HEALTH RESOURCE MANAGEMENT AND SERVICE QUALITY OF SAFE MALE CIRCUMCISION PROGRAM IN SOUTHWESTERN UGANDA

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DECLARATION

I, Byabagambi Bekiita John hereby declare that the work presented in this dissertation is my original work and has not been presented anywhere for academic qualifications and has been submitted for examination with the approval of the supervisors.

Signature: _____

Date: _____

APPROVAL

We certify that Byabagambi Bekiita John conducted a study and wrote this thesis under our supervision. The report has been submitted for examination with our approval.

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DEDICATION

This work is dedicated to my late parents; Simon Bekiita and Martha Bekiita who are my inspiration for hard work, and to my dear wife Racheal M Byabagambi and daughter Karungi Martha who were my greatest pillars of support throughout my studies.

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LIST OF ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
ASQ	American Society of Quality
DHO	District Health Officer
EQA	External Quality Assessment
GHI	Global Health Initiative
GTZ	German Technical Cooperation
HC	Health Center
HIV	Human Immunodeficiency Virus
HR	Human Resource Policy
MDG	Millennium Development Goals
MMSPPM	Masters in Management Studies Project Planning and Management
MoH	Ministry of Health
PEPFAR	Presidential Emergency Plan For AIDS Relief
PPDA	Public Procurement and Disposal of Assets
RBT	Resource Based Theory
Reg. No.	Registration Number
SERVQUAL	Service Quality

SMC	Safe Male Circumcision
SPSS	Statistical Package for Social Scientists
UMI	Uganda Management Institute
US$	United States Dollars
W H O	World Health Organisation

ABSTRACT

The purpose of the study was to establish the extent to which health resource management influenced service quality of Safe Male Circumcision (SMC) program in Southwestern Uganda. Specifically, the study strived to establish the extent to which health human resource management, financial resource management and health supplies management has influenced the service quality of SMC in Kisoro, Rukungiri and Isingiro districts. A cross-sectional survey design was used with both quantitative and qualitative approaches on an accessible population of 239 respondents comprising district SMC focal persons, health unit managers, SMC service providers and clients who have received SMC at selected health units. Data was collected using a questionnaire, interviews and documentary review, and analyzed using percentages, Pearson's correlation coefficient, and regression analyses. The study found out that health human resource management had a high positive significant relationship with service quality and it predicted 71% of the variance in service quality of SMC. Health financial resource management had positive significant relationship with service quality of SMC and it predicted 54% of the variance in project service quality. Health supplies resource management had a very high positive significant relationship with service quality of SMC and it predicted 87% of the variance in service quality. The study concluded that the service quality of SMC significantly depended on proper management of the human, financial and health supplies resources. The study recommended that to improve service quality of SMC, there is need to strengthen the human, financial and supplies management of the resources involved in safe male circumcision. Areas for further research were identified and have been documented.

CHAPTER ONE

INTRODUCTION

1.1 Introduction

This study examined the relationship between health resource management and quality of service delivery of Safe Male Circumcision (SMC) services in Southwestern Uganda. Health resource management was conceived to be the independent variable and service delivery the dependent variable. The independent variable i.e.- health resource management was measured in terms of:- human resource, financial and health supplies management and the dependent variable, that is quality of service delivery was measured in terms of tangibility, responsiveness, reliability of the service, empathy and assurance. This chapter presents the background to the study (in terms of historical, theoretical, conceptual and contextual backgrounds), the statement of the problem, the purpose of the study, objectives of the study, the research questions, the hypotheses, conceptual background, the significance, justification the scope and operational definitions of terms and concepts.

1.2 Background to the study

1.2.1 Historical background

The concept of service quality dates back to 13th century when crafts men began organising themselves into guilds to ensure they maintain high standards of their products as observed by Zeithaml and Parasuraman (1990) (cited in VIRBUS, 2013). However, it was not until after the first world war when the US and Japan took up service quality mainly in manufacturing, majorly focusing on inspections, that the field gained prominence leading to total quality management. The concept has moved beyond manufacturing to health care, education and government sectors

(American Society for Quality, 2013). It also moved away from just inspections also referred to as internal perspective to the external perspective which takes into consideration the customer's satisfaction, attitude and delight. Service quality has been reported as having apparent relations to costs (Crosby cited in Sheetal, 2004), customer satisfaction, (Bolton and Drew cited in Sheetal, 2004), customer retention, behavior intention, and positive word of mouth (Relchheld and Sasser, cited in Sheetal, 2004).

In Uganda, despite positive reports about the continued high rates of economic growth in recent years, the country is still one of the most seriously affected nations in the world in terms of poor quality of health services. According to the Annual Health Sector Performance Report 2011/2012 (Ministry of Health [MoH], 2013a), the country only managed to achieve 2/5 of the indicators to determine quality, safety and accessibility of health services. The quality of services at government health units suffers from poor incentive structure and lack of accountability for inputs (Kaija & Okwi, 2007).

1.2.2 Theoretical background

The study was guided by the Resource-Based Theory of Competitive Advantage (RBT) of the firm proposed by Wernerfelt (1984) and the Parasuraman, Zeithaml and Berry (1985) service quality model. The RBT of the firm describes the importance of resources generally and of competencies specifically for organizational survival, growth, and overall effectiveness (Barney 1991; Peteral 1993; Wernerfelt 1984). These resources include human, financial, material and experience gained over time in the industry. The RBT guided this study in examining how the human, financial and

material resources were well managed and their contribution to the achievement of service quality expectations in the SMC program in Southwestern Uganda.

1.2.3 Conceptual background

Conceptually the study focused on the key concepts of health resource management and service quality. Resource management can also be defined as the efficient and effective deployment and allocation of an organization's resources when and where they are needed. Such resources may include financial resources, inventory, human skills, production resources, and information technology. Resource management includes planning, allocating and scheduling of resources to tasks, which typically include manpower, machines, money and materials. Resource management has an impact on schedules and budgets as well as resource leveling and smoothing (Tenrox, 2013). These resources can include tangible resources such as goods and equipment, financial resources, and labor resources such as employees and supplies (Business Dictionary, 2013).

Financial resource management has been defined as the means of planning, organizing, directing and controlling financial activities by applying general management principles to financial resources of the organization (Ross et al., 2002). Human resource management is the process of managing people in organizations and includes hiring people, retention of people, pay and perks setting, as well as management and performance management (Armstrong, 2009). Management of health supplies involves identification of the required supplies and their procurement. Inadequacy and failure to identify the right type and quantity of supplies needed may affect the quality of service delivered.

Parasuraman et al. (1985) service quality (SERVQUAL) model contends that service quality is a measure of how well a delivered service matches the customers' expectations and the main reason to focus on quality is to meet customer needs while remaining economically competitive in the same time. The SERVQUAL model suggests that service quality has five determinants of reliability, responsiveness, empathy, assurance, and tangibility. The service quality theory therefore guided this study in identifying the perceived quality aspects of tangibility, reliability, responsiveness, empathy and assurance of the SMC health services offered in Southwestern Uganda. The key dimensions of quality service are briefly explained as; reliability refers to the extent to which the service provider delivers on the promises made to the customer (O'Neill and Palmer, 2003) for example if SMC service provider promise to offer services twice a week, they should be able to do so. Responsiveness refers to the willingness on the part of the service provider to deliver assistance to the customer (O'Neill & Palmer, 2003). For example SMC service providers should be able to address the concerns of SMC clients whenever raised. Assurance refers to the degree of confidence and trust that the service provider is able to engender in the customer, based on the interactions between the parties (O'Neill & Palmer, 2003). An example of this is would be for SMC client to feel confident that SMC service providers are competent to so the surgery. Empathy refers to the customers being treated in such a way that they feel important to the organisation, and that their needs are important to the organisation, such as receiving caring, individualized attention from nursing staff and doctors (O'Neill & Palmer, 2003). Tangibles refer to the physical cues that are part of the service delivery process (O'Neill and Palmer, 2003) and are used to communicate to the customer about the service that can be expected and my include the curtains, pictures, appearance of physical facilities, tools and equipment, appearance of personnel and communication materials and general aesthetics that would be considered by the patient to evaluate the service (Ramsaran, 2007).

1.2.4 Contextual background

In Uganda, the SMC programme was launched in September 2009, targeting to circumcise 80 percent (4.2 million men) of uncircumcised men aged between 15-49 years by the end of 2015 (Ministry of Health, 2013b). While Uganda has a clear plan for SMC, critics say it may be difficult for the government to meet its targets unless it significantly expands and scales up the programme at the same time maintaining minimum quality standards of the service. The scale-up of medical male circumcision, a critical element of combination HIV prevention, is slow and has been undermined by lack of government support (Tumwebaze, 2012), and negative stories in the print media. Little is known about safe male circumcision in southwestern Uganda in terms of its service quality but it is thought generally not to be any different from the national picture.

1.3 Statement of the problem

Safe male circumcision service is to be offered to at least 80 percent of the uncircumcised men aged 15 to 49 years by the end of 2015. However, according to Galukande et al. (2011), there has been poor service quality of SMC evidenced by poor and lack of equipment used, lack of empathy from staff and unreliability of the service providers especially at government health centers. The quality of the SMC service in Uganda is of big concern. An External Quality Assessment (EQA) conduct by the Presidential Emergency Plan For AIDS Relief (PEPFAR) team in December 2012, recommended that 7 out of the 19 health units that were assessed be suspended from offering SMC due to failure to meet the minimum acceptable standards set by World Health Organisation for Voluntary Medical Male Circumcision (PEPFAR Report, 2012). Further, an article by Kiwuuwa & Masaba (2013) in the New Vision, titled "Man loses penis in medical circumcision" is just one of many cases that have happened. The majority of these problems have been registered in urban areas

and little is known about the rural areas like in southwestern Uganda. It is most probable that the poor service quality is attributed to resource management in respect of human, financial resource and management of supplies. There is no empirical research that has been carried out to investigate the relationship between resource management and service quality of SMC in Uganda and therefore this state of affair needs an empirical investigation to examine this relationship. This study therefore sought to fill this gap in knowledge by finding out how resource management influences the service quality of safe male circumcision in Uganda.

1.4 Purpose of the study

The purpose of the study was to examine the extent to which health resource management influences the service quality of the SMC program in Southwestern Uganda.

1.5 Objectives of the study were:

i. To establish the extent to which health human resource management influenced the service quality of the SMC program in Southwestern Uganda.
ii. To establish the extent to which health financial resource management influenced the service quality of the SMC program in Southwestern Uganda.
iii. To establish the extent to which management of health supplies influenced the service quality of SMC program in Southwestern Uganda.

1.6 Research Questions were:

i. To what extent did health human resource management influence the service quality of SMC program in Southwestern Uganda?

ii. To what extent did health financial resource management influence the service quality of SMC program in Southwestern Uganda?

iii. To what extent did health supplies management influence the service quality of SMC program in Southwestern Uganda?

1.7 Researches hypotheses

H1: Health human resource management significantly influences the service quality of the SMC program.

H2: Health financial resource management significantly influences the service quality of SMC program.

H3: Health supplies management significantly influences the service quality of SMC program.

