BARRIERS AND FACILITATORS IN THE PROVISION OF HEALTH INFORMATION ABOUT HEPATITIS B AND POLIO IMMUNIZATION AMONG INFANT AND YOUNG CHILD CLINICS IN RAKAI DISTRICT

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DEDICATION

I dedicate this work to my parents Mr. and Mrs. Kiryowa. M. Fred; I will forever be grateful to you for your continuous financial, academic and moral support right from childhood.

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TABLE OF CONTENT

LIST OF TABLES

ABSTRACT

This study aimed at examining the factors which hinder or facilitate the provision of health information about Hepatitis B and Polio immunization among infant and young child clinics in Rakai District. In order to learn about how health education is done, the researcher engaged with various categories of participants including health workers and mothers/caregivers at different facilities and units at the hospital. These included maternity ward, postnatal clinic and OPD. The guiding objectives were to establish the knowledge levels of mothers/caregivers of infants on Hepatitis B and Polio immunization in infants and young child clinics; to assess challenges in the provision of information on Hepatitis B and Polio immunization to mothers/caregivers of infants in young child clinics and to examine the enablers in the provision of knowledge on Hepatitis B and Polio immunization to mothers/caregivers of infants and young children in infants and young child clinics in health facilities in Rakai District. The research which was carried out in Rakai District employed descriptive cross-sectional research design where both qualitative and quantitative methods were used to critically identify how health education for Hepatitis B and polio immunization is facilitated or constrained. These are: proper planning processes and effective utilization for available human, structural, time and material resources, communication success in reaching and effective involvement of mothers in organizing Hepatitis B and polio health education activities, sessions and dialogue so as to promote understanding and acceptance of messages. However, the status and qualities of health workers including their communication skills both intrapersonal and interpersonal characterized by using positions of authority that made mothers/caregivers as only recipients of Hepatitis B and polio messages affected the delivery of health information. During sampling, probability, purposive sampling and stratified sampling methods were considered in choosing 147 nurses, 213 mothers/caregivers and 22 in-charges/Medicals Superintendent. Data processing was done using SPSS Version 20.0, Cronbach's alpha coefficient was computed and proved the study was reliable with results above 0.70 on average for all variables.

Quite substantive knowledge was provided by health workers to mothers/caregivers aiming at changing in attitude to create positive behavior and improved adherence to child immunization schedules for Hepatitis B and polio. Enablers included participation of all health facilities in provision of immunization services increased the chances of mothers to access immunization information on Hepatitis B and Polio, private practitioners' involvement, availability of tools, funding, and health worker – mother/caregiver interaction, Hepatitis B and polio immunization outreaches. Among the key barriers included limited number of health workers involved in facilitating and dissemination of

Hepatitis B and Polio immunization information whose interaction with mothers/caregivers is influenced by power dynamics of a ‘teacher-student’ relationship thus this factor was responsible for low Hepatitis B and polio immunization coverage which was reported to be staggering at only 33.3%.

Findings from this study provide highlights to the key messages about Hepatitis B and Polio immunization that would be suitable to the mothers/caregivers in enhancing their knowledge and influence positive behavior towards uptake of Hepatitis B and Polio immunization for their infants and young children. The study also highlights interpersonal relations between health workers and mothers/caregivers as being crucial in the provision of information about Hepatitis B and Polio immunization and recommends that mothers be engaged in all processes of information provision about Hepatitis B and Polio immunization to improve coverage. The study recommends that all stakeholders in the process of immunization be more involved and made to appreciate the importance of and available avenues for provision of information about Hepatitis B and Polio immunization as well as allocating funds for conducting health education sessions and production of IEC materials for Hepatitis B and Polio immunization.

Definition of key terms

Health education: WHO, (2012) defines health education as the consciously constructed opportunities for learning involving some form of communication designed to improve health literacy, including improving knowledge, and developing life skills which are conducive to individual and community health. It further describes its parameter to be beyond mere dissemination of health related information but also fostering the motivation, skills and confidence (self-efficacy) necessary to take action to improve health, as well as the communication of information concerning the underlying social, economic and environmental conditions impacting health, individual risk factors and risk behaviors and the use of the health care system.

Health promotion: is defined in Ottawa Charter as the process of enabling people to increase control over and improve their health. For the purposes of this study, health promotion was viewed as a combination of all health education activities and adoption of positive healthy behaviors by mothers/caregivers of infants and young children.

Health: this is defined by (WHO, 2012 & Huber et al., 2011) based on WHO Constitution of 1948 as a state of complete physical, social and mental wellbeing, and not merely the absence of disease or infirmity. Furthermore, Ottawa Charter highlights that an individual or group must be able to identify and realize their aspirations so as to satisfy needs and change or cope with the environment thus health is seen as a resource for everyday life and not the objective of living.

Quality of life: this refers to the individual's perceptions of their position in life in the context of culture and value system where they live, and in relation to their goals, expectations, standards, and concerns.

CHAPTER ONE
GENERAL INTRODUCTION

1.1 Introduction

Health education forms an important part of the health promotion activities since it builds the mothers'/caregivers' knowledge and understanding about Hepatitis B and Polio immunization which when translated correctly into action, enables them to build confidence to make rightful health choices (Leask et al., 2012; WHO, 2011). Thus, health education is indispensable in achieving individual and general community health with its benefit in increasing knowledge and to reinforce desired behavior patterns (Mittelmark, 2011; Angadi et al., 2013).

The provision of health information has been an essential action to promote infant and young child immunization throughout the century as indicated in WHO, (2015) report tracking the trends in global health promotion for the previous 20 years. In developing countries, during 1960s and 1970s, information provision about Hepatitis B and polio immunization has been used to promote infant and child health including promotion of immunization and prevent communicable diseases.

Many of such campaigns are characterized by emphasis on transmission of health information based on a relatively simplistic understanding of the relationship between communication and behavior change towards Hepatitis B and polio immunization (WHO, 2015; Odusanya et al., 2008 & Shin –Yi, 2007).

Over time, the provision of health information was not achieving the desired objectives in terms of impact on health behaviors related to infant and child immunization (WHO, 2015) instead failed since they didn't take into account the social and economic circumstances of the individuals. These programs were in most cases implemented in upcoming urban centers with a focus on groups that had higher levels of education and literacy, personal skills and economic means to receive and respond to health messages communicated through traditional media (Neil Pakenham & Bukachi, 2008; Munthali, 2007).

As a tool for prevention of killer diseases among infants and young children, information provision about Hepatitis B and polio immunization focused on social context of behavioural decisions; helping people to develop personal and social skills required to make positive health behavioural choices (WHO, 2012; Nankabirwa, 2010; UNICEF, 2015).

The experiences of western countries have shown the role of providing health information in the eradication of cholera, typhoid, malaria and tuberculosis (Mohamed, 2015; Bhandari et al., 2007; Kullgran &Mclaughlin, 2010). Health education is therefore a social science that draws from the biological, environmental, psychological, physical and medical sciences to promote health and prevent disease, disability and premature death through education-driven voluntary behavior change activities (WHO, 2012; UNICEF, 2015).

It has been asserted by various authors (Odusanya, 2008 & Mittelmark, 2011) that the health status of states, communities, families and individuals is improved through equipping knowledge and skills which are translated into built confidence and self-esteem to make rightful health choices. This is complemented with abilities provided by informal and formal education to the mothers/caregivers which enable them to appreciate issues communicated through health education despite the fact that two thirds of the world's non-literate adults are women (GCE, 2012).

WHO/UNICEF, (2009) and WHO (2015) assert that immunization against infectious and killer diseases has probably saved more lives than any other public health intervention. However, besides making the vaccines and health providers available, the effectiveness and coverage of immunization against infectious diseases depended more on the health education (Amin et al., 2010 & Jodi et al., 2011).

In support of WHO (2015), UNICEF, (2015) & WHO, (2017) stress that policy makers should concentrate on health education of mothers/caregivers given their strong attachment and involvement in matters concerning child health including Hepatitis B and Polio immunization which is the focus of this study. Providing health information to mothers helps in building their confidence to seek for Hepatitis and Polio immunization thus securing their infants and young children from severe diseases and improve overall national health.

Furthermore, Nankabirwa (2010) and WHO, (2015) noted that for every child under the care of a mother or any caregiver, the best gift to get is a complete immunization record which can only be achieved if the mother/caregiver has received health information with good knowledge and understanding about Hepatitis B and Polio immunization. WHO, (2012) complements that a positive self-esteem shaped informs the choice of completing the child's immunization schedules.

This study was thus an assessment of barriers and facilitators in the provision of health information about Hepatitis B and Polio immunization to mothers/caregivers of infants and young children in infants and young child clinics in Rakai district. Specifically this chapter covers the background to the study, statement of the problem, purpose of the study, research objectives, research questions, conceptual framework, scope of the study, significance of the study and finally the conclusion of the chapter.

1.2 Background to the study

Globally, the UN general Assembly in 2015 adopted the 2030 Agenda for Sustainable Development which called on all stakeholders including those in the health sector to combat Hepatitis B which gave a platform to the World Health Assembly to adopt the first WHO "Global Health Sector Strategy against viral Hepatitis" with different core approaches including elimination, vaccination and health education (WHO, 2017).

It is indicated further by WHO, (2017) that in only 2015, 325 million people worldwide were carriers of Hepatitis virus infection with severe progression noted majorly among infants and children yet the risk of mother to child transmission of Hepatitis B remains the major source of viral infection. Statistics show the order of intensity of Hepatitis B prevalence that; Western Pacific 6.2, Africa 6.1, Eastern Mediterranean 3.3, South-East Asia 2.0, Europe 1.6 and Region of Americas 0.7.

In a related development, 1.34 million deaths were reported to have occurred globally due to Hepatitis B and C, a number that was higher than the annual death due to TB and higher than those caused by HIV/AIDS yet while global mortality due to HIV/AIDS is reducing, the one for Hepatitis is on the rise (WHO, 2017). Nonetheless, the report further indicates that prevention and reduction in prevalence of Hepatitis B is feasible with combined efforts including factual, timely and effective health information to communities and populations at risk of Hepatitis B Jodi et al., (2011) & WHO, (2015).

The alarm and commitment towards prevention and awareness about Hepatitis B has just recently received attention with most developing countries in Western Pacific region and Africa taking groundbreaking actions to combat Hepatitis B (UNICEF, 2013; WHO, 2017). It is further cautioned, however, that focus was majorly put on scaling-up of vaccines with limited attention given to other interventions including provision of health information about Hepatitis B.

For polio, the Global Polio Eradication Programme is putting emphasis to strategies for transition closer to ending polio with three main goals; containment of polio viruses; protection of population through vaccination and detection and response to any polio virus in the human environment WHO, (2012) & WHO, (2017b); . However, less focus is put on health education of the key populations in the community including mothers/caregivers of infants thus policies and interventions that are formed following this more so in developing countries are likely to miss out on directly delivering health information to the very susceptible target groups as indicated in WHO, (2015) & UNICEF, 2015).

Bbaale (2013) revealed that Uganda is ranked among the top 8 countries with mothers and caretakers of children under five who are not immunized, a finding that concurs with UNICEF 2013 annual report on Uganda. This condition is attached to limited emphasis put on health education given to mothers/caregivers about immunization.

Furthermore, a strong association is indicated between health education of mothers/caretakers with childhood immunization practices and behaviors by WHO, (2011); Leask et al., (2012) & Ritsema et al., (2014) in that an increase in immunization coverage for BCG, DPT, polio and measles vaccines was attributable to maternal education and exposure to media.

However, this does not necessarily mean that a mother will translate information into action even if they have received it as cautioned by Nankabirwa (2010) & Angadi et al., (2013) because the process of understanding and processing this information and later transferring it to action can be hindered by many other factors. The findings of Bbaale (2013) confirm earlier findings by Frost *et al* (2005) who noted that immunization is a major health intervention for child survival throughout the world.

Similarly, different authors have put forward various factors believed to be associated with parental healthcare-seeking behavior towards their children Amin et al., (2010); Leask et al., (2012) & Angadi et al., (2013). The most frequently-cited factor influencing childhood immunization is maternal education as it is accompanied with changes in attitudes or beliefs and practices, autonomy and decision-making Thornton et al., (2012).

In relation to the above, a report by Selman (2009) noted that lack of information from general health care providers meant that patients and caregivers had to draw from alternative sources of information

including local media, fellow community members and friends. In developing countries, many health care workers have little or no access to basic and practical information (Walsh & Bukachi, 2009).

Indeed, many health workers have come to rely on observation, advice from colleagues and building experience empirically through their own session facilitation, treatment successes and failures Neil Pakenham & Bukachi, (2008); Mastiko, (2010); Nankabirwa, (2010) & Lee et al., (2008).

For the Ugandan context, it was noted by WHO/UNICEF, (2009) and in the UNICEF annual report on Uganda in 2013 that there were few books donated to the health facilities and were too technical; contained inappropriate content and were generally irrelevant to the information needs of the local people.

While recruiting staff to fill the different positions in the health facilities, attention is usually paid on screening health workers with competence to do daily clerking of patients, knowledge of different types of medicines and supplies, their level of education in relation to the posts they are recruited for (Neil Pakenham & Bukachi, (2008); Matsiko, (2010) & WHO, (2010).

However, little attention is given to assessing issues such as health workers' competences and skills in training and facilitating health education sessions, their personality traits including assertiveness, how timid, introvert or extrovert such potential health workers are yet all these constitute an important component in effective delivery of health information (Ministry of Health, 2010).

This challenge is in line with the scarcity of health workers where Uganda has only one doctor : 10,000 people, 14 health workers (doctors, nurses and midwives) per 10,000 people which is significantly below the level of 23 health workers per 10,000 recommended by the World Health Organization (Ministry of Health, 2010). For Rakai District, this challenge is emphasized by Ssonko & Mugabi, (2015) in the District Local Government 5-Year Plan 2015/16 -19/20 as well as by MOH, (2014).

When these factors related to health workers are combined, they contribute to a formidable challenge to the provision of timely and effective health information about Hepatitis B and polio immunization that is necessary to compel mothers/caregivers to immunize their children Ministry of Health, (2010); Nankabirwa, (2010) & UNICEF, (2013).

Only 6% of health facilities have information and communication technology – mobile phone, radio, TV or computer Ministry of Health, (2010). Despite these shortfalls, health workers like sharing their knowledge and skills with communities in order to counter harmful traditional beliefs and practices, educate people about ways of preventing disease and encourage uptake of health services Thornton et al., (2012).

According to UNICEF (2013), challenges in access to information stem from socio-cultural practices and beliefs that uphold gender based inequalities, condone violence, inhibit parents from enabling optimal infant and young child health seeking and feeding practices thus contribute to lack of continuity in the use of routine immunization services. This factor is shared by Odusanya et al., (2008) and Munthali, (2007) in his study focusing on social determinants of vaccine coverage in Malawi.

In response to socio-cultural practices and beliefs, UNICEF provided technical support to build capacity in MOH's Health Promotion and Education unit and among 10 regional social mobilization coordinators to assist with interventions in districts performing poorly in routine immunization, as well as Reach Every District (RED) trainings and polio immunization.

According to UNICEF (2013) the number that was to assist was too small to have meaningful impact on the ground and priority was put on availing immunization vaccines and supplies, health workers skills to do actual immunization and attending to big numbers of children and physical mobilization of mothers to access timely immunization yet overlooking the aspect of health workers' skills and competence to facilitate and disseminate information about Hepatitis B and polio immunization.

The district strategic development plan for Rakai 2015/2020 indicates that there is shortage of HRH (Human Resource for Health) including requisite skills and the general lack of funding, poor use of data for planning, inadequate staff housing to attract and retain health workers, low involvement and participation of men in immunization activities (Rakai Development Plan 2015/16-19/20, pp 23-24) & Ssonko & Mugabi, (2015).

However, it is not indicated whether the available health workers lack skills in communication and facilitation of different health education sessions including those pertaining immunization but rather broad positions like few surgeons, few midwives and clinical officers are mentioned yet health promotion requires health workers to have a high degree of competence in communication, with current

information about child immunization, diseases and their related aspects so as to provide a holistic immunization package of services to mothers Leask et al., (2012); WHO, (2012) & WHO, (2015).

Given the fact that there is inadequate funding for the immunization programmes this potentially limit the number of sessions and frequency for disseminating information about Hepatitis B and polio immunization both at static and outreach level constrain transportation and staff facilitation as well as materials with information about Hepatitis B and polio immunization MOH, (2014); UNICEF, (2013) & Ssonko & Mugabi, (2015). All these combined form barriers to the effective provision of health education about Hepatitis B and polio immunization in Rakai District.

This current circumstance could be closely linked to the inadequacy in the provision of immunization health education thus low coverage of immunization as mothers lack the necessary knowledge, and motivation which would inform their right choices to seek for child immunization services Nankabirwa, (2010); Amin et al., (2010); Ibnouf et al., (2007) & Leask et al., (2012).

Based on the above issues, it was imperative to understand barriers and enabling environment in Rakai District in the implementation of relevant health education interventions for Hepatitis B and polio immunization to mothers/caregivers that inform their decisions to access child immunization from infant and young child clinics.

1.3 Statement of the Problem

Despite the progress in provision of health information messages about immunization, many of these interventions that have relied primarily on traditional and modern media as health education systems have failed to achieve substantial and sustainable results in terms of behavior change WHO/UNICEF, (2009) & WHO, (2015). They have made little impact in closing the gap between knowledge of mothers/caregivers about Hepatitis B and polio immunization and actual uptake of immunization services and completion of infant and young child immunization schedules as noted by Nankabirwa, (2010) & UNICEF, (2013).

In the Ugandan context, Rakai District is one of the several districts with low immunization coverage among infants of one year and below yet with high numbers of dropout that are below the national average dropout rate at 18% compared to the national target of <10% (Ministry of Health, 2014). This

arises as a result of less turn up of mothers of infants and young children for immunization and due to high dropout from child immunization which is related to obtaining limited knowledge on immunization by mothers and caregivers from health workers Ayebazibwe, (2009); Nankabirwa, (2010) & UNICEF, (2013).

Ministry of Health, (2014) clearly pointed out the importance of providing mothers/caretakers with accurate information on immunization as a means to secure the future health of their children against severe diseases and in general improve national health.

It is not known whether the limited level of knowledge about Hepatitis B and polio immunization among mothers/caregivers of infants and young children is attributable to other contextual factors like the skills, knowledge and personality of the health care workers handling mothers and conducting sessions about Hepatitis B and polio immunization, communication patterns and relations between the health worker and the mothers/caregivers Ministry of Health, (2014) & Ayebazibwe, (2009).

Nevertheless, it is not known how the provision of health information about Hepatitis B and Polio immunization to mothers/caregivers of infants and young children in rural districts is facilitated or constrained despite the presence of IEC materials, health workers and other structural resources that are meant to enhance the knowledge and understanding of mothers to shape a positive behavior towards seeking for and effectively completing all stages for child immunization.

This study therefore was undertaken to provide a detailed understanding of the barriers and facilitators in the provision of health information about Hepatitis B and Polio immunization among infants and young child clinics in Rakai District.

1.4 Objectives of the study

1.4.1 General of the study

The purpose of this study was to assess the factors which constrain and facilitate the provision of health information to mothers/caregivers about Hepatitis B and Polio immunization among infants and young child clinics in Rakai District.

1.4.2 Specific Objectives

This study was guided by the following specific research objectives;

i) To assess factors which facilitate the provision of health information to mothers/caregivers of infants and young children about Hepatitis B and Polio immunization among infant and young child clinics in Rakai District.

ii) To assess factors which hinder the provision of health information to mothers/caregivers of infants and young children about Hepatitis B and Polio immunization among infant and young child clinics in Rakai District.

iii) To assess knowledge of mothers/caregivers of infants and young children on Hepatitis B and Polio immunization among infant and young child clinics in Rakai District.

1.5 Research questions

This study aimed at answering the following questions;

i) What factors exist that facilitate the provision of health information to mothers/caregivers about Hepatitis B and Polio immunization among infant and young child clinics in Rakai District?

ii) What factors inhibit the provision of health information to mothers/caregivers about Hepatitis B and Polio immunization among infant and young child clinics in Rakai District?

iii) What is the knowledge level of mothers/caregivers about Hepatitis B and Polio immunization among infant and young child clinics in Rakai District?

1.6 Scope of the Study

1.6.1 Content scope

The study focused on the barriers and facilitators in the provision of health information about Hepatitis B and polio immunization in infant and young child clinics in Rakai District. The health workers and mothers/caregivers were required to provide information about their knowledge, skills and experiences about the study topic.

1.6.2 Geographical Scope

The study area was Rakai District. It is located in Southern part of Uganda bordering with Tanzania. The justification for Rakai was it is one of the rural districts in Uganda with low immunization coverage with limited human resource for health and communities whose multi-ethnic groups whose cultural

values and practices seemingly could affect health information provision about Hepatitis B and polio immunization.

1.6.3 Time scope

The study considered responses from the health workers, in-charges/Medical Superintendent and mothers/caregivers for the period of one year (prior to the time the study was done) because this would eliminate bias with memory recall and instead tap into more recent experiences with health information provision about Hepatitis B and polio immunization.

