

**GOVERNMENT COMMUNICATION STRATEGIES ON ROUTINE
IMMUNIZATION UPTAKE IN KANGEMI INFORMAL SETTLEMENT**

BY

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DECLARATION

I, **VERA AJIAMBO BWIRE**, do hereby declare that this project is my original work and has not been presented for a degree award in any other university.

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DEDICATION

This project is dedicated to my husband Nicodemus Musembi who has tirelessly been my pillar of support, my mother Dr. Adelheid Marie Bwire for her unconditional love and encouragement.

To my dad, brother and sister who encouraged me throughout my studies

To my sons, Ndeti and Kaki.

This is with love

—Mum

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ABSTRACT

The purpose of this study is to evaluate the effectiveness of the existing Government communications strategies and their support on the uptake of routine immunization services by mothers in urban informal settlements. Studies that have been done on promoting the number of Fully Immunized Children (FIC) in Kenya are only mainly on the area of public health and its policies. This study therefore seeks to advance knowledge because there are no appropriate communication strategies by the Ministry of health on routine immunization at the community levels as in the case of Kangemi slum. Readily available reference material on the effectiveness of communication strategies or even a communications plan and ensuring FIC in urban informal settlements is also lacking. This study was done in Kangemi, one of Nairobi's slums. Nairobi is the capital and largest county and city in Kenya. A majority of Kenyans who live in urban areas are poor. A descriptive survey of mothers with children under two years (12-23months) of age was carried out. A simple random sampling technique was used at the study sites and the data was collected via administered interviews, focus group discussions and document analysis. The major finding of this study is that interpersonal communication seems to be the most preferred method of communication by mothers in urban informal settlements and that the Ministry of Health through the Division of Vaccines and immunization has not done enough sensitization to create awareness and knowledge of the existing vaccines in the Kenya Expanded Program on Immunization schedule As per the SDG's and the Kenya Vision 2030, this study is important in reducing child morbidity caused by vaccine preventable diseases. Checking the effectiveness of communication strategies that influence full child immunization in a sample of the urban poor in the country and picking up effective strategies that apply in such areas such as interpersonal communication; will enable the government to come up with new, effective and well-tailored communication strategies as well as well-articulated policies, projects and programs towards immunization especially in ensuring the healthy growth of children in these underprivileged settlements and enhance their quality of life. The ideas and concepts of this study were brought about by the Kenya DVI Comprehensive Multi-Year Plan 2013-2017, a report in which the Ministry of health acknowledges that there is lack of a communication strategy and plan to create demand for immunization services being major challenges in the coverage of immunizations in Kenya. The result of this study specifically hopes to guide in the development of a communications plan as envisioned by the Department of Vaccines and Immunization at the Ministry of Health in Kenya.

LIST OF ACRONYMS AND ABBREVIATIONS

APHRC: African Population Health and Research Centre

BCG: Bacille Calmette-Guerin (Vaccine)

CDC: Centre for Disease Control and Prevention

CHW: Community Health Extension Worker

CHW: Community Health Worker

CHV: Community Health Volunteer

CORPs: Community Own Resource Persons

CSO: Community Service Organization

DPT: Diphtheria Pertusis and Tetanus

DVI: Division of Vaccines and Immunization

ELM: Elaboration Likelihood Model

FIC: Fully Immunized Children

GAVI: Global Alliance for Vaccines and Immunizations

IEC: Information Education Communication

KAP: Knowledge Attitude Practice

KDHS: Kenya Demographic and Health Survey

KEPI: Kenya Expanded Programme on Immunization

KHC: Kangemi Health Centre

KNBS: Kenya National Bureau of Statistics

MDG: Millennium Development Goals

MOH: Ministry of Health

NCSS: Nairobi Cross-sectional Slums Survey

NGO: Non-Governmental Organizations

NIS: National Immunization Schedule

OPV: Oral Polio Vaccine

PCV: Pneumococcal Conjugate Vaccine

SDG: Sustainable Development Goals

SID: Society for International Development

UNICEF: United Nations Children's Fund

UTD: Up To Date

WHO: World Health Organization

CHAPTER ONE

INTRODUCTION

1.1 Overview

One of the many contributions of communication in health is to support immunization advocacy. Effective advocacy, communication and social mobilization is necessary in the core function of routine immunization.

In the past decade, communication has been incorporated in the area of public health and immunization services. Despite this, immunization has not been fully achieved especially in urban informal settlements where social, economic and cultural factors affect how and when mothers ensure uptake of immunization for their children.

1.2 Background of the Study

According to the World Health Organization (WHO), in relation to this study immunization of children is the process whereby the child is made immune or resistant to an infectious disease, by being given vaccines. Centres for Disease Control and Prevention (CDC), further explains a vaccine as a product that stimulates the child's immune system to produce immunity to a specific disease, protecting the child from non-communicable and communicable vaccine preventable diseases. Vaccines are typically given in three ways: through needle injections, orally and even by spraying through the nose.

Immunization has been talked about as one of the most proven and cost effective tools to avert vaccine preventable diseases globally. It has been said (WHO) that immunization prevents nearly 3million deaths worldwide on a yearly basis

According to the Global Alliance for Vaccines and immunizations (GAVI), Advocacy for Immunization report 2001, immunization saves 3 million lives each year. In 1974, only five percent of the world's children were immunized against the six key vaccine-preventable diseases of childhood (polio, diphtheria, pertussis, measles, tetanus, and tuberculosis). GAVI estimates that close to 30 million children in the third world countries unfortunately do not have access to basic immunization services.

The Government of Kenya puts key focus on life threatening vaccine preventable diseases as other peer countries do. According to (KDHS, 2014), infant mortality rate is 39 deaths per 1000 live birth Some of this deaths having been brought about by vaccine preventable diseases. The report also indicates that only 68% of children in Kenya are fully vaccinated.

In 1980, the Ministry of Health established the Kenya Expanded Programme on Immunization (KEPI) with the vaccines namely tuberculosis, polio, diphtheria, whooping cough, tetanus, measles and later rotavirus to children under one year, and tetanus toxoid to all pregnant mothers. KEPI is under the bigger Expanded Programmes on Immunization (EPIs) which is carried out globally, to combat childhood vaccine preventable diseases. In the earlier years, immunization was provided in supplementary or ad hoc basis and given to children in primary school. (MOH, 2013)

According to the KDHS (2014) report, about two of every three Kenyan children are considered “fully immunized.” While this is an important accomplishment, there are still gaps that need to be actualized for the work of MOH on immunization to be declared complete. The KDHS illustrates clearly the challenge of immunization inequity in urban and rural settings as well as the bigger urban and urban informal settlements.

The proportion of fully immunized children (FIC) has most recently reached 83%. Studies have shown in recent years that although immunization is high in urban areas, there is still a record low in urban informal settlements and rural settings. (Mutua et al, 2016)

Communication is one of the basic tenets in health intervention programs. Noise and distractions, competing messages, filters and channel breakdowns however come in as communication barriers in any communication environment. The context of mothers’ decision-making around immunization is key in understanding the communication strategies that campaigns should use. Common explanations by women are that they have “no time,” to take a child to receive a vaccine and having “too many household chores.” To understand household-level decisions that affect utilization communication as a health intervention model communication strategists have to consider the trade-offs of competing demands on mothers’ time in these informal settlements.

Advocacy, Communication and Immunization in Kenya

The Ministry of Health is constantly working towards persuading their ‘clients’ to change their health seeking behaviors through advocacy.

In as much as immunization services are accessible, affordable and available, advocacy and communication interventions are inevitable. Despite the Ministry striving to have the free routine immunization vaccines accessible, there are still groups which are hesitant. These hesitant groups can however easily bring about cases of disease outbreaks that could affect many others. (MOH, 2013)

According to MOH, (2013) should a new vaccine be introduced by the Ministry of health and its partners, there should be the development of a communications plan. As one of the guiding principles on immunizations services, the MOH is to ensure provision and ease of access to immunization services to all Kenyans. To be able to link immunization with communities, Ministry has put a plan to: Use community endorsed materials that have also been seconded by the community gate keepers (religious or cultural). Communities should own advocacy programs and be engaged as partners when the Ministry is designing communication interventions. (MOH, 2013)

A well conceptualized and actualized strategic communication plan reinforces the efficiency of immunization activities and increases the proportion of individuals willing to uptake immunization.

Strategic Communication

Health messages, which are designed well, aim to change fundamental behaviors; they aim to change a large part of the population and often in large ways; these campaigns ask their target audience to wait for delayed statistical probabilities; health campaigns avoid overselling the

benefits of a behavior or treatment; they operate on a relatively moderate budget; the nature of these campaigns cannot allow distrust to develop, although there is usually skepticism of government sponsored health messages; many health campaigns also ignore evaluation when research is performed, it tends to be summative evaluation carried out after the campaign. (Flay & Burton 1990).

Anyone can be an immunization advocate (GAVI, 2001). Health or child-focused non-governmental organizations (NGOs), international and regional agencies, government officials, researchers, health providers, private business people, parents, young people, faith groups, and community members are all possible advocates of childhood immunizations.

The question is if advocacy and communication works? Yes! There have been many success in communication for immunization campaigns. The 2016 Measles and Rubella Nationwide campaign in Kenya reached approximately 18,000,000 children against a target of 19,000,000 children nationwide; Kitui County had the highest number of vaccinated children reaching 114% of children against the target. The campaign in Kitui County saw even parents within the vaccine rebellious group, Kavonokya sect, accepting their children to be immunized.

1.3 Statement of the Problem

GAVI (2015) recognizes “the fully immunized child” as an ambitious but practical indicator that should be used to measure health progress. According to UNICEF 2014 statistics, there has been a recognizable reduction of infant deaths caused by vaccine preventable diseases through recent years.

“FIC is defined as a child who has received all the recommended basic vaccines by 12 months of age, that is, BCG at birth, polio doses at 6 (42), 10 (70) and 14 (98) weeks (days) of age; pentavalent doses at 6 (42), 10 (70) and 14 (98) weeks (days) of age; and measles dose at 9 (274) months (days) of age, 2 Rotavirus vaccine doses have also recently been introduced. In Kenya, full immunization coverage for children aged 12–23 months currently stands at 79 and 75 %, respectively, when PCV is considered. Only 2 % of the children aged 12–23 months had not received any vaccines in 2014” (Mutua, K & Ravn, H et al, 2016). Despite this full vaccination in urban informal settlements was at 44% in 2014.

Vaccine preventable diseases are life threatening and delay a countries development. A major strategy to reduce vaccine preventable disease is by coming up with and reviewing communication plans with well-defined strategies that will ensure FIC in all urban informal settlements. The set of goals adopted in 2015 SDG aim to end poverty, protect the planet and ensure prosperity for all and one of its tenets is good health and wellbeing as well as reduced inequalities. As the SDG’s, the Kenya Vision 2030’s vision is to create a globally competitive and high quality life by 2030. The social pillar, one of the pillars on which Vision 2030 is anchored has the objective of investing in the people of Kenya in order to improve their quality of life for all Kenyans especially in health and reduction of inequalities.