1.8 Conceptual framework

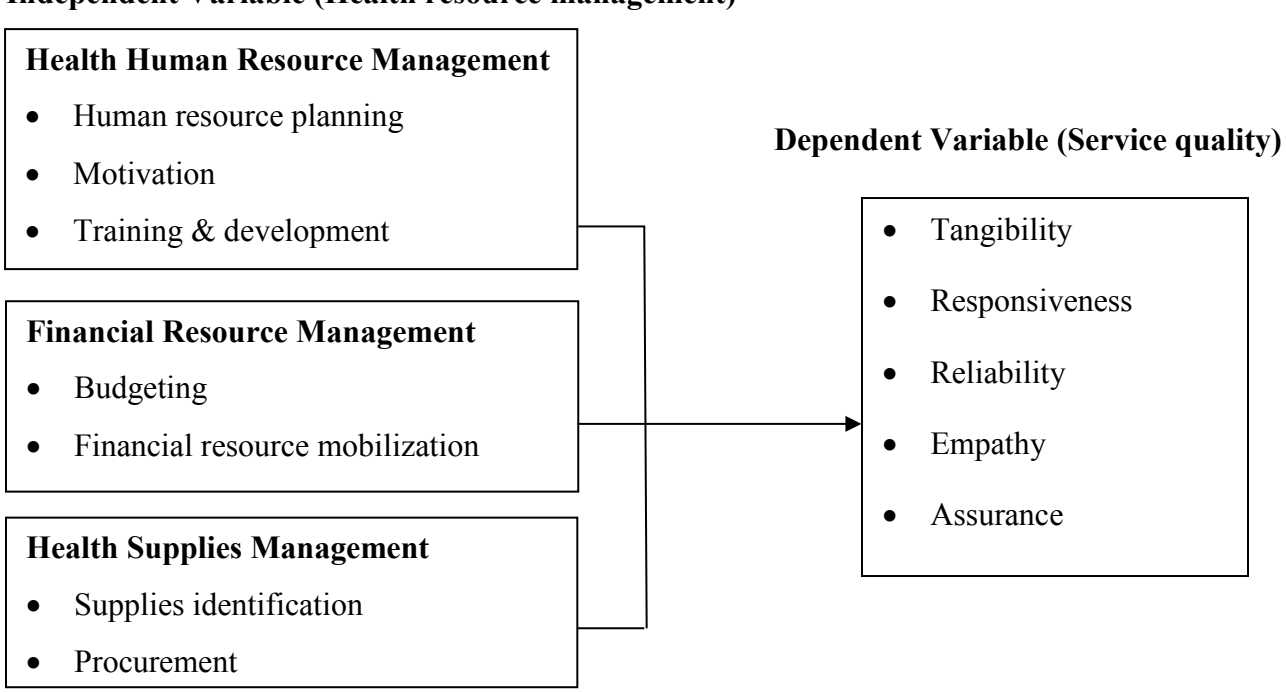

Figure 1: The relationship between health resource management and service quality

Source: Adapted with modifications from the Resource-Based Theory of competitive advantages of the firm proposed by Wernerfelt (1984) and the service quality model by Parasuraman, et al. (1985).

The model shows that the service quality of safe male circumcision depends on the management of health resources that include health human resource management, financial resources management and health supplies management. Service quality has indicators of tangibility, responsiveness, reliability empathy and assurance, thus an SMC clinic will be assumed to be having good service quality if it can by its self-meet the tangible expectations of its clients , providers are responsive, service is reliable, service providers are empathetic and give assurances to the clients. Human resource management includes human resource planning, motivation, training and development of SMC service providers. Financial resource management includes budgeting for SMC services and resource mobilization. Supplies management includes supplies identification and procurement of safe male circumcision supplies

1.9 Significance of the study

The findings of the study may be used in health policy making especially by MoH the health policy making arm of government of Uganda. The findings of this study help to identify managerial policy implications in the management of health resources necessary for enhanced service quality.

To the SMC rural entities, the study offered an opportunity to express their concerns and experiences that the MoH and health partners need to address to enhance their capabilities in delivering quality health services in Uganda.

The study findings may be used by scholars and academicians to develop new knowledge in the management of health resources and enhanced service quality. To this effect, the study covered literature gaps on the extent to which health resource management influences service quality in the health service delivery in a developing country.

1.10 Justification of the study

Preliminary investigation indicate no similar study had ever been carried out in Uganda, thus there was a knowledge gap in regard to the variables under study. The study therefore generated critical information needed in the successful scale up of the service to meet the 80 percent minimum target set by WHO that is required to make interruptions in transmission of HIV.

1.11 Scope of the study

1.11.1 Content scope

The study concentrated on the relationship between health resource management and service quality. Resource management the independent variable was considered under the dimensions of human, financial and supplies management. The dependent variable, i.e. service quality, was measured in terms of tangibility, reliability, responsiveness, empathy and assurance.

1.11.2 Geographical Scope

The study was carried out at Kisoro Hospital, Bugangari Health Center (HC) IV and Kabuyanda HC IV located in the districts of Kisoro, Rukungiri and Isingiro, respectively in Southwestern Uganda. These health units were selected because they are high volume sites serving many clients of SMC.

1.11.3 Time scope

The study covered a period from September, 2010 to September, 2013, out of the five years in which MoH targets to circumcise 80 percent of uncircumcised men by 2015.

1.12 Operational definitions

Health human resource management: Planning, motivation, training and development of staff involved in SMC service delivery.

Health financial resource management: Budgeting and financial resource mobilization in SMC service delivery.

Health supplies management: Identification and procurement of medical supplies required in SMC service delivery.

Service quality: In this study service quality was conceptualized to include tangibility, reliability, responsiveness; empathy and assurance of the SMC.

Tangibles refer to the physical cues that are part of the SMC service delivery process.

Responsiveness refers to the willingness on the part of the SMC service provider to deliver assistance to the SMC clients

Reliability refers to the extent to which the SMC service provider deliver on the promises made to the SMC clients

Empathy refers to the clients being treated in such a way that they feel important to the health units, and that their needs are important to the health units, such as receiving caring, individualized attention from nursing staff and doctors

Assurance refers to the degree of confidence and trust that the SMC service provider is able to engender in the SMC clients, based on the interactions between the parties.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents the existing literature about the variables under study. The purpose of this chapter is to find out what other researchers/scholars have found out in order to identify the information gap. The main sources were published journals, published articles, reports, government manuals, text books, government regulations and publications, among others. The chapter is sectioned into the theoretical review, conceptual review and review of literature, objective by objective.

2.2 Theoretical review – Resource Based Theory (RBT) Competitive advantage of the firm

A Resource-Based Theory (RBT) of the firm was selected as most relevant theory for this particular study to enable the researcher examine the relationship between health resources management and service quality in the health sector. The theory was proposed by Wernerfelt (1994: p 171-180) who clearly states that "*For the firm, resources and products are two sides of the same coin".* Wernerfelt (1994) then goes on to analyze, from a resource perspective, the efficacy of sequential entry strategies for diversifying firms. Wernerfelt's (1984) RBT serves as a reminder that both strategy scholars and managers often fail to recognize that a bundle of assets, rather than the particular product market combination chosen for its deployment, lies at the heart of their firm's competitive position.

The RBT holds that in order to generate sustainable competitive advantage, a resource must provide economic value and must be scarce, difficult to imitate, non-substitutable, and not readily obtainable (Barney, 1991; Peteral, 1993). This theory rests on two key points. First, that resources are the determinants of firm performance (Barney, 1991), and second, that resources must be rare, valuable, difficult to imitate and not substitutable by other rare resources. When the latter occurs, a competitive advantage has been created (Barney, 1991). Barney (1991) proposed that resources should be characterized as simultaneously valuable, rare, not substitutable, and inimitable and an organization's physical assets, infra-structure and workforce satisfy these criteria and qualify as resources, coined strategic *assets.* RBT proponents assert that ownership or control of strategic assets determines the performance and success of an organisation.

In line with the study and based on the review of the RBT, the management of the key resources of human resources, financial resources and management of health supplies is significant in regard to service quality of SMC health units and to the potential clients. Thus, the study sought to examine the relationship of health resources management and service quality for the SMC program in Southwestern Uganda.

2.3 Conceptual Review

2.3.1 Health resource management

In the context of this study health resource management was discussed basing on the conceptual framework by reviewing literature on human resource, financial resource and management of supplies in relation to service quality. Health resources are the crucial elements of a health system, but they have been a neglected component of health-system development.

Universal access to good quality care and optimal patient safety has been and still is a goal of health systems and governments all over the world. Even though many developed countries have made significant achievements towards the attainment of this goal, many developing countries in Africa lag behind due to financial, material and human resource constraints (Alhassan, 2013).

Hongoro & McPake (2004) found that human resources are in very short supply in health systems in low and middle income countries compared with high income countries or with the skill requirements of a minimum package of health interventions. Equally serious concerns exist about the quality and productivity of the health workforce in low income countries (Hongoro & McPake, 2004). Ministry of Health (2013b) contends that health units are plagued by shortage of skilled professionals and circumcision requires that service providers receive a skills building training before practice. With the staff shortages one wonders if the government is able to offer a reliable SMC service that requires a minimum of five service providers for each operation.

2.3.2 Health service quality in Uganda

Quality is a determinant factor for the long term success of organizations. It is also important in service industries as it is highly related with customer satisfaction at each step in the process. Quality in health care thus needs much attention as it is a work of life perpetuation. Service quality can be defined as *"the collective effect of service performances which determine the degree of satisfaction of a user of the service"* (Business Service Management, 2013 para.1). In other words, quality is the customer's perception of a delivered service. Service-quality management refers to the monitoring and maintenance of end-to-end services for specific customers or classes of customers. In Uganda's health care sector, there is a responsiveness problem. Due to this, it is common to receive customer

complaints in hospitals and in print media regarding the delay and service quality. There are no studies that have been conducted to establish the service quality of SMC in Uganda, However, an external quality assessment conducted in December 2012 revealed several gaps in the service quality including lack of essential supplies and human resource shortages (PEPFAR Report, 2012). Gaps in staffing were also identified during the 2012 annual performance review (MEEPP Report, 2013)

2.4 Resource management and service quality

2.4.1 Human resource management and service quality

The RBT of the firm suggests that a firm's pool of human capital can be "leveraged" to provide a source of competitive advantage and enable an organisation to offer service quality to its clients (Wright & McMahan, 1992). Firms with respect to their human capital and competitive advantage ensure that its people add value to its production processes and that its pool of human capital is a unique resource, both difficult to replicate and difficult to substitute for. A positive work climate leads to and sustains employee motivation, high performance, and better results in health care. Good leadership and management practices contribute to a positive work climate.

The availability and quality of human resources for health impact greatly on the provision of health services both in terms of coverage and service quality. A World Development Report (2004) clearly states that the current human resources shortage in the health sector mainly in sub-Saharan African countries threatens the realization of plans for scaling up interventions to control the spread of infectious diseases such as AIDS. Without improvements to the human resources situation, the health-related Millennium Development Goals may not be achieved.

Management of health human resources involves motivation as a key element. With respect to existing human resources, the low level of health worker motivation has often been identified as a central problem in health service delivery. For example, the results from a survey undertaken by the German Technical Cooperation (GTZ) (2006) among representatives of ministries of health and GTZ staff from 29 countries showed that low motivation is the second most important health workforce problem after staff shortages that impact on quality service delivery. In summary, for quality health services to be realised, there is need to ensure that staffing is adequate in terms of numbers and skill mix; and is well motivated.

2.4.2 Financial resource management and quality service

Caines (2005) points out that financial availability and efficient management is a critical factor in delivering service quality. He cites the example of Global Health Initiatives (GHI) which is characterized by their ability to mobilize huge levels of financial resources, linking inputs to performance; and by the channeling of resources directly to nongovernmental civil society groups. Surprisingly, predictions that GHIs were likely to have profound positive effects on health service quality on recipient country health systems (Brugha, Starling & Walt, 2002). This suggests that availability of financial resources especially in development directed to health services is likely to have an impact on service quality.

