

**ADHERENCE TO OUTPATIENT THERAPEUTIC CARE AND ITS ASSOCIATED
FACTORS AMONG CHILDREN 6-59 MONTHS WITH SEVERE ACUTE
MALNUTRITION AT JINJA REGIONAL REFERRAL HOSPITAL**

KENNETH NANDALA

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DECLARATION

I **Nandala Kenneth** declare that this dissertation is my original work, it has never been presented anywhere in any institution of higher learning for any academic award.

Signature: 

Date: 15th /12 /2024

NANDALA KENNETH

APPROVAL

This is to certify that this dissertation entitled “Adherence to outpatient therapeutic care and its associated factors among children 6-59 months with severe acute malnutrition at Jinja Regional Referral Hospital” has my approval as the academic supervisor.

Sign 

Date: **14th / 03 / 2025**

Dr Omona Kizito [MBChB, PhD]
(SUPERVISOR)

DEDICATION

This research is dedicated to my beloved family.

ACKNOWLEDGEMENT

The completion of this piece of work has been such a task that would have not been a success if handled it by myself solely. In a special way, I would like to acknowledge the following;

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OPERATIONAL DEFINITIONS

Adherence: Refers to the extent to which individuals follow or comply with recommended treatments, or interventions as prescribed by healthcare providers.

Optimal Adherence: Refers to when a patient is consistently following their prescribed treatment regimen as directed by their healthcare provider. This means that the patient is taking their medications as prescribed, attending all their scheduled appointments, and following any other recommendations or instructions provided by their healthcare provider.

Sub optimal Adherence: refers to when a patient is not consistently following their prescribed treatment regimen as directed by their healthcare provider. This means that the patient may be missing doses of their medication, skipping appointments, or not following other recommendations or instructions provided by their healthcare provider.

Child Growth and Development: Examines the physical, cognitive, social, and emotional growth of young children from prenatal development through middle childhood. It reviews prominent theories of development and topics such as health, nutrition, play and the family.

Development: The process in which someone or something grows or changes and becomes more advanced. Development is a progressive acquisition of various skills (abilities) such as head support, speaking, learning, expressing the feelings and relating with other people.

Growth: Is the progressive increase in the size of a child or parts of a child.

Malnutrition: Refers to deficiencies, excesses or imbalances in a person's intake of energy and/or nutrients.

Nutrition: The result of interrelated causes in the area of food, health and care in the society.

Therapeutic: something that helps to heal or to restore health meaning "to attend" or "to treat"

Undernourished: It is the outcome of insufficient food intake or repeated infectious diseases. It includes being underweight for one's age, too short for one's age (stunted), dangerously thin for one's height (wasted) or deficient in vitamins and minerals.

LIST OF ACRONYMS

DHS	: Demographic and Health Surveys
FAO	: Food and Agricultural Organization
IMAM	: Integrated Management of Acute Malnutrition
MAAIF	: Ministry of Agriculture, Animal Industry and Fisheries
MoH	: Ministry of Health
RUTF	: Ready-to-Use Therapeutic Foods
SDGs	: Sustainable Development Goals
UBOS	: Uganda Bureau of Statistics
UNICEF	: United Nations Children’s Fund
WHO	: World Health Organization

ABSTRACT

Background: Malnutrition remains a major public health challenge, particularly among children under five, with severe acute malnutrition (SAM) contributing significantly to child morbidity and mortality.

Aims: This study investigated adherence to Outpatient Therapeutic Care (OTC) and its associated factors among children aged 6-59 months at Jinja Regional Referral Hospital (JRRH). The specific objectives were to assess socio-demographic, client-related, and service-related factors influencing adherence.

Methodology: An analytical cross-sectional design was employed, with data collected from 138 caregivers of children receiving OTC at JRRH. Structured questionnaires, key informant interviews, and hospital records provided both quantitative and qualitative data. Adherence was assessed using the Medication Adherence Report Scale (MARS-5), and data were analyzed through descriptive statistics, chi-square tests, and logistic regression.

Results: Findings revealed that 60.1% of caregivers demonstrated optimal adherence to OTC. Socio-demographic factors, including caregiver age, marital status, and education level, were not significantly associated with adherence ($p > 0.05$). However, maternal occupation emerged as a significant predictor, with informally employed mothers more likely to exhibit sub-optimal adherence (aOR = 0.516, $p = 0.030$). Client-related factors, including caregiver awareness and perceptions of malnutrition, had no significant impact.

Among the service-related factors, supplement sharing negatively impacted adherence (aOR = 0.437, $p = 0.048$), while satisfaction with treatment and accessibility of refills did not significantly influence adherence.