A child is expected to be fully immunized at 9months of age; however in urban informal settlements children born at home are also likely to miss birth vaccines. FIC in urban informal settlements depends on the socio economic characteristics of the mother which are influenced by the household situation and background of the mother and thus affecting the child. These

settlements hold about half of Nairobi's population of mothers. This study will therefore examine how effective communication strategies can bring about full immunization coverage to children less than two years (12-23 months) of age in these settlements.

1.4 Justification of the Study

Communication is becoming increasingly important in the area of public health. Studies show that childhood diseases and infant mortality rates are significantly lower in countries with at least 50% of immunized children. In these areas where immunization coverage is high, considering also the preventativeness of immunization, communication strategies are fully and well employed pre or post any campaign. Countries with high immunization coverage also consider the evolving nature of communications thus also considering the emergence of new media.

There seems to be the need of more communication studies to support the uptake of immunization services. Studies that have been done on promoting the number of Fully Immunized Children (FIC) in Kenya are only mainly on the area of public health and its policies, for example (Mutua M, Ravn H. et al,2016). This study therefore would be good in advancing knowledge because there is no readily available reference material on the effectiveness of communication strategies and ensuring FIC in urban informal settlements.

The study is important to the public in Kenya, in the discourse of health, immunization and reducing child morbidity caused by vaccine preventable diseases. Checking the effectiveness of communication strategies that influence full child immunization in a representative sample of the country will enable the government to come up with new, effective and well-tailored

communication strategies as well as well-articulated policies, projects and programs towards immunization. This is to ensure increased, timely uptake and a healthy growth of children in informal urban settlements in Kenya and enhance their quality of life.

1.5 Significance of the Study

This study will be a significant endeavor in promoting the number of FIC's under the age of two or 23 months in urban informal settlements. The study will also be beneficial to Ministry of Health in Kenya when coming up with a communications plan that they have endeavored to. The communication strategies applicable to mothers in urban informal settlements as determined by this study will be beneficial to the Government and their partners in immunization outreach, Community Service Organization's and Non Governmental Organization's when coming up with applicable media materials for the study group. Moreover, this research will provide recommendations on how to effectively communicate immunization messages to ensure FIC.

Moreover, this study will be helpful to communication consultants in coming up with IEC immunization material for campaigns and for practitioners training others in the area of public health communications.

1.6 Main Objective

To establish the effectiveness of communication strategies on immunization uptake by mothers living in urban informal settlements.

Objectives

- To establish ways in which routine immunization services are availed in urban informal settlements
- To find out what methods of communication the mothers in informal settlements have access to and regularly use.
- To find out mothers attitudes and perceptions towards routine immunizations
- To determine the factors that affect women's access to communication on immunization
- To develop a communication strategy on the Ministry of Health's routine immunization program in urban informal settlements

1.7 Research Questions

1. What are the different ways in which routine immunization is available and in what ways do mothers in informal settlements gain access to immunization services?
2. What methods of communication do mothers have access to and regularly use?
3. What are the mother's attitudes and perceptions towards routine immunizations?
4. Which factors affect women's access to communication on immunization?
5. What communication strategy can be put in place by the Ministry of Health to increase uptake of routine immunization in urban informal settlements?

CHAPTER TWO

LITERATURE REVIEW

2.1 Overview

This chapter presents previous work from which this project draws. This chapter also presents some of the theories that influence attitude and behavior change

The practice on communication for development has increased tremendously globally, in recent years. Professionals and academics in health communication have over the past decade done studies to improve social practice and promote advocacy in health interventions. Research and projects have also flourished in the area of health communications and knowledge, attitude and practice on health interventions have further been realized as a result.

2.2 Communication for development

Authors (Jean Olsen et al, 2009), have built a foundation for understanding how the communications process develops and occurs. The next step is to link the theory with the practice. A communication campaign is characterized by a synergy of theory and practice. Communication campaigns come first when creating a communications plan. The mass media are important for creating awareness and knowledge and stimulating others to participate in the campaign process.

The mass media plays an important role in society. Authors in developmental communication and research and health intervention program managers obtain research questions from media

outputs. Media frames (intended or unintended) ways that can provide effects of influence to their audiences.

According to Bonfadelli, (1987) there are a number of reasons why the need for public communication campaigns has increased: Governments and public administrations have suffered on issues of legitimacy in the public's perception; the public has become aware of the risks of modernization, as in the case of introduction of new vaccines and immunization.; communication has also become an important means of implementing and enforcing public policy and social learning and education.

According to Caroline Sweetman (2001), it is important to consider gender issues and differences when coming up with health intervention programs. This has implications for policies, priorities and practices. For instance roles of women or mothers in society, gender stereotypes and norms can influence communication health interventions. Mothers in urban informal settlements face a myriad of challenges, with the fact that they have to keep up with looking for money or being employed, while also taking care of their families. Mothers in urban informal settlements such as Kangemi many at times carry their children to wherever they work thus some may not have a lot of opportunities to be exposed to communication messages and interventions. Health communication interventions in this case have to be carefully planned and designed to fit into the mothers busy schedules.

In health communication interventions, understanding the knowledge, attitudes and practices of patients is importance before tailoring materials to meet their needs. According to Jade Scott et al (2006), when drawing up care plans, it is necessary to involve the client in the planning process. Communication plans therefore should: Work with mothers as much as possible, empowering

them to make their own decisions; use clear and simple language understood by the mothers; the Government to be clear on what it is going to do for the mothers; sample and assess the individual needs and set realistic goals; list the actions necessary to meet the set goals and the communication interventions be reviewed and evaluated, changed and updated regularly, with the involvement of the mothers who through their children are in this case the clients of the Governments immunization program.

In understanding low income earning people and those living in low income settlements, Everet Rogers (1969) studied peasants and subsistent farmers in India, Nigeria and Colombia as a representation of the majority poor in the third world. This study believed that modernization could only happen if the majority peasants were well persuaded. His research was characterized by 10 elements: mutual distrust in interpersonal relations peasants in general were suspicious, evasive and distrustful of others in the community; perceived limited good, peasants believed that all good things in life are limited in quantities thus non could improve their conditions; dependence and hostility towards Government authorities, peasants had an ambivalent attitude towards government officials though depended upon them to solve their problems; on familism, the family played a very important role in the life of the peasant; lack of innovativeness amongst the peasants and their reluctance to adopt to modernization; fatalism, peasants believed their well being was controlled by a supernatural force; peasants had limited aspirations for advancement and low levels of achievement motivation; on lack of deferred gratifications, peasants lacked the ability to postpone satisfaction in anticipation for better rewards in future; peasants also had a limited view of the world as well as low empathy where they could not imagine themselves in new situations.

Srinivas Melkote et al (2001) discuss communication strategies for empowerment under three key qualities of modernization and practice. Blaming the victim is the first ideological process which does not place focus on the genetical inferior nature of the victim but focuses on the victim's social origins. Social Darwinism is the second enduring quality of modernization which stems from Darwins work on evolution. Social Darwinists believe that Government interventions on behalf of the poor would have catastrophic results since they would interfere with the laws of natural selection. The third key quality of modernization that is difficult to overcome is its capital interest in sustaining class structures of inequality, peasants in the third world, according to Everet Rogers(1969), posited that they poses certain traits that make them members of a 'peasant culture'.

The three key qualities have influenced those in communication development who have mainly been able to change the individual but left the structure of dependency within and between societies intact.

2.3 Communication and Immunization studies

A key part of a successful immunization programme is effective communication. Communication plays a major role in achieving the overall goal of increasing immunization coverage rates and reducing the number of infants and mothers who drop out of the programme before completing all their vaccinations. *"In 2003, child mortality rate was 115/1000 children in Kenya compared to 88/1000 average for Sub-Saharan African countries. In a study on the Influence of Maternal Education on Child Health in Kenya"* (Abuya, A et al., 2010), *"overall children born to mothers with primary education were 2.17 times more likely to be fully immunized compared to those whose mothers lacked any formal education."* The study's major

conclusion was that policy implications for child health in Kenya should focus on increasing health knowledge among women for better child's health outcomes.

The study (Abuya, A et al., 2010) found that mothers knowledge on available vaccines, their receptive attitudes, exposure to mass media outputs and giving birth in big intervals ensured full immunization of their children. This study emphasizes on the importance of improving and imparting education to mothers in Kenya as a way of achieving high vaccination rates and reduction of drop outs and also improving mothers understanding of communication campaigns appearing in the media.

With increase in demand for vaccination services, communication intervention programs are what are needed most to ensure fully immunized children. (Alons Cathrein, 2003). In a study by (Favin Michael, 2004) on five countries on communication support for polio eradication and routine immunization, communication activities were documented, the study sought to come up with best approaches and recommend to the different countries

The five country studies were to compare the country approach to "best practices". Major findings were that Polio activities were generally very successful after proper engagement of stakeholders and proper program planning brought about a successful campaign. (Favin Michael, 2004)

Some major recommendations based on these studies (Favin Michael, 2004) were that immunization programs should place high priority in advocacy and establishment of strong partnerships at the community level.

In a study carried out in Nouna health district in Burkina Faso, (Sia, D et al, 2007) which had an immunization coverage rate of 31.5%, compared to the national rate of 52%. Lack of parental knowledge on the immunization programs contributed highly to the lower immunization rates in the study population.

This study on individual and environmental characteristics associated with immunization of children in rural areas in Burkina Faso (Sia, D et al, 2007) drew conclusions that there seems to be insufficient knowledge on vaccination services in areas with low vaccination rates. The study emphasizes the importance of getting to know underlying cultural and religious issues that might affect the uptake of immunization services.

The Polio Eradication Initiative was launched by the World Health Organization (WHO) in 1988, with the original goal of eradicating poliomyelitis by 2000. Poliomyelitis is a crippling infectious disease that mainly affects children. The immunization gap in the target population and the “missed children” suggested the need for other social data.

2.4 Advocacy, communication and Immunization in Kenya

The components of the immunization system in Kenya include service delivery, vaccine supply, quality, logistics, disease surveillance and advocacy, communication and social mobilization. Immunization is a cost effective way of reducing vaccine preventable deaths thus MOH acknowledges its task to increase access of vaccine services to Kenyans. (Kenya DVI, 2013-2017)

The Ministry of health recognizes that vaccination is highly important. Vaccination services by MOH highly depend on sufficient financing by other key players in the health sector as the burden of diseases is still largely felt in some communities. (Kenya DVI, 2013-2017)

Snyder & Hamilton (2001), provide a relationship between the exposure to communication interventions and adoption of new behavior as well as retention of best desired outcomes of behavior.

In as much as the Government has gone a step further to acknowledge the importance of advocacy in immunization interventions, findings tabled by MOH indicate that there is no available communication plan and no district has developed an EPI communication plan. There is also no data of caretakers of children less than two years understanding the importance of routine immunization.

One of the DVI plans based on case by case situations is to create more demand for immunization services by Kenyans through design and dissemination of evidence based advocacy by the year 2017. The implementation plan also focuses on advocacy and communication in order to create demand for immunization services.