1.7 Significance of the Study

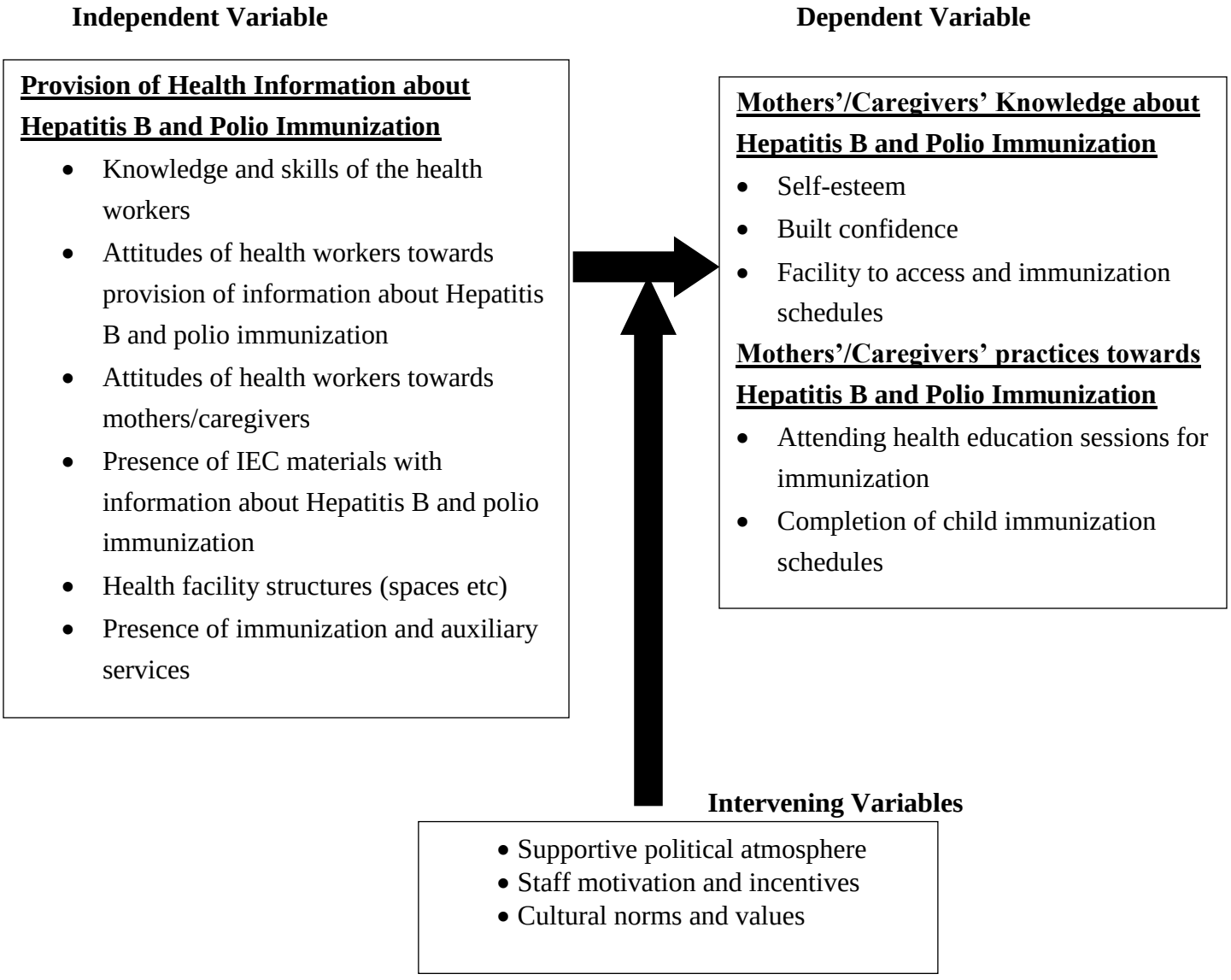
Despite the provision of health information about Hepatitis B and polio immunization in young child clinics in Rakai District and continued funding by Ministry of Health, WHO, UNICEF and other local partners, there is low knowledge levels among mothers (MOH, 2014; Ramathan, (2015) & UNICEF, 2013).

The uptake of immunization services is still below the national recommended targets MOH, (2014) & Ssonko & Mugabi, 2015). Thus, this study aimed at providing scientific and scholarly evidence about the barriers and facilitators to the provision of information about Hepatitis B and Polio immunization that are unique to remote settings like Rakai District.

Findings of the study have a high potential of informing initiatives to plan and build mothers'/caregivers' knowledge to positively shape their attitudes and perceptions about Hepatitis B and polio immunization. This would eventually inform their right choices and decisions to access Hepatitis B and polio immunization services up to completion of immunization schedules for healthy and better living standards of their infants and young children.

1.8 Conceptual Framework

Ewnetu (2016) defined a conceptual framework as a written or visual presentation that explains either graphically, or in narrative form, the main things to be studied that include; the key factors, concepts or variables and the presumed relationship among them. Below is both the narrative and graphical forms of the main factors that were studied.



Explanations to the conceptual framework

The knowledge and skills of the health workers as well as their attitudes towards mothers/caregivers would either influence or constrain the mothers'/caregivers' level of knowledge about Hepatitis B and

polio immunization. Similarly, the presence or absence of adequate structures (for instance spaces where health education would be carried out) coupled with IEC materials would inform whether the mothers/caregivers attend health education session and consequently complete their child immunization schedules.

In addition, the presence of immunization and auxiliary services (such as having vaccines in stock, provision of mosquito nets and treatment services for other diseases/health conditions) would motivate mothers to attend health education sessions for Hepatitis B and polio immunization.

Among extraneous factors were likely to affect the provision of health information about Hepatitis B and polio immunization; the presence of supportive political atmosphere includes presence of political commitment towards mobilization, advocacy and supporting mothers/caregivers to turn up for sessions on Hepatitis B and polio immunization.

Staff motivation and incentives (including allowances, meals, appreciation and acknowledgement for work accomplished interest) and cultural values and norms in relation to infant and child immunization may also promote delivery of health information about Hepatitis B and polio immunization. These would enhance mothers'/caregivers' self-efficacy, render them more confident and with high self-esteem thus would take right choices. Their choices would include timely decisions to access Hepatitis B and polio immunization services for their children and successfully complete immunization schedules.

CHAPTER TWO
LITERATURE REVIEW

2.0 Introduction

This chapter covers the review of the theoretical and empirical literature in line with study objectives and it involves literature related to the study variables. It begins with the theories and models and concludes with review of the literature according to the study objectives.

2.1 Health promotion Approaches

Several authors recognize various approaches in health promotion and for this particular study, educational and behavior change approaches were chosen (Trapani, 2007; Jodi et al, 2011; Ontario Agency for Health Protection and Promotion, 2015). Each of these approaches have weaknesses and strengths as well as best methods aligned to them. Since the focus of this study was on dissemination of health information about Hepatitis B and Polio, the educational approach is the center of focus as described below;

2.1.1 Educational approaches as used in health promotion

The educational approach stems from the theory of planned behaviour (TPB) which is one of the most widely cited and applied behaviour theories. It adopts a cognitive approach to explaining behaviour which centres on individuals' attitudes and beliefs. The educational approach partly evolved from the theory of reasoned action (Fishbein and Ajzen 1975) which posited intention to act as the best predictor of behaviour.

The intention is itself an outcome of the combination of attitudes towards a behavior. That is the positive or negative evaluation of the behaviour and its expected outcomes, and subjective norms, which are the social pressures exerted on an individual resulting from their perceptions of what others think they should do and their inclination to comply with these.

The educational approach added a third set of factors as affecting intention (and behaviour); perceived behavioural control. This is the perceived ease or difficulty with which the individual will be able to perform or carry out the behaviour, and is very similar to notions of self-efficacy (see Bandura 1986, 1997; Terry et al., 1993).

The educational approach aims at providing knowledge and information to the targeted learners (category of population) so as to develop the necessary skills, shape positive attitude and perceptions as well as addressing negative societal influences.

This helps them make informed choices and right decisions that are eventually translated into positive behaviors towards utilizing a particular health service. Similarly, it can be leading to adoption of a positive behavior at an individual level for instance good feeding for infants and young children as well as maintaining good personal hygiene Amin et al., (2010).

In this approach, the main methods include; information-giving through interpersonal channels, small groups and mass media which largely relies on the interpersonal skills of the health workers. This approach requires the health workers to have good and developed intrapersonal skills including possession of communication skills including ability to dialogue, listen and mutually receive feedback from the learners (mothers/caregivers).

It also requires the health worker to have positive attitude and beliefs among developed interpersonal so as to hold meaningful discussions and facilitation sessions about Hepatitis B and polio so that the clients (mother) can make an informed choice.

It also uses group discussion sessions for sharing and exploring health attitudes and in the context of information dissemination about Hepatitis B and polio immunization, mothers/caregivers with infants and young children are organized in a group to dialogue about their concerns, perceptions and attitudes they hold about Hepatitis B and polio immunization and later the health worker provides factual information including Hepatitis and polio as immunisable diseases as well as the importance for immunizing their children and completion of vaccine dosages.

This approach also uses role play for decision-making and negotiating skills as clearly put by (Trapani, 2007). In this case mothers/caregivers are given an opportunity to voluntarily select themselves out of the group to come out and demonstrate the knowledge they have acquired about Hepatitis B and polio education session before the entire group.

The role plays enable the health worker to identify areas of strength and weaknesses in their facilitation as well as in the content that was prepared and delivered to mothers/caregivers. This approach appreciates that the learners (mothers/caregivers) are part and parcel of their learning processes and need

to be mutually involved in the various stages of health education sessions about Hepatitis B and polio immunization.

According to the educational approach, it is hypothesized that for health promotion to achieve its intended objective in the field of Hepatitis B and polio immunization the following conditions and processes have to happen however in absence of such conditions the adverse effects also explored below happen;

When the health workers have a good and positive personal attitude towards mothers/caregivers as receivers of immunization information, good facilitation and sufficient interpersonal skills, sufficient knowledge about Hepatitis B and polio immunization, the resultant information about Hepatitis B and polio immunization that they eventually disseminate will be complete, clear and well planned and effectively delivered.

This information will thus be comprehensive enough and consequently the mother/caregiver will carefully receive it, internalize the information received consequently get pick motivation by influencing their willingness and ability to come back and participate in similar sessions, access such information and have informed choices to seek for Hepatitis B and polio immunization services.

However, when the health workers have a poor and positive personal attitude and also towards mothers/caregivers as receivers of immunization information, have poor facilitation and insufficient interpersonal skills, insufficient knowledge about Hepatitis B and polio immunization, the resultant information about Hepatitis B and polio immunization that they disseminate will be characterized by incompleteness, will not be clear and ill-planned.

The information delivery will thus not be comprehensive enough thus the mother will disregard the information received consequently get de-motivated to come back and participate in similar sessions or access such information.

With conducive environments and resources such as enough physical structure accommodate mothers/caregivers while conducting sessions on Hepatitis B and polio immunization, enough and easily understandable IEC materials, and quality time allocated for conduction of Hepatitis B and polio immunization sessions the mothers'/caregivers' self-efficacy will increase.

The conducive environments can grant an opportunity to get feedback from mothers/caregivers based on the confidence and self-esteem and as a result enable mothers/caregivers to make informed and right choices and ultimate decisions to access Hepatitis B and polio immunization services for their children.

While with unfavorable environments and resources such as lack of sufficient physical structures to accommodate mothers/caregivers while conducting sessions on Hepatitis B and polio immunization, limited and complicated IEC materials in languages not familiar with mothers/caregivers, and limited time allocated for conduction of Hepatitis B and polio immunization, information provision is constrained.
Similarly, when mothers/caregivers are denied an opportunity to give feedback and ask questions, their self-efficacy will reduce, and will be rendered less confident consequently wrong choices and decisions will be taken including not turning up to access and eventual drop out from Hepatitis B and polio immunization services for their children. However, it is emphasized that health education on immunization to mothers/caregivers is expected to result into improved immunization.

Educational approach also believes that learners (mothers/caregivers in this particular case) have some knowledge, perceptions and attitudes about a given topic and service thus the health worker ultimately needs to identify this, grant them an opportunity to make real improvements to choose a behavior towards Hepatitis B and polio immunization.

The health worker can build upon it to shape the content of information to provide to the mothers/caregivers. It is noted by Morris, et al., (2012) that some of the knowledge and perceptions could be negative nevertheless, the educational approach highlights this as a role of the health worker needs to appreciate such knowledge and perceptions and tailor make an alternative information content that can gradually change the held knowledge and perceptions.

Furthermore the educational approach provides for a conducive environment for learning that appreciates the learner as an important and integral part of their learning processes and thus calls for a dialogue instead of teacher being a major source of information (knowledge) and the learner (mothers/caregivers) as only recipients of information.

The process of disseminating health information has to be dialogical in nature, with mutual respect of both the health worker and the learners (mothers/caregivers) since they all inform a lot to the learning

processes and the eventual behaviors that are shaped which is informed choices for accessing Hepatitis B and polio immunization services for healthy infants and young children that would later be totaled to inform high Hepatitis B and polio immunization completion rates and low immunisable diseases prevalence national wide.

Similarly, the model cautions about power influence between the health worker and the learner (mother) that it denies free expression and inhibits potential feedback that would guide effective learning that would eventually be translated into taking right choices and informed decisions that would shape a positive attitude and desired behaviors towards accessing Hepatitis B and polio immunization services.

Morris, et al., (2012) further appreciates that with effective and evidence based planning and dissemination of information about Hepatitis B and polio immunization that is reflective of mothers'/caregivers' aspirations and knowledge needs, it is expected that the choices and decisions taken afterwards will result into continued and effective access to Hepatitis B and polio immunization services for their infants and young children.

Educational approach assumes that mothers/caregivers can change in attitude which can result into change in behavior towards a given health condition since provision of information about causes and effects of Hepatitis B and polio is a core aspect of learning.

However, besides the strengths and processes explored above about the educational approach, its major weaknesses are that; it assumes that by increasing knowledge, there will be an attitudinal change, which leads to behavioral change yet it is a gradual process which is bound to be affect by other factors including those at an individual learner level (mother/caregiver) as the final receipt of knowledge.

Secondly, the approach also ignores the constraints that social, economic and environmental factors place on voluntary behavioral change. When evaluating the effectiveness of this approach, focus is normally on knowledge, attitude and practice as explored by (Trapani, 2007) yet the environment in which the learner (mother/caregiver) stays, the economic status and the social spheres (characterized by cultural values, norms practices and belief systems) also have a way they influence the desired change in knowledge, attitudes and practices in relation to Hepatitis B and polio immunization.

The educational approach model concludes that for effective and meaningful knowledge to be transferred about a given aspect that the health worker intends to promote the process has to appreciate that the intended outcome is a mother's voluntary choice which could be different from what the health worker intended. Thus the health worker has to do much in developing the skills of the mothers/caregivers towards adoption of a positive healthy behavior since health decision making is very complex. This could be enhanced by provision of opportunities to share and explore the attitudes and beliefs a mother could be having towards a given health behavior.

Besides educational approach and its weaknesses, the following models were considered in this study to bridge the theoretical gaps identified in order to provide a rich theoretical ground while examining the key variables of this study;

The health belief model: this is among the earliest behavioral change models that explain human health decision-making and subsequent behavior is based on the six constructs: perceived susceptibility, severity, benefits and barriers, cues to action and self-efficacy.

The activated health education model: This model is three-phased and actively engages individuals in the assessment of their health (experiential phase); presents information and creates awareness of the target behavior (awareness phase); and facilitates its identification and clarification of personal health values and develops a customized plan for behavior change (responsibility phase).

Participant involvement: this theory suggests that for any health education interventions to succeed, targeted members have to be involved in all phases of programme's development: identifying information needs, enlisting the areas of learning to which they can actively contribute, planning and implementing health education program activities, and evaluating health information delivery results.

2.2 Knowledge of mothers/caregivers on Hepatitis and Polio immunization

In promoting health, WHO (2015) recognizes the requirement for advanced knowledge about the interface between health and its determinants including social epidemiological skills for analyzing socio-economic, gender and ethnic gaps in health and disease patterns in populations. WHO (2015; Jodi et al., 2011) further stress the need for effective mechanisms to maintain and improve good health for all that involves taking into account the different historical, religious and societal values and practices of the mothers/caregivers of infants and young children.

However, it was cautioned that there is a possibility of weaknesses in knowledge of such interfaces as put forward by WHO, (2011) in Uganda's context in that the message might be well packaged and the health workers are skilled however the channel of communication may not be favorable to the mothers/caregivers for instance the language used may not be appropriate and easily understandable in the targeted category and not reflective of their information needs about Hepatitis B and polio immunization.

Providing patients (mothers/caregivers) with appropriate health education during primary care visits has been shown to improve self-efficacy in disease management (Weiler & Tirrell, 2007; Parra et al., 2011), which is essential towards achieving a state of quality health as emphasized in the studies conducted by (Huber, et al., 2011). Similarly, findings by American Association for Health Education (2015) demonstrated that health education improves the health status of individuals, families, communities, states and the nation.

Health education also enhances the quality of life for all people including infants, young children and mothers/caregivers as the information provided to an adult (mother/caregiver) builds her body of knowledge about the importance of taking her child for Hepatitis B and polio immunization and about the different immunization schedules (Nankabirwa, (2010).

The mother/caregiver is able to reduce premature deaths Nankabirwa (2010); Ayebazibwe, (2009) & Angadi et al., (2013). By focusing on prevention, health education reduces the costs (both financial and human) that individuals, employers, families, insurance companies, medical facilities, communities, the state and the nation would spend on medical treatment as stressed by WHO, (2015).

In the Ugandan context, and Rakai District in particular as indicated by MoH, (2010); Lee et al., 2008) & Nankabirwa (2010), several health education sessions about immunization through seminars, conferences and outreaches have been carried out in different health facilities and communities.

While focusing on Rakai, this study attempted to provide empirical evidence on whether or not health education about Hepatitis B and polio immunization has faced some barriers or had facilitators that bring about the expected impact in form of high knowledge levels with right choices and decisions taken by mothers/caregivers and positive behaviors towards Hepatitis B and polio immunization to provide an account for the phenomena Ayebazibwe, (2009); Nankabirwa (2010) & Ssonko & Mugabi, (2015).

In public health and medical care, the goal of most of the educational programs is to reinforce positive elements of behavioral change as clearly put by Shin-Yi, (2007); WHO, (2012); UNICEF, (2013) & WHO, (2015).The emphaisis is put on the fact education has an excellent potential for the maintenance of health and the prevention of disease for instance when a mother often times visits a health facility she is able to keep her child healthy due to health advice and continuous care provided at the health facility.

Similarly, health education is also associated with increased self-efficacy the mother develops towards Hepatitis B and polio immunization in that those mothers/caregivers who are educated are likely to believe that they have control over their own behavior towards seeking for Hepatitis B and polio immunization for infants and young children as opposed to a reliance on social influence of another individual or fate (Morris, 2012; Odusanya et al., 2008 & Ritsema et al., 2014).

Shin-Yi, (2007) & Ibnouf et al., (2007) furthermore highlight the crucial benefit of formal education among mothers/caregivers that it provides exposure to prevention information and mothers/caregivers can apply this information to educate their children as well.

Findings from other scholars indicate and caution that given the fact that most of mothers/caregivers are uneducated, underdeveloped and strongly hold onto social ties and practices, they are in most cases hesitant in case of child immunization (Munthali, 2007; Jodi et al., 2011 & Leask et al., 2012) compared to their educated counterparts.

From the above, the need to utilize health education highlighted in order to deal with these misconceptions about immunization through proper well planned, information and perception responsive so as to provide effective knowledge and education about immunization with a particular focus on Hepatitis B and polio Kate et al., (2009).

Much as Uganda is performing below World Health standards in national immunization and is characterized by illiteracy rates among mothers/caregivers WHO, (2015); MOH, (2014) & UNICEF, 2014), there is need for further evidence in Uganda's context on whether health education can have significant impact on Hepatitis B and polio immunization since most of the studies reviewed in this literature were based on other countries that are at a different level of development and dissimilar social-cultural settings.

Subhani et al., (2015) attempted to calculate the effect of mother's education on child immunization using multilogistic regression analysis with the data taken from DHS (Demographic and Health survey) for India and Pakistan. The mother's education, region, child gender and household head gender were taken as independent variables. Results showed that illiterate mothers/caregivers immunize their children less than the highly educated mothers/caregivers.

Furthermore, results indicated that people living in rural areas also immunize their children less than the people living in urban areas. Based on these findings, Subhani et al., (2015) thus suggested that the mothers/caregivers should be provided comfortable atmosphere to get knowledge and awareness about health aspects including child immunization as a foundation form of health care for the lives of infants.

In a related development, the above findings led to a suggestion that it is critical that people in rural areas be provided with knowledge to inform their choices and decisions about child immunization alongside availing and improving access to the immunization services (Leask et al., (2012) & UNICEF, 2013). A similar finding was shared by WHO, (2017) in its global health promotion scale in immunization that was indicating trends and challenges for 20 years.

The implication was that the countries studied, health education was observed as a priority area that was significant to influence the mother's willingness to immunize their children.

However, Subhani et al., (2015) did not indicate to what extent education was influential in accessing immunization services yet much still, other socio–economic factors were not factored in these analyses which potentially have a given level they inform the resultant choices and decisions that mothers/caregivers make in relation to child immunization. This study thus attempted to indicate the role of such factors in influencing trends in Hepatitis B and polio immunization.

Several other studies have been conducted regarding whether there is a relationship between mother's education and immunization notably Patra (2006); WHO, (2011) & Ritsema et al., (2014). Such studies evaluated a positive relationship between mother's education and child immunization. In the study by Ritsema et al., (2014), it was found out that the educated mothers/caregivers had three times more chances of immunizing their child than the uneducated mothers/caregivers of the country.

Odusanya et al., (2008) examined the data collected from Nigeria and concluded that the females who completed their education up to secondary and higher had more likelihood to immunize their children as compared to the uneducated mothers/caregivers. Their findings indicated that uneducated mothers/caregivers were less conscious about and attached minimal value to the immunization of their children as compared to the highly educated mothers/caregivers.

Similarly, findings from Ibnouf et al., (2007) in their study in Sudan focusing on factors that influence immunization also concurred with the above in that it was examined and found out that there was a significant relationship between child immunization and mother's education. They further explained that the educated mothers/caregivers were more conscious about the immunization of their children since they had high level self-efficacy and endeavored to access immunization services.

Findings showed that the basic concern of the mothers was on the health of their children. The result of this study showed that the educated mothers/caregivers had two times more chances to immunize their children compared to the uneducated mothers/caregivers.

Similarly, Munthali (2007) exploring the determinants of vaccination coverage in Mulawi found a positive relationship between mother's education and child immunization with a very significant positive relationship with child immunization thus recommended that governments, health workers and other stakeholders in education should work hard towards causing improvements in education since it has a tangible potential of increasing the child immunization.

Besides studies from African countries, Bhandari et al, (2007) worked in Nepal and found that there was a significant relationship between mother's education level and child immunization. This conclusion was reached based on the findings that demonstrated most of the uneducated mothers/caregivers being less conscious about the immunization of their children as compared to the mothers/caregivers who were highly educated.

Much as the studies reviewed were done in countries both African and from other continents, some whose environment, political and social economic status and experiences may be similar to Uganda, there are some inherent differences casting doubts on generalizability of the results to Uganda as well. This study thus attempted to provide local context dynamics and literature in this respect.

Pearce et al., (2008), in contrast with Munthali (2007) found that the mother's education had non-significant relationship to child immunization in case of MMR vaccination. The MMR vaccine is an immunization vaccine against measles, mumps, and rubella (German measles). Findings by Munshi & Sang- Hyop (2006) agree with Munthali (2007) as they found that more than 45 % children who got full vaccination were of the mothers/caregivers who were highly educated while more than 25% children were belonging to uneducated mothers/caregivers.

Antai, (2009) evaluated data collected from Austria and found positive and significant relationship between child immunization and mother's education and these findings entirely concurred with those found out by Siddiqui et al., (2011) as it was indicated and strongly argued that the likelihood of educated mothers/caregivers to immunize their children was more than the mothers/caregivers who were illiterate. While also strong evidence was provided by Amin, et al., (2010) when evaluated the results of data collected from Bangladesh and revealed that the mother's education had a significant relationship with child immunization.

Yi Chou et al., (2007) illustrated the significant importance of education in one's health and the health of those taken care of when highlighted that an individual's own schooling is the most important correlation with his or her health, and parents' schooling, especially the education of mothers/caregivers is the most important correlation with her infants' and young child's health. The positive correlation between the mother's schooling and child health in numerous studies was a driving factor behind the World Bank's campaign in the 1990s to encourage increased maternal education in developing countries (Ibnouf, 2007; Odusanya et al., 2008 & UNICEF, 2015).