In a study carried out by Robert & Griffiths (2003) they share the same view with Caines (2005) by clearly pointing out that most government health facilities in Cambodia perform poorly due to lack of funds, inadequate management and inefficient use of resources, but mostly due to poor motivation of staff. The findings further revealed that in Cambodia annual government health expenditure is

US$1.6 per capita, or 0.5 percent of Gross Domestic Product, and only a small proportion of this public expenditure reaches the peripheral level. Health facilities lack adequate infrastructure, trained staff and sufficient funds to operate.

A study conducted in Costa Rica by Abramson (2001) pointed out that the effective control of diseases and delivery of quality health services requires long term investments in the infrastructure for care, effective and efficient management of financial resources. Financing decisions based on principles of equity and effectiveness will help assure the most beneficial allocation of scarce resources. All financing components (funding, resource allocation, contracting, and reimbursement) should be used as a means for encouraging the implementation of innovative health care strategies.

2.4.3 Management of health supplies and service quality

The availability and management of health supplies are key towards provision of health services especially in low developed countries where Uganda is not exceptional. Evidence that the poor often benefit less from public spending is well documented (Demery 2000). Demery points out that the reason why there is poor service quality and why the poor do not make more use of public services is driven by both supply factors and supplies management by the health service providers. The Report on Macroeconomics and Health reinforced the need to overcome the substantial barriers to access that exist for the poorest (Sachs, 2001). The focus of such health policy intervention has been on reducing supply barriers. Delivery of essential services concentrates on improving the quality and availability of supplies and environment of health facilities and protocols of treatment (Sachs, 2001).

According to Tim & Cooper, (2004) in a market system, prices signal availability and quality of health supplies and facilities. Inadequacy and scarcity of health supplies is signaled by actual delays in the supply chain and variations in the quality of supplies. In Uganda the provision of SMC health service to the general public is provided mostly by government hospitals which usually are characterized by delays in disbursement of health service supplies thus having an adverse effect on the quality of service. Proper management of health supplies will enable the service provider to reach a big number and reduce costs of operation thus better service quality being achieved.

The German Technical Cooperation (2006) reports supports the view that from the perspective of health professionals, the challenges include lack of equipment, frequent shortages of supplies and a mounting workload all these exacerbated in small and rural facilities. Availability and management of heath supply related challenge imposes an adverse effect on the quality of health services.

2.5 Summary of the literature and gaps

The reviewed literature clearly showed that health resource management (human resource, financial resource and management of heath supplies) significantly affects service quality especially in less developed countries. The available literature only concentrated on general health service quality and did not cite service quality of SMC in particular, a new intervention for prevention of HIV. It is therefore important that the available resources are managed efficiently for health service providers to achieve their objective of service quality. Further, the literature generally focuses on health resource management and quality of curative services globally and not preventive services which are often considered to be less important. It is suspected that health resource management may be adversely affecting the quality of SMC service. This gap in knowledge on how health resource

management affects the quality of resource intense preventive services like SMC especially in Uganda called for a study to bridge it. This study therefore sought to investigate whether the poor service quality in SMC could also be attributed to health resource management and thus bridge the knowledge gap.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter focuses on the methods and procedure that were used to collect data, process, analyze and interpret it. It specifically considers the research design, study population, determination of the sample size, procedures and sampling techniques that were used, data collection methods, data collection instruments, reliability and validity of data, procedure of data collection, data analysis, and measurement of variables.

3.2 Research design

The study used a cross-sectional and descriptive study design adopting quantitative and qualitative approaches. The cross-section approach was used because the issues of health resource management and service quality of SMC were studied at that point in time (Amin, 2005). On the other hand, the descriptive component was used to give a qualitative explanation on health resource management and service quality of the SMC.

3.3 Study population

The three health units in the districts of Kisoro, Isingiro and Rukungiri were estimated to have 32 health workers involved in SMC (MoH, 2012) and on average serve 440 clients per month (MoH, 2009) making a study population of 472.

3.4 Determination of the Sample Size

The study selected respondents based on Krejcie and Morgan (1970) table (see appendix V)

Table 1: The study population

Population Category	**Accessible Population**			**Total accessible**	**Total sample**	**Sampling Technique**
	K	I	R			
District HIV Focal Person	1	1	1	3	3	Purposive
Health Unit Manager	1	1	1	3	3	Purposive
SMC Service providers	13	5	8	26	25*	Purposive
Clients who have received SMC service	172	125	143	440	208*	Convenience
Total				**466**	**239**	

Source: Adapted from MoH Report (2009) and MoH Report (2012)

K= Kisoro, I =Isingiro, R = Rukungiri.

*Based on Krejcie and Morgan (1970) guidelines

From table 1 above, a sample size of 239 was used.

3.5 Sampling technique and procedure

The sample selection techniques are the procedures to be used that enable the researcher obtain accurate and reliable samples (Amin, 2005). There are two major types of sampling techniques the probability and non-probability sampling. In the probability sampling, the elements in the population have some known chances or probability of being selected as sample subjects. On the other hand in

the non -probability sampling, the elements do not have a known or predetermined chance of being selected as subjects (Sekeran, 2003).

3.5.1 Purposive sampling

In purposive sampling, the researcher uses own judgment/ experience in selecting elements in sample. Elements are handpicked because they are either informative or have the required characteristics. Purposive sampling was used to specifically select the district SMC focal persons, health unit managers and all SMC service providers because they had key information relating to the variables under study. They were requested to introduce themselves and state their role in SMC. According to Saunders et al., (2003) purposive sampling is often used when working with very small samples and also when the researcher wishes to select cases that are particularly informative.

3.5.2 Convenience sampling

Convenience sampling involves selecting cases or units of observation as they become available to the researcher. Convenience sampling was used to select clients who had undergone SMC at the health facility. Clients were selected as they become available. However, this method has a disadvantage of being less rigorous.

3.6 Data collection methods

Data was collected using both primary and secondary data collection techniques. Primary data was gathered through structured questionnaires and interviews with "key informant members" (Sekaran, 2003). The researcher designed an interview guide and questionnaire instrument based on the objectives of the study. The items in the questionnaire were close ended. Interviews were conducted with SMC focal persons and health unit in-charges by the researcher as a way of supplementing the questionnaires already filled by the clients and service providers, but at the same time they enabled

the researcher to probe further into the responses given in the questionnaires especially given the importance of the research and the specialized nature of the variables under study. Secondary data was collected through document review.

3.6.1 Questionnaire survey method

The study used a questionnaire to collect primary data from the selected respondents. The researcher designed two forms of questionnaires, one for the clients and the other for health unit staff. The questionnaire was used because it is less expensive for data collection (Amin, 2005).The questionnaire was also used because the respondents possessed the information to answer the questions or items and were willing to answer the questions honestly and it is thought to be less expensive for data collection (Amin, 2005). The respondents recorded their answers within closely defined alternatives measured on a likert scale format to collect data from employees and clients (Saunders et al, 2003).

3.6.2 Interviewing

Structured face to face interviews were conducted to gather qualitative data from health unit managers and district SMC focal persons to get deeper understanding of the relationship between health resource management and service quality and to complement and provide deeper insights into the findings of the quantitative analysis. The questions were posed to the respondents using an interview guide in a face to face session (Mugenda & Mugenda, 2003).

3.6.3 Documentary review

The researcher also obtained information by reviewing relevant documents about the variables under study. The documents reviewed included inventories for supplies, work plans and client registers for SMC.

3.7 Data collection instruments

3.7.1 Questionnaire

A self-administered close ended questionnaire (refer to Appendix I) and a research assistant administered close ended questionnaire (refer to Appendix II) using a likert rating scale of measurement were used to collect data from SMC service providers and SMC clients respectively. The scale ranged from 1 for strongly disagree to 5 for strongly agree. Each section in the questionnaire was developed to address specific variables in the study. The questionnaire was pre-tested on a similar sample of 10 target respondents after which adjustments were made to enhance its validity and reliability.

3.7.2 Interview Guide

Structured face to face interviews were conducted using an interview guide (Appendix III) with clear research structured questions to collect in-depth information from the district health officials and health unit managers of the selected health units.

3.7.3 Document Review Guide

A document review guide (Appendix IV) was used to review key documents related to health resource management and SMC service quality such as SMC work plans, inventories for supplies and SMC client registers.

3.8 Validity and reliability

3.8.1 Validity

The validity of an instrument is defined as the ability of an instrument to measure what it is intended to measure (Sekaran, 2003). The validity of the instrument was tested using the Content Validity Index. This involved experts scoring the relevance of the questions in the instruments in relation to

the study variables and a consensus judgment given on each variable taking only variables scoring above 0.70. The instruments were found to be valid during the pre-test.

The Content Validity Index (CVI) was arrived at using the following formula.

$$CVI = \frac{R}{R+N+IR}$$

Where R = Relevant, N = Neutral, IR = Irrelevant. The closer to 1 the CVI, the more valid is the instrument and the results are presented in table 2 below.

Table 2: Content Validity Index Results

Variable	Total No of items	No. of valid items(R)	CVI
Human resource management	11	9	0.81
Financial resource management	10	8	0.80
Supplies management	10	9	0.90
Service quality	10	9	0.90

Source: Expert Judgments

Table 2 shows that health human resource management yielded a CVI of 0.81, health financial resource management yielded a CVI of 0.80; health supplies management yielded a CVI of 0.90, while service quality yielded a CVI of 0.90. Since all variable yielded a CVI above 0.70 accepted for social sciences (Amin, 2005) it was concluded that the instrument had a good validity in measuring health resource management and service quality of SMC.

3.8.2 Reliability

Reliability is the measure of the degree to which a research instrument yields consistent results or data in repeated trails (Mugenda & Mugenda, 2003). The reliability of the questionnaires and interview guide in relation to consistency of the scales used in the study was obtained by means of

Cronbach Coefficient Alpha. The tools were found to be reliable in a pre-test conducted prior to the main data collection.

Table 3: Reliability Results

Variable	Total No of items	Cronbach's alpha coefficient
Human resource management	11	0.75
Financial resource management	10	0.81
Supplies management	10	0.77
Service quality	10	0.74

Source: Primary data

Table 3 above shows that health human resource management yielded Cronbach's alpha value of 0.75, health financial resource management yielded an alpha value of 0.81; health supplies management yielded an alpha value of 0.77, while service quality yielded an alpha value of 0.74. Since all variable yielded alpha values above 0.70 accepted for social sciences (Amin, 2005), it was concluded that the instrument was reliable in measuring health resource management and service quality of safe male circumcision.

3.9 Procedure of data collection

Permission to conduct the study was sought from the District Health Office to authorize the study within the respective district. Anonymity and confidentiality of the respondents was observed by not collecting any information which could identify the respondent. A covering letter from Uganda Management Institute (UMI) was obtained to accompany the questionnaires. The researcher first met the Hospital Administrators, Health Unit Manager and District HIV Focal Person to explain the purpose of the study to seek permission before administrating the research instruments. The

researcher first conducted interviews with the key informants and then administered the questionnaires to clients and staff later.