Conclusion: The study concluded that financial constraints and supplement sharing were key barriers to OTC adherence. Strengthening community outreach, improving stock management of therapeutic foods, and implementing financial support programs for caregivers were recommended to enhance adherence and improve child health outcomes.

CHAPTER ONE:

INTRODUCTION

1.0 Introduction

The study sought to investigate the predictors of adherence to outpatient therapeutic care and its associated factors among children 6-59 months with severe acute malnutrition at Jinja Regional Referral Hospital to inform policies related to management of severe acute malnutrition. Socio-demographic characteristics and client factors constituted the independent variables while adherence to outpatient therapeutic care (OTC) was the dependent variable whose dimensions encompassed optimal adherence and sub-optimal adherence.

Therefore, this chapter presents; the background of the study, statement of the problem, purpose of the study, objectives of the study, research questions, justification, significance of the study and the conceptual framework.

1.1 Background to the study

Malnutrition is still among the main public health challenges of the 21st century despite numerous advances and improvements in child health over the last decade. The World Health Organization (WHO) emphasizes that the high rates of stunting and wasting reflect the continued urgency to address malnutrition prominently (Bhutta et al., 2017).

The Lancet Nutrition Series did an estimate where they held that in a population of 555 million children between birth and five years in developing countries, up to 177 million that make up approximately 32.0%, were suffering from stunting (chronic malnutrition), 112 million making up 20.2% were underweight while 19 million that constituted 3.5% were severely wasted (suffering acute malnutrition) (Myatt et al., 2018).

In 2018, approximately 8.8 million deaths of children under the age of five years occurred worldwide (Black RE, 2018). It is also indicated that 35% or more deaths of under-fives were due to under nutrition (Pelletier DL, 2019). Severe acute malnutrition (SAM) is a significant global health issue, contributing to approximately 500,000 child deaths annually. The World Health Organization (WHO) has recognized that inadequate progress has been made towards addressing this crisis, as evidenced by the high mortality rates among malnourished children. In their report, the WHO mentioned that about 19 million children under five suffer from SAM, which accounts for a substantial portion of global child mortality, indicating a worrying trend in child health and nutrition outcomes worldwide, particularly in low income countries (Laillou et al., 2014; Burrell et al., 2017; Kebede et al., 2020; Pathak et al., 2019). In Uganda, the levels of both chronic and acute malnutrition among children below the age of five years remain

significantly high with about 30% of all child deaths of the under-fives in Uganda being directly linked to malnutrition. According to UNICEF (2022), currently Uganda has about 2.4 million children who have stunted growth patterns hence impairing their full physical and mental potential. To ensure that such children realize their constitutional right to adequate and quality food as enshrined in the Ugandan Constitution, accelerating nutrition interventions is of utmost importance. In 2020, the Ugandan government had 0.5% of its health sector budget allocated to nutrition. Considering that few development partners have identified nutrition as a high priority area, interventions that can be implemented at an appropriate scale and proven to impact on nutrition status of children hence reducing their morbidity and mortality need to be identified and upheld (UNICEF, 2022).

Malnutrition is imbalances of a person's intake of nutrients due to either over-nutrition or under-nutrition that can lead to kwashiorkor, marasmus, low weight for age, low weight for height and obesity (Jesmin et al., 2011). Under nutrition in children under five is measured in two forms that include acute malnutrition and chronic malnutrition. Chronic under-nutrition can cause stunting which has permanent physical and mental effects and is characterized by a height shorter than expected for a child's age. Moderate acute malnutrition (MAM) and severe acute malnutrition (SAM) are both characterized by rapid and severe weight loss, known as wasting, varying levels of low weight for a child's height or abnormal fluid retention (Melaku et al., (2024).

The Outpatient Therapeutic Care model of treatment rests on the four following principles: Maximizing coverage and access, timeliness, appropriate care and care for as long as it is needed (Collins & Sadler, 2016). The Management of Acute Malnutrition (MAM) programs, developed under the community therapeutic care model and implemented in the early 2000s, achieved recovery rates of almost 80 percent and Case Fatality Rates of less than 5 percent (Collins & Sadler others 2016). Children treated for malnutrition in these programs were primarily managed on an outpatient basis, effectively reducing opportunity costs for caregivers by minimizing the time spent away from income-generating activities and responsibilities related to caring for additional children. However, it is important to note that case fatality rates among these malnourished children remain a concern, particularly in low-resource settings where access to comprehensive healthcare may be limited (Teshale et al., 2022).

Uganda has adopted a supplementary Feeding Program (SFP) with routine medication, nutrition and health education that prevents deterioration of patients and provides a continuum of care to Outpatient Therapeutic Care (OTC) patients. This outpatient Therapeutic Care is also being used for the management of acute malnutrition with no complications (Ministry of Health, Uganda, 2016). Some 85% of severely wasted children with no medical complications

can be treated at home in outpatient care without the need for inpatient care at a health facility (Marzoog et al., 2022). This has the advantage of protecting them from exposure to infections and allows Mothers' / Caregivers' to attend to the rest of the family while providing care for their malnourished child (World vision, 2013).