Correspondingly, Yi Chou et al., (2007) further noted that data from Kenya indicated a probability of a child dying at the age of 2 was averaged 184 per 1,000 in regions where half of the families lived below the poverty line with generally no or little education. This signifies that poverty could be an impediment to responsiveness of mothers/caregivers to immunization of their children.

Nath et al., (2008) noted that the main reason for partial and non-immunization was found to be lack of information, with many citing a combination of both, lack of information, along with lack of motivation to take infants and young children for immunization. The sources of information regarding immunization to mothers/caregivers and caregivers with infants and young children among completely

immunized children were found to be mainly health personnel and Anganwadi workers, that is, typical Anganwadi centre provides basic health care in Indian villages. This finding is in agreement with what Matsiko, (2010) found out in his study about motivating health workers in Uganda.

They concluded that Auxiliary Nurse Midwives (ANMs), paramedical workers were found to be the major sources of information about child immunization for the attendants of completely (and partially) immunized children.

Similar findings to the above were observed in studies done by Gulati et al, (1990: pg 180–84) as cited in Angadi et al., (2013) who found that health workers and health personnel were the major sources of information regarding immunization. These studies evidently provide outcomes of delivery of health information about child immunization by health workers however do not highlight how exactly this immunization information was delivered to mothers/caregivers so as to lead to positive impact in access to immunization thus a gap which this study attempted to close.

From these studies, the scholar of health promotion is left in doubts when only provided with statistical conclusions straight away about influence of education on their children's immunization, which creates a gap when issues to do with how far conducive were the training environments, the quality IEC materials or media used in facilitating and delivering information to mothers/caregivers.

Furthermore, it is not clear whether the interaction of the health worker with learners (mothers/caregivers) was mutually responsive to the needs of the mothers/caregivers and if at all constructive feedback was obtained from the mothers/caregivers.

Similarly, studies by Angadi et al., (2013) and Nath et al., (2008) do not provide details about and a scientific measure of extent to which communications skills including interpersonal and intrapersonal skills (attitudes and belief systems) of the health workers influenced the levels of uptake of immunization information provided to the mothers/caregivers.

Another gap is that, it is not indicated how the skills were practically translated into right choices and informed decisions to eventual adoption of positive behaviors towards child immunization, but rather quick progressive and significant statistics are provided neglecting the crucial aspects that are of interest to the health promotion scholar, which this study attempted to find out.

UNICEF, (2013) & Leask et al., (2012) argued that in order for health workers and mothers/caregivers to promote best health practices, they must be educated about health information themselves which was an indicator that the source of information must be conversant and highly knowledgeable about the subject matter.

However, the argument was not provided with a scientific basis whether the higher the health worker was conversant with the content about immunization the better the facilitation and the more mothers/caregivers would grasp what was being facilitated about. Since these facts where not scientifically established by (Angadi et al., 2013; Siddiqui et al, 2011 and Amin, et al, 2010) the health education scholar finds it hard to infer it to Ugandan context thus warranting a study of this nature that attempted to provide such evidence.

The studies by Angadi et al., (2013); Siddiqui et al, (2011) & Amin, et al, (2010) however, put emphasis on mothers/caregivers and argued that when mothers/caregivers are educated about issues pertaining their child's immunization, there is a likelihood of improvement positive behavior, right health seeking choices and informed decisions about child immunization.

Such scholars did not study the knowledge and skills of the educators yet it is very significant and largely inform the quality of behaviors mothers/caregivers would adopt in that when the health worker is incompetent, less knowledgeable about Hepatitis B and polio immunization, with poor interpersonal and intrapersonal skills.

Similarly, an oversight with such studies by Angadi et al., (2013); Siddiqui et al, (2011) & Amin, et al, (2010) is that the quality of information that is provided will be incomplete, insufficient and poorly shapes undesirable behaviors and in most cases the mothers/caregivers will lose interest in coming for child immunization services.

It is cautioned by Leask et al., (2012) & Subhani et al., (2015) that the mothers/caregivers may eventually ill-advise fellow mothers/caregivers they usually maintain social networks where such information is shared informally with the mother who visited the health facility for child immunization as an 'expert' (ill-expert) and the ones found in the community as learners (peer mothers who would potentially access immunization services).

Based on the study by Subhani et al., (2015), it could be thus asserted that the knowledge of the educators also ought to be assessed before assessing the impact of the education they provide.

Nankabirwa et al., (2010) noted that despite provision of free childhood vaccinations across health facilities in the country, less than half of all Ugandan infants were fully vaccinated and further compared women with some secondary school level education to those with only primary level education with regard to their infants' vaccination status. The findings by WHO, (2011) & UNICEF, (2015) in the annual immunization report on Uganda concur with those by Nankabirwa et al., (2010).

It was noted that by Nankabirwa et al., (2010) that infants whose mothers/caregivers had a secondary education were at least 50% less likely to miss scheduled vaccinations compared to those whose mothers/caregivers only had primary education. Based on such findings, recommendations were made that strategies for childhood vaccinations (inclusive of health education) should specifically target women with low formal education.

The above recommendation can only partially hold because contextual challenges that affect provision of health information about immunization may not segregate whether highly educated women or less educated and these may include the environment in which the learner (mother) stays, their economic status and the social spheres (Ibnouf et al., 2007; Bhandri et al., 2007 & Odusanya et al., 2008).

The that social spheres could be characterized by cultural values, norms practices and belief systems may also influence the desired change in knowledge, attitudes and practices in relation to Hepatitis B and polio immunization (Nankabirwa et al., 2010; WHO/UNICEF, 2009 & Ritsema et al., 2014).

2.3 Barriers in the provision of health information about Hepatitis B and Polio immunization in a rural setting

Leask et al., (2012) noted that there are two broad groups of non-immunizing parents. The first are conscientious objectors or hesitant parents with concerns about immunization who may decline, delay or be selective in the vaccines they accept; these parents tend to be more affluent and educated.

For the second group Leask et al. (2012) highlighted families experiencing barriers to access, which may relate to social influences, backgrounds that render them disadvantaged and logistical barriers. Interventions to increase uptake in these two groups require different approaches in that (McIntyre et al.,

2013, pp 405-410) cautions that in the recent years, conscientious objection has increased and today tens of thousands of conscientious objections are recorded in various countries.

This in relation to WHO, (2012) highlights the existence of unfriendly social environments with presence of strong negative cultural norms and values against which mothers/caregivers shape attitudes and perceptions towards Hepatitis B and polio immunization.

It is these negative perceptions and attitudes that mothers/caregivers carry along while accessing health facilities which the health workers (educators) may not easily identify if they do not possess high quality communication skills including interpersonal and intrapersonal which are significantly required to enhance mothers'/caregivers' self-efficacy, build their confidence and raise self-esteem (Ibnouf et al., 2007; Nankabirwa, 2010; & Ritsema et al., 2014).

In such instances, the information about Hepatitis B and polio immunization provided by the health workers will be incomplete, driven by only the objectives of the health worker and not reflecting the information needs of the mothers/caregivers thus the mother will lose interest and not turn up again for services based on their wrong choices and decisions they may take Matsiko, (2010) & Leask et al. (2012).

This has necessitated the investigation of the societal and cultural influences on vaccine acceptance (for instance media, public health policies, and moral or religious beliefs), and the development of a framework for health professionals to address parental concerns. McIntyre et al., (2013) further noted that between half and 80% of children who were not fully immunized did not have a parent who conscientiously objected to immunization, 8% of 12–15 month olds were not fully immunized and 1.5% of all registered children had a conscientious objection recorded.

It is also likely that those types of objections may exist in Rakai district based on the findings by Ayebazibwe, (2009) and from the progressive immunization reports by MOH, (2014 & UNICEF, (2013).

Kate et al., (2009) noted that nurses today are providing care, education, and case management to an increasingly diverse patient population that is challenged with a triad of cultural, linguistic, and health literacy barriers. For these patients, culture and language set the context for the acquisition and

application of health literacy skills. It was further noted that nurses are in an ideal position to facilitate the interconnections between patient culture, language, and health literacy in order to improve health outcomes for culturally diverse patients. Kate et al., (2009) recognized the need for nursing interventions in immunization that fully integrate health literacy, culture, and language.

Much as the health worker may have right content about Hepatitis B and polio immunization, it is a requirement that the language(s) chosen for facilitation is easily understood by the target audience and the information packaged is reflective of the cultural values, norms and perceptions (WHO/UNICEF, 2009; WHO, 2012, Leask et al., 2012 & MOH, 2014).

It is emphasized that the content has to be carefully directed to address the negative perceptions, values and attitudes towards Hepatitis B and polio immunization as recommended by educational approach (Munthali, 2007 & Jodi et al., 2011).

Ibnouf et al., (2007) & Ritsema et al., (2014) cautioned that in low developed countries, hardly do health workers appreciate the learner as an important and integral part of their learning processes. This undermines effective dissemination of information where health workers are consider (at times considered themselves) as superior and learners as subordinates which practices undermines principals of effective health promotion (UNICEF, 2017; WHO, 2013).

It is noted by Munthali (2007) that undermining mothers/caregivers creates tendencies of low self-esteem and low motivation among clients (mothers/caregivers) that are translated in irregularities in access and use of health services.

However, in practice health workers tend to deliver standardized packages of information which is usually guided by national immunization standards that are reflective of the different local and community specific contexts as indicated in the findings of the study on information needs of health workers by Neil Pakenham & Bukachi, (2008) & Leask et al., (2010).

In the case of Uganda, in many of the district in central region, it has been common that most messages about Hepatitis B and polio immunization are in Luganda and English yet Rakai district being at the national boarder with multiethnic groups, a bigger fraction of mothers/caregivers may get unclear information and thus form ill-informed choices and decisions about Hepatitis B and polio immunization

as highlighted by Bhandari et al., 2007) in their studies about socio-cultural and geographic disparities in child immunization carried in Nepal. However, this needs to be backed up by further empirical evidence which this study brings out in the later chapters.

From studies and assessment by Kullgren & McLaughlin (2010); WHO, 2012; UNICEF, 2015 & MOH, 2014) acknowledged that access to healthcare is affected by both financial and non-financial barriers that often overlap and can delay health education, care and consequently compound the problem of health disparities.

Among those highlighted included institutional barriers that contribute to the growing problem of persistent health inequality for instance lack of conducive environments conducive environments for learning that is safe, clean and adequate sitting facilities and spaces and guarantees their privacy (Nankabirwa, 2010; WHO, 2011 & Leask et al. 2012). Similar findings were noted by Ayebazibwe, (2009) in his study about child immunization carried out in Rakai District.

Studies have indicated that only a small percentage of primary care patients receive appropriate health education counseling (Ritsema, Bingenheimer, Scholting & Cawley, 2014; Hing, Hooker & Ashman, 2011). It is also likely that in Uganda and Rakai in particular, finance related challenges may affect health education provision as indicated by Ssonko & Mugabi, (2015) & Ayebazibwe, (2009).

It is known that the budgetary provision for health is below the Abuja Declaration; Where in April 2001, the African Union countries met and pledged to set a target of allocating at least 15% of their annual budget to improve the health sector and urged donor countries to scale up support. The study thus provides answers to whether funding has affected health education in Uganda and Rakai in particular,

Similarly, findings from Ayebazibwe, (2009) do not indicate how the limited budgetary allocation for immunization services (including health information provision about immunization in Rakai District.

In a survey by Ibnouf, (2007) in Sudan, 85% of pediatricians reported encountering parents who refuse vaccines. In surveys of parents of vaccine exempt children, almost 70% stated that the perceived safety of vaccines was the reason for refusal. One factor contributing to this is the mis-education and misconception of patients.

The health care providers do have an influence on whether or not such misinformation and misconceptions are accepted. Surveys have shown that parents trust the vaccine advice from their child's health care provider, and more than 60% report asking questions about vaccines during routine office visits. One barrier to providing adequate education and information to patients includes insufficient time to completely address parental concerns (WHO/UNICEF, 2009; Matsiko, 2010 & UNICEF, 2015).

IT IS NOTED BY Matsiko, (2010) & Thornton et al., (2012) in their publication about our side of the story; heath works speak that in instances where there is low staff motivation and incentives including allowances, meals, staff houses, verbal appreciation and acknowledgement for work accomplished it is common to find that the activities for health education about Hepatitis B and polio immunization are not delivered as required.

The situation of not delivering services makes health workers turn unfriendly to mothers/caregivers (learner), deliver shallow content and instead concentrate of actual clerking of children, allocate no time to get feedback in terms of comments and questions about the health education session (Ritsema et al., 2014 & Selman et al., 2009).

This makes the health education about Hepatitis B and polio immunization to be teacher-student interaction which denies free expression and inhibits potential feedback that would guide effective learning instead of dialogue UNICEF, (2013) & Leask et al., (2012). It is recommended by educational approach that if at all the health education is to achieve its intended objectives of shaping positive behavior among mothers/caregivers towards sustained access to Hepatitis B and polio immunization for better health and wellbeing of infants and young children, dialogue has to be embraced.

The results of studies in Africa and Asia (Bhandali et al., 2007; Clark & Sanderson, 2009 & Ritsema et al., 2014) report that despite the provision of timely quality of vaccination services and related improvement in staff levels in most of the developing countries, uptake was still low.

This is despite the principal problems stemmed from quality, frequency and appropriateness of the health information on vaccines, vaccine-preventable diseases, and vaccination schedules in the vaccination sessions; poor training facilities for health workers adversely affecting the frequency and regularity of vaccination sessions (Neil Pakenham & Bukachi, 2008 & WHO, 2017).

2.4 Enablers in the provision of health information about Hepatitis B and Polio immunization in a rural setting

In rural areas of Uganda, provision of health education (among other healthcare services) is always limited in many rural facilities that are not fully equipped to handle health education and immunization (Bateganya & Faku, 2010). In face of this, some of the strategies that could be used to improve access to rural health include recruitment of students to become health workers from the affected communities, locating health education programs within or in close proximity to community to be served.

Romathan (2015); Nankabira, (2010) & Ayebazibwe, (2009) observe that NGOs and sometimes in partnership with other agencies complement government effort in rural healthcare provision by developing ways to strengthen provision of health education and clinical services in rural areas of Uganda.

Such NGOs and partners provide relevant training to healthcare workers, and this is an important contribution as it enables healthcare workers to take on more demanding tasks and positions which may improve health in rural areas (Matsiko, 2010). The trainings potentially enable health workers to better dissemination health education and immunization information in particular which could see the immunization uptake scores improving with time.

Matsiko (2010) however, does not explain how exactly the integration should be done to ensure best results in enhance knowledge to lead to completion of immunization schedules for infants and young children. This study will attempt to find out how NGOs and government can work together to improve on knowledge dissemination especially in rural settings like Rakai.

After making Sixty-five studies, WHO (2013) makes several policy recommendations on the Practices to improve coverage of the Hepatitis B birth dose vaccine. Among others, it recommends that; evidence exists to suggest that the following practices can be effective in improving coverage of timely birth dose vaccination.

The list includes practices useful in all settings, as well as options to consider for special situations. For instance, service delivery arrangements, increasing access to skilled care at the time of childbirth; Integration of birth dose with maternal and newborn care in health facilities; by local health facility policy specifying birth dose vaccination; standing orders for administration of birth dose in the delivery

room or postnatal ward and ensuring vaccine is available in the delivery room or postnatal ward; clear delineation of who is responsible to vaccinate that includes – maternal health-care providers.

It also recommends that appropriately positioning birth dose vaccination within essential newborn care in a way that does not interrupt urgent interventions; coordinated planning between immunization and maternal health staff in health facilities and in districts, including supportive health facility assessments; Linkages between immunization and private services providing childbirth care.

Furthermore, WHO (2013) recommends that where infants are born outside health facilities, considering options such as: home visits to provide timely vaccination; integration of birth dose with home visits for other postnatal care; vaccine storage outside the standard cold chain in a controlled temperature chain; careful pregnancy tracking.

All these are good measures on the outlook but the studies do not consider what mothers/caregivers think is the best to them in a bid to improve their ways through which they are made away of immunization and related services as cautioned by Angadi et al., (2013) & Kullgran & Mclaughlin 2010). Besides, no mention is made about which option should be focused on first. This study will attempt to show which should be the immediate means and areas of focus.

In rural areas of Uganda also, attraction and retention of qualified and skilled health workers remain a daunting challenge (Nankabirwa, 2010 & Matsiko, 2010; MOH, 2011; MOH, 2014 & WHO, 2013). It has been observed that Uganda has inadequate trained health personnel, poor equitable distribution of human resources, poor skills mix and ineffective use of available human resources which are worsened by the practice of non-professional task-shifting (Ministry of Health, 2014).

There is no easy solution to these challenges and government despite their effect on health education in both health facilities and outreaches instead other health sector players such as private actors have begun programs to improve healthcare options in rural areas SMS alerts with messages on immunization (Romathan, 2015).

Many of these private actors are affiliated with religious organizations and funded by donors and foreign aid. Ayebazibwe, (2009) & Ssonko & Mugabi, (2015) however, recognize the fact that the involvement of donors has not greatly improved the situation, for instance in Rakai, tracing it right from DANIDA

which funded a number of health projects in relation to immunization that were not sustainable. It seems that funding alone may not answer the questions of the day of influencing or constraining provision of health information about Hepatitis B and polio immunization. The study thus attempted to find out whether among the constraining or facilitating factors, funding was one of them.

WHO (2013) also suggests Health workforce considerations, that is addressing health-care providers' lack of knowledge and particular attitudes and perceptions towards newborn vaccination; Well-structured health-worker training, including education on perinatal transmission; backed up by frequent follow-up and supportive supervision; considering options for task-shifting to reach populations difficult to access.

It is noted by WHO, (2012); UNICEF, (2013) & WHO, (2015) that improved government funding has been advanced as an enabler to the delivery of health information about Hepatitis B and Polio immunization. It is evident that in the past decades, the government of Uganda has put in efforts to improve the functioning of the health sector through increasing public expenditure on health, re-energizing diseases control programs and re-orienting services to primary healthcare (Ministry of Health, 2014).

Consequently, about 50% of healthcare is delivered by the government of Uganda own facilities and the remaining 50% by the private sector providers (Ministry of Health, 2014). While in theory, public healthcare provision is supposed to free; in reality, there are unofficial fees and patients are often asked to buy own drugs and surgical items privately. However, reports by Ayebazibwe, (2009); Mastiko, (2010) & Nankabirwa, (2010) do not indicate if mothers are asked for money to receive health education about Hepatitis B and polio immunization.

WHO (2013) & WHO (2015) further noted that financing arrangements need to influence birth dose coverage; adequate funding for birth dose programmes, with consideration of transport efficiencies for distribution to the periphery; minimizing costs to families.

Other strategies by WHO (2013) & WHO (2017) for scaling up global health education (with a focus on immunization) to enable immunization could include addressing community concerns or lack of knowledge regarding birth dose; responding to low awareness of the birth dose vaccine and its importance; considering traditional practices of newborns; addressing fear of adverse events, including

planning for the risk of coincidental newborn death or disease; responding to parental refusal of vaccination.

There are also other hidden costs of healthcare to people living in rural areas of Uganda due to the large distances patients travel to attend the nearest clinic as noted by Ayebazibwe, (2009) & Nankabirwa (2010). Among others is the loss of income from time off work especially when receiving healthcare means queuing for long hours (Romathan, 2015).

It is noted by MOH, (2014) & UNICEF (2013) in the immunization annual report for Uganda pregnant women in many instances choose to deliver at home, unless a complication emerges which denies them an opportunity to get health information about Hepatitisis B and polio immunization besides the infant receiving the vaccine.

There seems to be lots of unanswered questions relating to whether government has done enough and what other options on top of funding from government could be used to improve of the information seeking behaviours of mothers relating to immunization and the effectiveness of the efforts by the health workers to provide this information as noted by Selman et al., (2009); Jodi et al., (2011) & Ritsema et al., (2014).

WHO (2013) also recommended engagement of leadership in advocacy for infant immunization and governance practices that consider universal newborn vaccination; clear national guidance defining timely birth dose as within 24 hours of birth and strong central communications (including information provision about immunization) to support public confidence in vaccines.

WHO (2013) further noted that for certain important guidance and practices can rely on more general evidence for effective implementation of immunization programmes. These areas include: preparatory communication strategies that plan for likely public concerns; alignment with maternal, newborn and immunization care guidelines; costing of strategies to scale-up birth dose within and beyond health facilities.

Findings by Lee et al., (2008); WHO, (2012) & WHO, (2017) indicate that routine childhood vaccinations against tuberculosis, polio, Diphtheria, Pertussis, Tetanus, Measles, Hepatitis B and haemophilus influenza B as being effective in protecting children against these diseases in low and

middle income countries (LMIC). Despite these vaccinations being highly cost-effective with respect to life years saved, each year, an estimated thirty-four million children do not get vaccinated.

The focus on addressing barriers to immunization have focused on vaccine and structural aspects; but not from a health promotion perspective (WHO, 2012; UNICEF, 2013 & WHO, 2015). Trends indicate that right from the early 1980's, UNICEF, headed by James P. Grant, spearheaded a child survival campaign that focused mostly on oral rehydration and vaccination, interventions that were seen as measurable (Lawn et al., 2008).

This was followed by a remarkable global increase in vaccination coverage of diphtheria, Pertussis and tetanus, from 25% to 75% in ten years. However, this global success was not shared by all and today, about 1.4 million children still die each year from vaccine-preventable illnesses(WHO/UNICEF, 2009).

The Uganda national expanded programme on immunization (UNEPI) schedule is BCG and polio at birth; polio+ Diphtheria-Pertussis-Tetanus-Hepatitis B-Haemophilus Influenza b (DPT-HB-Hib) at 6, 10 and 14 weeks and measles at 9 months. In Uganda, vaccination coverage increased in the late 1980 s and the early 1990s and then stagnated, and even declined in some areas (WHO/UNICEF, 2009). Several hypotheses for this stagnation such as maternal education have been posited in Uganda and other countries with comparable coverage (Ibnouf et al., 2007; Nankabirwa, 2010; Angadi et al., 2013 & Ritsema et al., 2014).

Mother's education may increase the likelihood of vaccination through increasing knowledge on vaccination. Studies have shown a positive correlation between mother's education and knowledge of vaccination as well as between knowledge of vaccination and acceptance of vaccination (Munthali 2007; Ayebazibwe, 2009; WHO/UNICEF, 2009; WHO, 2015).

All the above explored, this study attempted to identify the missing links and bring to light the possible causes of action in order to address the gap in practice, planning and processes which will help improve mothers'/caregivers' knowledge and inform their right choices and decisions towards Hepatitis B and polio immunization.

2.5 Summary

There are five recognized approaches in health promotion and these include; medical; behavior change; educational; empowerment and social change. However, literature does not recommend which approach best suits which kind of people and in which environment, a gap that needs to be closed.

It is strongly highlighted that health information improves self-efficacy in disease management; it also improves the health status of individuals, families, communities, states, and the nation. This study aimed at providing empirical evidence on the barriers and facilitators of provision of health information to mothers/caregivers. From the reviewed literature, it was indicated that the levels of knowledge exhibited by mothers/caregivers differed across various geographical locations, academic backgrounds, social economic status and motivation accorded to health workers among other factors.