3.10 Data analysis

3.10.1 Quantitative data analysis

Data collected was compiled, sorted, edited, classified, coded into a coding sheet and analyzed using a Statistical Package for Social Scientists (SPSS) with the help of an expert for easy analysis and interpretation of results. This package was used to generate descriptive statistics, correlation and regression analyses were done to establish the relationship between variables and the extent to which the dimensions of health resource management influences service quality in the SMC program

3.10.2 Qualitative data analysis

Data collected using questionnaires and interviews was compiled, sorted, coded, recorded and analyzed. This involved organizing statements, and responses to generate useful conclusions and interpretations on each research objective. Qualitative analysis involved coding of data, identifying categories and patterns that emerge in the responses on health resource management and service delivery.

3. 11 Measurement of variables

The independent variable, with constructs of human, financial and supplies management was measured on a 5-point Likert Scale, 1= strongly disagree, through to 5 = strongly agree. To test perceived service quality a set of statements was used and applied to a five-point Likert scale ranging from strongly agree (5), agree (4), not sure (3), disagree (2) to strongly disagree (1). Also

numerical measurement was used highlighting amounts not accounted for and trend analysis of accountability was examined.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND INTERPRETATION OF FINDINGS

4.1 Introduction

This chapter is devoted to the presentation, analysis and interpretation of findings of how health resource management influences service quality of safe male circumcision (SMC) focusing on health units and hospitals in Southwestern Uganda including; Bugangari HCIV, Kabuyanda HCIV and Kisoro Hospital. In this section, the extracted items for each objective in relation to variables are presented and discussed in the context of the specific objectives aimed at answering the formulated research questions stated at the beginning of the study. In this study all the responses from the study were analyzed and are hereby presented objective per objective of the study using qualitative and quantitative approaches.

4.2 Response rate

The response rate of the study was determined to assess the exact number of respondents who participated in the study from a target sample size of 239 respondents out of which 31 (13%) were service providers and 208 (87%) were clients who had ever undergone SMC. The results are presented in the table 4 below;

Table 4: Response rate

Hospital	**Frequency**	**Valid percentage (%)**
Bugangari	74	31
Kabuyanda	69	29
Kisoro Hospital	96	40
Total	**239**	**100.0**

Source: Primary data

The researcher administered 239 questionnaires to the respondents and they were filled and completed. This indicated a high response rate thus sufficient and reliable data was obtained. Amin (2005) reveals that a response rate that is 70% and above is highly recommended in the study. According to the responses; 74 (31%) were from Bugangari HCIV, 69 (29%) from Kabuyanda HCIV and 96 (40%) from Kisoro Hospital.

4.3 Demographic characteristics of the respondents

Findings discussed in this section are based on the responses obtained from the field findings on demographic characteristics on age range, gender, period worked with the health unit, current position and highest qualifications respondents had at the time of research.

4.3.1 Age range of the respondents

The study set out to look at the age range among the respondents to examine how it impacted the study on health resource management and service quality and the results after the analysis are presented in table 5 below;

Table 5: Age range of respondents

Age		**Frequency**	**Valid Percent (%)**
Valid	18 ≤ 20	101	42.3
	20 – 29	71	29.7
	30 – 39	54	22.6
	40 – 49	13	5.4
	> 50	0	0
	Total	**239**	**100.0**

Source: ***Primary data***

Table 5 shows that 42.3% of the respondents were in the age range of 18 ≤ 20, 29.7% were 20-29, 22.6% were in the age bracket 30-39 whereas 5.4% were in the age range of 40-49 and no

respondent was aged 50 years and over. The analysis on the age group was generated to enhance understanding of respondents characteristics and it was found that majority of the respondents were the young people because there are deliberate efforts to target those aged 15 to 49 years old.

4.3.2 Gender of the respondents

The study further was set to find out the gender difference amongst the service provider respondents to capture how it could influence the study findings and the results of the analysis are presented in the table 6 below;

Table 6: Gender of service provider respondents

Gender of respondents		**Frequency**	**Valid Percent (%)**
Valid	Male	22	80
	Female	9	20
	Total	**31**	**100.0**

Source: ***Primary data***

From the table 6 above, it can be observed that male constitute the highest respondents comprising 80% while females constitute 20%. This may be attributed to the fact that the majority of clients would prefer to be served by males some female may feel uncomfortable offering the service.

4.3.3 Level of education of respondents

The study also looked at the academic qualification of respondents to validate the kind of data collected and the results are presented in the table 7 below;

Table 7: Respondents' level of education

Level of education		Frequency	Valid Percent (%)
Valid	None	9	3.8
	Primary	49	20.6
	Secondary	52	21.8
	Tertiary	112	47.1
	Degree	15	6.3
	Masters	1	0.4
	Others	0	0
	Total	**238**	**100.0**

Source: ***Primary data***

Results presented in table 7 above show that 3.8% of the respondents had no education, 20.6% primary, 21.8% secondary level education, 21.8% tertiary level and 6.7% were degree holders. The respondents who had high qualifications – diplomas and degrees were service providers. The results indicate that very few respondents had no education at all which may be a reflection of the audience that is reached by campaigns to increase uptake of SMC. This may negatively impact the study because the views of the illiterate may not be obtained

4.3.4 Role/position of service provider respondents

The study also assessed the current position of each respondent of the study to validate the findings collected and the results are presented in the table 8 below;

Table 8: Position of service providers

Responses		Frequency	Valid Percent (%)
Valid	Circumciser	12	38.7
	Assistant circumcisers	8	25.8
	Counsellor	7	22.6
	Others	4	12.9
	Total	**31**	**100.0**

Source: ***Primary data***

Results in table 8 shows that majority of the respondents, i.e. 38.7% were circumcisers, 25.8% were assistant circumcisers and a less percentage of 22.6% were counselors and other cadres were 12.9%. This implies that the information collected during the study was given by respondents who are more involved in circumcision.

4.3.5 Period worked with the health unit

The study assessed the period taken by each service provider respondent working at the health unit with the purpose to validate experience of the respondents in providing the factual information related to health resource management and service quality in SMC and the results generated from the findings are presented in table 9.

Table 9: Period worked with the health unit

Responses		Frequency	Valid Percent (%)
Valid	< 2 years	12	38.7
	3 - 6 years	8	25.8
	> 6 years	10	32.3
	4	1	3.2
	Total	31	100.0

Source: ***Primary data***

According to the results in table 9 it is observed that majority of the respondents had worked for a period range of less than 2 years, some had worked for 3-6 years totaling to 25.8%, while 32.3% had worked for a period range of less than 6 years and the lowest number comprising of 3.2% of respondents had worked for 4 years.

4.3.6 Duration of involvement in SMC

The study assessed the period taken by each respondent working at the health unit and involvement in SMC as service providers with the purpose to validate experience of the respondents in providing the factual information related to health resource management and service quality in safe male circumcision and the results generated from the findings are presented in table 10.

Table 10: Duration involvement in SMC

Reponses		**Frequency**	**Valid Percent (%)**
Valid	< 1 year	13	41.9
	1 - 2 years	12	38.7
	> 2 years	5	16.1
	4	1	3.2
	Total	**31**	**100.0**

Source: ***Primary data***

Results in table 10 above reveal that 41.9% of the respondents have been involved in SMC for less than 1 year, 38.7% between 1 – 2 years and only 19.3% more than 2 years. This indicated that most SMC service providers have experience of less than 2 years and this may have a bearing on the quality of service provided.

4.4 Findings on the influence of human resource management and service quality in SMC

The study hypothesized that human resource management would have a positive effect on service quality. Findings were obtained through administering questionnaires and conducting interviews from all the categories of respondents involved in the SMC service provision. Data was collected using questionnaires administered to respondents who were employees in the health units that provide SMC services. The questionnaire had different question items designed on a five-point likert scale of 1= strongly disagree, 2= disagree, 3= not sure, 4= agree and 5= strongly agree. The descriptive analysis of the results obtained is presented in the table 11 below;

Table 11: Human resource management and service quality in SMC

Statement/variable	SDA		DA		NS		A		SA	
	F	%	F	%	F	%	F	%	F	%
The health unit regularly determines the number of staff required	7	22.9	6	19.4	3	9.7	6	19.4	9	29.0
The health unit has qualified and experienced staff for SMC	3	9.7	0	0	1	3.2	9	29.0	18	58.1
The health unit has adequate number of staff.	6	19.4	6	19.4	4	12.9	10	32.3	5	16.1
The health unit has all the cadres required	6	19.4	9	29.0	2	6.5	8	25.8	6	19.4
Staffs are adequately paid their wages and salaries.	6	19.4	6	19.4	5	16.1	7	22.6	7	22.6
Staffs are properly motivated to perform SMC.	2	6.5	13	41.9	3	9.7	8	25.8	5	16.1
Health unit provides both monetary and non-monetary incentives.	7	22.6	12	38.7	4	12.9	7	22.6	1	3.2
Staff receive regular in service trainings for SMC	2	6.5	8	25.8	4	12.9	10	32.3	7	22.6
Staff have always left health unit and joined other health units due to poor human resource management.	8	25.8	9	29	4	12.9	8	25.8	2	6.5
Sometime workers do not work if not paid their wages and salaries.	13	43.3	11	36.7	1	3.3	2	6.7	3	10
Human resource management affects service quality in SMC programme.	7	22.6	3	9.7	5	16.1	9	29.0	7	22.6

Source: ***Primary data***

According to the findings in table 11 above, 15 (48.4%) of the respondents agreed that the health units determine the human resources required to carry out SMC services as compared to 13 (42%) who disagreed. Three 3 (9.7%) of the respondents were neutral about the statement. This implies that

majority of the respondents indicated that almost half of the service providers perform human resource planning of staff.

The majority of the respondents indicated the health units have qualified and experienced staff represented by 27 (87.1%) as compared to 3 (9.7%) of the respondents who disagreed, while 1(3.2%) was not sure about the experience and qualification of service providers. This implies that the health units have competent staff offering SMC services. This was also reported in **an interview with a health unit manager who stated** *"all SMC service providers are taken to Rakai health science program for special training in SMC before they are allowed to offer the service. This is made possible with support from donor projects."*

Results further show that 15 (48.4%) of the respondents agreed that the health units have adequate staff to deliver SMC services to clients while 12 (38.8%) disagreed and 4 (12.9%) were not sure. This implies that over 50% of the health units that offer SMC services are understaffed to deliver quality services to clients.

It was also found out that a total of 14 (45.2%) of the respondents agreed that the health units pay adequate salaries and wages as compared to 12 (38.8%) who disagreed and 5 (16.1%) who were not sure.

Results also indicate majority of the respondents 19 (61.3%) disagreed that staff in health units are provided with both monetary and non-monetary incentives while 8 (25.8%) agreed and 4 (12.9%) were undecided. This implies that most health units in Southwestern Uganda that provide SMC

services do not provide monetary and non-monetary incentives. This is partly true because the health units operate on budgeted financial resource from government and they hardly generate additional revenues to pay its staff.

More to the results in the table 11, it was revealed that majority of the respondents 17 (54.9%) agreed that health units offer regular in service training about SMC as compared to the number of respondents 10 (32.3%) who disagreed to the statement while 4 (12.9%) were not sure. This implies that some health units in Southwestern Uganda that provide SMC services do not offer regular in service training about SMC to staff to equip them with skills. Lack of regular in-service training partly may affect service quality of SMC.

It was also clearly indicated that a total of 17 (44.8%) of the respondents were on the disagreement side that there is staff turnover due to poor human resource management and practices as compared to only 10 (32.3%%) respondents who agreed and 4 (12.9%) who are not sure that there was staff turnover due human resource management practices implying that the staff turnover in health units is not greatly due to human resources management practices, where it exists it could be due to other factors. It can also be added that staff turnover has got a negative effect on service quality and consistency on service delivery.