The field of nutrition is very dynamic. While there are general guidelines and care practices in the management of various conditions that impact on the nutrition status of children below 5 years, new practices continue to emerge and OTP is one of them. OTP is a program that is aimed at preventing and treating children below five years who are suffering from severe acute malnutrition. Several NGOs including Oxfam Great Britain, CARE International and Concern Worldwide in Uganda conducted a food security, nutrition, public health and livelihood technical review using the available data for the informal settlements in Kampala and came up with startling revelations (Oxfam et al, 2019). These reviews indicated that the rate of malnutrition of children below 5 years was significantly high in the informal settlements compared to other parts of Kampala.

As part of the achievement of Sustainable Development Goals (SDG), 1,2 & 3, government of Uganda devised an Integrated Management of Acute Malnutrition (IMAM) approach to address acute malnutrition and focuses on the integration of the management of acute malnutrition into the on-going routine health services at all levels with a component of Outpatient Therapeutic Care (OTC) providing home-based management and rehabilitation of Severe Acute Malnutrition (SAM) patients with no medical complications (Ministry of Health, Uganda, 2016).

The management regimens for SAM are readily available and programmatic evidence shows effectiveness. (WHO, 2013). A significant barrier to effective treatment however, is the patient's failure to follow the recommendations of his or her physician or other health care provider and this could be because of a number of reasons. Utume et al. (2024) state that children with SAM are 9–12 times more likely to die than their healthy peers, reinforcing the importance of addressing malnutrition promptly through effective community education and healthcare engagement strategies.

According to Bhutta et al. (2008), while there is little doubt that an intervention like promotion of breastfeeding improves the nutrition status of children from birth and that vitamin A supplementation reduces child mortality, there is little consensus on the various community-based approaches used in prevention and treatment of severe malnutrition in children below the age of five years. This therefore means that various countries apply different strategies in dealing with child malnutrition. The OTC program is the most recent approach taken by development partners as well as government agencies in the fight against severe malnutrition

among the under fives. The scientific rationale underlying the use of this program appears to be gaining support rapidly but information on the impact of this program on the immediate and long term effect on their nutrition status remain scanty. This was the basis for undertaking the study at Jinja Regional Referral Hospital.

1.2 Problem Statement

Childhood malnutrition, particularly severe acute malnutrition (SAM), remains a critical public health issue, with significant implications for child mortality and morbidity. According to UNICEF (2022), malnutrition is responsible for over one-third of deaths in children under five, a preventable condition that can be effectively addressed through targeted economic and public health interventions (Aziz et al., 2021). In Uganda, the prevalence of acute malnutrition among children under five is concerning, with estimates indicating that 4% suffer from moderate acute malnutrition and 1% from severe acute malnutrition (UBOS, 2018). Specifically, in the Busoga sub-region, the rates of underweight and severely underweight children were reported at 9.4% and 2.1%, respectively, in 2016, which significantly exceeds national averages (UDHS, 2016).

The long-term consequences of SAM are profound, contributing to 21% of disability-adjusted life-years (DALYs) for children under five and leading to lasting effects such as cognitive impairments and stunted growth (WHO, 2013). Survivors of SAM face increased susceptibility to diseases, developmental delays, and mental health challenges, which can hinder their educational opportunities and overall well-being (Rajurkar et al., 2018). Addressing malnutrition through outpatient therapeutic care (OTP) is crucial for achieving Sustainable Development Goals (SDGs) 1, 2, and 3, which focus on ending poverty, achieving food security, and promoting health and well-being (Hefti et al., 2024).

Despite various interventions implemented by governmental and non-governmental organizations, including WHO and UNICEF, the challenge of malnutrition persists, particularly in the Busoga sub-region. Programs aimed at providing nutritional supplements and educating caregivers on home-based care have been initiated, yet the adherence to outpatient therapeutic care among children with SAM remains inadequately studied, especially at Jinja Regional Referral Hospital (JRRH). Understanding the factors influencing adherence to OTP is essential for improving treatment outcomes and ensuring that children receive the necessary care to combat malnutrition effectively (Anand et al., 2023). Given the high prevalence of SAM and the lack of localized research on adherence to OTP, this study aimed to identify the predictors of adherence and associated factors among children aged 6-59 months with severe acute malnutrition at JRRH to inform future interventions and enhance the effectiveness of existing programs aimed at reducing childhood malnutrition in Uganda.

