disease as well as

involvement in preventing accidents and abuse, and taking appropriate action when they occur and ensuring appropriate sexual behaviour to prevent transmission of sexually transmitted diseases. The community health workers visit households to create awareness. On care seeking and compliance with treatment and advice; sick household members are given appropriate home care for illness, including Home Based Care to people living with HIV, recognizing and acting on the need for referral or seeking care outside the home, taking children as scheduled to complete a full course of immunizations, following recommendations given by health workers in relation to treatment, follow up and referral and ensuring that every pregnant woman receives antenatal and maternity care services.

## II. METHODOLOGY

**Study setting**

The study was carried out in Nakuru central sub county, Nakuru County. There are three divisions namely; Municipality, Lanet and Barut, and has two constituencies, East and west. 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. The geology and topography found in the sub county has greater impact on economic activities and other environmental services. The area of volcanic soil favour farming and are not common though it is practiced in very small scale in small section. The climate is influenced by altitude and physical features (escarpment) surrounding it. Lake Nakuru and volcanic peaks therefore influence variation in climate. 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.

**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.

**Study Design, population. Sampling**

Descriptive study was carried out on the impact of community health strategy on provision of health services in Nakuru central sub-county of Nakuru county. The study involved a one-time interaction/ interview with adults aged between 25 to 59 years (females and males, who were 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 was central is 120,676.. 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.

**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. **T**he 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.

**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 impact 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.

## III. 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.

According to the findings, female respondents were the majority with 66.2% while males were 33.8% as 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 [16]. Furthermore, the areas of the study are predominantly inhabited by people of low income [1]. Most men are expected to be out and seek for daily bread. Women compared to men are most of the time available and participate in community affairs, including CHS meetings and household education delivered by CHWs receiving information education materials.

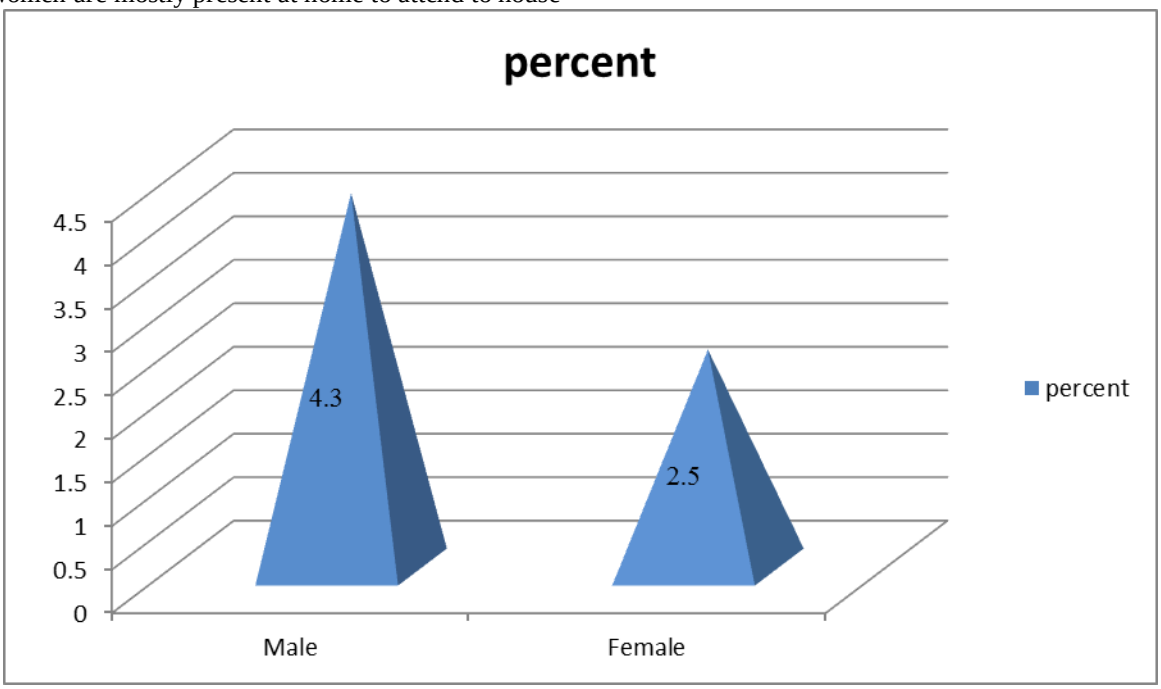


**Figure 1: Gender of the respondents**

According to the findings, 51.7% were aged 25-35 years, 31.2% were aged 36-46 years, 10.4% were aged 47-57 years while 1.3% was aged 58-59 years. This is illustrated in table 1. This indicates that the younger adults are the most available in the community. Average age (x) of respondents was 32 years.. The range between the youngest and the oldest age was 34 years.