It is also indicated that the majority of the respondents 24 (80%) disagreed that staff are not committed to their work due to delay in payment of salaries and wages as compared to 5 (16.7%) who agreed and 2 (3.0%) were undecided, implying that that staff in health units are committed to their work in spite of delays in payment of salaries and wages.

It is further indicated that 15 (51.6%) of the respondents agreed that human resource management affects quality of SMC service delivery as compared to 10 (32.3%) who disagreed that human resource management affect service quality while 5 (16.1%) were not sure implying that human resource management partly affects service quality in SMC.

Statistical analysis was further conducted to investigate the influence of human resource management on SMC service quality using Pearson correlation coefficient and the results are presented in table 12 below;

Table 12: Influence of human resource management and service quality in SMC

		Human resource management	**Service quality**
Human resource management	Pearson Correlation	1	.845(**)
	Sig. (2-tailed)	.	.000
	N	96	96
SMC service quality	Pearson Correlation	.845(**)	1
	Sig. (2-tailed)	.000	.
	N	96	96
** Correlation is significant at the 0.01 level (2-tailed).			

Source: ***Primary data***

Table 12 shows Pearson's correlation coefficient r= 0.845** generated from the statistical analysis with the p-value = 0.000 which is <0.05 implying that there is a significant positive correlation between human resource management and service quality (r= 0.845**, p=0.000<0.05). This implies a linear relationship between the two variables. This means that if the human resource in the health

units are well managed to support the needs of clients, it leads to better service quality. Therefore, the correlation results indicate that health unit human resources management has a positive significant relationship with service quality since $p< 0.05$ leading to the acceptance of the hypothesis that human resource management positively influences service quality at health units. Linear regression analysis results on the human resource management and service quality of SMC are presented in the table 13 below;

Table 13: Regression Analysis

Model	**Unstandardized coefficients**	**R^2**	**Adjusted R^2**		**Standardized coefficients**	**t**	**Sig.**
	B			**Std. Error**	**Beta**		
1 (Constant) Human resource management	3.256 .845	0.714	0.712	.135 .031	.887	24.117 4.201	.000 .000

a. Dependent Variable: Service quality

The adjusted value in the table 13 above was found to predict 71% unit variation in service quality. The $R^2 = 0.714$, beta 0.845, t = 4.201, and significance 0.000 suggests that human resource management is a strong predictor of service quality. Therefore, a unit change in human resource management will lead to a bigger change in service quality as reflected by 71% variation.

4.5 Findings on Influence of financial resource management on service quality in SMC

This study further hypothesized that financial resource management has a positive influence on service quality. Findings on this objective were obtained from the service providers using the

questionnaire, interviews and documentary reviews and the results generated from the data findings are presented below.

Table 14: Financial resource management and service quality in SMC

Statements/variables	SDA		DA		NS		A		SA	
	F	%	F	%	F	%	F	%	F	%
The funds are available to carry out SMC activity	2	6.5	8	25.8	5	16.1	12	38.7	4	12.9
The health unit has got sufficient and adequate funds for SMC services	7	22.6	9	29.0	7	22.6	6	19.4	2	6.5
The financial resources are properly budgeted for the intended purpose.	3	9.7	5	16.1	8	25.8	14	45.2	1	3.2
There has always been proper accountability and reporting on financial resources.	1	3.2	3	9.7	9	29.0	12	38.7	6	19.4
The health unit has ever experienced loss and misappropriation of financial resources.	4	12.9	8	25.8	12	38.7	4	12.9	3	9.7
The health unit has got internal controls over the financial resources.	3	9.7	3	9.7	10	32.3	13	41.9	2	6.5
The health unit has got experienced staff managing the financial resources.	1	3.2	3	9.7	4	12.9	17	54.8	6	19.4
The health unit receives financial resources for SMC on timely basis.	6	19.4	10	32.3	4	12.9	9	29.0	2	6.5
Sometimes clients miss SMC because of inadequate financial resources.	8	25.8	9	29.0	1	3.2	6	19.4	7	22.6
Financial resource management affects service quality for SMC.	3	9.7	7	22.6	2	6.5	11	35.5	8	25.8

Source: ***Primary data***

Results in the table 14 indicate that majority of the respondents 16 (51.6%) agreed that the health units have funds available for SMC services while 10 (32.3%) of the respondents disagreed that the health units have funds available for SMC services. This was further confirmed by one of the **District SMC focal persons who reported** "*we receive funding on a quarterly basis to support SMC activities and each site within the district is expected to have a work plan for circumcision with a budget."* Five (16.1%) of the respondents were not sure implying that some health units may not make it aware whenever funds for SMC services are available and this may explains the delay and poor quality of services provided to their clients.

Findings revealed that 15 (51.6%) of the respondents disagreed that the health units have sufficient and adequate funds for SMC services as compared to a total of only 10 (15.9%) in agreement with the statement while 7 (22.6%) were not sure whether the health units have sufficient and adequate funds to provide SMC services. This may be attributed to the fact that most service providers do not handle health unit finances.

As regards budgeting for financial resources, the majority of the respondents 15 (47.4%) agreed that health units budget for the financial resources while 8(17.8%) of the respondents disagreed that the health units budget for the financial resources and 8 (25.8%) were not sure. This implies that there is poor financial management of the available financial resources and this may negatively affect the service quality of SMC. This was further **confirmed through review of work plans** whereby only one health unit had quarterly budgets for SMC service on file.

Results indicate that a total of 18 (58.1%) were on agreement side of accounting and reporting on financial resources by the health units that provide SMC services compared to 4 (12.9%) of the respondents who disagreed and 9 (29.0%) were not sure implying that most health units properly account and reports on financial resources.

Majority 12 (48.7%) of the respondents disagreed about the existence of loss and misappropriation of financial resources in health units compared to 7 (22.6%) who agreed about loss and misappropriation of financial resources whereas 12 (38.7%) were not sure whether the health units had ever experienced losses and misappropriation of financial resources. In one of the interviews, a **District SMC focal person reported**;

> We have not had case of misappropriation of SMC funds because we actually rarely touch that money. Most of it is handled by staff from the project and for us we only handle other supplies. Each staff member directly signs for their allowance so there is very little chance that that money can be misused.

It is clear that 15 (48.4%) of the respondents agreed that health units have got internal controls on financial resources while a total of 6 (19.4%) of the respondents disagreed with the statement and 10 (32.3%) were not sure whether the health units have got internal controls on financial resources. This implies close to 50% manage their financial resources efficiently and effectively. It also implies that health units that have experienced loss and misappropriation have been as a result of weak internal controls on financial resources.

Results in the table 14 further revealed that 23 (74.2%) of the respondents agreed that staff managing the financial resources are competent in terms of experience and qualification. This was in contrast to one of the **District SMC focal persons who reported that** "*the majority of the health unit in-charges and staff are medically trained and have no training in financial management."*Only 4 (12.9%) disagreed that staff managing financial resources are competent and 4 (12.9%) were not sure about the staff competence. This implies that most health units recruit and retain qualified staff in their accounts and finance departments and this partly explains the proper accountability, reporting and strong internal controls in some health units.

Majority number of respondents totalling to 16 (51.7%) further disagreed that funds for SMC are received on time compared to 11 (35.5%) who agreed that they receive funds for SMC on time while 4 (12.9%) were not sure. The implication of the results is that clients at some health units may sometimes miss SMC service because of delays in receiving financial services from the funders especially government.

Seventeen (54.8%) of the respondents disagreed about clients missing SMC service due inadequate financial resources compared to 13 (43.0%) who agreed that sometimes clients miss SMC due inadequate financial services while 1 (3.2%) was not sure. The results imply that clients in some health units miss SMC due to inadequate financial resources and this may be attributed to loss and misappropriation of financial resources, poor budgeting, delays in receipt of funds and weak internal controls on financial resources. **Documentary review** of the attendance registers revealed that there have been times when SMC is not offered because there are no funds to pay staff allowances and transport to outreach SMC clinics.

The results also showed that majority of the respondents, i.e. 19 (61.3%) agreed financial resource management significantly affect SMC service quality whereas 10 (32.3%) disagreed with the statement that financial resource management affect SMC service quality in health units while only 2 (6.5%) were not sure about the extent to which financial resource management affect SMC quality service. The results imply that for health units to improve on the SMC service quality, they should manage their financial resources effectively and efficiently. **One of the District SMC focal persons made the following suggestion:** *"government should revise upward the funds released to the districts especially for health services and should also change the method of releasing funds so that the money reaches the health units in a timely manner if the quality of SMC services are to be improved."*

Correlation results were further generated to measure the influence of financial resource management on SMC service quality and the results are presented in the table below;

Table 15: Influence of financial management and service quality in SMC

		Financial resource management	**SMC Service quality**
Financial resource management	Pearson Correlation	1	.739(**)
	Sig. (2-tailed)	.	.000
	N	96	96
Service quality	Pearson Correlation	.739(**)	1
	Sig. (2-tailed)	.000	.
	N	96	96
** Correlation is significant at the 0.01 level (2-tailed).			

Source: Primary data

Results in the table 15 above show that there is a positive correlation between financial resource management and services quality with (r=0.739, p= 0.000). Since the p<0.05 significance level, it is concluded that financial resource management has a significant positive influence on service quality leading to the acceptance of the hypothesis that financial resource management will have a positive influence on service quality of SMC clients.

Linear regression was also computed to measure the level of the impact variation between the two variables; i.e. influence of financial resource management on service quality and the results are presented in the table below;

Table 16: Regression Analysis

Model	**Unstandardized coefficients**	**R^2**	**Adjusted R^2**		**Standardized coefficients**	**t**	**Sig.**
	B			**Std. Error**	**Beta**		
1 (Constant) Financial resource management	3.450 .739	0.546	0.544	.131 .032	.739	24.315 2.636	.000 .000

a. Dependent Variable: Service quality

The Adjusted R squared results in the table 16 revealed that financial resource management predicts 54.4% of the variance in the dependent variable, i.e. service quality. The R^2 = 0.544, beta 0.739, t = 2.636, and significance 0.000 implying that financial resource management contributes 54.4% improvement in service quality in SMC compared with other variables under the study and therefore

we accept the hypothesis that financial resource management significantly influence the service quality of safe male circumcision.

4.6 Findings on the influence of health supplies management on service quality in SMC

The findings were obtained from the questionnaires, interviews and documentary reviews. The study conceptualized management of health supplies on influencing service quality.

Table 17: Management of health supplies and service quality

Statements/variables	SDA		DA		NS		A		SA	
	F	%	F	%	F	%	F	%	F	%
Health supplies are readily available for SMC	1	3.2	7	22.6	2	6.5	10	4.2	11	4.6
The health unit always has adequate and sufficient health supplies for SMC	1	3.2	7	22.6	0	0	13	41.9	10	32.3
Staff is consulted in identifying required SMC supplies.	1	3.2	3	9.7	1	3.2	21	67.7	5	16.1
The health supplies are delivered on time	2	6.5	6	19.4	3	9.7	16	51.6	4	12.9
The procurement and acquisition of health supplies for SMC is lengthy.	1	3.3	10	33.3	9	30	7	23.3	3	10.0
The health unit has ever acquired poor quality health supplies not fit SMC.	4	12.9	11	35.5	7	22.6	9	29.0	0	0
The health unit has ever experienced theft and misappropriation of SMC supplies	15	48.4	8	25.8	3	9.7	5	16.1	0	0
The health unit has a store and strong internal controls for supplies	2	6.5	4	12.9	1	3.2	11	35.5	13	41.9
Clients have ever missed SMC service because of inadequate health supplies	7	22.6	13	41.9	0	0	8	25.8	3	9.7
In your view management of health supplies affects service quality for SMC.	1	3.2	10	32.3	0	0	12	38.7	8	25.8

Source: Primary data

Results in table 17 indicate that majority of the respondents 21 (65.8%) agreed that the health units have health supplies readily available for SMC services. This was confirmed in **an interview with one of the health unit in-charges who reported:** "we *rarely run short of supplies and if we don't have, we inform the DHO's office and they borrow from other health units and they supply us as we wait for our own delivery."* Eight (25.8%) of the respondents disagreed that the health units have supplies readily available for SMC services whereas 2 (6.5%) were not sure. If supplies are not readily available, it may negatively affect the service quality of SMC through causing long waiting times.