Key barriers in the provision of health education have been linked to societal and cultural influences on vaccine, patient population in relation to staff capacity as well as health worker relationship with mothers/caregivers. Also noted was the language barrier, limited funding and ill-prioritization of health education activities, perceived safety of vaccines and lack of appropriate information about vaccines.

Enablers in the provision of health education have been highlighted as service delivery arrangements, coordinated planning between immunization and health staff, linkages between immunization and private health service providers including those that provide childbirth care and well-structured health worker training. The use of medical and media technologies was also put forward, adequate funding, leadership and governance practices and good communication strategies.

It however remains unclear which method or factor was a burrier or facilitator in the dissemination of information and knowledge acquisition while under what circumstances in rural districts like Rakai. The study thus provides answers to these and other unanswered questions relating to knowledge, enablers and barriers to provision of health education information about Hepatitis B and polio immunization.

CHAPTER THREE
METHODOLOGY

3.0 Introduction

This chapter presents the methodology which was used in conducting the study. It covers the research design, the study population, the sampling techniques, the sample size, data collection methods, data management and analysis, ethical considerations and limitations of the study.

3.1 Research Design

The study employed a descriptive cross-sectional survey design where both qualitative and quantitative methods were used. This is because the study was intended to explain the qualitative relationship while the quantitative approach was used to establish the quantitative relationship between barriers to health education and facilitators.

The study used a cross sectional survey design since it is most cost effective and enabled the researcher to capture information about the current, the past and the future in a shortest time possible where study respondents where only met once in a life time (Barbie, 2010).

3.2 Study area

The study was carried out in Rakai District and the choice of Rakai was due to availability of health education programmes which however have not been assessed before with a combination of facilities with UNEPI centers which are perceived to provide center of excellence services in immunization including health education about Hepatitis B and polio immunization.

The district has communities with divergent ethnic groups and social influences that would largely give a wide range of findings that are of interest to health promotion. This was coupled with the fact that a big number of people are less educated and with different language backgrounds (Ayebazibwe, 2009 & Ssonko & Mugabi, 2015).

This background was observed to potentially inform on how health workers go about providing information about Hepatitis B and polio education to people and how they are involved in planning and mutual facilitation and dissemination of information about Hepatitis B and polio immunization.

3.4 Study population

The population for Rakai District by mid-2015 projected to be 528,679 persons basing on National Population and Housing Census, UBOS, (2016) of which 93.0% is found in rural areas and only 7.0% of the population lives in urban areas.

There are also a large number of people of the Rwandese origin especially in Kakuuto and Kooki and a significant number of other tribes like Barundi, Baziba and Baganda especially in Kakuuto County. Notwithstanding the heterogeneity, most of the people in Rakai District can communicate in Luganda making packaging of development and health education messages easier, less costly and more effective.

The distribution of health facilities shows that Government health facilities are 70 across the different levels from II, III, IV and a hospital; no NGO facility (0), 17 Private for Profit and 25 Private Not For Profit thus totaling to 112 as extracted from Rakai District Local Government 5 Year District Development Plan For 2015/2016 -2019/2020 as quoted by (Ssonko & Mugabi, 2015). These health facilities have a total of 237 health workers that perform roles related to immunization besides the laboratory staff and VHTs. Thus, the nurses, in-charges and Medical Superintendent also formed part of the study population.

From the side of those that access health information about Hepatitis B and polio immunization, the study population consisted of mothers/caregivers who were characterized by semi-illiteracy, from a rural setting and generally of low socio-economic status.

3. 4 Sample Size and Selection

According to Sekeran (2003) a sample is a subset of a population intended to be studied. The study selected up to 382 elements that were used in this study.

Using Bartlett et al., (2001) formulae of sample determination, a sample (n) size of 147 health workers was derived. This sample size selected was representative enough of the entire population that was used to generate the required information for this study.

$$n = \frac{N}{1+Ne^2}$$

Where;

n = Sample (desired sample)

N = Population

The standard normal deviant will be 95% confidence level

The degree of error to be accommodated for this study was 5%

This formula was appropriate since, according to the statistics from DHO office of Rakai District 2016, the total population of health workers was 237 who were all working in government health facilities.

Using the formula above, the sample was calculated as follows;

$$n = \frac{237}{1+237\ (0.05)^2}$$

$$n = \frac{237}{1+0.61}$$

$$n = \frac{237}{1.61} = 147.20$$

n = 147.20

n = 147

Therefore; 147 health workers

For the selection of the health facilities, multi-stage sampling technique was used where a list of health facilities was created ranking them per level of health facilities (in groups of health center IIs, IIIs, IVs and the hospital were facilities were sampled from.

From each health facility, units or departments that were responsible for providing health information about Hepatitis B and polio immunization were identified which included; the maternity units, postnatal care units, OPD and UNEPI Departments in some health facilities that had such units. Thus, a total of 147 nurses and 22 in charges were targeted which was distributed proportionately across the based on the number that existed in each health facility.

Purposive sampling was adopted to select the in-charges and Medical Superintendent because they are responsible overall about the activities that include health education about Hepatitis B and polio immunization.

3.4.2 Sampling Techniques

The study used stratified, purposive and systematic sampling methods as explored by (Amin, 2005). This was intended to ensure that several departments and several officers participate in the study right from the upper layers (strata) to the lower ones for effective representation and capturing all issues related to provision of information about Hepatitis B and polio immunization that were taking place at the different strata.

At the last unit in the health facility specifically mothers/caregivers were selected using systematic sampling method which gave a similar opportunity to every mother at the unit to participate in the study and helped minimize potential bias that would come with other methods.

While at the facility, the researcher with support of a health worker at a given unit would generate a list of mothers that were present from which constituted a sampling frame where units (individual mothers) were systematically selected as required by Gall, et al., (2007).

Mothers/caregivers were required to account for whether they have been given health education about Hepatitis B and polio immunization, share experiences in changes in their choices and behaviors, perceptions and attitudes towards access to Hepatitis B and polio immunization for their infants and young children. They were further provided with an opportunity to suggest what they thought could enable them to improve their compliance.

The nurses, who were purposively selected were requested to identify barriers and enablers in the provision of health education about Hepatitis B and polio immunization among infants in young child clinics in Rakai District health facilities.

Similarly, health facility and unit In-charges and Medical Superintendent who were purposively selected were required to respond to whether they provide health education in relation to Hepatitis B and polio immunization, share the challenges and enablers in the provision of information as well as making recommendations on how to enhance provision of health information about Hepatitis B and polio immunization to mothers/caregivers of infants and young children.

3. 5 Data Collection Methods

Data collection methods are an integral part of research design and the researcher ensured that both qualitative and quantitative data was collected. For both qualitative and quantitative data, the methods were mainly interviews and questionnaires respectively and are described below;

3.5.1 Questionnaire

A semi-structured questionnaire was formulated whereby a set of questions was used to obtain important background information about the study from the study population. The questionnaire was based on the variables phrased in relation to the study objectives. The questionnaire was largely closed ended with a few open ended questions that aimed at obtaining as many varied responses as possible. This was administered to the nurses and the mothers/caregivers through a face to face interaction by researcher.

3.5.2 Interview schedule /guide

The interview guide was used to obtain additional information which may not have been catered for in the questionnaire since for it was largely open ended in nature. This was administered to the in-charges and Medical Superintendent.

3.6 Validity and Reliability

3.6.1 Validity

Validity refers to the truthfulness of the findings or the extent to which the instrument is relevant in measuring what it is supposed to measure (Amin, 2005). To ensure validity, the researcher took several measures including use of expert judgment and pre-testing the questionnaire.

After designing the questionnaire, the researcher presented it to the Supervisor for advice and corrections were effected where necessary. The validity of the instrument was tested using the Content Validity Index which involved scoring the relevance of the questions in the instruments in relation to the study variables and a consensus judgment given on each variable. The Content Validity Index (CVI) was determined using the following formula (CVI = Number of items declared valid/Total no of items).

3.6.2 Reliability

Reliability measures the extent to which the instrument is without bias and therefore ensures consistent measurements across time and across the various items in the statement suggesting that the finding

would be consistently the same if the study was done over again (Mugenda & Mugenda, 1999). In this study a Cronbach's alpha coefficient was computed (using SPSS) to show reliability of the tools.

Table 3.1: Validity and reliability

Category	**Reliability Statistics**	
Mothers/caregivers	**Cronbach's Alpha**	**N of Items**
Knowledge	.731	5
Barriers	.721	5
Enablers	.817	6
Nurses	**Cronbach's Alpha**	**N of Items**
Knowledge	.549	5
Barriers	.888	6
Enablers	.866	9

3.7 Data Management and Analysis

3.7.1 Data Management

The data in form of filled questionnaires was edited on a daily basis to ensure quality and completeness and these were assignment serial numbers for easy identification and entry.

Later, data from questionnaires was entered in computer using Statistical Packages for Social Scientists (SPSS v.20.0) for easy storage, cleaning and performing of analyses; running of frequencies and cross tabulation as well as other quantitative analysis procedures.

The qualitative data, right from audio files that were tape recorded by use of a digital recorder was downloaded to computers, transcribed and verbatim notes where organized, coded using open coding which was later followed by axial coding which included grouping data in order to form themes and later drew comparisons, contrasting and categorization was done in order to draw meanings Gall, et al., (2007) and Barbie, (2010).

3.7.2 Qualitative Analysis

For qualitative analysis, the researcher after coding organized and grouped data in order to form themes and later drew comparisons, contrasting and identified categories and patterns that emerged in relation to barriers and facilitators of provision of health information to mothers/caregivers of infants and young children about Hepatitis B and Polio, as stressed by Gall, et al., (2007) and Barbie, (2010) that meaning can be derived following this analysis method. From the information obtained the researcher interpreted the findings in line with study objectives.

3.7.3 Quantitative Analysis

Quantitative data was entered into SPSS. For the demographics, each variable was assigned a code for easy data processing and obtaining the aggregates. Demographics were processed as a batch to obtain the frequencies and percentages. The questions relating to the barriers, enablers and knowledge were processed to obtain the mean and standard deviation. The mean was used to indicate the general position of the participants on every particular question while the standard deviation was used to describe how dispersed respondents views were regarding a particular question.

3.8 Ethical considerations

The research process was guided by sound ethical principles whereby the researcher sought for ethical clearance which was granted by the Faculty of Health Sciences, Uganda Martyrs University which was presented to the DHO of Rakai District and later to Medical Superintendent and health facility in-charges while seeking for permission to conduct research. The approval letter was granted to undertake data collection from health facilities and relevant offices in the district.

The researcher clearly explained the study objectives and methodologies to the Medical Superintendent, In-charges, health workers and mothers/caregivers in order to ensure that they understood the procedures, benefits of the research that the researcher was conducting. In this way, informed consent was obtained from all participants since this is an important consideration in research as highlighted by Orcher, (2005).

The researcher was sensitive about human dignity and remained objective throughout the study for instance accorded due respect to all study participants in terms of respecting the opinions and decisions including the opinion to terminate the interview whenever they felt uncomfortable to continue.

Furthermore, the researcher ensured that during report writing all the information gathered has been only used for the purpose of this study as planned and nothing beyond. Similarly, anonymity and confidentiality of the respondents were protected by not asking participants to put their names and particular information that has identifiers of an individual person on the questionnaires.

CHAPTER FOUR

PRESENTATION OF RESULTS

4.1 Introduction

This chapter contains the presentation of results and this follows the order of the objectives. The objectives included the knowledge of mothers/caregivers about Hepatitis B and polio immunization among mothers/caregivers of infants in young child clinics; barriers in the provision of information about Hepatitis B and polio immunization to mothers/caregivers of infants and young children in young child clinics; and the enablers in the provision of provision of information about Hepatitis B and polio immunization to mothers/caregivers of infants in young child clinics in health facilities in Rakai district.

4.2 Characteristics of respondents

The results indicated that the response was 174 mothers/caregivers out of 213 (82%); 102 nurses out of 147 (69%); and 17 out of 22 (77%) of the in charges participated giving an overall average response of 76%.

Table 4.1: Response rate

Category	**Target**	**Response**	**Percentage**
Mothers/caregivers	213	174	82
Nurses	147	102	69
In-charges/Medical Superintendent	22	17	77
Average			**76**

Source: primary data, 2016

Results also indicated that mothers/caregivers whose age bracket was 18-30 were (n=97, 56%), 31-45 (n=60, 35%), 46-55 (n=12, 7%). It is evident that majority of the mothers/caregivers were still in their early adult age of 18-30 and thus were more likely to have children for immunization thus necessitated them to receive accurate, clear and information about Hepatitis B and polio immunization.

The study also indicated that majority of the nurses were between 18-30 years seemingly with current skills and knowledge from health training institutions to carry out the activities that follow in their job jurisdiction as nurses including conducting and dissemination of health education information about Hepatitis B and polio immunization.

Similarly, based on the age, this category of health workers is usually fresh in the field with update knowledge thus this also has an implication on their ability to connect well to the young

mothers/caregivers thus easily create a working relationship with them since there is a close age range. This also could be a catalyst to mothers/caregivers disclose information gaps and seek for more information about Hepatitis B and polio immunization for infant and young children. The study also indicated that 20(18%) of the nurses were of age bracket of 31-45. Results further indicated that mothers/caregivers had varying levels of education whereby those with no formal education (n=132, 76%), Primary (n=30, 17%) and Secondary (n=12, 7%).

This implies that most of the mothers/caregivers had no formal education and this was due to the rural background of the mothers/caregivers whereby the more the rural an area is the higher the chances of finding mothers/caregivers with low or no education which had a bearing on their ability to comprehend and appreciate issues related to immunization. The low education made it difficult for some health workers who were not natives of those areas to address mothers/caregivers in local languages hence culminating into a problem of language barrier.

This affected the programmes for dissemination of information about Hepatitis B and polio immunization. This low education also made mothers/caregivers glued to some cultural beliefs which constrained the effective delivery and translation of knowledge that was disseminated about Hepatitis B and polio immunization in both outreach and facility –static awareness and IEC programmes of Hepatitis B and polio immunization.

The study also indicated that mothers/caregivers had different durations they had spent interacting with the facilities and the facility staff. It was noted that mothers/caregivers who had spent 1-5 years were (n=144, 83%), those with attachment of 6-10 years (n=24, 14%) and those with more than 10 years interaction were (n=6, 3%). This duration of attachment is also closely related to the age of the mothers/caregivers and may also imply that new mothers/caregivers were joining the facilities to access immunize services including information about Hepatitis B and polio immunization for their children.

Results still indicated that nurses had spent varying durations. Nurses who had spent 1-5 years were (n= 100, 89%), 6-10 years were (n=8, 7%) while those who had spent more than 10 years were (n=4, 4%). This implies that majority of the nurses were relatively new and this also correlates with the age of the nurses. This also implies that more staff were new nurses who had joined the service presumed to be having recent content, formal skills and competences in handling, facilitating and disseminating information about Hepatitis B and polio immunization to mothers/caregivers.

4.3 Mothers'/caregivers' knowledge about Hepatitis B and Polio immunization at infants and young child clinics in Rakai District

The first objective explored the knowledge of mothers/caregivers of infants about Hepatitis B and polio information given in young child clinics in Rakai District. This knowledge was explored through setting questions before the mothers/caregivers, nurses and in-charges.

The selected questions looked at whether mothers/caregivers were availed with information about Hepatitis B and Polio immunization, the type of information, means of getting it, relevancy and whether nurses took initiative and were motivated to explain to the mothers/caregivers the importance of immunizing their infants and young children.

The study hoped that such questions would enrich the findings to give a clear picture of whether or not mothers/caregivers knew enough about Hepatitis B and Polio immunization. The results are followed by the comparison with literature and deductions are made.

The interpretation of the results is based on the mean where 1=strongly agree, 2=Agree, 3= Disagree and 4=strongly disagree. The standard deviation (SD) is used to show variability in the responses where S.D < shows low variability and SD>1 show high variability. Nurses and in charges were also requested to indicate their views on how they gauged mother's knowledge depending on their interaction with them.

Nurses confirmed that they frequently carried out several outreaches specifically to provide information to mothers/caregivers relating to Hepatitis B and polio immunization (mean=1.49, SD=.556). Mothers/caregivers also shared a similar finding when they indicated that they were always availed with information on immunization by the health workers (mean=1.97, SD=.720).

The study however indicated that health providers had disseminated several printed materials with information on Hepatitis B and polio infant immunization (mean=1.51, SD=.600) to mothers/caregivers which was a good move towards sensitizing mothers/caregivers. However, there were some inadequacies in supplying such materials to mothers/caregivers and this finding was confirmed by mothers/caregivers (mean= 2.79, SD=.927) when they received limited printed materials.

Results further revealed that mother had not attended enough meetings and trainings about Hepatitis B and polio immunization (mean=3.07, SD=1.051) which meant that their knowledge was still insufficient to enable them have self-confidence and thus take informed decisions and sustain a positive behaviors

towards Hepatitis B and polio immunization as the assumption of educational approach holds that much has to be done to develop skills of mothers/caregivers towards Hepatitis B and polio immunization since health decision making is very complex.

The study further indicated that at the health facility, specific health workers were designated to carry out health education sessions as facilitators which is an aim of educational approach and these were always ready to provide communities (including mothers/caregivers) with information about Hepatitis B and polio immunization for their infants and young children (mean=2.38, SD=1.034) and were always available whenever needed to facilitate health education sessions (mean=1.36, SD=.481) and they personally participated in the provision of information to mothers/caregivers (mean=1.38, SD=.486). These results show agreement between nurses and mothers/caregivers regarding the state of information provision and reception.

The study further indicated that besides health facility based information dissemination on Hepatitis B and polio immunization, there were outreaches for mass health education that aimed at increasing mothers' awareness, dispel myths and negative attitudes towards Hepatitis B and polio immunization. This was in line with the core values of societal change approach where health education is taken for empowerment of groups, communities and populations.

Such activities encouraged groups of mothers/caregivers and informed them about their roles and responsibilities in improving their infants' and young children's health through adopting positive behaviors towards Hepatitis B and polio immunization, an idea emphasized by social change approach thus mothers/caregivers built their self-efficacy and informed their choices and decisions towards Hepatitis B and polio immunization for their infants and young children.

The study further indicated that the information health workers provided to mothers/caregivers was relevant to them in relation to infant immunization (mean=2.03, SD=.767). This finding agrees with nurses thought as they indicated that the content they provided to mothers/caregivers addressing the knowledge gaps they had in relation to immunization and enabled them to make right choices in relation to immunizing their children (mean=1.44, SD=.641). This finding also relates to what mothers/caregivers indicated.

Majority of the mothers/caregivers said that such messages were capable of compelling them to immunize their infant children and a mother, 28 years, who had been attending Rakai Hospital for the last 3 years indicated;

> *'at first they used to tell us that please immunize your children, and I would do so because I feared what might happen if do not. I did not know the value of immunization but I only immunized because it was a must. After getting several messages from health workers, I can now even tell my friends to bring their infants for immunization'.*

The above findings is in line with the activated health education model that highlights for human health decision-making and subsequent behaviors are based on the six constructs: perceived susceptibility to Hepatitis B and polio, severity, benefits of accessing the services and barriers, cues to action and self-efficacy of the mother. However, it is indicated that there is a low standard deviation thus low variability hence tendency of nurses to agree that indeed mothers/caregivers had obtained enough knowledge on immunization.

It is noted that the health worker never appreciated the requirement of the awareness phase as highlighted by the activated health model that before the mother is provided with a service (vaccination in this case), she had to be made aware of its value and she had to first acquainted with the fact that her infant/child was susceptible to the killer diseases as required by the health belief model. According to the above narration, these principles were violated in practices and thus meaningful provision of health information was not achieved.

However, the standard deviation on meetings and trainings held between nurses and mothers/caregivers on immunization (1.051) and on readiness to give mothers/caregivers information related to Hepatitis B and polio immunization (1.034) was quite high, which indicates that mothers/caregivers did not have a central point of agreement on whether they had acquired adequate knowledge on immunization. To the researcher, this implied that there were gaps in the meetings and trainings held in relation to child immunization as well as readiness to provide information to mothers/caregivers. These thus could have affected the knowledge of mothers/caregivers on immunization and their subsequent behaviours relating to immunization of infants.

In the provision of health education about Hepatitis B and polio immunization to mothers/caregivers, as emphasized by educational approach, health workers accompany it with other beneficial information to holistically increase their knowledge and acceptance.

This included educating mothers/caregivers on how to avoid their infants and young children from getting sick, care of the children since sick children cannot be immunized, encouraging mothers/caregivers to keep their infants and young children healthy through proper feeding, exclusive breast feeding, good hygiene and proper waste disposal as important.

This finding was an indication that the health worker's role in disseminating information about infant and child immunization was continually shaping the desired positive behavior towards Hepatitis B and polio immunization among mothers/caregivers.

However, health workers were constrained by getting adequate number of mothers/caregivers that they would health educate who were still held negative social attitudes and were in precontemplation stages as explored by educational approach since behavior is viewed as a progression through a series of five states where pre-contemplation is the first, contemplation, preparation, action and maintenance. Given this, the health worker had to offer the most effective interventions strategies based on the recipients' (mothers'/caregivers') information needs that keep changing at each stage.

Mothers/caregivers shared a similar opinion with this finding despite the fact that the health workers share with them about dates for subsequent health education sessions on Hepatitis B and polio immunization, made aware of the mild side effects of immunization to make sure they do not get scared like mild fever, skin rash and fever and advantage of immunization being boosting the child's immunity, some of them were still skeptical about the real goal of immunization as a young mother of two in her late 20's from Kimuli Health Center III said;

> *'we are persuaded to immunize but even children who are not immunized grow and it's a matter of 'healthy luck' that God gives to an individual infant not to fall sick so even if I do not immunize my child now, the difference is almost the same'.*

Much as the health workers focused on encouraging mothers/caregivers to adopt a healthy behavior which would potentially improve the health of their infants and young children as emphasized by behavioral approach, there was an oversight that there are complex relationships between the intended

behavior and social factors that include attitudes and belief systems which is a limitation of the approach. This refusal to change in attitude by the mother as aimed by behavioral approach never permitted a change in behavior towards infant immunization as assumed by the approach. This was in line with the theory of planned behavior which holds that intent is not only influenced by attitude towards a behavior but also the perception of social norms.

For those mothers/caregivers who managed to get health information in form of charts about infant and child immunization attached value to it and endeavored to make good use of it to increase their confidence and always referred to it to increase their knowledge and choice in relation to infant immunization. A 29 year old mother from Kakuuto Health Center IV explored;

> *'When I received the infant immunization chart with schedule from the health workers, I pinned it up in my home as a reminder since sometimes I would forget the different stages at which an infant receives a particular vaccine and what that vaccine means in a child's life but with this chart I would get the information I wanted'.*

The above finding is in line with the fact that the health worker did much to develop the skills of the mothers/caregivers which is an aim and a belief by educational approach thus her adoption of a positive behavior depended on her readiness to take action which is at times undermined by strategies in the behavioral approach used by Nurses and other health workers.