**Table 1: Age Distribution**

| Age Bracket | Frequency | Percentage |
|---|---|---|
| 25 – 25 | 44 | 57.1 |
| 26 – 46 | 24 | 31.2 |
| 47 – 57 | 8 | 10.4 |
| 58.59 | 1 | 1.3 |
| **TOTAL** | **77** | **100** |

There was a statistical significance relation between the age of respondent and their level of knowledge on community health strategy ($x^2$= 2.78, P=0.003).The highest education level of the respondents are shown in figure 2. Primary education were 33.8%, those who had tertiary level of education were 26%, while no one has gone below primary education. This indicates that the respondents were literate and able to write and also understand health disseminated information. This implies that there is proper utilization of health information and services to improve health in the community. There was a statistical significance relationship between the level of education and level of knowledge on community health strategy ($x^2$ = 19.65. P= 0. 002). Level of knowledge has been associated with health care utilization [15]. Education has also been associated with expansion capacity to receive health instruction 19]. High level of education attainment in the current study may imply high utilization of information and services to improve health in the community.

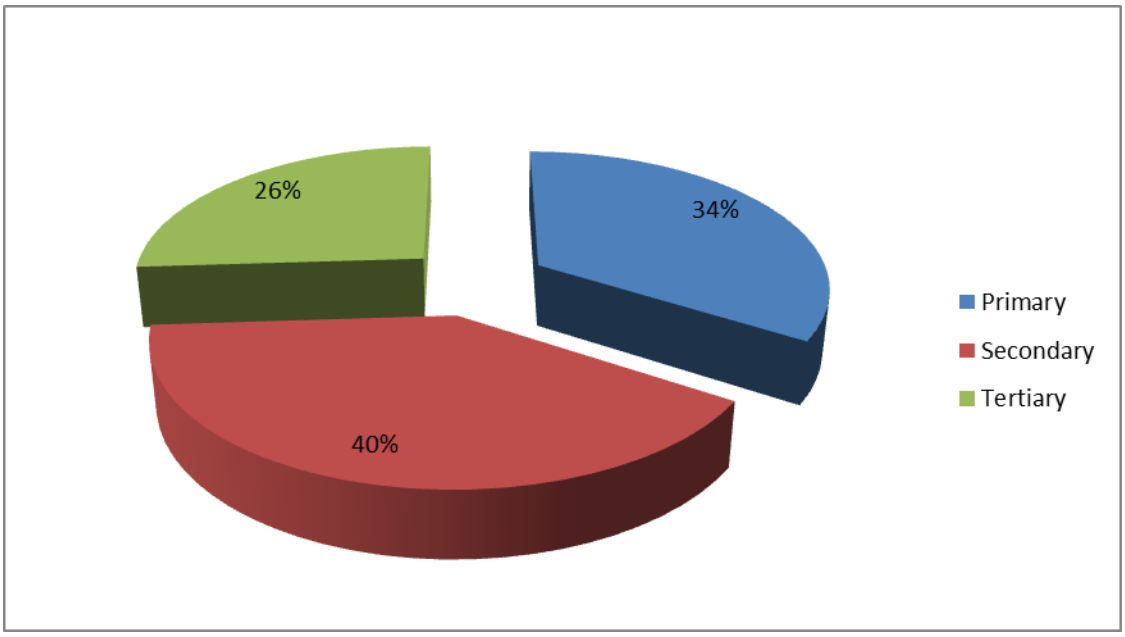


**Figure 2: Level of Education of the Respondents**

On the assessment of the level of disease burden for the last five years in Nakuru Central Sub County. The majority (77%) of the respondents mentioned malaria as the most common disease in the area for the last five years, 14.3% mentioned diarrhea, 6.8% said there was none and 1.3% mentioned tuberculosis as illustrated in figure 4. There was a relationship between the level of knowledge on malaria disease and utilization of community health service, especially on those services that are specific on malaria( $x^2 = 21.92$, P = 0.002). Disease prevalence and endemicity has been correlated with high level of knowledge among the community members [22]. 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 wastewater 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.