On the other hand, 23 (74.2%) of the respondents agreed that the health units have sufficient and adequate health supplies for SMC services as compared to only 8 (23.8%) who disagreed with the statement. **This was verified through documentary review** whereby all the 3 health units had inventories for supplies that indicated buffer stocks of at least 3 months.

Concerning whether SMC staff is consulted in identifying the required supplies, results indicated that a total of 26 (83.8%) were on agreement side that there is consultation in identifying SMC supplies by the health units that provide SMC services compared to 4 (12.9%) of the respondents who disagreed and 1 (3.2%) was not sure. This implies that most health units consult service providers in identifying required SMC supplies.

Majority 23 (74.2%) of the respondents disagreed about the existence of theft and misappropriation of health supplies in health units compared to 5 (16.1%) who agreed about loss and misappropriation of supplies whereas 3 (9.7%) were not sure whether the health units have ever experienced theft and

misappropriation of health supplies. The implication of the results is that where there is theft and misappropriation of health supplies, it may result into poor quality service to SMC clients.

When asked about existence of strong internal controls, 24 (77.4%) of the respondents agreed that health units have got strong internal controls for supplies while a total of 6 (19.4%) of the respondents disagreed with the statement and 1 (3.2%) was not sure whether their health unit has got internal controls on health supplies. This implies that over 75% manage their health supplies efficiently and effectively. It also implies that health units that have experienced theft and misappropriation have been as a result of weak internal controls on health supplies. **Documentary review of records** in the store, revealed presence of stock cards for all supplies that are received and issued out. However, some we not updated.

Majority of respondents totalling to 20 (64.5%) further agreed that health supplies SMC are received on time compared to 8 (25.9%) who disagreed that they receive supplies for SMC on time while 3 (9.7%) were not sure. Poor timely delivery of supplies was **reported by one of the District SMC focal persons who reported** "we *receive supplies from the project supporting SMC services and they deliver their supplies on time, but the supplies that come from National Medical Stores often come late which sometimes affect the stocks of supplies within the district."* The implication of the results is that clients at some health units may miss SMC service because of delays in receiving supplies from the providers especially government.

On whether sometimes clients miss services because of lack of supplies, 20 (66.5%) respondents disagreed about clients missing SMC service due inadequate health supplies compared to 8 (25.8%)

who were not sure and only 3 (9.7%) agreed that some clients miss SMC service due to inadequate health supplies. The results imply that clients in a few health units clients miss SMC due to inadequate health supplies and this may be attributed to loss and misappropriation of health supplies, delays in receipt of supplies and weak internal controls on health supplies.

Results in table 17 further revealed that 11 (36.6%) respondents disagreed that procedure of procuring of health supplies is lengthy compared to 10 (33.3.9%) who agreed that procedure of procuring health supplies is lengthy while 9 (30%) were not sure. The implication of the results is that clients sometimes miss SMC service because of the lengthy procedure of procuring health supplies from the various sources.

Majority of the respondents 15 (48.4%) disagreed that health units have ever acquired health supplies not fit for purpose, 9 (29.0%) of the respondents agreed while 7 (22.6%) were not sure. The results obtained imply poor procurement of health supplies evidenced by poor quality health supplies procured and this may have a direct bearing on service quality.

The results also showed that majority of 20 (64.5%) agreed management of health supplies significantly affects SMC service quality whereas 11 (35.5%) disagreed with the statement that management of health supplies affects SMC service quality at health units. The results imply that, for health units to improve SMC service quality, they should manage their health supplies effectively and efficiently. **One of the health units' in-charges reported:** *"if we don't have enough supplies we suspend circumcision because we do not want to improvise with supplies which may not be suitable for the procedure."*

To back the descriptive results, statistical results were generated using Pearson correlation coefficient on management of health supplies influence on service quality and the results generated are presented in table 18.

Table 18: Influence of health supplies management on service quality in SMC

		Management of health supplies	**Service quality**
Management of health supplies	Pearson Correlation	1	.932(**)
	Sig. (2-tailed)	.	.000
	N	96	96
Service quality	Pearson Correlation	.932(**)	1
	Sig. (2-tailed)	.000	.
	N	96	96
** Correlation is significant at the 0.01 level (2-tailed).			

Source: Primary data

Correlation coefficient results between management of health supplies and service quality is 0.932** (r = 0.932**) at P- value .000 (< 0.05 level of significance) implying that there is a positive correlation. The significant relationship evidenced by the correlation coefficient 0.932 obtained with the significant p value of .000 that was tested between two variables of the study revealed that management of health supplies positively influence service quality.

Regression results were further analyzed to establish the impact of management of health supplies on service quality and the results are presented in the table below;

Table 19: Regression Analysis

Model	Unstandardized coefficients	R^2	Adjusted R^2		Standardized coefficients	T	Sig.
	B			Std. Error	Beta		
1 (Constant) Management of health supplies	3.005 .932	0.869	0.866	.147 .040	.932	20.286 5.437	.000 .000

a. Dependent Variable: Service quality

The Adjusted R squared results (0.866) in the table reveal that management of health supplies predicts 87% of the variance in the service quality as it is indicated by the responses captured by the researcher during the study. The $R^2 = 0.869$, beta 0.932, t = 5.337, and significance 0.000 implying that management of health supplies is a predictor of service quality leading to a higher variation in service quality. Therefore, the hypothesis that management of health supplies has a significant influence on service quality in health units is highly accepted.

4.7 Correlation and regression analysis

4.7.1 Pearson correlation matrix (Multivariate)

The Pearson correlation matrix test was used to test and determine the degree of relationship between the study variables that include human resource management, financial resource management and management of management of health supplies and service quality. The results generated are presented in the table below;

Table 20: Pearson's correlations between constructs

1	Human resource management	Financial resource management	Management of health supplies	Service quality
Human resource management	1	.645**	.781**	.845 **
Financial resource management	.403**	1	.775**	.739**
Management of health supplies	.922**	.779**	1	.932**
Service quality	.845**	.739**	. 932**	1

Source: Primary data

Note: Correlation is significant at 0.01 (2-tailed).

From the correlation matrix in table 20 preliminary tests of the hypotheses were implicitly performed. All the variables are positively correlated to each other at 0.05 level indicating that they all affect service quality leading to the acceptance of the hypotheses of this study. Meanwhile, the correlations between human resource management and other variables are stronger looking at the scale of correlation more closely, ranging from (0.645 to 0.845), correlations of financial resource management and other variables are also stronger ranging (0.645 to 0.932) compared to management of health supplies. This reveals that human resource management and management of health supplies have a higher influence compared to financial resource management.

4.7.2 Regression Analysis

Regression analysis was used to determine the predictability of human resource management, financial resource management and management of health supplies on service quality. The impact variation of the variables was determined as below:

Table 21: Multiple Regression Analysis results on constructs

Dependent Variable	Parameter	B	Std. Error	t	Sig.
Service quality	Intercept	.912	.254	1.873	.000
	Human resource management	.845	.079	1.645	.000
	Financial resource management	.739	.143	1.346	.000
	Management of health supplies	.932	.102	1.434	.000

Source: Primary data

In table 21, the statistics of multivariate tests provide the information that the regression service quality, none of the independent variables have coefficients significantly different than 0 significance levels (0.000< 0.05) indicating that the three variables shown above in the table affect service quality. However, the greatest predictor of variation in line with the magnitude of the beta co- efficient is management of health supplies (Beta= 0.932) this implies that a change in health supplies will lead to 87% (R^2 0.869; correlation of determination) variation in service quality.

4.8 Service quality of SMC

Data was collected using questionnaires administered to service providers and their clients. The questionnaires had different questions designed in a five-point likert scale of 1= strongly disagree,

2= disagree, 3= not sure, 4= agree and 5= strongly agree. The descriptive analysis of the results obtained is presented in the table below;

Table 22: Response on service quality

Statement/variables	**SDA**	**DA**	**NS**	**A**	**SA**
	%	%	%	%	%
The health service providers deliver according to what they promise during mobilization and sensitization for SMC	0.8	2.9	4.2	46.4	45.6
The SMC services are readily available as and when required.	5.0	5.4	4.2	50.2	35.1
There is no long waiting time at health unit for SMC	1.7	13.8	5.4	46.0	33.1
The health centre/hospitals deliver assistance to clients regarding SMC when needed	0.4	0.4	5.9	54.4	38.7
I have trust and confidence in SMC service provided and service providers.	0.4	1.3	3.3	48.5	46.4
SMC service providers treat clients well and make you feel important to them.	0.4	0.4	4.6	40.2	54.4
SMC service providers give attention and care about the clients' needs.	0.4	0.8	3.3	47.7	47.7
The health unit has got sufficient tools and equipment to use in SMC	6.5	22.6	3.2	38.7	29.0
SMC service providers communicate to the patients about the procedure of the receiving the service.	1.3	0	43.9	53.6	
SMC clinic structures and facilities are in good conditions.	3.8	5.9	4.6	40.6	45.2

Source: Primary data

Results in table 22 indicate that a small percentage of respondents totaling to 8 (3.7 %) disagreed that the health service providers deliver according to what they promised compared to 192 (92%) of the respondents who agreed with the statement while 9 (4.2%) who were not sure. This implies that

SMC clients were found to be satisfied as majority of them did agree to be happy with the mobilization and sensitization.

It is further indicated that 178 (85.3%) of the respondents agreed that the services are readily available when required whereas 20 (9.4%) of the respondents disagreed and 9 (4.2%) were not sure. This implies that clients are treated equally through service provision and this has left most of the clients satisfied with the services rendered to them.

Also, the findings indicate that 165 (79.1%) of the respondents agreed that there was no long waiting time at the health units compared to 32 (15.5%) of the respondents who disagreed with the statement, while 11 (5.4%) of the respondents were not sure. The implication of the findings is that clients at the health units do not wait for long to get circumcised and therefore the quality of service is good.

It was found that 194 (93.1%) of the respondents agreed that they receive assistance from service providers regarding SMC whereas 2 (0.8%) of the respondents disagreed whereas 12 (5.9%) of the were not sure whether assistance is delivered to clients regarding SMC implying that the health units do provide good services to their clients..

Again, it is revealed that 197 (94.9%) of the respondents agreed that they have trust and confidence in SMC service providers and their services, whereas 35 (1.7%) of the respondents disagreed with the statement and 7 (3.3%) were not sure as to whether they have trust and confidence in SMC service providers and their services.

Also, 197 (94.6%) of the respondents agreed that service providers treat clients well and make them feel important whereas 2 (0.8%) of the respondents disagreed with the way clients are treated and 96 (4.6%) were not sure about the statement. The implication of the findings is that there is good customer care at the health units.