Similarly, it was an indicator that mothers/caregivers with a given level of education are able to increase their knowledge and complement what has been received verbally with information on print materials which is in line the belief of educational approach that when you increase knowledge of a mother it leads to change in attitudes and translate into behavioral change towards Hepatitis B and polio immunization. However, for mothers/caregivers with low literacy levels they largely rely on verbal sources of information and in instances when health workers allocate limited time to health education they are constrained. A mother from Kimuli Health Center III, 22 year old and with no formal education explored;

> '*sometimes health workers attend to us when they are not in the right moods and they give us limited information yet we know that they are knowledgeable and whatever they tell us is what*

we take but you ask like three questions and only one is answered, sometimes you may fear to ask a question because you have assessed the mood of the health worker is not good at all'.

The above narration pointers to indicators of violation of principles of empowerment approach since the health worker never played a role of a facilitator to help and give mother an opportunity to identify their concerns related to Hepatitis B and polio immunization and never allowed mothers/caregivers to gain control over their health concerns and learning processes thus violated the recommendations of Ottawa Charter (WHO, 1986).

Correspondingly, the mother was never seen as equal and thus never had right to set their own agenda for health education and the health worker forgot that the adoption of a positive behavior towards Hepatitis B and polio immunization as assumed by educational approach depended on the mothers'/caregivers' voluntary choice which could be enhanced by increasing their knowledge.

The in-charges of the several facilities were requested to indicate the methods they used to disseminate information about child immunization to mothers/caregivers of infants and among the reported included community radio, Health education in Hospitals, role-play, simulations, village health teams, displaying materials with information relating to immunization, discussion, announcements, Fliers Community outreaches, posters, megaphones, lecture and demonstrations.

This indicated that the in-charges were indeed concerned about reaching immunization information about Hepatitis B and polio thus were endeavoring to get several ways of disseminating this information to mothers/caregivers which were practical given the mothers'/caregivers' education level for instance for the mothers/caregivers who could not reach the facility were targeted through outreaches and were helped by Village health teams (VHTs).

The study also found out that from the methods used in disseminating information about Hepatitis B and polio the health workers in some instances allowed mothers/caregivers to ask questions and get answers immediately and in some instances there was also room for sharing of information as demonstration was also reported by nurses to reduce fear and anxiety among the mothers/caregivers. The In-charge of Kakuuto Health Center IV indicated;

'the demonstrations we use while health educating mothers/caregivers about Hepatitis B and polio immunization at times involves them practically doing it with their babies and this has

have improved attitudes of mothers/caregivers towards immunization. The turn up for mothers/caregivers has somehow improved though still below the desired targets'.

The above finding is an indication that health workers made use of some of the assumptions of behavioral approach by encouraging mothers/caregivers to adopt a healthy behavior that enable the mothers/caregivers view health of their infants and young children as their property and responsibility. However, a differing perspective from mothers/caregivers indicated that they are rarely given opportunities to be part of the demonstrations and illustration concerning Hepatitis B and polio immunization during health education session.

In summary, provision of information about Hepatitis B and polio immunization by all stakeholders is essential to ensuring that mothers/caregivers get desired knowledge, skills and capacity to take right and informed choices in relation to their infants' and young children immunization. The next section discusses the barriers to the provision of this knowledge.

4.4 Barriers in the provision of health information to mothers/caregivers about Hepatitis B and Polio immunization at infants and young child clinics in Rakai District

The second objective explored the barriers to the provision of health education on immunization among infants in young child clinics in Rakai District. The interpretation of the results is based on the mean where 1=strongly agree, 2=Agree, 3= Disagree and 4=strongly disagree. The standard deviation (SD) is used to show variability in the responses where S.D < shows low variability and SD>1 shows high variability.

The study findings indicated that there were streamlined mechanisms of providing information about Hepatitis B and polio immunization to mothers/caregivers of infants (mean=2.42, SD=.955). These included clear policies at national level.

These policies set by health facilities on how they provided information. For instance several health facilities that had tailored health education activities about Hepatitis B and polio immunization onto other programs and activities for integrating child nutrition and infant immunization due to their close linkages which enabled mothers/caregivers to get information and adopt behavioral skills that helped them to incorporate several health services into their activities when they visit the health facilities.

Health facilities came up with strategies including Hepatitis B and polio immunization goal-getting and self-monitoring, building social support, and behavioral reinforcement strategies through self-reward and positive self-talk and strategies that reduce relapse into sedentary behavior towards Hepatitis B and polio immunization.

When the rules were set for conduction of health education sessions about immunization provide for morning hours it was imperative therefore to plan carefully for different sessions at different intervals depending on client flow so that there is fairness exercised to both those mothers/caregivers that come early and those who come late borrowing from the principle of active participation.

The inequality in time allocation has been evident where mothers/caregivers who came late missed health education sessions and hardly did there exist an opportunity to repeat for them which contradicts with affective aspect of educational approach that recommends provision of opportunities to mothers/caregivers to share their experiences, attitudes, beliefs and feelings about Hepatitis B and polio immunization.

Nurses, as key providers of health information about Hepatitis B and polio immunization to mothers/caregivers of infants and young children were tasked to share their experiences, perspectives and opinions about constraining and facilitating factors in their efforts to provide information to mothers/caregivers relating to infant immunization.

Similarly, In-charges as key supervisors, formulators and custodian of health education policies, rules and regulations as well as quality standards were also requested to provide their perspectives and sharing lived experiences about the subject of barriers to providing information to mothers/caregivers relating to infant immunization. Their combined responses are presented here below;

Despite the presence of immunization policy that encompasses health education about Hepatitis B and polio as a subcomponent and gives mandate to health centers IIIs to carry out immunization and health education sessions following a defined and standardized approach.

The study findings indicated that none of the health facilities visited had a strategic work plan for provision of health education about Hepatitis B and polio immunization thus there was no base that guided how health education sessions were handled and most of the implementation of these sessions relied on health workers' discretion and interests yet the educational approach proposes that for every

educational undertaking and intervention to be successful and effective, it must follow a well thought about and designed work plan with objectives clearly started and desired behavioral change.

Given the level of a health facility and the geographical areas it serves, some health facilities are mandated to provide health education about immunization alongside the actual clinical immunization services on a daily basis, however, the practice is different whereby health facilities, base on the administrative and health workers' discretion to select specific day(s) when such activities are done and this is typical of health facilities in rural areas. Findings from the study indicated that with exception of Rakai Hospital and Kakuuto Health Center IV (given their level) that do health education about immunization on a daily basis, the rest of the health facilities have specific days; notably, Buyamba Health Center III conducts on only Wednesday and Kimuli Health Center III on Thursday.

This above practice of holding health education sessions on specific days limits mothers'/caregivers' freedom to access information as they need and in instances when they miss out, it renders them vulnerable to taking ill-informed choices and decisions as well as limiting the level of knowledge they would have attained to inform positive behavior change and influence sustained access to immunization information for the betterment of their infants and young children's health.

Despite the fact that specific health activities were allocated days, nurses reported that were too much over worked with one nurse attending to more than 50 mothers/caregivers and their children in a single day. A nurse from Buyamba Health Center III indicated that;

'*when we are faced with many mothers/caregivers because they know we do health education about immunization and actual immunization once a week (only on Wednesday), what we do is that we focus on vaccinating and less of talking (literally health education) in order to clear the number and we discharge them happily because they will not go home and say we have been health educated about the importance of child immunization but rather what they will report about is our children have been vaccinated and the child health cards ticked, period!!*'

This finding highlighted that the health worker violated the core principles of educational approach when denied mothers/caregivers an opportunity to accessing sufficient information that would increase their knowledge and inform a course of action thus did little to develop the skills of the mother.

The mothers/caregivers had limited alternative avenues to access information about Hepatitis B and polio immunization given the fact that at the health facility there was no TV set and with limited print information and this was in line with findings by MoH, (2010) which indicated that only 6% of the health facilities have information and communication technology that included computers, TV sets, telephones and photocopiers that would enable them receive and disseminate information about Hepatitis B and polio immunization.

Mothers/caregivers also shared a similar opinion to the above finding when they indicated that health workers were inadequate thus highlighted the need to increase number of health workers so as to efficiently provide information on infant immunization to mothers/caregivers (mean=2.62, SD=1.099) and from their experience, health workers were quite over loaded and thus could not attend to the mothers/caregivers to their satisfaction.

The above findings indicated that health education of mothers/caregivers about Hepatitis B and polio immunization was given low priority among other health activities at the health facility and it is often times a practice that clinical clerking of clients (infants and young children in this aspect) tend to take a big share of the time in planning and actual provision of services that any other activity, a finding that is in agreement with Bbaale (2013) who cautioned that health education of clients deserved to be allocated sufficient time because it is the one which enables clients to access the services instead of focusing on the service provision.

WHO, (2012) regard this focus on only clinical services instead of increasing mothers/caregivers knowledge and skills for informed decision as a violation of health worker's responsibility when mothers/caregivers are denied a core service of health education about the services that intend to benefit them.

In relation to staffing is aspect of funding and financial resource allocation at health facilities. The study results also indicated health facilities were constrained with limited budget for health education as a component of immunization package of services in relation to many facility-based activities given the limited PHC fund, limited financial support from the Ministry of Health which meant that a limited number of health education outreaches were conducted which limited the opportunities mothers/caregivers in the communities would have to gain knowledge and make use of information

about Hepatitis B and polio immunization in building self-efficacy that would be translated into informed right choices and decisions to seek for Hepatitis B and polio immunization services.

However, some health facility in-charges rejected the statement that management does not provide enough finance to facilitate dissemination of information on infant immunization (mean=2.45, SD=.957). A Nurse from Kimuli Health Center III explored;

'*We find a challenge that you cannot start to health educate mothers/caregivers about Hepatitis B and polio immunization when we do not have actual vaccines; because at the end of the session you can't say sorry, for today we have no vaccines you can go back and come another time, so what we do is to postpone health education in circumstances when we do not have vaccines because they will ask for a service*'.

The above study results appreciates the theory of an integrated programme where the different components of immunization programme including health education interventions and clinical services are integrated in order to reinforce each other to achieve a desired goal of positive behavioral change towards a given health condition.

Besides funding, the limited availability of IEC materials and equipment for dissemination constrained effective health education about Hepatitis B and polio immunization. These IEC materials that have information on Hepatitis B and polio immunization which are used for planning purposes for health education sessions and also for enhancing mothers' knowledge, disseminating factual information that dispel negative attitude, myths and beliefs that mothers/caregivers and community hold about Hepatitis B and polio immunization.

It was found out that most of the facility clients had limited access to print and digital information on infant immunization (mean=2.50, SD=.838) given the fact that none of the health facilities visited had a TV set purposely used to health educate mothers/caregivers and printed IEC materials were very scarce for taking home by mothers/caregivers.

Findings indicated that none of the health facilities visited in the district had a TV for broadcasting information concerning Hepatitis B and polio immunization as an interactive media for disseminating information. This was due to the fact that there is no electricity and in the planning for logistics it received minimal attention thus most of the strategies used to disseminate information are verbal by

health workers and print media where charts with information are pinned up in public places at the health facilities for potential users to make use of them. However, the challenge discovered was such materials were limited and commonly in English with just a few in Luganda yet Rakai district and the health facilities serve mothers/caregivers and other categories of clients from diverse cultural, linguistic backgrounds and nations including those coming from Rwanda, Burundi, Tanzania and Congo that are not very familiar with English and Luganda thus rendering them vulnerable to taking right decisions with incomplete content received about Hepatitis B and polio immunization.

Among the typical cases observed is that of Kakuuto Health Center IV where the researchers identified that the print information about immunization was pinned in the immunization room; it was found hard for the mother who spends averagely 3 minutes in such room holding a baby to be immunized to find time to read, internalize and reflect on such messages thus they were literally meant to be used by health workers. Such and similar incidences of inappropriate spaces that have messages about Hepatitis B render mothers/caregivers unable to access adequate information, take right choices and informed decisions to immunize her infant or young child against Hepatitis B and polio.

Similarly, the researcher observed a mother at Kimuli Health Center III while interacting with the message that aimed encouraging mothers/caregivers to take up immunization indicating the value of immunization as being the birth gift a mother could give to her infant or young child. However, the mother read this information from available immunization charts and spilled over into a discussion as;

'*the birthday gift you can give your child…, eeeh, sincerely fellow mothers, you see.., we are poor mothers with n money and at times even lack what to eat, then how can we be told to celebrate birthdays for our children as you can all see here on the chart*!!'

The above finding indicates that the health worker had an intention to alter the social norms of the community as highlighted in the activated health education model that argues that a significant impact in positive health behavior of the targeted group or individuals can only be realized only if health education programmes are able to alter community or group norms and standards of behavior.

Thus the health worker exposed mothers/caregivers as the targeted groups to a substantial proportion of Hepatitis B and polio immunization programme messages however the messages were misinterpreted.

This finding indicated that there was need to package information about child immunization in the context of different users and in the language they understand best if at all the information was to shape the desired behavior since to a typical mother in rural setting the moment certain words are mentioned they develop and attach them to different meanings.

Besides availability of IEC materials and equipment for dissemination of health education information about Hepatitis B and polio immunization, insufficient health workers' competences alongside negative attitudes and perceptions towards mothers/caregivers and their social norms and lifestyles affected health education. This challenge is explicitly highlighted by a nurse from Buyamba Health Center III;

'*We have a few charts in the corridors concerning infant immunization that mothers/caregivers can read on and those are the ones we received from the ministry (literally Ministry of Health) so we can't afford to put them in every space though this would be effective in communication. Here, we hardly have fliers with immunization information that we give out to mothers/caregivers, no, most of our communication to them is verbal for most of the intended knowledge and information we share with them*'

In relation to the above finding, Ayebazibwe, (2009); WHO, (2012) and Ssonko & Mugabi, (2015) noted that one of the weaknesses of health systems rural settings Rakai District inclusive being resources (both material and finances). WHO, (2009; pp XXV) noted that creating awareness of and public demand for the benefits of immunization is an essential component of an active immunization programme.

The mothers shared a similar experience when they indicated that sometimes they could not find the information about immunization of infants from most of the health facilities they visited (mean=2.76, SD=.937).

The above findings demonstrated that the health workers were rendered unable to provide effective information and increase knowledge of mothers/caregivers as indicated in the aims of educational approach. They were also unable to encourage mothers/caregivers through information to adopt healthy behaviors for their infants and young children thus mothers/caregivers can't change attitudes and perceptions which would result into change in behavior towards Hepatitis B and polio immunization as provided by behavioral approach.

In order to address challenges that common along with limited availability of IEC materials health workers provide as much verbal information as required to substitute with tangible information materials that mothers/caregivers would carry home. Correspondingly, they motivate and build self-esteem of mothers/caregivers so as to shape a positive perception and attitude which could be translated into appreciating the need to take lead in advancing their infants and young children's health. A Nurse from UNEPI Department, at Rakai Hospital provided an account that intends to build the self-esteem of a mother/caregivers while reflecting on the reminder messages provided;

'*while carrying out health education we usually emphasize that mothers/caregivers should do it as part of their responsibility to enable their infants and young children have good health and not as a fulfillment of the responsibility of the health worker to have infants and young children that we immunize*'

This clearly pointed to the attempts by health workers to promote a sense of responsibility and ownership of the information on the side of mothers/caregivers which is highly emphasized by empowerment approach that mothers/caregivers have to be given an opportunity to identify their concerns about health (Hepatitis B and polio immunization), gain skills and confidence necessary to act upon them thus the health worker played a role of facilitating the process and enabled mothers/caregivers gain control over their infants' and young children's lives in relation to Hepatitis B and polio immunization.

Much as the nurses rejected the statement that mothers/caregivers had not received desired and effective information about Hepatitis B and polio immunization (mean=2.67, SD=.904) and instead alleged that the society was generally receptive (mean=2.59, SD=.945), the study findings indicated that Health workers had not provided enough information to influence attitude and perception on infant immunization (mean=1.72, SD=.786) due to lack of desired competences and the interest to achieve numbers infants clinically clerked.

In relation to the IEC materials and equipment is the absence of sufficient conducive environments where health education could be conducted to enable effective acquisition of knowledge through permitting free interactions between health workers and mothers/caregivers. Study findings indicated that only UNEPI centers and Rakai Hospitals had fairly enough structures purposely for conduction of health education on immunization while other health facilities improvised including using of congested

waiting corridors and borrowing office space from neighboring facilities. This condition never permitted free expression, confidentiality and attentive listening to what was health educated about.

In relation to the above findings, the educational approach model provides for a conducive environment for learning that appreciates the learner as an important and integral part of their learning processes and thus calls for a dialogue instead of teacher being a major source of information (knowledge) and the learner (mothers/caregivers) as only recipients of information. Similarly, the model cautions about power influence between the health worker (facilitator) and the learner (mother) that it denies free expression and inhibits potential feedback that would guide effective learning that would eventually be translated into taking right choices and informed decisions that would shape a positive attitude and desired behaviors towards accessing Hepatitis B and polio immunization services.

Coupled with unconducive environment are poor interpersonal and intrapersonal skills of health workers. This could be rooted from various aspects of interpersonal and intrapersonal skills of the health worker where some choices for the content of messages to be disseminated is made based on the attitudes and beliefs of the health worker consciously and also at times due to lack of knowledge about right procedures for conducting an effective health education session. A nurse from Buyamba Health Center III provided a case of a shallow and ill-planned and delivered content of health education about immunization;

‘*Due to the fact that we immunize only once a week and this is on Thursday very many mothers/caregivers who have brought children to receive immunization and to receive health education; we have to ensure that every mother is attended to without fail so we can’t take long time talking (literally means health education) because vaccine have shelf-life when removed from freezers and remember mothers/caregivers have to go back long distances. What we do is to welcome them, tell them about the procedures to follow while accessing immunization and to present to us their child immunization cards, be told about next visit for vaccine and that is all*’

The finding pointed out the fact that when the health worker consciously chose to limit time for health education, mothers/caregivers were denied sufficient knowledge which is an aim of educational approach thus less was done to encourage mothers/caregivers to take a voluntary choice toward Hepatitis B and polio immunization which is an outcome of health education. Similarly, the denial of health information results into mother gaining less control over the lives of their infants which defies the

aims of empowerment approach and those of Ottawa Charter (1986) that appreciate mothers/caregivers as an important part in informing the processes and leading to behaviors that influence their lives.

The above finding was in line with what most of the health facility In-charges attested to; the insufficiency in health workers skills mainly among their nurses and held less enthusiasm and dedication for delivering health information about Hepatitis B and polio immunization compared to the focus put on clinical clerking given the fact that there were limited appropriate and up-to-date tools on how to engage effective health education practice including IEC materials concerning Hepatitis B and polio immunization. The In-charge of Kimuli Health Center III provided a clear illustration of health worker perceptions and attitudes towards mothers/caregivers that highly affects the quality of relationship and subsequent knowledge acquired about Hepatitis B and polio immunization;

'*I also very well know among my staff that there are young nurses, sorry to say so though in profession there is nobody who is young provided he/she qualified, but I mean staff of lower age tend to minimize local mothers/caregivers who are shabby, uneducated and less informed so it is hard for nurses to easily bond with them and have a fully interactive health education with low class mothers/caregivers.., but they try their best and I sometimes tell them to respect those mothers/caregivers so that they do not withdraw from coming'*

The In-charge narrations clearly indicated that the health facility had not yet embraced the theory of long-term change which requires the facilities to avail long-term funding and related resources as well as developing a permanent health education infrastructure within the institutions/health facilities. Furthermore, the theory holds that health education programmes should be designed to produce effective stable and lasting changes in the desired behavior.

The study findings indicated that most of their nurses were in early stages of their career and In-charges of respective health units. Based on this, it was alleged that such nurses still had opportunities to perfect their health education skills and knowledge compared to their senior counterparts who would better provide health information.

The allegations had a mixed threat which they did not permit In-charges to appreciate that there were critical skills gaps that needed attention and also due to the fact that through practice, certain skills are

shaped, this approach was observed to potentially groom ill-skilled facilitators of health education session for immunization.

Coupled with challenges of early staff career stage is the fact that health workers commonly used own intuition to select only the important information about Hepatitis B and polio immunization and that was what they disseminated to mothers/caregivers. The reliance on staff discretion in choice of information content bred mistakes from lack of basic planning decisions about appropriate and sufficient time for health education which would be important in informing knowledge and improving behaviors of mothers/caregivers that would determine health seeking for immunization for their infants and young children as indicated by a nurse from Buyamba Health Center III;

'*Because of time you find that we tell mother what we know and think is important to them to know for instance you tell her please endeavor to complete your child's immunization schedule and come back on 12th June 2017 for the next visit of your child; however if it coincides with market day you find that fewer mothers/caregivers turn up*'

The above finding indicated that the health worker never appreciated the theory of planning when never followed right processes of identifying health problems and information gaps of mothers/caregivers as the targeted group, never formulated goals of that specific health education session and did not identify target behavior and environmental characteristics that would be the focus of the health education session as well as deciding how mothers/caregivers as crucial stakeholders health education would be involved and building a cohesive planning group which are all precise but coherent procedures required by the planning theory.

Similarly, the findings pointed out the fact that the health worker used a medical approach that permits health education priorities to be commonly set by the health worker using a top-down approach given the fact that they have power and resources to make decisions thus imposed idea to what could be taken by mothers/caregivers as knowledge yet empowerment approach calls for joint setting of priorities by health workers and mothers/caregivers in identifying issues about Hepatitis B and polio immunization which they both perceive as relevant.

This is a pointer to the fact that health workers do not engage mothers/caregivers in discussions to identify issues and circumstances that are likely to affect their behavioral choices towards turning up for health education and subsequent immunization services.

This practice would potentially enable them to shift in dates for next visit to the health facility for child immunization thus it is essential that quality time be directed on topics that are relevant to the mothers'/caregivers' needs which would actually lead to improvement in self-efficacy and enable them take right decisions. Studies that assessed the individuals' capability to adapt to health behavior change indicated that individuals who spent had spent considerable amount of time participating in health education activities compared to their counterparts who had spent less time WHO, (2012).

By synthesizing the information provided in the typical case of health education package of content from a nurse at Buyamba Health Center III, the elements that would promote self confidence, informed decision to take right choices and positive behaviors are all lacking thus mothers/caregivers who received such information content took ill-informed decisions based on insufficient knowledge received and were vulnerable to withdrawing from attending subsequent health education sessions.

Nevertheless, mothers/caregivers rejected the statement that they had not obtained any information about child immunization (mean=3.86, SD=.821). Mothers/caregivers asserted that they obtained some information relating to immunization from such health workers however this meant given their capacity, level of exposure and previous knowledge levels yet to the quality standards of WHO, (2012) the nature of information received by these mother could potentially shape and inform ill-choices and less informed decisions which couldn't be translated into positive sustainable behaviors towards Hepatitis B and polio immunization.