The ministry proposes for lobbying and advocacy meetings to be held at all administrative levels from the community to the national Government, under MOH. Popular communication channels should be spearheaded by the Community Own Resource Persons (CORP) in conjunction with their respective Community Health Education Workers (CHEW). There is a quarterly DVI

newsletter that should continue to be published and distributed to all health facilities and pre-service health institutions. (Kenya DVI, 2013-2017)

The Multi-year plan by the Ministry of Health seems to show that not enough has been done yet in the area of advocacy and communication in their effort to increase the uptake of immunization especially to hesitant groups; there is not much reported from its funding to even coming up with an advocacy and communications plan.

2.5 Disparities in urban informal settlements

According to a report by Kenya National Bureau of Statistics (KNBS) in conjunction with Society for International Development (SID), the report on Exploring Kenya's inequality, 2013, inequalities within counties in Kenya are high. According to the same report, major urban areas in Kenya have high education levels but very large disparities with Mombasa, Nairobi and Kisumu having the highest gaps.

Disparities exist also among mothers. Mothers in informal settlements have low education levels, low income from low wages depending on the nature of the jobs they do. They also have fewer health facilities in the settlements and concurrently little or no access to information on immunization services. The quality of care in most of the health facilities in the slums is also wanting. (APHRC, 2014).

2.6 Effective communication strategies

According to Bovee & Thill, (2013), poor communication as a result of foreseen or unforeseen barriers can contribute to rejection of vaccinations or dissatisfaction with care. This research seeks to find out what barriers to communication hinder the uptake of immunization services by mothers to their children in urban informal settlements.

Some of the necessary conditions for effective campaigns are: Use of high quality messages, sources and channels; disseminating messages well; attracting the attention of the target audience; encouraging interpersonal communication and obtaining knowledge of campaign effects (Flay & Burton 1990).

2.7 The added value of strategic communication

If there were no communication strategies in carrying out health promotion activities, it would be difficult to measure activities not planned and organized, people would use more reactive than proactive communication activities would be random and not well thought out, organizations would duplicate efforts, there would be mis/un-targeted messaging employed.

Communication strategies can cover both internal and external communication to answer any interventions who, what, when, where and how questions.

According to (Bovee & Thill, 2013), the process of developing a strategic communication plan starts with: Creating an advocacy committee ; then moves to analysing the situation; developing policy- relevant advocacy objectives from problems or issues that have been identified in research or survey data; determining who the audiences are, what they know and what they need

with regard to your subject; building partnerships and network to increase the numbers of advocates; developing messages that are tailored for the different audiences; determining the best channels, formats and activities to deliver the message; designing an action plan; and putting in place a plan for evaluating the impacts of the work done.

In conclusion, if well designed, communication activities and materials can create demand thus more requests for information and more influence over policy.

2.8 Theories of Communication and Persuasion

Theories that influence persuasion and behavior change have been developed over the years. These theories have communication either as the dependent or independent variable.

Theory of reasoned action

This theory (Fishbein and Azjen, 1975) suggests that behavior is intentional and is informed by a person's attitude.

Functional theory

Kelman's (1961) theory of social influence seeks to know why people hold onto their attitude and why they do so, thus depicting a certain kind of behavior.

Elaboration Likelihood Model

Petty and Cacioppo (1979), ELM theory is based how attitudes influence decisions and personal behaviours with persuasion being central in determining attitude. The ELM works through the central route and the peripheral route.

The central route holds that a person can be immediately persuaded and thus persuaded enough to the point of acting upon the received message. The peripheral route holds that some people are persuaded by other factors other than the main component of the message and this can persuade them enough to the point of acting upon the message.

This research chooses to explore this theory as it will touch on the attitudes of the mothers that are gullible to information and easy to convince; those in the middle who have balance and those that are argumentative, stubborn or unconvincing and have an opinion and may not agree with the benefits of having their children immunized.

The two routes are direct enough for a communicator looking to persuade to raise awareness of an issue, impart knowledge, change attitude and behavior. The communicator however has to choose the message, source, channel and target audience and the nature of environment especially with focus on the existing barriers of communication. This theory will help in designing communication strategies for the mothers in urban informal settlements so that they can be ready to hear a message and take it in as their own and as new and meaningful information.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Overview

The chapter presents the general framework for this study through details of the research design, target population, sampling and sample size, data collection procedures, data analysis techniques and ethical considerations while conducting the study. This study used both qualitative and quantitative research.

This type of research is more concerned with the objectivity and the validity of what has been observed. This study employed quantitative research through bar graphs and pie charts when explaining the social demographics of the mothers and the mother's sources of communication and communication preferences.

3.2 Research Design

Ogula (2005) describes a research design as a plan, structure and strategy of investigation to obtain answers to research questions and control variance. This research used a qualitative and quantitative research approach and the researcher will carry out a descriptive survey. Descriptive research involves gathering data that describes events then tabulates the data for analysis.

3.3 Population

This study is being done in Kangemi. Kangemi is a slum in Nairobi, Kenya. There are ten villages of Kangemi, namely Marenga, Kang'ora, Machagucha, Gichagi, Rift Valley, Central, Waruku, NITD, Sodom and Watiti. The residents of this slum are mostly from the Luhya tribe. Although there is likelihood of a bigger population, according to the 2009 Kenya Census, the

Kangemi slum has a population of about 44,564 poor people, 21,422 being female having 15,256 households. (Westlands constituency, Locations and Wards Open data Census 2009).

3.4 Sampling and Sample Size

Households with children under two years of age were selected purposively by convenient and snowballing sampling technique. Mothers were selected conveniently from the 10 different villages in Kangemi. A mother was picked purposively from each village that helped to conveniently identify other mothers with children below two years who were sampled.

3.5 Data Collection Instruments

This research used the following instruments: Interviews; Focus group discussions and a document analysis.

The interview is a commonly used technique in quantitative and qualitative research. It is used to gather data and to develop hypotheses through communication (Cohen and Manion, 1989).

Focus groups are well planned and focuses on having members discuss extensively on an issue. Many at times, group members influence others decisions during focus group discussions

Document analysis is a form of qualitative research in which sampled documents are analysed by the researcher to try and explain and further give meaning to the issue or topic being discussed.

3.6 Data Collection

A verbal permission to carry out research was given to the researcher by the respondents after showing them written consent to carry out the research.

Telephone calls were made to the relevant bodies in Government in charge of immunization for appointments to carry out interviews to the health officials and those responsible for disseminating routine immunization communication paraphernalia.

The use of a purposive sample of people to test some general views or ideas on the uptake of immunization services will be considered. A purposively sampled mother in Kangemi assisted in identifying households, through the snowballing technique. The mothers in the households identified from the different villages were interviewed and incorporated in the focus group.

One focus group, with one mother from each village in Kangemi was carried out, with members from each village randomly selected. The focus group had 10 mothers, with mothers of children below two years purposively selected. The researcher had interview guided questions, questions were then asked and all the mothers in the focus group were required to participate. The researcher took notes and used a recorder to record the discussions.

Twenty key informants, two from each village, who are mothers with children under two years were interviewed. An interview guide and schedule was developed for use for the personal interviews. Mothers were interviewed for purposes of getting deeper insights on factors that determine and how they get information of routine immunization.

Immunization cards were sampled from the mothers in Kangemi. Routine immunization communication paraphernalia and guides from the Department of Family Health's DVI communications office and the Government's health centre in Kangemi were collected. The

researcher collected immunization promotional material, vaccination information booklets and collected information from mother's immunization cards. The researcher then read and made relevant copies of the documents. The researcher also sampled referenced ideal IEC material from other sources for recommendation purposes.

These documents have been analyzed taking careful history, data was also collected on immunization coverage and recent medical visits, as well as the attitudes of the mothers and their level of exposure and preference on information in regards to routine immunization.

3.7 Data Analysis

The qualitative data generated from interviews and focus group discussions has been classified and categorized in themes and reported. Features on communication from document analysis have been classified and categorized in themes. Quantitative data from interviews has been analyzed through bar charts. Quantitative data from the number of children immunized and those not immunized has been put in frequencies. The results have been analyzed to describe the participants' profile characteristics, past behaviour and beliefs.

3.8 Limitations of the study

Limited staff at the DVI communication office posed a challenge in terms of availability to provide past IEC material on vaccination, availability of DVI staff was limited due to their schedule.

Interviews and FGD's were distracted by the mothers divided attention to their children.

There were no current statistics on the population of Kangemi and also on the infant birth rates at the Local Authority in Kangemi.

3.9 Ethical considerations

The researcher sought informed consent from the participants and respects the confidentiality and anonymity of the research respondents. Participation in this study was voluntary.

The researcher assures quality and integrity in this study. This project went through a proposal defense at the University of Nairobi. The researcher received a certificate of field work (Annex 4) as a permit from the University to carry out data collection in Kangemi. The researcher then went through a defense of the project and received a Certificate of corrections (Annex 4) once the proposed revisions after the defense were implemented. This project has been subjected to an originality test with an originality report obtained (Annex 4) and an overall declaration of the work made by the researcher and approved by University (Annex 4).

CHAPTER FOUR

DATA ANALYSIS, DISCUSSION OF FINDINGS

4.1 Overview

This study is undertaken in the Kangemi slum of Nairobi. A purposive random sample through a snowballed household survey of some 20 mothers from Kangemi area who gave birth since August 2014 were enrolled in the project and were interviewed. Ten mothers participated in a focus group discussion conducted by the researcher, which asked about the vaccination history of their children, exposure to IEC materials on routine immunization and their attitude and suggestions on the Governments routine immunization program. For the purpose of this study, the researcher used data from 20 children aged 12-23 months who were expected to have received all the KEPI recommended vaccinations. The children said to be fully immunized are those that have received all the routine recommended vaccinations and are up to date depending on the number of months the children. All vaccination data were obtained from vaccination cards which were sighted during the household visit as well as by recall from mothers. Data from notice boards at the health centre were also recorded in search for IEC materials on routine immunization visible to the mothers.

To achieve the objectives of this study, a mix of research methods was used. A qualitative household based study was conducted in the 10 villages in Kangemi through interviews and a focus group discussion with mothers of children below two years. The researcher used the snowballing method to identify the households and mothers sampled. Document analysis was done through analysis of the vaccination schedule on vaccination cards carried by the mothers.

Interviews were also conducted to health workers at the Government owned Kangemi Health Centre, as well as document analysis of available IEC materials on routine immunization available at the health centre. A key informant at the communications department at the Ministry of health's DVI was also interviewed and a document analysis of available IEC materials visible to the public at the DVI done.

This section interprets key primary data obtained from the interviews and focus group discussions presented through Ms. Word tables. Findings also emanate from sourced literature and evidence materials such as vaccination cards. This study focuses on four core areas: The level of awareness of the study population on routine immunization communication messages; awareness, knowledge, attitude and behavior change (AKAB) among the study group towards taking their children to Government health facilities for KEPI vaccines on routine immunization; Analysis of IEC materials available and a presentation on communication strategies that's can be used to raise public awareness on the aim, importance and action required on the KEPI routine immunization; and also recommendations on measures needed to enhance awareness on the KEPI' routine vaccines.

4.2 Demographic and socio-economic characteristics

The population sample size consisted of 20 respondents, all being mothers aged over 18 years from the 10 different villages in Kangemi slum, Nairobi. The purposive sampling method was applied to conveniently select 20 snowballed mothers for interviews and 10 mothers for a focus group discussion, who had to have vaccination booklets of their children below two years of age.