The findings further indicate that the majority of the respondents 198 (95.4%) agreed that service providers give attention and care about the clients' needs to that, a small number of the respondents 3 (1.2%) disagreed while 7 (3.3%) were not sure about the statement.

The results in table 22 above further indicate that majority of the respondents 141 (67.7%) agreed that service providers have got sufficient tools and equipment to use in SMC, 61 (29.1%) disagreed with the statement while only 7 (3.2%) were not sure. This implies that most of the health units are likely to provide quality SMC services since they have sufficient tools and equipment.

Also, it is indicated that 112 (53.6%) of the respondents agreed that SMC service providers communicate to the clients about the procedure of receiving the service compared to 3 (1.3%) of the respondents who disagreed with the statement while 91 (43.9%) were not sure about the statement. This implies that communication between the service providers and clients is poor.

Lastly, the findings indicate that 179 (85.8%) of the respondents agreed that the structures and facilities in the health units are in good condition compared to 20 (9.7%) that disagreed whereas 10 (4.6%) were not sure. This implies that majority of the health units have got good structures and facilities which explains is likely to result into high quality levels in SMC.

CHAPTER FIVE

SUMMARY, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the discussion of the results, draws conclusions from the research findings and gives recommendations based on the findings of the study. Discussions are presented systematically in line with the objectives of the study which include; the relationship between human resource management and service quality, the effect of financial resource management and service quality and management of health supplies on service quality of SMC at the selected health units in Southwestern Uganda.

5.2 Summary of findings

5.2.1 The influence of human resource management on service quality of SMC

Findings revealed that the health units determine the human resources required to carry out SMC services as represented by the highest response. This indicates that majority of the service providers perform human resource planning. The health units have qualified and experienced staff represented by 87.1%. This means that the health units do satisfy their clients as the response indicates with a strong agreement that the health units have experienced and qualified personnel.

Most health workers that provide SMC 45.2% reported that the salaries and wages they are paid are adequate; however sometimes there are delays since most of the health units are government-owned. Similarly non-monetary incentives are provided to staff at very few health units. The health units operated on budgeted financial resource from government and hardly generate additional revenues to pay their staff.

Findings also revealed that some health units offer regular in-service training on SMC since lack of regular in-service training may lead to poor service quality and dissatisfaction by clients. In addition, staff are committed to their work despite delays in payment of salaries and wages.

It is further indicated that human resource management affects quality service in SMC. Pearson's correlation coefficient r = 0.84 generated from the statistical analysis implies that there is a significant positive correlation between human resource management and service quality. This implies a linear relationship between the two variables. This means that if the human resources of the health units are well managed to support the needs of clients, clients get better service delivery. Therefore, a unit change in human resource management will lead to a bigger change in service quality as reflected by 71% variation.

5.2.2 Influence financial resource management on service quality in SMC

Majority of the health units have funds available for SMC, however, some health units do not have funds for SMC services and this may result into delays and poor quality of services provided to their clients.

Findings reveal that there is accounting and reporting on financial resources by the health units that provide SMC services. There are a few cases of loss and misappropriation of financial resources in health units.

The findings revealed that health units have got internal controls on financial resources. Also the staff managing the financial resources is competent in terms of experience and qualification. The

majorities of health units recruit and retain qualified staff in their accounts and finance departments and this partly explains the proper accountability, reporting and strong internal controls in some health units.

The financial resources/funds are not received on a timely basis as revealed by most respondents from the health units (51.7%). However, sometimes clients miss SMC services due to inadequate financial resources. This may be partly due to loss and misappropriation of financial resources, poor budgeting, delays in receipt of funds and weak internal controls on financial resources.

Findings revealed that financial resource management significantly affects SMC service quality in health units (61.3%). It was found out that there is a positive correlation between financial resource management and services quality with r=0.739. Financial resource management predicts 54% of the variance in the dependent variable service quality. Financial resource management contributes 74% improvement in service quality in SMC compared with other variables under the study.

5.2.3 Influence of health supplies management on service quality in SMC

The findings revealed that the health units have health supplies available for SMC services (65.8%) and the supplies are sufficient and adequate. There is consultation of staff in identifying SMC supplies by the health units that provide SMC services.

There was evidence of theft and misappropriation of health supplies at a few of the health units (16.1%) that may result into poor service quality to SMC clients. However, health units have got internal controls on supplies. The health supplies for SMC are received on time, however, sometimes

clients miss SMC services partly due to inadequate health supplies and this may be attributed to loss and misappropriation of health supplies and weak internal controls on health supplies.

The procedure of procuring of health supplies is lengthy (33.3%). Further, results obtained indicate poor procurement of health supplies evidenced by poor quality health supplies procured and this may have a direct bearing on service quality.

The findings reveal that management of health supplies significantly affects SMC service quality. Correlation coefficient results between management of health supplies and service quality is 0.93 implying that there is a positive correlation. Therefore, the hypothesis that management of health supplies has a significant influence on service quality in health units is highly accepted. Management of health supplies predicts 87% of the variance in the service quality as it is indicated by the responses captured by the researcher during the study.

5.3 Discussion of the findings

5.3.1 Human resource management and service quality

The findings of this study which revealed that human resource management significantly influences the service quality of SMC, are in line with the resource based theory (RBT) which suggests that a firm's pool of human capital can be "leveraged" to provide a source of competitive advantage and enable an organization to offer quality services to its clients (Wright & McMahan, 1992). Firms with respect to their human capital and competitive advantage ensure that its staff add value to its production processes and that its pool of human capital is a unique resource, both difficult to replicate and difficult to substitute. Motivation of employees through monetary and non-monetary incentives leads to high employee performance and subsequent service quality. The same findings

were obtained in this current research study that motivation of employees leads to commitment and their retention.

The availability and quality of human resources for health impact greatly on the provision of health services both in terms of coverage and service quality. A World Development Report (2004) clearly states that the current human resources shortage in the health sector mainly in sub-Saharan African countries threatens the realization of plans for scaling up interventions to control the spread of infectious diseases such as AIDS. It is evident that inadequate and less trained staff may lead to poor service quality. According to this current study, the qualification and availability of health human resources still remains a challenge in Southwestern Uganda. This has got a bearing on the service quality in SMC which is a new health service.

5.3.2 Financial resource management and service quality

The findings of the study revealed that funds for SMC services are not adequate and sufficient which explains the poor service delivery. This contends with the study by Caines (2005) which pointed out that financial availability and efficient management is a critical factor in delivering quality services. He cites the example of Global Health Initiatives (GHI) which is characterized by their ability to mobilize huge levels of financial resources, linking inputs to performance through channeling of resources directly to nongovernmental civil society groups.

According to this study, it was found that there is delay in disbursement funds, and that funds are limited since most of the health units are government owned. This leads to unreliability in the service provision, hence adversely affecting service quality. The findings contend with those in a

study conducted by Brugha, Starling & Walt (2002) who suggested that availability of financial resources especially in development directed to health services is likely to have an impact on service quality. In a study carried out by Robert & Griffiths (2003) they share the same view with Caines (2005) by clearly pointing out that most government health facilities perform poorly due to lack of funds, inadequate management and inefficient use of resources.

This study found that efficient management of financial resources is vital towards service delivery. This is in line with the study conducted in Costa Rica by Abramson (2001) which also pointed out that the effective control of diseases and delivery of quality health services requires long term investments in the infrastructure for care, effective and efficient management of financial resources. All financing components (funding, resource allocation, contracting, and reimbursement) should be used as a means for encouraging the implementation of innovative health care strategies.

5.3.3 Management of health supplies and service quality

The availability and management of health supplies are vital towards provision of health services especially in low developed countries where Uganda is not exceptional. The study revealed that there is mismanagement of health supplies evidenced by loss, misappropriation and poor internal controls on supplies in the health units leading to acute shortage. Evidence that the poor often benefit less from public spending is well documented and confirmed. For instance, Demery, (2000) pointed out that the reason why there is poor service quality and why the poor do not make more use of public services is driven by both supply factors and supplies management by the health service providers.

The lengthy period of procuring supplies was revealed as challenge in health units that were studied, an indicator of procurement inefficiencies. The focus of procurement of health supplies should be on reducing supply barriers. This is supported by a study conducted by Sachs (2001) who noted that delivery of essential services concentrates on improving the quality and availability of supplies and environment of health facilities and protocols of treatment.

According to the current study, SMC requires specialized tools, equipment and other related supplies, which are sometimes not readily available on the market. According to Tim & Cooper, (2004) in a market system, prices signal availability and quality of health supplies and facilities. Inadequacy and scarcity of health supplies is signaled by actual delays in the supply chain and variations in the quality of supplies. In Uganda, the provision of SMC health services to the general public is provided mostly by government hospitals, which are usually characterized by delays in disbursement of health service supplies, thus having an adverse effect on the quality of service. Proper management of health supplies will enable the service provider to reach a bigger number of clients and reduce costs of operation, thus better service quality being achieved.

The findings are supported by a study conducted by the German Technical Cooperation (2006) which supports the view that from the perspective of health professionals, the challenges include lack of equipment, frequent shortages of supplies and a mounting workload all these exacerbated in small and rural facilities. Availability and management of heath supply related challenge imposes an adverse effect on the quality of health services.

5.4 Conclusions

5.4.1 Human resource management and service quality in SMC

The researcher found out that human resource management in health units positively influences service quality. Health unit service providers extensively practice customer care service through the actions and practices of human resource management and service rendered to its customers. However, the quality of service is still poor at some health units as evidenced by the findings. Some health units lack enough capacity in terms of numbers of qualified and competent human resources bearing in mind that studied health units were in rural areas. The study found that that there is a significant positive correlation between human resource management and service quality (r= 0.84). Therefore a unit change in human resource management will lead to a bigger change in service quality as reflected by 71% variation. This implies a linear relationship between the human resource management and service quality though there are other factors that insignificantly affect service quality. The researcher contends with the findings of the study and concludes that if health units' human resources are well managed to support the needs of clients it leads to good service quality.

5.4.2 Financial resource management and service quality in SMC

The availability and efficient management of financial resources is a critical factor in delivering quality services to clients especially in the health sector. The ability to mobilize huge levels of financial resources, linking inputs to performance; and by the channeling of resources directly to intended purpose and effective use is what matters. The study found that in health units where there has been poor management of financial resources, employees' resentments and turnover was reported and poor service delivery was evidenced. The finding revealed that there is a positive correlation between financial resource management and services quality with (r=0.739) and it can be concluded that financial resource management has significant positive influence on quality service in

health units in Uganda. However, it should be noted that financial resource management predicts 54% of the variance in the dependent variable service quality. This is partly true because of the financial resources need to be planned for, allocated, organized and controlled by competent human resources. Therefore, the availability of financial resources alone cannot lead to improved service quality.

5.4.3 Management of health supplies and service quality in SMC

The challenge in the studied health units included lack of equipment, shortages of supplies and a mounting workload, all these exacerbated in small and rural facilities. The finding revealed that availability and management of heath supplies imposes an adverse effect on the quality of health services especially in rural areas in Southwestern Uganda.

Correlation coefficient (r=0.93) results between management of health supplies and service quality indicated a very strong positive correlation. Thus it can be concluded that management of health supplies positively influence service quality. The researcher also observed that the health units' strength in supplies management in terms of procuring, organizing, controlling and allocating supplies will subsequently influence the service quality positively, and bring about customer satisfaction.

5.5 Recommendations of the findings

5.5.1 Human resource management and service quality

The findings revealed that some health units lack adequate trained and experienced staff, there is therefore a need for the Ministry of Health and the district local governments to recruit and retain trained and qualified human resources since it has a significant influence on the quality of service.