At the postnatal wards, health workers reported that they could not have mothers/caregivers to health educate alleging it to the fact that they could be tired, moody due to long queues for service and also some mothers/caregivers stubbornly refused to attend Hepatitis B and polio immunization session due to misconception and negative attitudes. Similarly mothers/caregivers attested to this conscious absence however provided cultural reasons; a mother from Kimuli Health Center III indicated that;

'*We make ourselves absent from the health education sessions about immunization due to the fact that it is as if we are welcoming bad luck to our unborn baby; if I chose to sit and listen that after childbirth my*

child will be immunized; sincerely this is counting unborn baby which is not culturally ok what if you get a still birth!! It is abominable so for us we do not count nor do we plan to immunize a baby that is not yet born'

The above findings are an indicator that the health worker was encountered with a complex relationship between the behaviors of mothers/caregivers and their social factors yet behavioral approach under-looks and the fact that the health worker had not made use of altering community social norms to exposed a significant number of mothers/caregivers as the targeted group to a substantial proportion of Hepatitis B and polio immunization programme messages and involving them in health education activities of the programme as required by the theory. The theory further cautioned that a significant impact in positive health behavior of these mothers/caregivers could only be realized only if health education Hepatitis B and polio immunization programme are able to alter community or group norms and standards of behavior.

Similarly, study findings revealed that health workers had not provided adequate information to address negative culture beliefs and myths about health education for infant immunization (mean=1.79, SD=.807) as explored in a case of a mother from Kimuli Health center III at OPD Unit who held strong unsubstantiated myths and perceived outcomes of attending heath education as well as the resultant behavior arising from built knowledge and developed self-efficacy that informs decision to access immunization services. She indicated that;

'*You can listen to health education talks about infant and young child immunization, fine as you wait for other services, but there is a stage of getting motivated to also immunize your child; I still ask myself up to now why all those free resources.., money time and vaccines made for free just for us to access! But remember the whites are conniving to limit the life expectancy of African babies and this is what our health workers do not know or if they know then they choose to hide from us because what I heard about from a fellow mother is that immunized babies are weaker compared to unimmunized ones'*

The findings relate to Diffusion of innovation theory which holds that there are five different categories of people (mothers/caregivers): innovators, early adopters, early majority adopters, late majority adopters, and laggards. Thus it called for identification the different characteristics of people (mothers/caregivers) in each adopter category by the health worker so as to plan more effectively and

implement strategies that are customized to the information needs of the target population (mothers/caregivers).

The above groundless myths and doubts about accessing health education develop as a result of social interactions between mothers/caregivers and the community yet health workers hardly spare any time to capture such so as to use them as a basis to inform the packaging of health education sessions. It did not come to the researcher's awareness how far such misconceptions had been propagated by this source (mother) to potentially affect the subsequent health education sessions about immunization.

A similar experience was shared about failure to identify the social concerns that affected the acquisition of knowledge by mothers/caregivers about Hepatitis B and polio immunization which resulted in poor packaging of health education information as indicated by Davis et al., (2006), the In-charge, UNEPI Department at Rakai Hospital expounded;

'*during health education sessions in the morning, we share with mothers/caregivers information about scientific safety and proven efficacy of immunization vaccines but we still find that mothers/caregivers are not confident enough and some still carry negative attitudes got from society and media vaccine-related controversies and this is still a big challenge we find at this health facility in improving mothers'/caregivers knowledge, attitudes and beliefs*'

The above findings indicate that the health worker appreciated and made use of the medical theory which aims at providing scientific evidence while using scientific methods to the target group (mothers/caregivers) which is a more top-down approach thus ignored the social and environmental dimensions of health which is its greatest limitation where the mothers/caregivers health education decisions are taken by health workers and mothers/caregivers are entirely removed yet they are primarily concerned about the lives of their infants and young children that are targeted by the immunization services.

At this point the health worker was never aware that the mother (as a recipient of information about Hepatitis B and polio immunization) had a different information need that was targeting action and maintenance as emphasized highlighted by the educational approach (WHO, 2012) that an individual can come to a health facility but still has some minor elements of precontemplation as well as those from action level which require health worker to increase awareness of the need to change, assist with

feedback, reinforcement support and in this case the health worker needed to personalize the information about risk and benefits.

In relation to the above nurses also indicated that another factor that made mothers/caregivers unavailable for health education as were expected by health workers was that long distances to the facilities were a key impediment as mothers/caregivers were on and off given the fact that the health facilities were also limited in geographical spread yet health education sessions for immunization are usually carried out in the morning commonly between 8:30 -10am yet not all mothers/caregivers are able to be present at the facility thus they are not able to attend the health education sessions. A nurse, who had spent more than three years attending to mothers/caregivers and infants from Kakuuto Health Center IV indicated that;

> *'There are mothers/caregivers who travel more than 4 kms to this health facility, they are sometimes having partial transport; half the distance they use public means and half walk on foot to the facility. Such mothers tend to miss health education sessions because they are the ones we conduct first but further more you find that some mothers/caregivers miss return dates which is responsible for inconsistently in knowledge they have about Hepatitis B and polio immunization for their infants'*

In relation to the above, mothers/caregivers gave a similar opinion concerning the distance and transport as an important barrier in the provision of health education about Hepatitis B and polio immunization that the health provider efforts to provide health information on infant immunization were constrained by distance from home to the facility (mean=1.55, SD=.725).

Besides staff competence is the aspect of allocation of time for several health education activities which also has a bearing on knowledge, competence and skills of a health worker (nurse). The study found out that given the fact that the first health education session on immunization are commonly carried out between 8:30am 10:30am and in terms of duration it is accorded 5-15 minutes, there were no attempts to give a chance to a mothers/caregivers who came late in that what was done was only to give them clinical services related to immunization thus they had no opportunity to give any feedback in terms of questions, comments or suggestions in relation to Hepatitis B and polio immunization.

In relation to time allocation, health facilities have known schedules at which immunization services are offered where also the aspect of disseminating information about Hepatitis B and polio immunization is done for resources are combined on such days to ensure that health education is conducted in the desired manner to provide information to all mothers/caregivers that turned up.

The health workers combined and availed resources, space, time, staff and materials for instance, health facilities that conduct immunization only on specific days of the week make use of materials, facility structures like rooms, training units, offices, materials with information about Hepatitis B and polio immunization thus provided conducive environment for mothers/caregivers to easily acquire knowledge, comprehend and make right choices since a comfortable environment facilitates effective learning.

Since the health workers traditionally know that any mother who comes late risks to be asked to explain why she delayed and also standards chances to miss out even the clinical services, this stake coupled with exercising positions of authority by health workers make mothers/caregivers surrender their inherent rights as clients to ask for clarity about a given health concern which could help enhance their knowledge about Hepatitis B and as a result develop their self-efficacy to translate it into positive behavior to seek for Hepatitis B and polio immunization.

Similarly, the nurses were limited by language due to the fact that they serve a diversity of populations in terms of language and culture yet they can't practically know all the languages thus this barrier was also reported by nurses that it limited good flow of information. A nurse, 25 years, attached to the immunization department for one year at Kimuli Health Center III indicated;

> *'most of the mothers/caregivers here speak Luganda and my Luganda is broken, sometimes they laugh at me and I feel bad. In other cases, the patients ask me questions through their friends (fellow mothers) who can speak English and they find themselves not getting the answers they want since their colleagues cannot exactly say what they intend to mean and equally cannot translate to them what I have said because some words are technical and medical. We find ourselves (nurse and patient) not communicating effectively'*

The inability by staff to effectively communicate was an indicator that mothers could not receive sufficient and effective knowledge which would result into change of attitudes thus the health worker

was unable to develop skills of the mother towards Hepatitis B and polio immunization as required by educational approach.

Staff difficulties in language as a measure of communicating health information was worsened by low literacy (education) among mothers/caregivers in that those with low education levels findings indicated that were harder to be disseminated to information about Hepatitis B and polio immunization despite the fact there were attempts to pin information about immunization, their motivation and capacity to utilize that information was low compared to their counterparts who had higher literacy levels that these quickly raised concerns about any message they wanted and clarity about information provided by the health worker (Angadi et al., 2013). This finding is related to those by (WHO, 2012; Walsh & Bukachi, 2009 & Ibnof et al., 2007).

In relation to staff difficulties in language and communication is the aspect of staff motivation which was found out to be yet another factor where the results indicated that nurses had limited motivation to be involved in works related to health education about immunization (mean=2.14, SD=.976). This included making sufficient transport means for staff, equipment, supplies and vaccines, food items to sustain staff at work and on outreach activities as well as verbal recognition by their seniors and health facility administration for outstanding work done.

'*you go to the community and conduct an outreach for immunization.., where you begin with shouting at mothers/caregivers, organizing them, clerk their infants and young children finally organize back your materials and remaining vaccines to hit the long distance back to the facility; however, you find station work also waiting, nobody considers that you have overworked so that they could relieve you of the afternoon clinic activities, with no lunch provided besides escorts in the morning. The next time you do an outreach you consciously cover limited number of mothers/caregivers being mindful that your day of work has just begun*'

The study results essentially indicated that the health worker had appreciated the social change approach by adopting outreaches for health education which aim at changing the society as a core principle of the theory when it targets groups and populations in their respective communities.

The above finding indicated that a given number of potential mothers who would access health education about Hepatitis B and polio immunization from health providers miss out intentionally and the

fact that the health workers are not motivated, they provide insufficient knowledge to mothers/caregivers yet not allowed to dialogue in the interest of time thus ill-informed choices and decisions about Hepatitis B and polio immunization will be taken by mothers/caregivers and consequently affect positive behavior which is the primary goal of health education.

All these problems required careful planning, selection and design of strategies for providing health information in order to promote health behaviors as it is highlighted in educational approach that in any strategy for improving the health of people health education is an essential component and a cornerstone of the concept of primary health care.

The health workers needed to develop multilevel strategies and have targeted messages at the group level and at the community level that were being targeted.

4.5 The enablers in the provision of knowledge on immunization to mothers/caregivers of infants in young child clinics in Rakai District

The third objective, explored the enablers in the provision of information about Hepatitis B and polio immunization to mothers/caregivers of infants and young children in infants and young child clinics in Rakai District.

The total number of respondents including mothers/caregivers, Nurses and in-charges was 293. The respondent indicated that different factors carried different level of importance and their responses are summarized in the table 4.2 below.

Table 4.2: Enablers of information provision to mothers/caregivers

Enabler	Facilitating factors as rated by the health workers (nurses and in-charges/Medical Superintendent)	Proportion of the total respondents (% of 119)	Facilitating factors as rated by the mothers/caregivers	Proportion of the total respondents (% of 174)
Involvement of all health facilities in the district in providing health information on Hepatitis B and Polio immunization.	49	16.7	100	34
Private practitioners involvement in providing health information on Hepatitis B and Polio immunization	15	5	90	31
Availability of IEC materials on Hepatitis B and Polio immunization	28	9.5	84	29
Availability of resources (PHC funds) to facilitate providers of health education, and conduction outreaches.	33	11.2	80	27
Availability of conducive space with seats for mothers/caregivers while providing health information on Hepatitis B and Polio immunization.	65	22.1	78	26.6
Interactive approaches that comprise of dialogue between health worker and mothers/caregivers.	40	13.6	70	24
Frequency of outreaches for providing health information on Hepatitis B and Polio immunization	25	8.5	70	24
Attitude of mothers/caregivers towards Hepatitis B and Polio immunization.	60	20.4	78	20
Adequate Care at childbirth and sufficient information provided about Hepatitis B and Polio immunization at that stage.	36	12.2	57	19
Attitude and belief of health workers towards mothers/caregivers and provision of information about Hepatitis B and Polio immunization.	23	7.8	50	17

Involvement of all health facility departments in the provision of information about Hepatitis B and Polio immunization.	44	15	48	16
Qualification of nurses with a reflection on training in health education.	37	12.6	45	15
Experience of health workers at work and in providing health education about child immunization.	46	15.6	20	7
Mothers/caregivers academic qualification (level of literacy)	40	13.6	10	3

Source: primary data, 2016.

From the above table, the study results indicated that the most important enablers of information provision about Hepatitis B and polio immunization in order of importance included; participation of all health facilities both public and private with sufficient resource allocation both financial and material related to health education and immunization, health workers' qualifications that go hand in hand with their enhanced intrapersonal and interpersonal skills which enable them engage mothers/caregivers in interactive health education sessions and availability of IEC materials and tools for dissemination of health education information and planning purposes for health workers respectively.

Similarly, availing of sufficient funds enable health workers organize and conduct effective outreaches and health education sessions where mothers/caregivers interact freely including asking questions and giving and receiving feedback about issues covered in sessions.

The third objective, explored the enablers in the provision of health education about Hepatitis B and polio immunization to mothers/caregivers of infants among infants and young child clinics in Rakai District. The interpretation of the results was based on the mean where 1=strongly agree, 2=Agree, 3= Disagree and 4=strongly disagree. The standard deviation (SD) is used to show variability in the responses where S.D < shows low variability and SD>1 show high variability. The responses include the views of nurses, mothers/caregivers and in-charges.

The support from Ministry of Health in various forms enable the provision of health education about Hepatitis B and polio immunization to mothers/caregivers. This support is in form of policy guidelines the streamline what is the content that is supposed to be delivered, procedures of delivering the content, as well as the physical materials including brochures, fliers, flip charts, books and fact sheets about

Hepatitis B and polio immunization. These enable health workers get a common understanding of what is to be delivered and thus package their health information appropriately.

However, the presence of policies, guidelines and regulations doesn't not guarantee that the content that will be provided with be coherent and of quality because their interpretation largely depends on the skills of the health workers including their communications skills to make use of these guiding documents in planning and delivering effective health education session about Hepatitis B and polio immunization.

It also depends on their personality traits also are likely to affect this since some are timid, introverts and can't ably express themselves before the mothers/caregivers yet for effective health education about Hepatitis B and polio education one requires to have high level of confidence in communication and simplifying technical aspects into easily understood language to mothers/caregivers who are typically of low education backgrounds.

The study findings indicated that health facilities had more general standard guidelines that set parameters for health workers in organizing and delivering health education to mothers/caregivers so this enable them to precisely pick out and assemble the right content of information that they delivered to mothers/caregivers thus they always gave mothers/caregivers adequate information about infant immunization at child birth (mean=2.28, SD=.829).

Nurses indicated that they had a significant number of the health education planning tools and equipment they needed to provide information about infant immunization to mothers/caregivers (mean=1.73, SD=.648) since health education planning tools are an important enabler and mothers/caregivers were given information on when to immunize my infant against certain diseases (mean=2.17, SD=.876).

Related to the above, the nurses indicated that the Ministry of Health provided enough tools and materials to aid the process of providing information about infant immunization (mean=1.75, SD=.664). However, from the materials provided, there missed documents that specifically guides health workers in conduction of health education instead emphasis was put on guidelines for administration of clinical services. Thus, this condition rendered health workers with limited supporting and guiding documents to effectively deliver health education sessions about Hepatitis B and polio immunization.

However, mothers/caregivers expressed a contrary opinion when they indicated that health workers rarely had the tools they needed to provide mothers/caregivers with information on infant immunization (mean=2.93, SD=.947) although appreciated that health workers endeavored to provide them with enough verbal information about Hepatitis B and polio immunization.

Given this condition, health education planning tools would not adequately enable health workers to plan well for activities they would at times rely on own experiences and discretion to organize health education sessions for Hepatitis B and polio immunization.

The study indicated that all departments in a way helped mothers/caregivers to get information on infant immunization (mean=2.48, SD=.898). This means that all nurses from across different departments made it a point to give mothers/caregivers information related to infant immunization.

In relation to the above, Nurses further indicated that they co-operated with their fellow staff to provide information on infant immunization to mothers/caregivers (mean=1.34, SD=.476) across the units in that at maternity unit health workers gave adequate care at childbirth to mothers/caregivers to encourage them to proceed to health education sessions and immunization services for their infants (mean=1.40, SD=.545).

This highlighted a spirit of maximum co-operation between nurses in providing information related to immunization to mothers/caregivers that was coupled with task sharing in health education as well as pinning up information about Hepatitis B and polio immunization in other units that comprise the health facilities where mothers/caregivers potentially got to know about health education thus, got knowledge, picked motivation and built self-confidence to turn up for the sessions. This was explored by a nurse from UNEPI immunization unit at Rakai Hospital;

‘*Some mothers/caregivers come with children at maternity but we do not go looking for them instead fellow health workers there tell them precisely where to get health education about immunization and the actual immunization services. Given this, they come to our unit (UNEPI Unit at Rakai Hospital). There are also verbal reminders at all units about immunization schedules, in that way we receive big numbers of mothers/caregivers for health education*’

Similarly, study findings also indicated that mothers were able to obtain additional information on infant immunization from private practitioners (mean=1.97, SD=.617) and complemented efforts of nurses in

providing information to mothers/caregivers about infant immunization (mean=1.62, SD=.573). This finding was in line with the recommendations put forward by WHO (2013) & UNICEF, (2015) to put linkages between public immunization services that include a subcomponent of health education about immunization and private health facilities that were providing childbirth care.

This meant that the private practitioners were also playing a complimentary role to further disseminate information about Hepatitis B and polio immunization which built the mothers'/caregivers' levels of knowledge, informed their choices and decisions towards Hepatitis B and polio immunization. This finding is in line with the principle of an integrated programme which emphases that the health education interventions should be integrated and each component of the programme should reinforce the other components in order to achieve a desired goal of positive behavioral change towards a given health condition (Hepatitis B and polio immunization).

In relation to cooperation and task sharing among health facilities and staff respectively, the presence of supportive political atmosphere is yet another enabling factor. This political atmosphere includes presence of political commitment towards mobilization, advocacy and supporting mothers/caregivers to turn up for sessions on Hepatitis B and polio immunization.

The political commitment also promotes delivery of health information about Hepatitis B and polio immunization which would enhance mothers'/caregivers' self-efficacy, render them more confident and with high self-esteem thus would take right choices and decisions including timely turning up to access and continued uptake of Hepatitis B and polio immunization services for their children. This aspect was explored by the In-charge, Buyamba Health Center III;

'*in most cases during our outreach immunization activities (health education on immunization inclusive), we make use of the local leadership who mobilize mothers/caregivers from all corners of the villages to come and attend health education sessions and also receive services…., they do us a good job because they understand the mothers/caregivers better so they mobilize them in very big numbers*'

The presence of known health education and immunization schedules about Hepatitis B and polio immunization enables coherent turn up of mothers/caregivers which was important health education activities follow specific schedules and well known time thus health workers adhered to such schedules

and ensured that the right and desired information about Hepatitis B and polio immunization was delivered.

The know schedules enabled health workers organize health education resources and content prior to dissemination sessions and also provided room for mothers/caregivers to turn up in big numbers. Findings indicated that nurses were able to conduct health education about Hepatitis B and polio immunization effectively following the known schedules (mean=1.48, SD=.537).

Given the fact that health education about Hepatitis B and polio immunization goes hand in hand with provision of other health services for instance immunization it was found out that their availability enhanced provision of information about Hepatitis B and polio immunization for instance when vaccines were available at respective health facilities, health education could with ease be held since it makes mothers/caregivers come in big numbers and attentively wait and listen. This was explored by a nurse at Buyamba Health Center III;

'When mothers/caregivers are very aware that we have vaccines here in stock, they sit attentively and comfortable that they will go home with their children immunized so this makes them listen to our health education sessions in the morning up to the end'

Study findings also indicated that nurses had enough health professional training qualifications to enable them to provide information to mothers/caregivers about Hepatitis B and polio immunization (mean=1.34,SD=.476) since it is a requirement that medical practitioners possess the required skills. In relation to qualification, nurses had some reasonable experience in providing information about infant immunization (mean=1.44, SD=.682). This experience was in terms of duration at work and nurses were confident that by virtue of their appointment, they were in good position to provide information about Hepatitis B and polio immunization (mean=1.40, SD=.492) based on the experience.

CHAPTER FIVE
DISCUSSION OF FINDINGS

5.1 Introduction

This chapter contains the discussion of findings in relation to the study objectives with a reflection on what these findings mean to the different stakeholders and the discipline of health education and largely health promotion.

5.2 Discussion of findings

Health education about Hepatitis B and polio immunization feeds into the broader package of infant and child immunization services that health facilities provide since in their structures they do not have a full unit for health education at facility level. Given this on ground, the independent units arrange and conduct their activities in relation to what they perceive as information needs by their target population (inclusive of mothers/caregivers) about Hepatitis B and polio immunization.

The plans and actual practice of providing information about Hepatitis B and polio immunization are largely influenced by the personality and skills of the health workers at a given health facility as indicated by WHO, (2012); UNICEF, (2015) & Thornton et al., (2012). This is because they are in positions of authority to allocate materials resources (including print, audio and video messages) as well as physical conduction of health education as indicated in the book by Leask et al., (2012) that focused on communicating to parents about vaccines providing frameworks to health professional.

It was cautioned in Leask et al., (2012) that health workers had to identify their skills gaps by self-evaluation and bring the gap. However, from this study, the researcher noted that there were hardly instances where health workers mentioned this.

It was evident that from some instance health workers did not make right choices of the media and space to use which led to absence of supportive environment that would enable mothers/caregivers of infants and young children to make right choices and informed decisions to adopt positive behaviors, build their self-efficacy to access immunization services for Hepatitis B and polio. This finding fell short of the recommendations by UNICEF, (2015) & WHO, (2017) that prioritized conscious choice of media and space as vital tools in provision of health information.

Owing to the Nurses' age and the fact that some had adequate content, well developed interpersonal skills and work experience to deliver Hepatitis B and polio immunization information in the facilities, it was possible that the mothers/caregivers could get right content and build their level of knowledge. This largely relies on the Nurse being a good communicator with positive attitudes towards mothers/caregivers irrespective of their socio-economic, ethnic, educational and religious backgrounds.

When the health worker appreciates that all mothers/caregivers are equally important in learning about Hepatitis B and polio immunization and are co-facilitators of their own processes of learning, this approach enables mothers/caregivers to take right health choices for their infants and young children with built self-efficacy because the source of information (health worker) bears right qualities of health promotion that are essentially desired to cause effective learning which informs right choices and informed decisions and consequently shape positive behaviors towards Hepatitis B and polio immunization.

However, in absence of such skills, meaningful discussions couldn't take place because an ill-trained health worker who is timid with negative attitudes towards mothers/caregivers can lead to low self-esteem, loss of self-worthy and always dictates to mothers/caregivers over what to do. This finding fell short of the expectations of the education approach from a health worker to first work upon own qualities and personal weaknesses in order to provide meaningful health education (WHO, 2015; Shin-Yi 2007 & Selman et al., 2009).

Such a health worker usually takes position of authority that he/she holds to put mother/caregiver in a subordinate position which makes the mother/caregiver lose interest in accessing the health facility including attending subsequent health education session and bringing her infant or young child for immunization.

In such scenarios, mothers/caregivers are not given chances to seek for clarity about issues they haven't understood, give feedback and comments in relation to the proceedings of the health education session about Hepatitis B and polio immunization. This is a pointer to the fact that dialogue between health worker and the mother/caregiver is not facilitated instead the health education session has been 'teacher-student' instead of the recommended mutual interaction of 'mentor/facilitator-learner'.