4.3 The study site and population

The study was carried out in Kangemi slum, an urban informal settlement of Nairobi. The densely populated slum, each comprising 10 villages, has low socio-economic standards such as poverty, high unemployment, low education levels and crime in comparison to Nairobi as a whole county. Being an informal settlement, the slum is served with limited health services. There is only one public health facility within the slum where residents of the slums can access vaccination services: Family health services such as immunization can also be accessed through small private health service providers within and neighboring Kangemi.

4.4 Population distribution by age and origin

The population originated from the 10 different villages in Kangemi. All the mothers were above 18 years. The distribution by ethnicity varied, and 85% of mothers in the study were married or in a customary or civil union. All the mothers in the group had completed up to primary school education. (Fig 1)

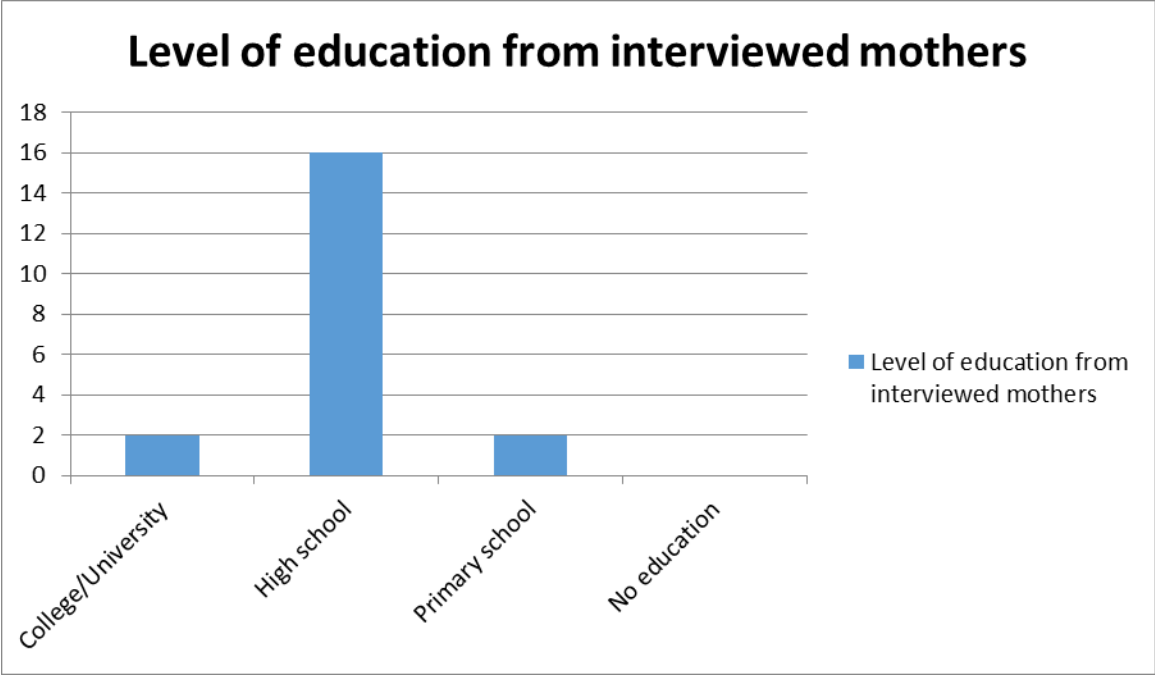


Figure 1: Level of education of interviewed mothers in Kangemi (Author)

Figure 4 depicts the level of education from interview mothers. By virtue of all having completed primary education shows that the mothers can at least read and write and comprehend at least basic English and Kiswahili languages. These mothers are definitely able to understand well designed IEC materials suited for them. They can also be able to understand at least one or two preferred channels of communication, be it through broadcast means or printed material.

4.5. Table 1 Analysis: Specific, up-to-date and full vaccination coverage among children aged 12-23 months in Kangemi

| | |
|--------------------|--------------------------|
| Vaccination | Kangemi |
| | Card + Recall |
| | % |
| BCG | 100 |
| Polio 0 | 98 |
| Polio 1 | 100 |
| Polio 2 | 98 |
| Polio 3 | 98 |
| DPT 1 | 98 |
| DPT 2 | 98 |
| DPT 3 | 98 |
| Measles | 80 |

| | | | | | | | | | |
|------------------------|------------|--------------|--------------|--------------|--------------|-------------|-------------|-------------|----------------|
| <u>Vaccine/</u> | BCG | POLIO | POLIO | POLIO | POLIO | DPT1 | DPT2 | DPT3 | Measles |
|------------------------|------------|--------------|--------------|--------------|--------------|-------------|-------------|-------------|----------------|

| <u>Child</u> | | 0 | 1 | 2 | 3 | | | | |
|--------------|--|---|---|---|---|--|--|--|--|
| Child 1 | | | | | | | | | |
| Child 2 | | | | | | | | | |
| Child 3 | | | | | | | | | |
| Child 4 | | | | | | | | | |
| Child 5 | | | | | | | | | |
| Child 6 | | | | | | | | | |
| Child 7 | | | | | | | | | |
| Child 8 | | | | | | | | | |
| Child 9 | | | | | | | | | |
| Child 10 | | | | | | | | | |
| Child 11 | | | | | | | | | |
| Child 12 | | | | | | | | | |
| Child 13 | | | | | | | | | |
| Child 14 | | | | | | | | | |
| Child 15 | | | | | | | | | |

| | | | | | | | | | |
|----------|--|--|--|--|--|--|--|--|--|
| Child 16 | | | | | | | | | |
| Child 17 | | | | | | | | | |
| Child 18 | | | | | | | | | |
| Child 19 | | | | | | | | | |
| Child 20 | | | | | | | | | |

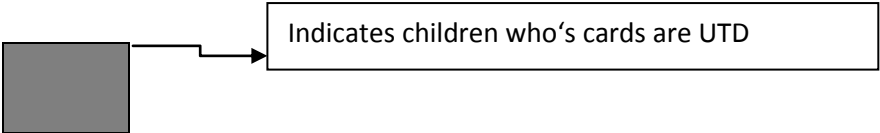


Table 1: Vaccination schedule analysis on missed immunization from vaccination cards of children (below 1 year) as received from the mothers of the children.

From the interviewed mothers, BCG, being given immediately at birth of the child was the only vaccine that had been taken up fully. The rest of the vaccines had been taken up 98% with half the number of children missing at least one of the vaccines. Measles, which is taken up later at 9 months had only 80% of the children having been vaccinated. The red, navy blue, purple, pink, brown and light blue indicators from table 1 depict the skipped vaccines, either because the mothers delayed to take their children for vaccinations or because they were not aware of the vaccine schedule. The other reason for skipping or delaying to take a child for vaccination was the assumption of having completed the particular doses as in the case of Polio and DPT which are administered in concurrent form.

4.6 Household survey

Women interviewed were able to spontaneously mention an average of two of the routine immunization. The most well-known vaccine is Polio and Measles as a result of prior communication campaigns by the ministry of health.

All the households surveyed had at least a radio or a television. All the women interviewed and those that participated in the focus group discussion had a mobile phone. Exactly half the number of women mentioned that they have a Facebook account and are aware of how to use and communicate through social media. No respondent had a twitter page. Only one woman interviewed had access to a daily newspaper by virtue of where she was employed, since the employer had subscribed to receiving daily newspapers from vendors.

As in comparison with the household survey, from a document analysis of Introduction of Pneumococcol Conjugate Vaccine (PCV 10) Kenya, when it comes to immunization, education was said to be the most important factor, by community leaders, as it overcomes any barriers such as fear or rumors. When it came to rumors, the polio vaccine was mentioned several times. Our community leader said that the communities were not informed properly and the channel of communication is an indication of the reason rumors came about. The community leaders insist that its mothers who instill fears.

Many Kenyans consider having small children vaccinated as very important. When asked how important it is to have small children vaccinated, attitude is probably not the main problem for drop-out rates and lack of timeliness.

A number of questions were asked that can be placed somewhere in between knowledge, perception and attitude. The first of these which could also be considered knowledge concerns possible side-effects that a child can experience getting married.

When asked what would be the consequence of someone's child not obtaining complete vaccination, perceived susceptibility to fall sick was relatively high.

4.7 Focus Group Discussion

As a general observation, it should be noted that when reading findings and results from focus groups, many of the differences in knowledge attitude and practice can be attributed to educational level and general lifestyle and attitudes that come as a result of the lifestyle that the mothers have.

The mothers in Kangemi are particularly vocal on lack of sufficient information on routine immunization and difficult to understand vaccination booklets.

'There are a lot of materials on the notice boards and general areas such as toilets on TB and HIV/AIDS and none on routine immunization compared to yesteryears.'

When you are a new mother, you don't know when exactly to go to clinics, unless advised by family members, for some of us who cannot read well and understand the information on the vaccination booklets.

4.8 Attitudes of the mothers towards communication efforts by MOH

For many mothers during the focus group discussion, older women, family and friends, play a key role in breaking down information conveyed on the vaccination booklet and when and how

often to take their children to hospital and sometimes but seldom on the importance of the vaccines. Some of the key players from whom the mothers get communication information from also downplay the importance of those vaccines.

'We advise each other and share our experiences on visiting health facilities and the impact of the vaccines to our children.

'Some of family and friends give misleading advise thus one can easily skip or delay a vaccine. In some cases mothers are forced to believe in misconceptions on certain vaccines thus skipping immunization.

Mothers however recognize that their children need to be seen by a professional of which, in the case of Kangemi, it is the community health workers at the Kangemi health centre.

Interpersonal communication therefore seems to be the most preferred and the most workable communication strategy that the mothers seemed to prefer.

Information Seeking Behavior

Group respondents were asked for a number of potential sources for health related messages.

(Fig 5)

- Whether they use the information from community health workers and volunteers and information on the vaccine booklet to seek for immunization related information.
- How much they trust those as the only sources of information.
- How the vaccine booklet influences their actions to uptake routine immunization.