The Ministry of Health and the respective district local governments councils should increase on wages, salaries and other non-monetary incentives provided to the service provider, and should be paid in time in order to motivate staff and make them more committed. Also regular in-service training in SMC should be offered by the district health office and the donor projects i.e. support SMC services especially to acquaint staff with the new skills to provide SMC health services.

5.5.2 Financial resource management and service quality

The Ministry of Health and the respective district local government councils should allocate adequate funds to the health units in order to improve on service quality. The district local government should institute strong internal controls that include recruitment of staff qualified in financial management to ensure timely financial reporting and reduce on cases of theft and misappropriation of the financial resources.

The Ministry of Finance, Planning and Economic Development should remit funds to the health units on timely basis to ensure that SMC clients do not miss the service, if service quality is to be improved.

5.5.3 Management of health supplies and service quality

The Ministry of Health should procure adequate and sufficient supplies and also shorten the turnaround time of acquiring supplies to ensure timely delivery of the need supplies.

The respective health unit management committees should institute strong internal controls on supplies should to reduce on cases of theft, misappropriation and loss of medical supplies. This should include training of staff in stores and inventory management.

5.6 Limitations of the study

Safe Male Circumcision is a relatively new intervention in Uganda. As such not many service providers are available to offer the service in each district to get a bigger sample to participate in the study. The researcher minimized this limitation by conducting the study in three different districts which have a high number of service providers.

The research instruments were designed in English and yet not all the respondents understood English. The researcher overcame this limitation by using research assistants who understand both the local language and English to translate for the clients who could not read English.

5.7 Contribution of the study

This study has brought in knowledge on how human resource management, financial resource management and management of health supplies can significantly affect the quality of SMC service in Uganda.

The study has also revealed the views of the clients on their perception of the SMC services in Uganda, a new HIV prevention intervention. The study shows that generally the clients are satisfied

with the service being offered. It has identified areas that still need to be improved to make service delivery better.

5.8 Areas of further study

The current study was limited to establishing the relationship between health resources management and service quality in SMC in health units in Uganda, future researchers should carry out research on health resource management and sustainability of good SMC service quality in Uganda.

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APPENDICES

Appendix I: Research Questionnaire for SMC service providers
Dear respondent,

The purpose of this study is to investigate the Health Resource Management and Service Quality of Safe Male Circumcision in South Western Uganda. As a target respondent; you have been selected to participate in the research by completing the questionnaire as per the instruction at the beginning of a given section. You are kindly requested to freely fill in the questionnaire. Please kindly endeavor to fill all the parts of the questionnaire. All your responses will be kept confidential and for academic purpose only. You will not be paid any money or given any incentives to respond to these questions

Thank you.

Yours sincerely,

John Byabagambi

Researcher

Section A: Respondents bio data

Please help us classify your responses by supplying appropriate facts about yourself as the case may be. Tick your appropriate choice in boxes provided

1. Name of hospital/health centre (kindly specify)……
2. Gender of the respondent
   Male ☐ Female ☐
3. Age of the respondent
   20 – 29 ☐ 30 – 39 ☐
   40 – 49 ☐ 50 and above ☐
4. Highest level of education of the respondent
   Certificate ☐ Degree ☐
   Diploma ☐ Master ☐
   Others (specify)…….

6. Role in SMC
   Circumciser ☐
   Assistant ☐
   Counsellor ☐
   Other (specify) ……

7. For how long have you worked with this hospital/health centre?
   Less than 2 years ☐
   3 – 6 years ☐
   Above 6 years ☐

8. For how long have you been involved in SMC?
   Less than 1 year ☐
   1 – 2 years ☐
   Above 2 years ☐

Please tick appropriate response

Section B: Health Resource Management and Service Quality

Statement/variable	1:SDA	2:DA	3:NS	4:A	5:SA
1. The health unit regularly determines the number of staff required	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
2. The health unit has qualified and experienced staff for SMC	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
3. The health unit has adequate number of staff.	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
4. The health unit has all the cadres required					
5. Staffs are adequately paid their wages and salaries.	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)

6. Staff are properly motivated to perform SMC.	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
7. Health unit provides both monetary and non-monetary incentives.	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
8. Staff are receive regular in service trainings for SMC	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
9. Staff have always left health unit and joined other health units due to poor human resource management.	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
10. Sometime workers do not work if not paid their wages and salaries.	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
11. Human resource management affects service quality in SMC programme.	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)

Section C: Financial resource management and service quality

Statement/variable	**1:SDA**	**2:DA**	**3:NS**	**4:A**	**5:SA**
12. The funds are available to carry out SMC activity	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
13. The health unit has got sufficient and adequate funds for SMC services	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
14. The financial resources are properly budgeted for the intended purpose.	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
15. There has always been proper accountability and reporting on financial resources.	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
16. The health unit has ever experienced loss and misappropriation of financial resources.	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
17. The health unit has got internal controls over the financial resources.	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
18. The health unit has got experienced staff managing the financial resources.	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
19. The health unit receives financial resources for SMC on timely basis.	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
20. Sometimes clients miss SMC because of inadequate financial resources.	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
21. Financial resource management affects service quality for SMC.	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)

Section D: Management of health supplies and service quality

Statement/variables	1:SDA	2:DA	3:NS	4:A	5:SA
22. Health supplies are readily available for SMC	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
23. The health unit always has adequate and sufficient health supplies for SMC	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
24. Staff are consulted in identifying required SMC supplies.	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
25. The health supplies are delivered on time	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
26. The procurement and acquisition of health supplies for SMC is lengthy.	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
27. The health unit has ever acquired poor quality health supplies not fit SMC.	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
28. The health unit has ever experienced theft and misappropriation of SMC supplies	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
29. The health unit has a store and strong internal controls for supplies	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
30. Clients have ever missed SMC service because of inadequate health supplies	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
31. In your view management of health supplies affects service quality for SMC.	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)

Section E: Service Quality in SMC

Statement/variables	1:SDA	2:DA	3:NS	4:A	5:SA
32. The health service providers deliver according to what they promise during mobilisation and sensitisation for SMC	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
33. The SMC services are readily available as and when required.	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
34. There is no long waiting time at health unit for SMC					
35. The health centre/hospitals deliver assistance to clients regarding SMC when needed	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
36. I have trust and confidence in SMC service provided and service provider.	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
37. SMC service providers treat clients well and make you feel important	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)

to them.					
38. SMC service providers give attention and care about the clients' needs.	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
39. The health unit has got sufficient tools and equipment to use in SMC	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
40. SMC service providers communicate to the patients about the procedure of the receiving the service.	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
41. SMC clinic structures and facilities are in good conditions.	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)

Appendix II: Research Questionnaire for SMC Clients

Dear respondent,

My name is …… I am administering this questionnaire on behalf of Byabagambi John, a student of Master of Management Studies, UMI. The purpose of this study is to investigate the Health Resource Management and Service Quality of Safe Male Circumcision in South Western Uganda. As a target respondent; you have been selected to participate in the research by responding to the questions in this questionnaire which I will administer to you as per the instruction at the beginning of a given section. All your responses will be kept confidential and for academic purpose only. You are free not to respond to any question or to stop me at any time. You will not be paid any money or given any incentives to respond to these questions

Thank you.

Section A: Respondents bio data

Please help us classify your responses by supplying appropriate facts about yourself as the case may be.

1. Name of hospital/health centre (kindly specify)……

2. Age of the respondent

Less than 18	☐	40 – 49	☐
18 ≤ 20	☐	50 and above	☐
20 – 29	☐		
30 – 39	☐		

3. Level of education of the respondent

None	☐	Degree	☐
Primary	☐	Masters	☐
Secondary	☐		
Tertiary	☐		

Others (specify)…….

Section B: Service Quality in SMC

Statement/variables	**1:SDA**	**2:DA**	**3:NS**	**4:A**	**5:SA**
4. The health service providers deliver according to what they promise during mobilisation and sensitisation for SMC	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
5. The SMC services are readily available as and when required.	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
6. There is no long waiting time at health unit for SMC					
7. The health centre/hospitals deliver assistance to clients regarding SMC when needed	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
8. I have trust and confidence in SMC service provided and service provider.	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
9. SMC service providers treat clients well and make you feel important to them.	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
10. SMC service providers give attention and care about the clients' needs.	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
11. SMC service providers communicate to the patients about the procedure of the receiving the service.	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)
12. SMC clinic structures and facilities are in good conditions.	Strongly disagree(1)	Disagree(2)	Not sure(3)	Agree(4)	Strongly Agree(5)

Appendix III: Interview Guide for key informants (District Focal persons, Health Unit Managers)

My name is …… I am conducting this interview on behalf of Byabagambi John, a student of Master of Management Studies, UMI. The purpose of this study is to investigate the Health Resource Management and Service Quality of Safe Male Circumcision in South Western Uganda. As a target respondent; you have been selected to participate in the research by responding to specific questions that I will ask you. All your responses will be kept confidential and for academic purpose only. You are free not to respond to any question or to stop me at any time. You will not be paid any money or given any incentives to respond to these questions

Thank you.

1. What is the total number of qualified staff in SMC in this hospital/health centre/district? Please kindly give number? *(research assistant, please verify number using document review guide)*
2. In your own view what are the major challenges of human resource management in this hospital/health centre/district? Please kindly list them
3. In your own view, what measures could be put in place to overcome challenges you have mentioned? (*research assistant, please specify the actual challenges he/she mentioned*)
4. What are the sources of financial resources for this hospital /health centre/district? Please kindly list the sources.
5. In your opinion what could be the major challenges/problems of financial resource management in his hospital/health centre/district?
6. What measure could be put in place to overcome the mentioned challenges? (*research assistant, please specify the actual challenges he/she mentioned*)
7. What challenges has the hospital/health centre/district face in managing health supplies?
8. What measures do you think should be put in place to overcome the above challenges? (*research assistant, please specify the actual challenges he/she mentioned*)

Thank you

Appendix IV: Document Review Guide for key documents

1. HR Policy and Manual
    a. Available? ……..
    b. If yes date when it was brought into use …….
    c. Review content (required staff, training, incentives)

        ……

        ……
2. Finance Policy and Manual
    a. Available? ……
    b. If yes date when it was brought into use ……
    c. Review content (source of funding, budgeting, controls)

        ……

        ……..
3. Health Supplies Policy and Manual
    a. Available? .....
    b. If yes date when it was brought into use ……..
    c. Review content (identification of supplies, procurements, storage, stock management)

        ……

        ……..
4. Registers for SMC.
    a. Available? ……..
    b. If yes date when it was brought into use……
    c. Review content (number attended to, adverse events recorded, etc)

        ……

Appendix V: Table for determining sample size from a given population

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	246
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	351
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	181	1200	291	6000	361
45	40	180	118	400	196	1300	297	7000	364
50	44	190	123	420	201	1400	302	8000	367
55	48	200	127	440	205	1500	306	9000	368
60	52	210	132	460	210	1600	310	10000	373
65	56	220	136	480	214	1700	313	15000	375
70	59	230	140	500	217	1800	317	20000	377
75	63	240	144	550	225	1900	320	30000	379
80	66	250	148	600	234	2000	322	40000	380
85	70	260	152	650	242	2200	327	50000	381
90	73	270	155	700	248	2400	331	75000	382
95	76	270	159	750	256	2600	335	100000	384

Note: "N" is population size, "S" is sample size.

Krejcie, Robert V., Morgan, Daryle W., "Determining Sample Size for Research Activities", Educational and Psychological Measurement, 1970