In the above incidence, educational approach model believes that learners (mothers/caregivers in this particular case) have some knowledge, perceptions and attitudes about a given topic and service thus the health worker ultimately needs to identify this and build upon it to shape the content of information to provide to the mothers/caregivers. It is noted that some of the knowledge and perceptions could be negative nevertheless, the health worker needs to appreciate this and tailor make an alternative information content that can gradually change the held knowledge and perceptions.

Therefore with effective and evidence based planning and dissemination of information about Hepatitis Band polio immunization that is reflective of mothers'/caregivers' aspirations, knowledge needs and it is expected that the choices and decisions taken afterwards will result into continued and effective access to Hepatitis B and polio immunization services for their infants and young children.

The individual characteristics of the health workers including behavior, such as their knowledge, attitudes, beliefs and personality traits combined with interpersonal supports at the health facility including processes and staff groups, friends and peers that provide social identity, support and role definition in provision of health information about Hepatitis B and polio immunization.

Much as individual's behavior, knowledge, attitudes, beliefs and personality traits have stood test of time as essential components of health education, the researcher remained with questions whether health workers in Rakai District had ever considered them as core ingredients of successful behavioral change in infant and young child immunization as stressed by (WHO, 2012; Patra, 2006).

When the health workers (educators) have a good and positive personal attitudes towards mothers/caregivers as receivers of immunization information, good facilitation and sufficient interpersonal skills, sufficient knowledge about Hepatitis B and polio immunization, the resultant information about Hepatitis B and polio immunization that they eventually disseminate will be complete, clear and well planned and effectively delivered thus will be comprehensive enough thus the mother will carefully receive it, internalize the information received consequently get pick motivation by influencing their willingness and ability to come back and participate in similar sessions, access such information and have informed choices to seek for Hepatitis B and polio immunization services.

Secondly, however, when the health workers have a poor and positive personal attitude and also towards mothers/caregivers as receivers of immunization information, the resultant information about Hepatitis

B and polio immunization that they disseminate will be characterized by incompleteness, will not be clear and ill-planned and deliver thus will not be comprehensive enough thus the mother will disregard the information received consequently get de-motivated to come back and participate in similar sessions or access such information.

This is also based poor facilitation and insufficient interpersonal skills, insufficient knowledge about Hepatitis B and polio immunization a finding that concurs with what Ibnouf et al., (2007) identified in their study in Sudan and also what was found out by Neil Pakenham & Bukachi, (2008) in their study about information needs of health workers in developing countries where it was indicated that a 70& of the health workers in Africa lacked current information about the topics they handled and did not make formal prior planning before sessions.

According to (WHO, 2012) National Commission for Health Education had proposed a profession-wide standard code of ethics for health workers that provided a framework of shared values within which health education is practices and highlighted that the responsibility of each health worker including aspiring the highest possible standards of conduct and encourage the ethical behavior of all those with whom they work. It was further stressed that health workers should abide by these guidelines when making professional discussions irrespective of their job title, professional affiliation, work setting or population served.

The above health education policy and regulatory approaches aim at enabling individual mother and group make healthy choices easier and target the entire workforce at health facilities change physical and organizational structures.

With conducive environments and resources such as enough physical structure accommodate mothers/caregivers while conducting sessions on Hepatitis B and polio immunization, enough and easily understandable IEC materials, and quality time allocated for conduction of Hepatitis B and polio immunization sessions as well as granting opportunity to get feedback from mothers/caregivers, this will build and increase mothers'/caregivers' self-efficacy, confidence and self-esteem thus take informed and right choices and ultimate decisions to access Hepatitis B and polio immunization services for their children.

WHO (2009) recognized that despite impressive improvements in immunization, 20% of out of the 24 million children born did not get complete immunization scheduled for the first year of life. The reported further indicate that the situation was worse in rural poverty stricken areas. The finding of this study and that of WHO (2009) concur with to what was found out in Rakai District by Ayebazibwe, (2009) where coverage was far below the national target.

While with unfavorable policy environments and structural resources such as lack of a sufficient physical structures to accommodate mothers/caregivers while conducting sessions on Hepatitis B and polio immunization, limited and complicated IEC materials in languages not familiar with mothers/caregivers reduced the mothers'/caregivers' self-efficacy, render them less confident and with low self-esteem.

This was coupled with and limited time allocated for conduction of Hepatitis B and polio immunization sessions as well as denying an opportunity to mothers/caregivers to give feedback and ask questions, this thus will not take wrong choices and decisions including not turning up to access and eventual drop out from Hepatitis B and polio immunization services for their children. This finding was in line with the challenges highlighted by UNICEF, (2015) report on Uganda that barriers to the provision health education had to be identified though these barriers were not explicitly clustered in that report.

Quite a number of health workers did not have access to the tools required to be effective practitioners in delivering Hepatitis B and polio immunization information for instance tools they need to engage in needs and capacity assessment of mothers/caregivers and planning for initiatives in comprehensive health behavior change in Hepatitis B and polio immunization.

This equally renders mothers/caregivers with less information about Hepatitis B and polio immunization which makes them to have low capacity to obtain, process and understand basic health information needed to make desired and acceptable health decisions. This finding was similar with what was reflected in Ayebazibwe, (2009) & Ssonko & Mugabi, (2015) about resource constraints in Rakai District and also the overall national resource dynamics for health as reflected in UNICEF (2013) Uganda country report.

Even with presence of health education planning tools, still a big number of health workers demonstrated possession of limited specialized training in health education more so in delivering

information about Hepatitis B and polio immunization and often times lacked an understanding of the theoretical foundations of health education and the ways in which these theories and concepts could be applied which rendered their roles as facilitators of learning inappropriate based on the theory of empowerment and also made them ill-prepared to increase mothers/caregivers knowledge which would be translated into change of attitude and adoption of positive behavior towards Hepatitis B and polio immunization as required by educational theory thus mothers/caregivers would equally take ill-informed decisions.

In relation to staff competence was the aspect of age of health workers in relation to the mothers/caregivers they health educated about Hepatitis B and polio immunization. Given the fact that the health workers were close to the age brackets of most of the mothers/caregivers (in tender age 18-30) it would mean that mothers/caregivers can easily confide in with them and easily disclose their concerns as well as asking questions however the mood swings of the health workers (educators) were high and ability to control tempers was low which created unfriendly atmosphere and limited mothers/caregivers from freely interacting with the health workers thus rendered them less confident and with low capacity to take right decision to bring their children for Hepatitis B and polio immunization.

The health workers mainly being in a tender age bracket constrained the meaningful discussion about Hepatitis B and polio immunization since traditionally in most of the health facilities where the study was conducted health workers commonly used the lecture method in health education sessions therefore mothers/caregivers couldn't be mutually involved in health education dialogue which is highly recommended empowerment approach instead adopted health education lectures thus limited feedback was provided by mothers/caregivers.

This highlighted that there was limited attention that is usually paid to assessing the mothers'/caregivers' health information needs and resource assessment theory suggests that in order to lead to effective health education the target group and individuals' needs have to be clearly and thoroughly assessed to tailor make activities geared towards health information delivery about Hepatitis B and polio immunization.

Correspondingly to the assessment of the needs of individuals mothers/caregivers, it is imperative that respective health facilities need to carry our needs and resources assessment so that they are able to identify the skills gaps among health workers, inform the design of training programs which can help build their skills and competences to appreciate the ethical planning and implementation of health

education in an effective manner that also involves the mothers/caregivers as important stakeholders in their learning and skills acquisition to shape right and informed decisions towards Hepatitis B and polio immunization.

The readiness on the side of the health workers to provide health education about Hepatitis B and polio immunization was enhanced by allocation of specific days for conducting immunization and the presence of guidelines for conduction of health education on immunization gave them accurate procedures that they followed. Thus with this arrangement, the information health workers provided to mothers/caregivers propelled them to take positive actions in relation to infant immunization.

It is crucial that readiness to provide health education should begin as early as antenatal in that the mother has to be provided sufficient information about Hepatitis B and polio immunization right from the stage she is attending antenatal with repeated reminders at child birth, while at maternity, at child birth both verbal and print material to enable mothers/caregivers reflect on the benefits and also establish reminders.

However, since a big number of mothers/caregivers have social and cultural norms and beliefs about unborn babies, the health worker has to carefully identify and thoroughly understand such beliefs through community consultative visits and participatory inquiries with the mothers/caregivers so that the health education information package essentially addresses them. It could be that an alternative reminder be written on the ANC cards of those who have finished to seek for antenatal care as an effective strategy.

Besides targeting mothers/caregivers right from the stage of antenatal care, the presence of several facility units providing health education and mechanisms of health education referrals including OPD, Maternity, postnatal ward, and UNEPI that were involved in providing health education about Hepatitis B and polio immunization an opportunity was enhanced to cover as many mothers/caregivers as possible thus enabling the information reach targeted population.

When different avenues are put in place for mothers/caregivers to make choice of where to access information, it increases their level of confidence in accessing information while enhancing their knowledge about Hepatitis B and polio immunization that would translate into improved adherence to immunization for infants and young children.

Private health facilities had additional staff which provided health education support related to dissemination of information about Hepatitis B and polio immunization in instances where public health facilities had limited staff who would allocate less time for health education on grounds of being overwhelmed with clients to provide with health information and other services. Findings relate with the recommendations put forward by WHO (2013) there was need to put linkages between immunization and private health facilities that are providing childbirth care services.

Similarly, Romathan (2015) observed that agencies such as NGOs and sometimes in partnership with other agencies are complementing government effort in rural healthcare provision by developing effective ways to strengthen dissemination of information about various health concerns in rural areas of Uganda. The ideas also found out relate with what Matsiko (2010) advocates for noting that training can enable health workers to better dissemination health education and immunization information in particular which could enhance mothers'/caregivers' knowledge, build their confidence and self-efficacy to make right choices and decision about Hepatitis B and polio immunization.

The presence of the contribution of volunteering as members of the village health teams (VHTs) and respective community leadership in sensitizing mothers/caregivers on why they needed to attend health education sessions about child immunization and the actual seeking for immunization clinical services for their infants and young children enabled increased dissemination of information.

It is widely evident that whenever people of influence notably ideologically, socially and economically are engaged in health promotion, they potentially win a big number and where they could access the services an idea that is in line with the social change theory (radical approach) which appreciates the involvement of political leadership for effective health education interventions.

Similarly, linking mothers/caregivers to patient support groups at the health facility can potentially play a great role in diffusion of Hepatitis B and polio immunization information to increase mothers'/caregivers' knowledge, self-confidence that they can use to take right choices and decisions about Hepatitis B and polio immunization.

This requires that patient support groups have been equipped with information more so their leaders and facilitators so that they can transfer it to mothers/caregivers. Similarly mothers/caregivers can be enabled and encouraged to seek for VHT services with their locality since they also have information to

give to the mothers/caregivers. However, the practice has been that VHTs handle child illnesses including diarrhea and malaria and less is talked about issues to do with immunization thus comprehensive training on Hepatitis B and polio immunization have be conducted to effectively make them better skilled to transfer knowledge, develop strategies for improving self-confidence through a supportive environment which enables the mother to take an informed decision to immunize her infant or young child against Hepatitis B and polio.

Despite that fact that nurses had formal clinical qualifications and their appointments put them in a good position to provide health education information to mothers/caregivers about Hepatitis B and polio immunization, they still faced challenges of some mothers/caregivers who were difficult to handle. The factors on the side of mothers include their upbringing, temperament and perceptions which required health workers to have built intrapersonal and interpersonal skills.

However, such skills were specifically lacking thus highlighted that the health workers and facility administrators had not taken careful attention to identify the essential health needs and capacities of the health workers as well as those for targeted groups/individuals and the available resources as stated by the needs and resources assessment theory.

To address the staffing problem, Bateganya and Faku (2010) advocated for recruitment of students to become health workers from the affected communities, locating training programs within or in close proximity to the community that is to be served. On this, young mothers seemed to like the student nurses since they were peers on account of age and made mothers'/caregivers' interaction quite enjoyable and freer thus making information dissemination to this group rather easier. However, relatively mature mothers/caregivers seemed not to align well with the student nurses and would thus prefer to be handled by mature nurses.

Much as the staff had suitable formal nursing qualification and well known days for provision of health education about immunization that was presumed to enable health workers get moderately large numbers to serve, paradoxically fewer health education sessions are conducted. For instance on specific days by some of the health facilities including Kimuli Health Center III and Buyamba Health Center III a practice that is responsible for congestion which resulted into health workers being over burdened with the workload consequently would get too tired. This somehow changed the nurses' temper and

sometimes resulted into barking at mothers/caregivers and giving them insufficient attention. All this affected the quality of care and content of information about Hepatitis B and polio immunization.

However, at certain health units notably UNEPI Department of both Rakai Hospital and Kakuuto Health Center IV where nurses were adequate, mothers/caregivers found it much easier to relate with them and get all the knowledge they wanted given the fact that they would allocate sufficient time to get feedback from mothers/caregivers. Mothers/caregivers had a similar opinion to this finding where they proposed increase in number of health workers so as to get effective health education with quality time allocated and attempts to capture their feedback however this suggestion has cost implications and it is a long term measure.

Considerations for increasing staff number is in line with Rakai District Development plan 2016-2020 that indicated shortage of human resource for health and are in agreement with the observation made by Ministry of Health (2014) where it is stated that Uganda has inadequate trained health personnel, poor equitable distribution of human resources, poor skills mix and ineffective use of available human resources which are worsened by the practice of non-professional task-shifting.

The prioritization in allocation of health workers at the health facility was focusing on clinical services instead of educational activities that including health educating mothers/caregivers about Hepatitis B and polio immunization in that few sessions were conducted and this potentially left many mothers/caregivers with inadequacy in knowledge got and less developed self-efficacy which poorly informs their decision making towards Hepatitis B and polio immunization and it is allegedly responsible for early and mid-stage drop out of infant and child immunization.

In relation to prioritization, findings indicated that there was a mixed perspective of good and poor aspects in communicating health and health education needs and concerns for instance when health facilities allocated specific days for health education about immunization it indicated priority and appreciation of immunization. On such days, a package of services including health education on Hepatitis B and polio were offered however, specific time allocation to a single activity of health education was limited compared to that allocated to clinical services related to immunization.

This was an indicator that there were elements of ill-planning for delivery of health education information Hepatitis B and polio immunization thus less success was expected from delivered health

education interventions yet health workers have an ultimate responsibility to educate mothers/caregivers for the purpose of promoting, maintaining and improving the health of infants and young children.

However, staff limited motivation in providing Hepatitis B and polio immunization information in outreach arrangements affected the number of health education sessions conducted and quality time that would be given to mothers/caregivers for meaningful feedback thus mothers/caregivers missed an opportunity to increase their knowledge about Hepatitis B and polio immunization which would enable them take well informed choices and decisions based on developed self-efficacy. This finding is agreement with other studies which indicated that only a small percentage of primary care patients receive appropriate health education counseling (Ritsema et al., 2014; Hing et al., 2011).

The mixture of choices for preferences when allocating health facilities' financial, material and human resources for health education about Hepatitis B and polio immunization was evident given the fact that the district health department is constrained with resources Ayebazibwe, (2009) & & Ssonko & Mugabi, (2015). For instance while choosing spaces to put print information about Hepatitis B and polio immunization it was common to find that maternity units, Postnatal care units, OPD, health facility corridors being considered as appropriate places to pin charts, fliers and written information about Hepatitis B and polio immunization.

This was in agreement with the planning theory that suggests that for effective health education, it is critical to identify health problems and information gaps among the targeted group/individuals, as well as identifying required resources and taking conscious decisions about how the different resources will be utilized and stakeholders in health education will be involved and building a cohesive planning group.

Financial resource allocation led to prioritization of activities for immunization outreach, it was common that focus was put on units of vaccines, supplies and equipment that are needed, venue for immunization and the personnel in terms of number required carrying out exercise in relation to the mothers/caregivers that were expected to bring their infants and young children for immunization.

However, less time and effort was put on issues that would enable effective health education about Hepatitis B and polio immunization for instance in considering qualities of selected health workers to communicate effectively about Hepatitis B and polio immunization, time allocated for actual health

education, topical guides and issues to discuss about in each session, planning for facilitation strategies for instance whether the session will be in a dialogue form or involvement of demonstration from mothers/caregivers and time specifically set to welcome and attend to feedback from mothers/caregivers.

From almost all practical health education sessions attended by the researcher as a participant observer and in the preparatory processes of the health workers prior to the session, hardly were these factors put into consideration yet health promotion holds them as fundamental processes that have to be undertaken if at all health education is to achieve its desired objectives.

Given the above ill-planning for health education, some vital information is bound to be left out while disseminating information about Hepatitis B and polio immunization since it is not recorded anywhere for that particular session that this package of information and thus the health education session relies of the facilitator's memory recall and personal intuition of what is right, convenient and appropriate to be communication.

This practice violates the principles of effective health education which emphasize that every health education session needs effective prior planning and has its own dynamics that have to be addressed as indicated by WHO (2012) about theoretical concepts for health education and strategies and care competences where it is clearly indicated that for a successful health education session, a prior planning is key and involvement of members of the target group.

Besides financial resources and ill-prioritization, the presence of limited print materials with information about Hepatitis B and polio affected the distribution of such materials to mothers/caregivers which would act as reminders about infant and child immunization since it is important to avail printed information as it is human to forget. However since the biggest number of mothers/caregivers couldn't read, most of the health education was done verbally which required health workers to be very accurate and concise in their communication. This condition leaves mothers/caregivers with no reminder (revision messages) and exposes them to rely entirely on memory recall and are thus potentially able to rebound to different stages in behavior change for instance.

Given the mothers'/caregivers' skills in comprehension of health education information, verbal delivery of information by the nurses concerning Hepatitis B and polio immunization was appreciated and this

was the commonest way of delivering health education about Hepatitis B and polio immunization. However, a concern was expressed that the printed materials would better serve the purpose if printed in the languages they best understood, namely Luganda and Runyankole to complement an individual's memory recall which could influence self-confidence and adoption of coherent positive behaviors towards Hepatitis B and polio immunization.

This finding is in line with what Ayebazibwe, (2009) in his study about immunization in Raki District and Nakabirwa (2010) found out in her study in Eastern Uganda that the most commonly used mode of delivery of health messages to patients was their local languages which enabled them easily express their concerns about the sessions.

According to UNICEF, (2013) & Nakabirwa (2010) such messages would act as a constant reminder for them to participation in routine and non-routine health education sessions about Hepatitis B and polio immunization.

Given the strength of verbal dissemination of information, there is a tendency of replication when a message is given to patient groups and channels as for information dissemination about Hepatitis B and polio immunization improves health education since the mothers/caregivers that have received quality and effective information about Hepatitis B and polio immunization spread the same messages amongst themselves and this improves equity and increases chances of a mother seeking for health services.

However, in instances where mothers/caregivers have received too much information there exists a potential of making them confused and cause undesirable reactions of refusing to immunize children which can easily jeopardize public health. So, it remain critical to the health worker to be very conscious in preparing, packaging and delivering Hepatitis B and polio immunization information to mothers/caregivers in that it has to be timely, clear and relevant information in the right format to avoid confusion but also serve as a way of improving their compliance to infant and child immunization.

Replication of messages largely depended on mothers'/caregivers' level of education yet the biggest number of mothers/caregivers had low levels of education with its negative implications to acquisition, interpretation and translating knowledge into practice to inform positive behavior towards Hepatitis B and polio immunization. Subhani, et al., (2015) showed that illiterate mothers/caregivers immunize their

children less than the highly educated mothers/caregivers and this makes information dissemination essential to help mothers/caregivers appreciate infant immunization.

In relation with literature, in surveys of parents of vaccine exempt children, almost 70% stated that the perceived safety of vaccines was the reason for refusal and the major contributing factor to this is the miss education and misconception of patients (Flanagan-Klygis et al., 2005). It is likely that mothers/caregivers were somehow likely to misconceive the information related to immunization of infants.

Elizabeth (2009) recognized the need for nursing interventions that fully integrate health literacy, culture, and language, which this study also agrees with. However, mothers/caregivers with very low education or no education at all faced more serious challenges of understanding the messages yet majority of the mothers/caregivers had limited levels of education (primary) it rendered the health worker with hard task to integrate the guidelines of Ministry of Health into their planning, facilitation and actual handling of mothers/caregivers, making the information content easily be understood by the mother yet the health workers were not sufficiently knowledgeable with the local language.

In relation with literature, it is advanced that in public health and medical care, the goal of most of the educational programs is to influence positive behavioral change (Shin-Yi, 2007) thus health education has an excellent potential for the maintenance of health and the prevention of diseases. The findings indicated that mothers/caregivers who successfully attended the trainings had gained a lot of knowledge. Similarly, nurses in Rakai tried their best to avail health information hoping that improved health would be achieved through improved immunization. This is in line with district strategies to improve child health Ssonko & Mugabi, (2015) & Ayebazibwe, (2009).

In addition, provision of information can reduce the instances where an individual takes a decision about health while depending on impulse and ill-informed intuition as highlighted by McIntyre et al. (2013).In relation with literature, findings from this study are similar to those by (Weiler & Tirrell, 2007; Parra-Medina et al., 2011) as it was asserted that providing patients with appropriate health education during primary care visits since it is evident that this improves self-efficacy in disease prevention which is essential to achieving a state of quality health for infants and young children as explored by (Huber et al., 2011).

In relation to acting by impulse and individual's discretion, in several instances, mothers/caregivers felt that information they had received was not clearly understood given the fact that the health workers (educators) found challenges using the native languages. However, to cope up with such a challenge the health workers adopted a strategy of consulting fellow staff to provide clarity and alternative words that could be used. All these relate to what Kate, Elizabeth and Krause (2009) note that nurses today are providing care, education, and case management to an increasingly diverse patient population that is challenged with a triad of cultural, linguistic, and health literacy barriers. For these clients, culture and language set the context for the acquisition and application of health literacy skills.

Putting language aside, the spaces for conducive health education about Hepatitis B and polio immunization were limited since most of the sessions were handled in spaces like waiting facilities which are at the same time used by clients for other illnesses and health services which affects the mothers/caregivers concentration and comfort since at times such places were found crowded with clients. In such instances some timid mothers/caregivers may not ask questions in case they would wish to do so since such a mixed environment of clients cannot facilitate acquisition of knowledge that would enable them take right choices and informed decisions about Hepatitis B and polio immunization. Given challenges that the health workers were interfaced did not enable the quality of information disseminated about Hepatitis B and polio immunization did not yield the desired outcome since it was not clear to mothers/caregivers, incoherent and thus could not be translated into meaningful behaviors since mothers/caregivers had low self-confidence to shape a desired behaviors towards Hepatitis B and polio immunization.

Similarly, due to the distance to the health facility, health workers do not get adequate number of mothers/caregivers to health educate on some days. This is coupled with the fact that majority of the nurses are hailing from those communities in Rakia District thus were not able to easily win trust from mothers/caregivers which made dissemination of information about Hepatitis B and polio immunization to become difficult in face of such environment surrounded with mistrust a finding which is related to the conscious objectors or hesitant parents mentioned by Leask et al., (2012).