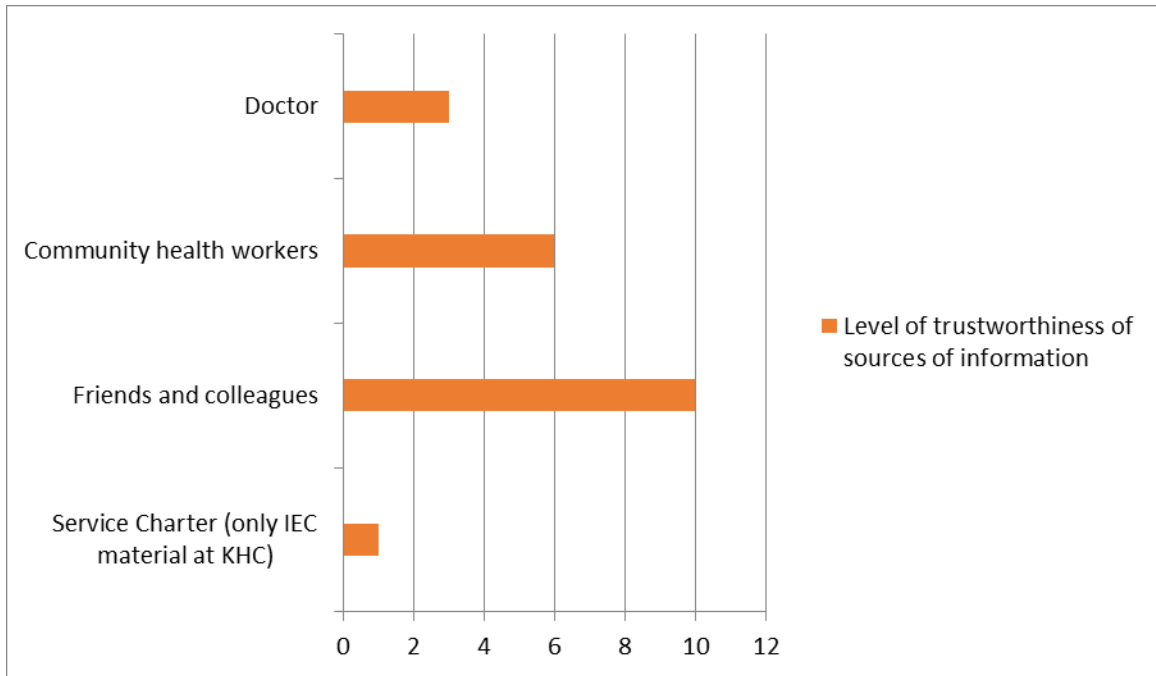


Figure 2: Trustworthiness of the various sources of information channels available to the interviewed mothers in Kangemi. (Author)

As per the information on figure 2, on information seeking behaviors of the respondents, interpersonal communication, still seems to be the most preferred, practical and the most used communication strategy. Most mothers seemed to trust friends and colleagues, who happen to be their neighbors on immunization communication. Their friends and colleagues also frequent the same health centre (KHC), as they do thus the level of trustworthiness in information seeking. The community health workers (CHW) equally play a very big role in influencing the decision making levels of the mothers. They CHW's are the first point of contacts that the mothers have when their children are receiving their first KEPI vaccine (BCG), therefore, information about concurrent vaccines is give to them after the first vaccine. The other role that CHW's play that makes them trustworthy is that they are the ones that administer the vaccines during the mothers concurrent clinic visits with their children. They also play an important role on other clinical functions such as advising the mothers on nutrition, weight and the general well being of their

children. CHW's in Kangemi also, once in a while do sensitization campaigns to households. During the interviews and FGD, the doctor was also highly preferred for conclusive information on any issue in regards to immunization or the side effects of immunization to the children of these mothers, and also to dispel any rumors that come in, in relation to routine immunization. The service charter was the least mentioned with only one respondent confirming having known of immunization services at KHC through the well-positioned service charter right at the main entrance at KHC.

Generally in terms of preference of communication sources, results were that **(Fig 3)**:

Community health workers and community health volunteers are the first point of contact that the mothers have thus more frequently used for information seeking.

Vaccination booklets only provide a guide on when to visit the clinic as per the indicated schedule and not in-depth knowledge to understand the vaccines. The language used on the book does not apply to the majority as the literacy levels of the mothers in Kangemi area are generally classified as low.

Friends and family through word of mouth are used although they do not exert a lot of influence and trust. Radio, if used they say may exert more influence to increase routine immunization uptake.

The internet, through social media tools such as Facebook if used, may exert very little influence as most of the population is not very literate and their purpose of using social media may be for leisure purposes only and not for information seeking purposes.

Mobile applications such as those created by mobile service providers can be created as ways of alerting the mothers on the routine immunization schedule can be used and can exert some influence. This may however need to be conceptualized and implemented by the Ministry of health in Kenya.

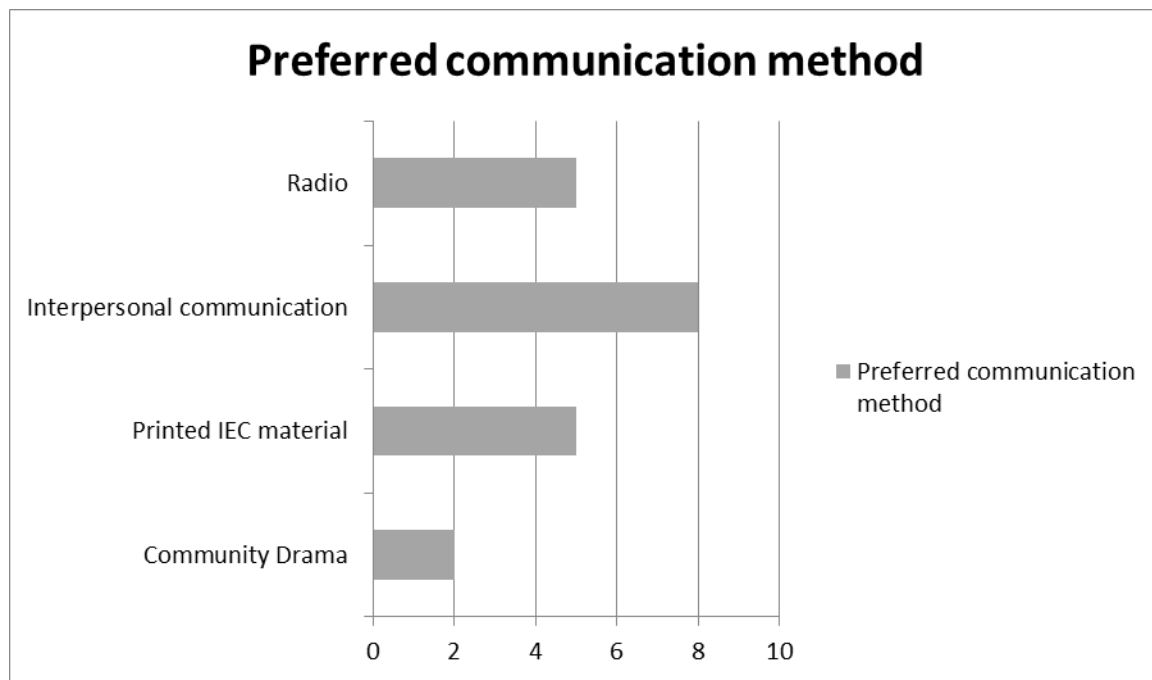


Figure 3: Preferred communication method by interviewed mothers in Kangemi (Author)

4.9 General comments on routine immunization

Most mothers who were interviewed and were respondents during the focus groups are very familiar with vaccination programmes for certain diseases such as measles, BCG and Polio. For those who give birth in the community health centre, they believe that by the time the child reaches 1 year, they are done with vaccinations.

'We know the vaccinations by the marks that they leave on the hand or the thigh but I am not sure of the names of the vaccines'

Knowledge

Those who give birth in hospitals are inducted on the importance of the vaccination and immunization programmes. Most mothers initially think that vaccinations are voluntary and its only when the community health workers at the health centre in Kangemi emphasize on the importance of frequenting the centre for vaccines that the mothers realize that the vaccines are somewhat important.

If you start taking your child to the clinics, they will be vaccinated.

My family and friends are the reason I started taking my child to the health centre as I saw them taking theirs too. I believe now I'm halfway through.

What I remember most is the door to door vaccinations and their importance such as the polio and measles and rubella vaccinations.

The community health workers in Kangemi believe that their communities are generally aware of immunization.

Our main job, besides just vaccinating, is to educate as many women as possible on the importance of routine immunization and consistently bringing their children to hospital.

This demonstrates that the community health workers cannot be underscored as the first point and most important point of contact that the mothers have and rely on to convey information on routine immunization.

4.10 Need for a communication strategy from the interviews

Mothers in Kangemi have expressed that they would like to be aware of routine immunization and be more informed on its importance to their children. The household survey shows that interpersonal communication and radio is the most preferred to best reach all audiences in Kangemi area. The government therefore needs to invest in teaching interpersonal communication to health workers as the community relies on them for information on health.

In terms of exposure to health communication messages, mothers in urban informal settlements (who are members of the lowest socio-economic class), have much less exposure to information on immunization than the Kenyan average and those in the higher socio-economic class. This is due to the in-availability of routine immunization communication IEC materials in the community health centers.

Traditional routine immunization communication materials in the health centers and hospitals frequented by the middle and upper class mothers are awash with IEC material on routine immunization on notice boards as well as Lamaze classes offered by health workers to better educate the mothers on routine immunization during their ante-natal visits. Mothers in urban informal settlements, who many at times are semi-literate, only get to know of the routine immunization program once they have delivered. They are also provided with vaccination booklets that are in English language thus posing a challenge for them to understand the detail in the immunization booklet which is meant to be self-explanatory.

4.11 Need for a communication strategy from the focus groups

The focus group study revealed a very clear need for a communications strategy specifically designed for the routine immunization program. Mothers are responsible and deeply caring towards the health and welfare of their young children.

Mothers face many challenges, including perceived lack of knowledge about childhood illnesses, how to recognize them and what to do about them. They are hungry for knowledge that will empower them to deal with these challenges responsibly and in a way that they can cope with financially and physically.

During the interview, it was suggested that communication messages should be delivered through multiple media starting with the community health workers (who may be required to speak to the mothers in a more respectful way).

Communication messages should also be delivered through women groups and seminars, through churches, mosques and through traditional media such as radio. In delivering these messages, community leaders suggested that the Government should partner with relevant individuals to facilitate these communication channels including NGOs. Radio drama has proven success in delivering health messages to mothers, who trust the voices of people like them to give advice and information.

The voices of older women who have experience of bringing up many children could be powerful in communicating with younger less experienced mothers. Some of the verbatim comments that mothers resonate with are below:

‘Community health volunteers and community health workers are the only ways through which we know about the need to vaccinate our children’.

‘We only hear word about immunization when there is an outbreak’.

4.12 Other Barriers that prevent mothers from immunizing their children

A common factor mentioned in the interviews and focus group discussion is that mothers with low education or low socio-economic status are more likely not to pursue full vaccination coverage. Others attributed it to ignorance and laziness. Religious or traditional beliefs that contradict immunizations were also mentioned. Other barriers were language for mothers who do not speak Kiswahili, too much work and little time to take children for vaccination for business mothers and a stock-out of vaccines.

4.13 Division of vaccines and immunization efforts towards increasing Knowledge Attitudes and Practice (KAP) (Document analysis on introduction of Pneumococcol Conjugate Vaccine (PCV 10) KAP survey)

The Kenyan Ministry of Health, through Division of Vaccines and immunization works towards ensuring fully immunized children through ensuring the Kenyan routine infant immunization is nationwide.

Steps in development of a communications strategy have been taken by the DVI as in the case where when introducing the Pneumococcol Conjugate Vaccine (PCV 10), into the national infant routine immunization schedule in Kenya, a rapid assessment study on Knowledge Attitudes and Practices (KAP), was conducted before introduction of PCV 10 in January 2011. This rapid

assessment test was done by DVI as envisioned in the MOH, (2013), the policy on coming up with an advocacy plan when introducing a new vaccine.

According to the PCV 10 KAP survey, for the first point of contact for health facilities, lower socio-economic classes tend to go to the nearest community health centre and or consult with a community health worker.

From the PCV 10 KAP survey 96% of the interviewed mothers reported having gone to pre-natal care before their babies were born, regardless of whether they end up delivering their children in the health center's or at home. This therefore means that all respondents are able to receive information on immunization services during their pre-natal care.