On analyzing secondary information from the sub county annual health information records, diarrhea is among the top ten as reported in the sub county information office. Treatment of drinking water and practice of hand washing regularly can reduce or eliminate diarrheal cases. According to a pilot study done by Basweti Nyasani in Nakuru, 2009, 95% of low income settlements use pit latrines or soak way pits to dispose of human waste leading to poor sanitation in the area and shortage of water due to high population.

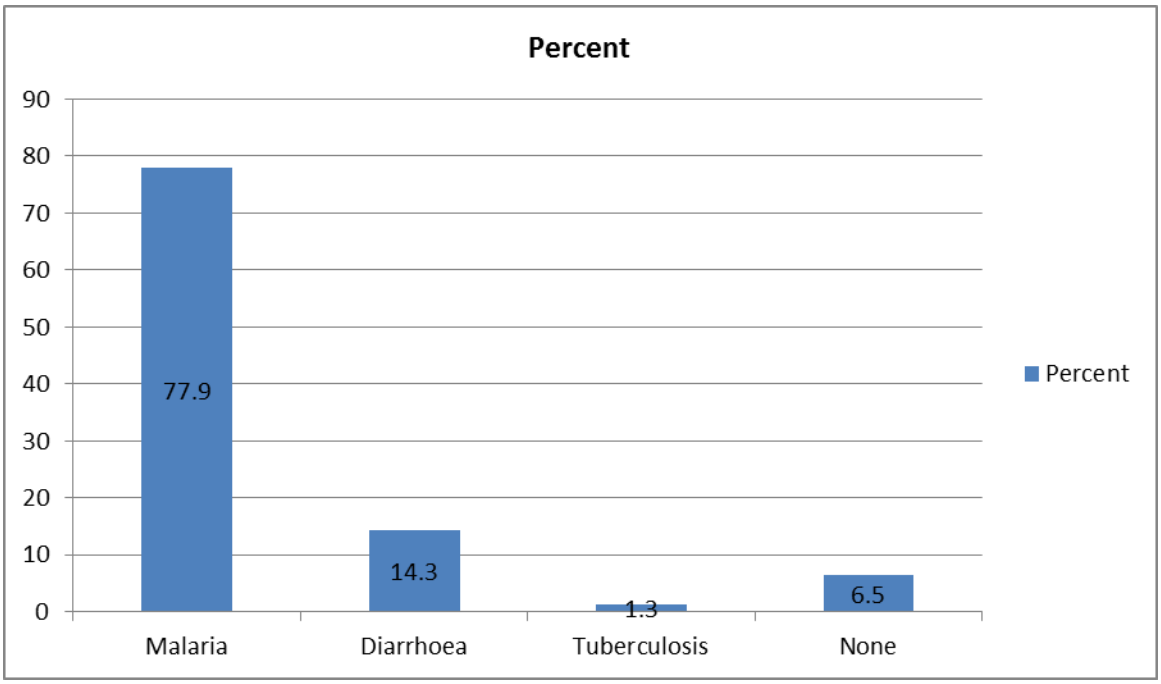


**Figure 4: The most common Disease in the Area for the last Five Years**

The respondents who had heard of CHS were76 and had several ideas about CHS. Out of the 76, as indicated in table 2, 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 has impact in the area. 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 [23].

**Table 2: What Community Health Strategy is about**

| About CHS | Frequency | Percentage |
|---|---|---|
| Reverse Disease Trend | 31 | 48.8 |
| Empowering the Community | 32 | 42.1 |
| Having CHWs as doctors | 12 | 15.8 |
| Don't Know | 1 | 1.3 |
| **TOTAL** | **76** | **100** |

To establish the benefits of CHS, 77.9% of the respondents said it reduces disease occurrence, 20.8% said it provides health education, while one percent said that they do not know its benefit. According to the results, 98.7% of the respondents know that CHS was benefiting them. This is an indication that the respondents are learning about health issues and participating to improve their health. They have knowledge on what CHS entails. CHS improve health service coverage and quality leading to more productive living. It is a powerful tool for social transformation towards improved quality of life at the community level [20]. Dr. Kassachoon reflected some of the achievements realized since introduction of CHS, that there are no major cholera and malaria epidemics [9].