The health workers were not able to make use of the educational approach that emphasizes leveraging the state of knowledge and appreciating the client and his/her socio-cultural background to design the health education messages. These findings concur with those that Bhanari et al., (2007) found in Nepal

in the study about socio-cultural and geographical disparities in child immunization. In their study, they found a strong link between communities that had sound cultural values that contradicted with immunization and high resistance of mothers to child immunization.

This finding was also in line with Kate et al., (2009) who noted that nurses who provide health education and care to an increasingly diverse patient population were challenged with a triad of cultural, linguistic, and health literacy barriers.

This was coupled with the fact that health workers were interfaced with some mothers/caregivers who carried negative attitudes towards immunization thus questioned what could happen if they do not immunize their infants as explored by Patra, (2006); Walsh & Bukachi, (2009) & Ayebazibwe, (2009)

Before embarking on health education it was therefore important that health workers first conduct community assessment as a key tool to aid provision of appropriate and tailored interventions to actually address what the community health information needs in relation to Hepatitis B and polio immunization so as to tap big numbers of mothers/caregivers turning and still to sustain a positive behavior among mothers/caregivers built on a wide knowledge base and with informed choices and enhanced self-confidence about Hepatitis B and polio immunization.

Borrowing a leaf from WHO (2013) recommendation that nurses ought to be given all the required planning tools and equipment in time to ensure that dissemination of health education information about Hepatitis B and polio immunization is made better, feasible results could be realized in shaping a positive behavior among mothers/caregivers towards Hepatitis B and polio immunization through building competence of the major source of information (health worker).

5.3 Conclusion

The study has highlighted that a big number of mothers/caregivers had acquired health education information about Hepatitis B and polio immunization through the commonest mode of delivery being word of mouth during health education sessions and in trainings on infant immunization conducted by health workers both at health facilities and immunization outreaches. However, given the low education levels of most of the mothers/caregivers and limited quantities of IEC materials that would potentially be distributed.

There was limited interactive health education between the health workers and the mothers/caregivers during dissemination of information about Hepatitis B and polio immunization. It was characterized by more of 'teacher-student' instead of 'facilitator-learner' and this did not facilitate dialogue which would enable mothers/caregivers freely reveal their concerns and get desired feedback to enrich their knowledge, develop their skills, raise their self-esteem and inform positively their decisions to uptake and complete Hepatitis B and polio immunization for their infants and children.

The presence of political commitment in respective communities enabled health education activities about Hepatitis B and polio immunization where leadership and VHTs took initiative to pass announcements and used public loudspeakers, distributed fliers with immunization information to motivate and increase community participation in dissemination of information about Hepatitis B and polio immunization.

The co-operation of health staff notably nurses, in-charges and management was revealed to be critical in the provision of information about Hepatitis B and polio immunization to mothers/caregivers. This enabled smooth dissemination of knowledge thus leading to building confidence, shaping and changing of attitude and result into better decision making towards infant and child immunization.

Key barriers in the provision of health education on immunization among infants in young child clinics have been noted. These relate with the characteristics of the nurses in terms of competence, attitude, education, beliefs and interpersonal relations where health workers below age of 30 and with limited work experience demonstrated limited skills in handling mothers/caregivers from diverse cultural backgrounds.

Similarly, health workers had challenges in accessing mothers/caregivers and these related to the distance mothers/caregivers have to walk to the health facilities, their strong belief, attitudes and norms towards Hepatitis B, and polio immunization and infant and child immunization.

The enablers in the provision of health education on immunization of Hepatitis B and polio among infants in young child clinics have been found to be embedded in the health facilities having different units where such a service is provided and the involvement of private practitioners as an alternative to manage huge client load in public health facilities. This is accompanied with outreach arrangement of

meeting mothers/caregivers in their respective communities with health information about Hepatitis B, and polio immunization.

5.4 Recommendations

The following recommendations have been crafted from insights and as a result of extensive interaction and synthesis of the data. These range from policy, facility, staff, production and dissemination of IEC materials with information about Hepatitis B and Polio immunization to addressing and integrating individual user needs.

The study recommends that paying attention to continuously integrate mothers'/caregivers' information needs about Hepatitis B and polio immunization is very key in order to enable production and dissemination of information that is reflective and responsive of the gaps so as to improve the mothers'/caregivers' knowledge levels and later inform their practices towards child immunization. This can be done by using participatory inquiry exercises with involvement of mothers/caregivers, health workers and other immunization policy planners and implementers as well as engaging mothers /caregivers in the planning for development and distribution of IEC materials with information about Hepatitis B and polio immunization.

Similarly, the different media used in disseminating Hepatitis B and polio immunization information to mothers/caregivers including radio, newspapers and TV should ensure that the very appropriate channel and language are used to cater for a diversity of ethnic backgrounds of mothers/caregivers. This can facilitate meaningful and effective communication to drive positive change towards infant immunization. Since mothers/caregivers use different avenues of obtaining information about Hepatitis B and polio which makes it imperative and feasible to use several methods to capture the attention of greater numbers of mothers/caregivers.

Given the fact that most of the information about Hepatitis B and polio immunization is delivered verbally by health care workers in health facilities located in upcountry districts, continuous improvement of communication skills, information content for Hepatitis B and polio immunization as well as provision of motivational incentives that are geographical specific should be prioritized. This is deemed to enhance information dissemination and thus improve turn up of mothers/caregivers with children for Hepatitis B and polio immunization for better child health, reduced public health expenditure and promotion of social economic well-being in the long run.

It is recommended that clear and need responsive considerations be taken while allocating funds for production and dissemination of Hepatitis B and polio immunization information as well as community targeted awareness activities on Hepatitis B and polio immunization with special consideration to hard to reach areas.

Given the traditions and health information seeking behaviors of mothers/caregivers in upcountry districts, it is imperative that interventions to deliver Hepatitis B and polio immunization information are designed and tailored in such a way that the mothers/caregivers are both reached in their respective communities. It is also required that they are provided with such information at health facility since a considerable fraction of mothers/caregivers do not come to the health facilities. This is perceived to serve as a sustainable solution to the existing impediments alleged by mothers/caregivers such distance to health facilities, transport costs and poor road networks.

Lastly, it is recommended that using already existing initiatives put in place by mothers/caregivers to channel Hepatitis B and polio information would lead to easy diffusion of information and give them a platform to internalize, reflect and shape a positive attitude towards seeking for Hepatitis B and polio immunization services. These initiatives include mother savings groups and social networks of mothers/caregivers in similar trades which can be given precise and well packaged Hepatitis B and polio immunization information including targeted talks by health workers and print materials designed in their respective languages.

5.5 Limitations of the study

Much as the study was successful, it is important to mention some of the limitations encountered by the researcher including methodological, geographical, and environmental as well as those that were participant based.

Despite the fact that the study used scientific and valid instruments to collect data, its coverage was only one district - Rakai thus findings may not be representative of the general picture of the country of Uganda since some of them could be geographical and cultural specific to that very community that was studied.

Furthermore, the study used a cross sectional design thus studied affairs as they were at the point of time the study was carried out thus trends in provision of health information about Hepatitis B and polio

immunization may not have been captured effectively if a similar study is done in that location at a different period in a year.

Similarly, in terms of accessing the targeted mothers/caregivers, it was only mothers/caregivers who reported to the selected health facilities that were reached and interviewed thus the researcher cannot rule out any potential difference between information from mothers/caregivers who do not visit health facilities and those that often times do; a perspective which is not adequately captured by this study.

Geographically, it is not measured how far the responses mothers/caregivers gave about Hepatitis B and polio immunization where influenced, if at all, by the location where they were found and interviews conducted since they were all met at their respective health facilities.

5.6 Areas for further study

Much as this study has been done, it doesn't provide an exhaustive account of all the factors that influence provision of Hepatitis B and polio immunization information which guarantees further studies that could be done in the following areas;

Training needs assessment to establish health workers' competence and attitude towards provision of effective Hepatitis B and polio health information to mothers/caregivers and patients seeking for all other forms of immunization. This is because the current study only focused on Hepatitis B and Polio much as some indicators were coming in but could not be captured by the research given the study scope and time limits.

Studies could also be done to establish the link between characteristics of the mothers/caregivers of infants and young children and the quality of health of the children.

Similarly, a study to explore economic status of families and the quality of health among infants and young children would be yet another area that qualifies for further investigation. Lastly, a study related to what the researcher has done can be taken on while using a longitudinal approach to provide insights about variations in the trends of information provision about Hepatitis B and Polio immunization to mothers/caregivers.

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APPENDIX I: QUESTIONNAIRE FOR NURSES AND OTHER HEALTH CADRES PROVIDING HEALTH INFORMATION

Questionnaire on assessment of barriers and facilitators in the provision of health information about Hepatitis B and polio immunization to mothers/caregivers of infants in young child clinics in Rakai District

Dear sir/ madam

Thank you for accepting to participate in sharing your experiences and knowledge which are required in the assessment of barriers and facilitators in the provision of health information about Hepatitis B and polio immunization to mothers/caregivers of infants in young child clinics in Rakai District.

It is my strong motivation that you will be capable of providing the required responses. All the experiences you will share and the information you will provide will be confidential; protected and only used for academic purposes.

SECTION I: General Information and Respondent's Socio-demographics

Instruction: Please tick where appropriate in the box provided.

Date of interview: …. /…../2017

1. Name and level of health facility_____

H/C II	H/C III	H/C IV	Hospital

2. What is the gender of respondent? [please just observe and tick]

Male	Female

3. How old are you? (use age brackets)

18-30	31-45	46 -55	56-65	66+

4. For how long have you been in health service provision?

1-5 years	6-10 years	More than 10 years

SECTION II: Provision of health information by health workers about Hepatitis B and Polio Immunization to Mothers/caregivers of Infants and Young Children

In this section, please tick the option that fits your opinion. The key is; strongly agree (1), agree (2), disagree (3) and strongly disagree (4).

Knowledge and practices of health workers related to provision of health information about Hepatitis B and polio immunization at young child clinics in Rakai District

No.	Knowledge and practices of health workers related to provision of health information about Hepatitis B and polio immunization	Strongly agree(1)	Agree (2)	Disagree (3)	Strongly disagree(4)
1.	I frequently carry out outreaches specifically to provide information about Hepatitis B and polio immunization to mothers/caregivers.	1	2	3	4
2.	I feel enough confidence in delivering health information about Hepatitis B and polio immunization to mothers/caregivers.	1	2	3	4
3.	I am usually friendly to mothers/caregivers when delivering health information about Hepatitis B and polio immunization to mothers/caregivers.	1	2	3	4
4.	I have always given out print materials to mothers/caregivers with information relating to Hepatitis B and polio immunization.	1	2	3	4
5.	I personally participate in facilitating sessions that provide information to mothers/caregivers relating to Hepatitis B and polio immunization.	1	2	3	4
6.	I am always available whenever needed to facilitate sensitization of mothers/caregivers that aim at providing information about Hepatitis B and polio immunization.	1	2	3	4
7.	The information content about Hepatitis B and polio immunization that I give to mothers/caregivers is relevant to them and draws them towards immunizing their children.	1	2	3	4

8. Which other activities are you involved in that aid provision of information about Hepatitis B and polio immunization to mothers/caregivers?

……

……

Section III: Barriers in the Provision of Information about Hepatitis B and Polio Immunization to Mothers/caregivers of Infants and Young Children

Instruction: In this section, please tick the option that fits your opinion. The key is strongly agree (1), agree (2), disagree (3) and strongly disagree (4).

Barriers in the provision of information about Hepatitis B and polio immunization to mothers/caregivers of infants in young child clinics in Rakai District

No.	**Barriers in the provision of information about Hepatitis B and Polio Immunization to Mothers/caregivers of Infants and Young Children**	Strongly agree(1)	Agree (2)	Disagree (3)	Strongly disagree(4)
9.	I have limited motivation to get involved in work and sessions related delivering information about Hepatitis B and polio immunization for infants and young children.	1	2	3	4
10.	The communities where I work are generally not receptive to information about Hepatitis B and polio immunization.	1	2	3	4
11.	The mothers/caregivers of infants and young children I usually attend to are not very receptive of the information about Hepatitis B and polio immunization.	1	2	3	4
12.	The health facility management does not provide enough finance to facilitate the production and dissemination of information about Hepatitis B and polio immunization for infants and young children.	1	2	3	4
13.	Most of the mothers/caregivers of infants and young children I usually attend have no access to information about Hepatitis B and polio immunization.	1	2	3	4
14.	The health facility has no streamlined mechanism of providing information about Hepatitis B and polio immunization to mothers/caregivers of infants and young children.	1	2	3	4

15. Apart from the above mentioned factors, which other factors do you consider as barriers to your efforts in providing information about Hepatitis B and polio immunization to mothers/caregivers of infants and young children?

……

……

Section IV: Enablers in the Provision of Information about Hepatitis B and Polio Immunization to Mothers/caregivers of Infants and Young Children

Instruction: In this section, please tick the option that fits your opinion. The key is strongly agree (1), agree (2), disagree (3) and strongly disagree (4).

Enablers in the Provision of Information about Hepatitis B and Polio Immunization to Mothers/caregivers of Infants and Young Children in young child clinics in Rakai District

No.	**Enablers in the provision of information on immunization to mothers/caregivers of infants**	Strongly agree(1)	Agree (2)	Disagree (3)	Strongly disagree(4)
16.	I give adequate care and provide sufficient information at birth to mothers/caregivers to encourage them to immunize their infants for Hepatitis B and polio.	1	2	3	4
17.	I have enough experience in providing information about information Hepatitis B and polio immunization to mothers/caregivers of infants and young children.	1	2	3	4
18.	I have enough study qualifications to enable me provide information about Hepatitis B and polio immunization to mothers/caregivers of infants and young children.	1	2	3	4
19.	My appointment (job position) puts me in a good position to provide information Hepatitis B and polio immunization to mothers/caregivers of infants and young children.	1	2	3	4
20.	During provision of immunization services, I co-operate with my fellow staff to provide information about Hepatitis B and polio immunization to mothers/caregivers of infants and young children.	1	2	3	4

21.	I sensitize mothers/caregivers of infants and young children about the importance of immunizing against Hepatitis B and polio as well as making them aware of the respective dates when such services are offered.	1	2	3	4
22.	Private practitioners complement my efforts in providing information Hepatitis B and polio immunization to mothers/caregivers of infants and young children.	1	2	3	4
23.	I have all the tools to effectively plan for engagement of mothers/caregivers of infants and young children and promotion of positive healthy behaviors about Hepatitis B and polio immunization.	1	2	3	4
24.	I have all the tools and equipments I need to provide information about Hepatitis B and polio immunization to mothers/caregivers of infants and young children.	1	2	3	4
25.	I usually give enough time to mothers/caregivers to ask questions and give any feedback about the health education sessions and the content that I give about Hepatitis B and polio immunization.	1	2	3	4
26.	The Ministry of Health provides enough tools and materials to aid the process of providing information about Hepatitis B and polio immunization to mothers/caregivers of infants and young children.	1	2	3	4

27. Which activities, processes or tools other than those mentioned above, can be used to facilitate provision of information about Hepatitis B and polio immunization to mothers/caregivers of infants and young children?

……

……

Thank you very much for your responses and cooperation.

APPENXI II: QUESTIONNAIRE FOR MOTHERS/CAREGIVERS OF INFANTS AND YOUNG CHILDREN

Questionnaire on assessment of barriers and facilitators in the provision of health information about Hepatitis B and polio immunization to mothers/caregivers of infants in young child clinics in Rakai District

Dear Madam,

Thank you for accepting to participate in sharing your experiences and knowledge which are required in assessment of barriers and facilitators in the provision of health information about Hepatitis B and polio immunization to mothers/caregivers of infants and young children in young child clinics in Rakai District.

It is my strong motivation that you will be capable of providing the required responses. All the experiences you will share and the information you will provide will be confidential; protected and only used for academic purposes.

SECTION I: General Information and Respondent's Socio-demographics

Instruction: Please tick where appropriate in the box provided.

1. Name and level of health facility_____

H/C II	H/C III	H/C IV	Hospital

2. What is the gender of respondent (just observe and tick)

Male	Female

3. How old are you? (Tick the age bracket appropriately)

18-30	31-45	46 -55	56-65	66+

4. What is the highest Education level you attained?

No formal education	Primary	Secondary	Advanced level

Diploma	Degree	Others (specify)……

5. How often do you visit this health facility?

Very often/most	Some times	Rarely

SECTION II: Knowledge of Mothers/caregivers about Hepatitis B and Polio Immunization of Infants and Young Children

Instructions: In this section, please tick the option that fits your opinion. The key is strongly agreeing (1), agree (2), disagree (3) and strongly disagree (4).

Knowledge of Mothers/caregivers of Infants and Young Children about Hepatitis B and Polio Immunization in young child clinics in Rakai District

No.	**Knowledge of Mothers/caregivers of Infants and Young Children about Hepatitis B and Polio Immunization**	Strongly agree(1)	Agree (2)	Disagree (3)	Strongly disagree(4)
6.	I am always availed with information about Hepatitis B and polio immunization by the health workers.	1	2	3	4
7.	I have received several printed materials with information about Hepatitis B and polio immunization.	1	2	3	4
8.	I have attended several sessions and activities about Hepatitis B and polio immunization.	1	2	3	4
9.	There are always health workers who ready to give me information about Hepatitis B and polio immunization and show me the importance of immunizing my child.	1	2	3	4
10.	The information health workers provide to me in relation to Hepatitis B and polio immunization is relevant to me.	1	2	3	4

11. As a mother, what kind of messages have you received from health workers relating to Hepatitis B and polio immunization? .....
12. Do you think that the information provided by health workers is good enough to compel you to immunize your infant or young children? If so, why?

……

……

Section III: Barriers in the Provision of Information about Hepatitis B and Polio Immunization to Mothers/caregivers of Infants and Young Children

Instruction: In this section, please tick the option that fits the mothers'/caregivers' opinion. The key is strongly agree (1), agree (2), disagree (3) and strongly disagree (4).

Barriers in the provision of information about Hepatitis B and polio immunization to mothers/caregivers of infants in young child clinics in Rakai District

No.	**Barriers in the provision of information about Hepatitis B and Polio Immunization to Mothers/caregivers of Infants and Young Children**	Strongly agree(1)	Agree (2)	Disagree (3)	Strongly disagree(4)
13.	I have not obtained any information about Hepatitis B and polio immunization.	1	2	3	4
14.	Health workers have not provided adequate information to address my worries and culture myths about Hepatitis B and polio immunization.	1	2	3	4
15.	Health workers have not provided enough information to influence my attitudes and perceptions about Hepatitis B and polio immunization.	1	2	3	4
16.	My efforts to obtain information about Hepatitis B and polio immunization are constrained by distance from home to the health facility.	1	2	3	4
17.	There are enough health workers to efficiently provide information about Hepatitis B and polio immunization to mothers/caregivers.	1	2	3	4

18. As a mother/caregiver, apart from the challenges above, what do you consider to be the factors preventing you (and other mothers/caregivers) from accessing information about Hepatitis B and polio immunization for your infant/children?

……

……

Section IV: Enablers in the Provision of Information about Hepatitis B and Polio Immunization to Mothers/caregivers of Infants and Young Children

Instruction: In this section, please tick the option that fits the mother's/caregiver's opinion. The key is strongly agree (1), agree (2), disagree (3) and strongly disagree (4).

Enablers in the Provision of Information about Hepatitis B and Polio Immunization to Mothers/caregivers of Infants and Young Children in young child clinics in Rakai District

No.	**Enablers in the Provision of Information about Hepatitis B and Polio Immunization to Mothers of Infants and Young Children**	Strongly agree(1)	Agree (2)	Disagree (3)	Strongly disagree(4)
19.	Health workers always give me care, sufficient information at birth and encourage me to immunize my child for Hepatitis B and polio.	1	2	3	4
20.	All departments at the health facility in a way help me to get information about Hepatitis B and polio immunization.	1	2	3	4
21.	I have been given information on when to immunize my infant against Hepatitis B and polio.	1	2	3	4
22.	I have been able to obtain additional information about Hepatitis B and polio immunization for infants and young children from private practitioners.	1	2	3	4
23.	Health workers always have the tools they need to provide me with information about Hepatitis B and polio immunization for infants and young children.	1	2	3	4
24.	I find the information about Hepatitis B and polio immunization for infants and young children in all health facilities I visit.	1	2	3	4

25. As a mother/caregiver, what do you think can be done to motivate and encourage you (and other mothers/caregivers) to immunize your infants and young children against Hepatitis B and polio?

…..……..……

Thank you very much for your responses and cooperation.

APPENDIX III: INTERVIEW SCHEDULE FOR HEALTH FACILITY IN-CHARGES/ MEDICAL SUPERINTENDENT

Interview schedule for In-charges and Medial superintendent on assessment of knowledge about Hepatitis B and polio immunization among mothers/caregivers of infants in young child clinics in Rakai District

Dear sir/ madam

Thank you for accepting to participate in sharing your experiences and knowledge which are required in assessment of barriers and facilitators in the provision of health information about Hepatitis B and polio immunization to mothers/caregivers of infants and young children in young child clinics in Rakai District.

It is my strong motivation that you will be capable of providing the required responses. All the experiences you will share and the information you will provide will be confidential; protected and only used for academic purposes.

Section I: Provision of Information about Hepatitis B and polio Immunization to Mothers/caregivers of Infants in Young Child Clinics in Rakai District

1. What methods do you use to disseminate information about Hepatitis B and polio immunization to mothers of infants and young children?

2. What do you have to comment about the effectiveness of those methods? Explain you answer.

3. What key messages do health workers at the facility normally give to the mothers/caregivers of infants and young children about Hepatitis B and Polio Immunization?

4. Do you think the messages given to the mothers/caregivers have influenced their knowledge about Hepatitis B and Polio Immunization? Please explain your answer.

5. What can you comment about the communication skills and competence of health workers in relation to facilitating sessions and disseminating information about Hepatitis B and polio immunization to mothers/caregivers?

Section II: Barriers in the Provision of Information about Hepatitis B and Polio Immunization to Mothers/caregivers of Infants and Young Children in Young Child Clinics in Rakai District

6. What do you consider to be the major factors contributing to limited dissemination of information Hepatitis Band polio to mothers/caregivers of infants and young children? Probe for challenges with logistics, skills and expertise of health workers, physical environment at the facility, language used, time etc

Section III: Enablers in the Provision of Information about Hepatitis B and Polio Immunization to Mothers/caregivers of Infants and Young Children

7. What factors have enabled the provision of information about Hepatitis B and polio immunization to mothers/caregivers of infants and young children? Probe for logistical, skills and expertise, of health workers, physical environment at the facility, time allocated to dissemination of Hepatitis B and polio immunization information etc

8. As an in-charge/Medical Superintendent, what is your comment about adequacy of information about Hepatitis B and polio immunization given to mothers/caregivers of infant and young children at the following?

a) during antenatal b) during child birth c) while providing other health services d) at every visit to the health facility e) during outreaches.

9. What do you recommend to be done in order to improve facilitation and dissemination of information about Hepatitis B and polio immunization in health facilities?

Thank you very much for your responses and cooperation.