Comparing respondents who say they missed some immunizations to those that report having gone for all vaccines shows a profile of lower education, lower living standard and less likely to have seen public health messages on routine immunization.

Health workers confirmed that women with less education and socio-economic status are more likely to miss vaccinations. The PCV 10 demonstrates need to rapidly educate such an uninformed public on the importance of visiting a health facility to take their children for vaccines. This survey also brings out the lack of awareness by mothers on the kind of vaccines that are being administered to their children as the mothers do not seem to recall the names of the vaccines but the specific body parts where the vaccines are administered.

4.14 Communication strategies by the Division of Vaccines and Immunization on routine immunization.

As per review on literature by DVI, the Ministry of health acknowledges that there is lack of a communication strategy and plan to create demand for immunization services due to lack of necessary expertise and social profiling, being major challenges in the coverage of immunizations in Kenya. (Kenya DVI, 2013-2017)

Communication findings tabled on the report indicate that there is no available communication plan and no district has developed an EPI communication plan. There is no readily available data on mothers in urban informal settlements and a KAP survey of them understanding routine immunization. A priority for MOH through DVI is developing communication plans at the national and district levels.

IEC materials are important in health intervention programs. One of the objectives of this study is to come up with a communication strategy that can be used to by DVI to increase the uptake of immunization by mothers to children in urban informal settlements. Printed IEC materials are believed to be the most used in health communication and in this case by DVI to enhance learning and influence behavior. These materials should however be produced in line with the principles of health education and promotion to deal with specifically routine immunization and to be well received and persuasive among a specific audience and it should be distributed timely and utilized efficiently to give production meaning.

However, there seems to be limited production, distribution and utilization of the printed IEC materials channeled to urban informal settlements and in this case Kangemi. There is no IEC material on routine immunization at the Kangemi Health Centre or even at the Kangemi administration department (chief's office); however there are available materials at the premises of the DVI. The DVI through its reports has also acknowledged that there are no existing communications plans countrywide on immunization thus a lot still needs to be done in terms of conceptualization, production and dissemination of communication messages on immunization in general. Comparing Kangemi Health Centre (as the only Government health facility in the area) and the DVI offices, there is 100% no balance of materials on routine immunization, with the former holding the most impact if materials can be availed.

The extent of printed IEC material production, distribution, utilization and the existing gaps has however not been subjected to scientific inquiry by this study. Thus, one of the overall objectives of this study is to also come up with a communication strategy on routine immunization for the DVI with emphasis on printed IEC material among other communication strategies that can be employed.

4.15 Information, Education, Communication (IEC)

IEC is a strategy that attempts to give information that can directly or indirectly influence behavior change and adoption of practice or simply enhance knowledge. IEC materials have been used in the past as fear appeals, scare tactics were used and cultural and social differences were not catered for. In present day, ideal and well prepared IEC materials are presenting information and facts that can educate the mother in a more dynamic and empowering way (**Fig**

4, annex). A print material, being the most common, for routine immunization under the IEC strategy may read:

*“Parents take your children **nth*** times before their first birthday”*

DVI in Kenya can create more material on routine immunization as done by other organizations and not only the immunization schedule that was available to community health centres in the past.

***nth being the number of times a child has to be vaccinated as per KEPI schedule**

4.16 How DVI can diversify Communication Strategies for Routine Immunization

Communication can be narrowed down to three broad categories to convey information and messages to the communities in urban informal settlements. These are:

1. Print communications

Print media communications popular with communication interventions include newspapers, pens, murals, caps, mugs, stickers, comic sheets, newsletters, brochures, pamphlets, scarves, umbrellas, t-shirts, picture codes, arm bands, story boards, bags, bandanas, name tags, flyers, banners, leaflets, key holders and posters. Print communication can apply to all audiences.

(Fig 4, annex)

2. Electronic communications

In this strategy, for purposes of an urban informal settlement like Kangemi, electronic media can be used to communicate with others through radio/radio call, community video, televisions, text messages, and films. Electronic communication can be expensive and should be carefully

packaged by the Ministry of Health to get value for money and also reach the wider target audience.

3. Popular communications

This method involves participation and involvement of community members like dramas, community dialogues, songs and community meetings between community health workers (interpersonal communication) and the mothers or between community health volunteers and the mothers. This can be effective for engaging mothers who are ordinary community members and has the advantage of flexibility. These communication styles can be used concurrently through interpersonal communication. They also reinforce messages well as the rate of recall by the audiences is high.

Prior rolling out any material to an urban informal settlement, MOH through DVI and any other interested partners can roll out and pre-test the material using an analysis wheel. This analysis involves asking people what they see, feel, think and feel like doing. This analysis helps pretest perceptions and aids in the development and improvement of IEC materials prior rolling them out to the community.

If IEC materials, especially print materials, are developed in line with where mothers in the community are in terms of their understanding of routine immunization, MOH through DVI may be more effective in creating change. Just like the diffusion of innovations theory dictates, DVI should keep in mind that there are different phases or stages to adoption of IEC materials (**Fig 7**)

Other effective communication styles which can use the same principles of creating print materials for urban informal settlements can be through a community discussion, drama and a radio spot for an infomercial.

| Stage for individual change | Stage for community mobilization through health workers/volunteers |
|-------------------------------|--|
| Pre-contemplation of the idea | Community assessment |
| Contemplation | Raising awareness |
| Preparing to act | Building network |
| Action | Integrating action |
| Maintaining the action | Consolidating framework |

Figure 5: Phases for facilitating change within communities.

(http://menengage.org/wp-content/uploads/2014/06/Communications_Materials_Training_.pdf)

From the analysis wheel a list of do's and don'ts for communication materials can be generated. This list can be used to guide in coming up with appropriate communication material for the intended audience.

| Do's | Don'ts |
|--|--|
| Portray the positive | Reinforce stereotypes |
| Maintain the dignity of characters | Blame, shame or finger point |
| Ask questions to get people thinking | Avoid simple messages that tell people what to do |
| Give hope | Use scare tactics or fear |
| Show variety of ethnic groups/socioeconomic Groups | Portray what is only happening with the poor or certain ethnic/religious groups |
| Consider where it will go to determine how much text used | Overcrowd or use too much text |
| Use informal language (conversational) | Use NGO jargon/speak |
| Use illustrations to convey meaning | Rely on text to convey message |
| Help viewer identify with the characters and issue | Portray what is happening to 'others'/ other people's problem |
| Use vibrant, attractive colours and Artwork | Use faded, boring colours, low quality art |
| Use clear, easy to read fonts | Use shadows on fonts, hard to read, script Fonts |

| | |
|---|--|
| Have one clear take home thought/ Question | Try to cover too many issues/themes in one poster -- one poster, one idea |
| Engage all 4 components of the analysis wheel! | Forget to pre-test! |

Figure 6: IEC strategy do’s and don’ts.

(http://menengage.org/wp_content/uploads/2014/06/Communications_Materials_Training_.pdf)

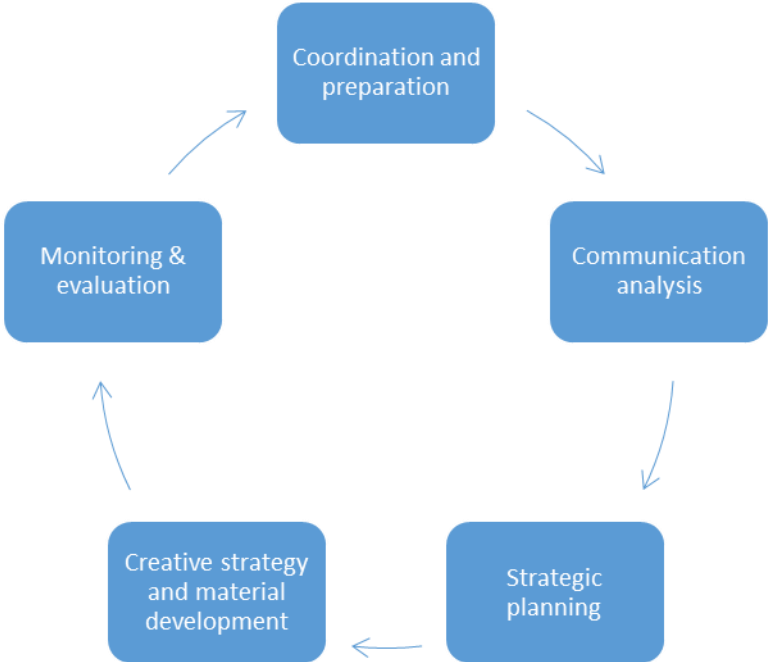


Figure 7: (Author) A summary of a communication planning guide that DVI can put in place on strengthening routine immunization.

Figure 7 proposes a guideline which DVI can use in the design and production of IEC materials and communication strategies. The first step that the communications office can do is to

coordinate and prepare for the communication task to be designed and produced this may involve thinking through appropriate models to use. Communication analysis comes second in terms of thinking through the communication strategies to use vis a vie the target audience and communication channels available to them. As in the case in Kangemi is the mothers and the communication channels available to them. The strategic plan then comes next and further broken down into the most appropriate creative strategy and materials that can be preferred by the audience as in this case, mothers with low literacy levels in urban informal settlements. Any implemented communication strategy that DVI uses should be constantly monitored and evaluated as per the communication model used. Improvements can be implemented whenever different communication campaigns are rolled out in the community.

CHILDHOOD IMMUNIZATION SCHEDULE IN KENYA

| Vaccine | Age | Remarks |
|---|--------------------------|--|
| BCG POLIO (OPV 0) | At birth Birth Dose | Or at first contact with child |
| DPT ₁ -HeB ₁ -Hib ₁ DOSE POLIO (OPV 1) | 6 weeks (1 ½ months) | Or at first contact with child after that age |
| DPT ₂ -HeB ₂ -Hib ₂ DOSE POLIO (OPV 2) | 10 weeks (2 ½ months) | 4 weeks after DPT 1 and OPV 1 can also be given anytime after this period, when in contact with the child. |
| DPT ₃ -HeB ₃ -Hib ₃ DOSE POLIO (OPV 3) | 14 weeks (3 ½ months) | 4 weeks after DPT 2 and OPV 2 can also be given any time after this period, when in contact with the child. |
| Measles | 9 months | May be given between 6 and 9 months if child is admitted to hospital for any other illness. Repeat at 9 months as per KEPI schedule. |

(Source: WHO)

VITAMIN A SUPPLEMENTATION SCHEDULE

| Dosage (in IU) | When to give |
|--|---|
| <6 months - 50,000 6-12 months- 100,000 >12 months-200,000 | First dose at 9 months then every 6 months (twice per year) up to the age of 60 months. |

Figure 8: (Source: WHO) KEPI Routine immunization schedule in Kenya for children below one year as per the vaccination booklet provided by the Government.

Figure 8, provides the KEPI routine vaccination schedule that the mothers need to be aware of. This schedule should be incorporated in the IEC materials and communication strategies used through the different channels of communication targeted to the mothers.