**Table 3. Benefits of CHS**

| Response | Frequency | Percentage |
|---|---|---|
| Reverse 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 during household visits of the village she/ he represent to give services. Such include, health education, issue information education 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. This indicates that the community is achieving more services from the ministry through their community health volunteers which will lead to a healthy community. The results are indicated in table 4 CHWs are engaged in matters of health within the communities they live in [16].

**Table 4: What the CHW do during Households Visit**

| Role of CHW in the households | frequency | percentage |
|---|---|---|
| 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, 88.3% of the respondents had immunized their children fully, 10.4% said no, and 1.3% did not know as shown in figure 5. This implies that the majority of the community has immunized their children below five years. They are fully protected against immunizable diseases. Immunization coverage in Nakuru central was 92% as per sub county health information records. This is largely attributed to CHS implementation.

Research done in Kaptembwo location and kwa Rhonda settlements show that immunization coverage was 76.6% in 2010 and national coverage was 77%. The study also revealed that a child delivered in hospital was 2.26 times likely to receive full immunization compared to one delivered at home [3].

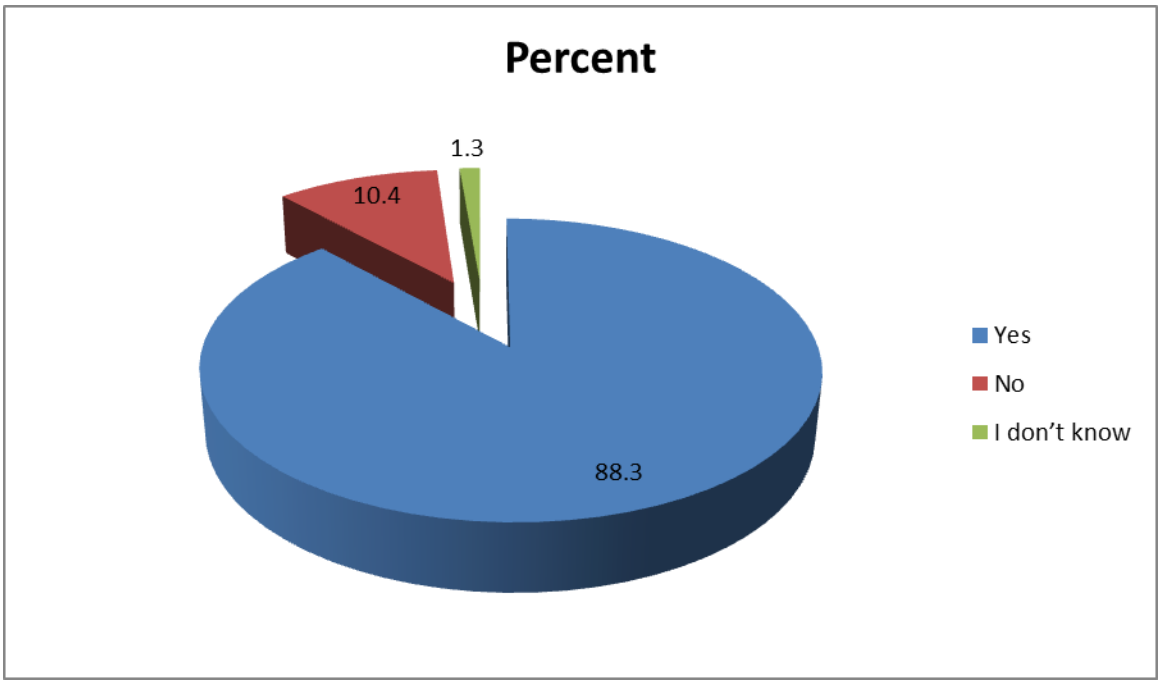


**Figure5: If the Respondent Immunized his/ her Children Fully**

To ascertain whether the respondents treated drinking water, 64 representing 83.1% said yes while 13 respondents representing 16.8% said no. This is an indication that the majority of the respondents are involved in prevention of water borne diseases. This is shown in table 5. Water source problem is brought about by contamination and pollution of drinking water according to a study done in schools in Nakuru [10].

**Table 5: Whether the Respondent Drink Treated Water**

| Community | Frequency | Percentage |
|---|---|---|
| Yes | 64 | 83.1 |
| No | 13 | 16.9 |
| **TOTAL** | **77** | **100** |

## IV. Conclusion

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 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 jag. They utilize government health facilities as directed in the strategy, consequently influencing behaviours from bad to healthy behavior. 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.

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