4.17 Limitations of the current IEC materials on routine immunization

- IEC materials are not available to urban informal settlements especially the case of Kangemi where there are no IEC materials in public places or even held by the individuals save for the immunization/vaccination booklet.
- Immunization/vaccination booklets are in English language only and not easily understandable by the population which is illiterate or semi-literate. Thus the need for the booklets to be translated and simplified.
- IEC materials available at the DVI seem restricted for use and seem to be available only during campaign stages. Archived materials are kept by the communications office at the DVI.

- Routine IEC materials need to be localized. There is a diverse customer base to consume information or routine immunization thus the need to be translated in languages that can be understood by most of the mothers like ‘Kiswahili’.
- Recently introduced new vaccines like the Rota-virus vaccine, has not captured in vaccination booklets and old posters that some health centres still have in public spaces.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Overview

This study sought to assess the effectiveness of Government communication strategies on the uptake of routine immunization by mothers in urban informal settlements. Specifically, the study examined the communication strategies that exist and mothers awareness and preference of communication strategies and determined the relationship between the perceived attitudes and influence on behavior change among people living in Kangemi.

The study is embedded on Petty and Cacioppo's (1979) Elaboration Likelihood Model to promote individual behaviour change. The ELM explains, in detail, how a persuasive message works to change the attitude of the receiver be it through the central or peripheral route.

This chapter presents a summary of the study, conclusions made from the discussions that can be addressed by the DVI when coming up with policies and proposed recommendations that the Government of Kenya can put in place in regards to communication strategies and the uptake of routine immunization.

5.2 Summary

The study was developed on the main assumption that while routine immunization is taken up by mothers in urban informal settlements, none of the mothers in Kangemi is exposed to

communication information channeled by the Government on routine immunization services save for the service charter at the Kangemi Health Centre and the vaccination booklet, which are not directly tailored strategies nor are they efficient in providing the needed communication. This study also shows that a lot still needs to be done by the Government to increase the uptake as well as to inform and educate the mothers on the importance of the vaccines to their children as well as to let them know about the immunization schedule particularly in the urban informal areas. Yet increased uptake of immunization can have a positive effect on the general population in these informal settlements where studies have shown that death due to vaccine preventable disease by children is still largely felt.

Other assumptions were that some of the conventional communication strategies used to raise awareness (for example, information dissemination on the vaccination booklet) on the importance of routine immunization may not be very effective in influencing behavior change; and creating an understanding of routine immunization. Some important, but overlooked areas of communication for such settlements could be the importance of interpersonal communication, as mothers at large look upon their credible trustworthy sources of information on KEPI routine vaccination services.

The objectives of the study were to:

- To establish ways in which routine immunization services are availed in urban informal settlements
- To find out what methods of communication the mothers in informal settlements have access to and regularly use.
- To find out mothers attitudes and perceptions towards routine immunizations

- To determine the factors that affect women's access to communication on immunization
- To develop a communication strategy on the Ministry of Health's routine immunization program in urban informal settlements

5.3 Conclusions

Implications from the findings of the study only show that mothers were exposed to communication on routine immunization only through interpersonal communication. This varied as some were motivated to uptake immunization through the doctor, some through CHW's, one mother through the service charter at the Kangemi Health Centre while most through family and friends.

This study concludes that there is little sensitization done by the DVI to increase the uptake of routine immunization services. Normally, ministries have budgets on advocacy but it could be an issue on the supply chain or the demand chain that makes the DVI not able to produce and distribute IEC materials to the communities which need these well conceptualised and packaged messages to change behaviour and achieve Kenya's vision 2030 goal or ensuring access to health by all and also the SDG goal on universal health coverage.

Lack of awareness among mothers on the KEPI vaccination schedule is also one of the findings of this study. Lack of awareness in the Kangemi community is a big concern which can be discussed in two parts: Mothers do not understand the vaccines that their children are being administered to thus posing a challenge leading to drop outs or delays in-between vaccines. Mothers are also not aware of the information communicated through the vaccine booklets as it

does not explain in simple terms about the calls to action for the different vaccinations. Mothers depend fully on the appointment dates indicated on the vaccination booklets and not on the stages of the KEPI schedule. Mothers in such informal settlements mainly know a vaccine by the body part of the child it is administered to.

Communication strategies at the DVI seem weak. It would be of interest to DVI to influence the health of the children of mothers in urban informal settlements health by helping them tap their potential to the fullest by active health campaigns or routine immunization services. Mothers in Kangemi slum have shown interest in health education messages delivered through IEC strategy on KEPI's routine immunization.

5.4 Recommendations

Given what is found from this study. Recommendations in this section come in policy and practice. Practical recommendations are best guided and can best be made when the communication strategies adopted by the Ministry of Health, through DVI are guided by a communication theory or behavior model. One of the theories that can be adopted successfully is the Elaboration Likelihood Model (ELM) where a message is transmitted and received through one of two routes of persuasion: the central route and the peripheral route.

Message framing influences the consequences of certain behaviors depending on the target audience. A persuasive message calling to action and promising positive consequences is more effective than having fear appeals which are unnecessary and may bring about undesirable consequences such as rumors.

A good communication strategy is one which calls to action so that the recipient can immediately follow. An action taken by someone as a result of hearing or seeing a message from well designed IEC materials and messages is more likely to stick in the mind and can bring about a long term snowballing effect especially with mothers who related quite closely in the community setting such as an urban informal settlement.

From this research, interpersonal communication seems to be the most effective strategy that can be encouraged and employed in urban informal settings. If someone has seen or heard a message and passes them on to family, friends or workmates, it not only spreads the message but also reinforces the knowledge of the originator of the message, A good campaign by DVI should therefore encourage ‘stimulating messages’, worth being discussed from the level of health workers to the mothers.

A clearly defined target audience should be considered by the DVI. Messages and communication channels chosen should connect with the reality, language and preferences of the mothers in urban informal settlements. According to the findings, the mothers in urban settlements audience profile is:

- Not affluent.
- Less education (primary school level).
- Many between the ages of 18 to 40.

The beliefs of the mothers in urban informal settlements should also be taken into consideration and incorporated in simplified language in the vaccination booklet. DVI should consider demystifying the perceived severity of the vaccine preventable diseases that are covered under

the KEPI routine immunization. The DVI should also simplify the perceived outcomes of the vaccinations; they should ensure that the target audience has very high trust in the safety of the routine immunization vaccines. Any perceived barriers from the mothers or the community point of view should be carefully looked into. Factors from the mothers in Kangemi, such as time constraints like work-life balance, missing vaccines at the clinic, expected and common side effects, long waiting times at the clinic, general unpleasant experiences such as poor interpersonal communication and handling between health workers and the mothers, should be addressed by the DVI.

Knowledge on routine immunization is generally high amongst mothers in urban informal settlements. It may be important to however reinforce in a simplified manner the number of vaccines that a child requires to get by their first birthday. As in the case of the UNICEF posters in Uganda on routine immunization, which draws attention and creates emphasis that a child needs to be fully immunized by the time they reach their first birthday.

Of importance is to create a synergy of efforts from all the key stakeholders in the provision and the uptake of immunization services; be it at household, community, health workers and even health institutions. Should the efforts be managed with optimum care, there can be an increased uptake of routine immunization in urban informal settlements to the desired level. To make a desired communications strategy workable and sustainable the DVI needs to define proper monitoring and supervision system with targeted refresher courses on interpersonal communication with CHW's and CHV's and effective revisions and ensure well designed and produced IEC material depending on the literacy indicators of the area.

Emphasis on Staff training and increasing capacity

Teaching health staff interpersonal communication skills is imperative. It involves taking great care to always respect the mothers to children regardless of their background or behavior, and taking great care not to offend them, or even judge them. Health staff needs these skills especially in urban informal settlements where there is high stress and clinics are understaffed like the Kangemi Health Centre.

Health staff should be provided with key messages that they need to convey to mothers in relation to routine immunization, during each visit. When communicating, health workers should:

- Re-emphasize on the negative consequences of missing a vaccine and how to deal with logistical challenges (mother getting sick, has to attend a family function or attend to her business).

- Reemphasize on the importance of completing consequent doses on time. Some mothers skip or go for consequent doses late.

Explain to mothers about complications to be expected, how to deal with them and that they are not normal and not dangerous.

The Officer in charge at the Kangemi Health Centre stressed on the issue of human resources, meaning through trainings and outreaches there would be no one in the health facility to attend to the mothers who have brought their children for immunization.

Partnerships and Community Involvement

Effective partnerships that were mentioned and suggested during the in-depth interviews included community health workers, who need to be trained on communicating to and educating mothers on behavior change.

Chiefs and village elders in Kangemi are still very important communication channels to pass a mass campaign message.

Both NGO's and for profit institutions need to be included and for those that exist, to strongly come out as partners in routine immunization.

Churches and religious institutions and their leaders are important partners to convey information to their congregation especially directed to mothers on routine immunization.

Media need to be approached as partners, and supported in such a way that they can deliver the message via someone of authority- especially health workers and popular celebrities and or comedians known by mothers in Kangemi.

In addition to beliefs and knowledge, messages are more adequate for interpersonal communication, others work through media.

- Routine vaccination is free, and it will save money from going to other clinics.
- If you are late for the vaccine or forget one of the consequent doses, it will not protect your baby well.
- How the different vaccine preventable diseases can be transmitted.
- Taking a child to all vaccines will reduce the time he or she has to spend in clinics during childhood.

- All children are at risk of vaccine preventable diseases.
- Enlightening schools on incorporating and enforcing the vaccination booklet as one of the long important documents to bring along when newly reporting.

It is hoped that the uptake of routine immunization will increase through more advocacy as suggested on this paper, with increased understanding of the knowledge attitudes and practice of mothers living in urban in informal settlements in Kenya. This relates to one of MOH's objective: "Working towards facilitating change in health seeking behavior for vaccination services through advocacy and communication strategies that include providing information, persuasion, and motivation."

Suggestions for further research on communication and its impact on the uptake of immunization to a smaller community, a bigger community or in rural areas can also be carried out by researchers to test the effectiveness of communication strategies on routine immunization. Other studies on the same topic on the on middle to high income earning mothers and their exposure to communication messages can also help change policy by the DVI on improving policy on advocacy and communication on routine immunization.

The key beneficiaries of the study will be the Kenyan mothers more so those in urban informal settlements, community health workers and community health volunteers in urban informal settlements, DVI management specifically the communications office, MOH's unit of health promotion, University of Nairobi School of Journalism, students in the area of developmental communication, health communication researchers, health sector policy makers, media and audiences.

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CHAPTER 6

GLOSSARY OF KEY CONCEPTS RELATED TO THE STUDY

IEC – Information, education, communication

IEC refers to well deigned communication strategies to meet different needs when designing messages for target audiences.

Information is knowledge put across on the material **Education** giving an instruction on the material aiming to raise awareness while **Communication** the planned effort on the material with focus on the receiver to encode and decode the information put across.

Interpersonal Communication (IPC)

IPC is exchange of ideas and information between two parties, mostly face to face using verbal or non verbal communication.

Communication campaigns

Communication campaigns are an organised set of communication activities usually carried out towards large target audiences aiming to create a tremendous change in perception or behaviour towards a certain intervention.

Government: The Ministry of Health in Kenya qualifies the Government in this study. The main mandate of the ministry is in health policy; health regulation; national referral health facilities; capacity building and technical assistance to Counties.

Knowledge Attitude and Practice (KAP Survey)

Knowledge, Attitude and Practices (KAP) survey is a quantitative method that raises questions and provides answers in behavior change communication aiming to understand communication dynamics of a given target audience.

CHAPTER 7

ANNEXES

ANNEX 1

INTERVIEW SCHEDULE

1. Jina

2. Miaka

3. Miezi ya mtoto

4. Mtaa

5. Umesoma hadi kiwango gani

6. Chanjo ya Kawaida imesaida aje mtoto wako?

7. Unapata ujumbe wa chanjo aje?

- Radio
- TV
- Notisi
- Mjumbe
- Daktari
- Mfanyi Kazi wa afya wa serikali (CHW)
- Familia na marafiki
- Ingingine (Other)

8. Unaweza pendelea kupata ujumbe wa chanjo aje?

- Radio
- TV
- Notisi
- Mjumbe
- Daktari
- Mfanyi Kazi wa afya wa serikali (CHW)
- Familia na marafiki
- Ingingine (Other)

ANNEX 2:

SAMPLE PRINT IEC MATERIALS ON ROUTINE IMMUNIZATION



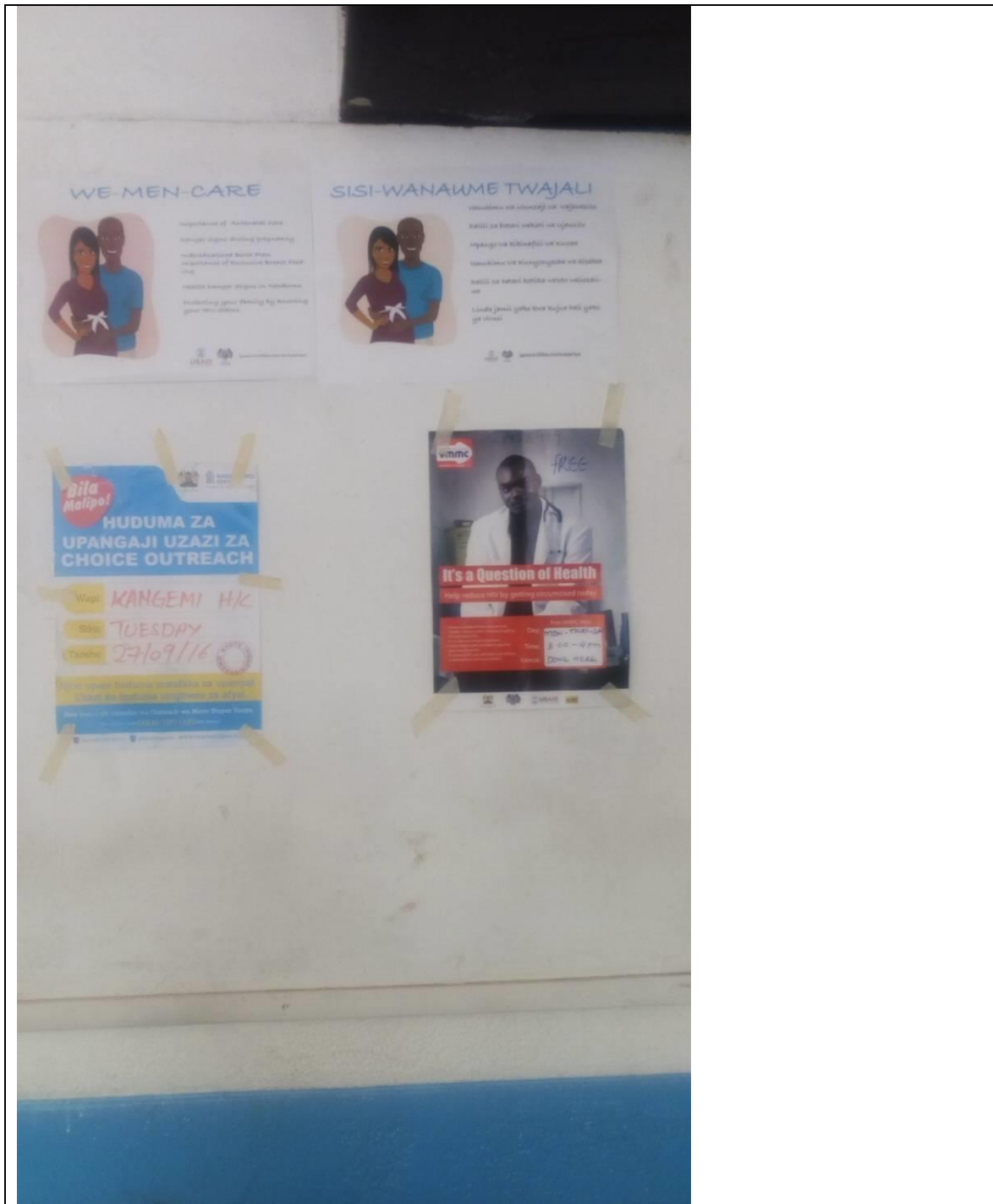
Figure 4: Sample routine immunization posters by UNICEF Uganda.
http://www.unicef.org/uganda/media_14505.html

ANNEX 3:

VACCINATION BOOKLETS AND OLD POSTERS THAT SOME HEALTH CENTRES STILL HAVE IN PUBLIC SPACES



The only existing information on immunization at KHC is through this service charter at the entrance to the family clinic



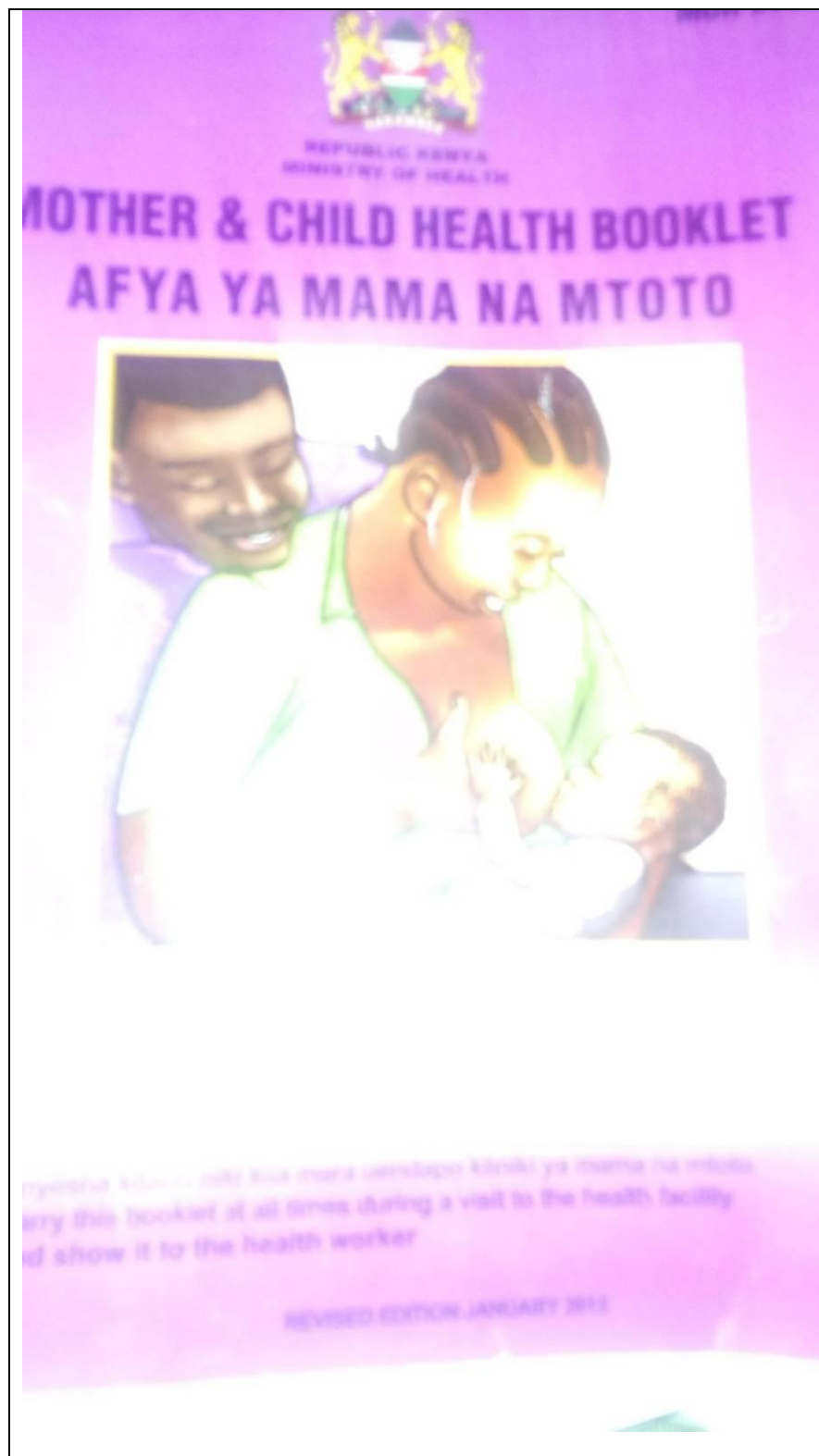
Potential places like the only notice board at KHC family clinic where IEC materials can be but there are none



Potential places like this toilet at KHC door where IEC materials can be but there are none



A well done and well placed banner at the DVI offices in Nairobi



Vaccination coverage of the booklet provided by MOH through health centres

| |
|---|
| Medical and Surgical History |
| Physical Examination (First Visit) |
| Antenatal Profile..... |
| Infant Feeding..... |
| Weight for Date Chart |
| Preventive Services..... |
| T.T. Instruction Notes..... |
| Care during pregnancy |
| Danger signs during pregnancy |
| Delivery |
| Breastfeeding: Positioning and Attachment |
| Care of Mother and Baby after birth |
| Guideline for healthy eating |
| Go to health facility immediately if |
| Post Natal Examination |
| Reproductive organs cancer screening..... |
| Family Planning |
| SECTION 2 (CHILD HEALTH MONITORING) |
| Particulars of child and family..... |
| Broad clinical review at first contact below 6 months |
| Early Identification of Impairments and Disabilities |
| Developmental Milestones |
| Identification of early eye problems in an infant |
| Dental..... |
| Reasons for Special Care..... |
| Weight for Age boys..... |
| Length/Height for age boys..... |
| Weight for age girls..... |
| Length/Height for age girls |
| Growth Monitoring Return Date |
| Immunizations..... |
| Other Vaccines..... |
| Vitamin A capsules from 6 months |
| Deworming from 1 year |
| Identification of exposed children at 6 weeks or soon thereafter |
| Health worker consultations |
| Hospital Admissions |
| Special Clinic Attendance |
| Feeding Recommendations during sickness and health and care for develop |
| When to return immediately..... |

Contents of the vaccination booklet in English

Figure 9: (Source: Kangemi Health Centre, DVI) Sample IEC materials and public places where IEC materials are placed.

ANNEX 4:

CERTIFICATE OF FIELD WORK

CERTIFICATE OF CORRECTIONS

DECLARATION

ORIGINALITY REPORT