1.3 Objectives of the Study

1.3.1 Main Objective

This study aimed at investigating the predictors of adherence to outpatient therapeutic care and its associated factors among children 6-59 months with severe acute malnutrition at Jinja Regional Referral Hospital to inform policies related to management of acute severe malnutrition.

1.3.2 Specific objectives

1. To determine the socio-demographic characteristics influencing adherence to Outpatient Therapeutic Care among children aged 6-59 months at JRRH.
2. To identify client related factors influencing adherence to Outpatient Therapeutic Care among children aged 6-59 months at JRRH.
3. To establish service-related factors influencing adherence to Outpatient Therapeutic Care among children aged 6-59 months at JRRH.

1.4 Research Questions

1. What socio-demographic characteristics influence adherence to Outpatient Therapeutic Care among children aged 6-59 months at JRRH?
2. What client related factors influence adherence to Outpatient Therapeutic Care among children aged 6-59 months at JRRH?
3. What service-related factors influence adherence to Outpatient Therapeutic Care among children aged 6-59 months at JRRH?

1.5 Justification of the study

According to the Uganda Demographic Health Survey 2018-2019, the period between birth and five years is very crucial for a child's optimal growth, development and health in general (Uganda Bureau of Statistics & ICF, 2018). However, this period is fraught with challenges such as growth faltering, micronutrient deficiencies, and various childhood illnesses that predispose young children to malnutrition (Abaasa et al., 2021).

Analysis from this survey demonstrated that approximately 28% of children under five years in Uganda are stunted, indicating chronic malnutrition, while others are affected by wasting and underweight status (Kakama & Basaza, 2022)

These findings align with other studies that indicate similar levels of stunting and underweight threaten child development and are significant barriers to improving child health in Uganda and beyond (Amegbor et al., 2020)

The UDHS specifically evaluated the nutritional status of children by measuring height and weight to compute important anthropometric indices: weight-for-age, height-for-age, and weight-for-height. The measurement protocols adhered to the guidelines set forth by the World Health Organization (WHO), using growth standards recommended in 2016.

A survey found that, up to 35% of children below five years in Uganda are stunted (chronic malnutrition), a total of 7% of children below five years are wasted and 2% of them being considered severely wasted. The survey equally holds that up to 16% of the children are underweight and hence in need of nutrition care (WHO, 2019).

According to the projections provided, the Jinja City projections indicate that in the year 2002 the population of then municipality was at 71,213 and in 2014 it was 82,800. It used this basis to postulate that the population will be 300,000 people in 2020 and 480, 888 in 2024 (UBOS, 2018). Because of the population pressure that continues to push Jinja city dwellers into informal settlements with poor sanitation, inadequate food supply due to associated factors like joblessness, inadequate health facilities and other relevant amenities, chances that malnutrition among children below five years who are the most vulnerable due to the dependence on adults is likely to be a serious health concern. This therefore justifies the need to critically look into adherence to outpatient therapeutic care among children with severe acute malnutrition.

In recent years there have been a lot of studies showing an increasing number of malnourished children in world. In Uganda, the prevalence of stunting among children under five years of age is nearly 40% across the country. For example; Achieng (2020), focused on the impact of OTC on the nutrition status of children which played a crucial role in informing a decision by health stakeholders to consider either making appropriate substitute interventions in dealing with severe acute malnutrition or scaling up OTC programmes in Uganda. However, no study has been carried out in Jinja on adherence to outpatient therapeutic care among children with severe acute malnutrition. Therefore, there is scanty empirical study that focuses on the phenomena. This study sought to fill the research gap by determining the adherence to outpatient therapeutic care and its associated factors among children 6-59 months with severe acute malnutrition at Jinja Regional Referral Hospital

1.6 Significance of the study

The study findings of the study are of great significance to the different stakeholders as explained below;

The findings of this study will inform the Jinja City administration on the trends of under-five nutrition status in Jinja and as such influence its health policy especially on preventive health care. It will equally identify any gaps therein that could be filled if the OTC program is to

achieve its originally intended purpose as well as the successes that can be scaled up to reap more benefits.

The OTC program has primarily been rolled out by development partners such as World Vision, UNICEF, Action Aid, Concern Worldwide, and Merlin International, with the Ugandan government mainly facilitating and providing personnel for its implementation and monitoring (Gagnon-Dufresne et al., 2021).

The study will therefore inform the development partners working in Jinja city on the impact that this program is having on the nutrition status of the under-fives and equally highlight any challenges that JRRH is facing as the implementation centre.

The study will also assist in adding new information and modification of the already existing data about the determinants for adherence to malnutrition programs among children aged 6-59 months. The findings of the study will be used to assist in developing and guiding new interventions to ensure adherence to malnutrition Programs among children under 5 years at JRRH in Busoga sub region and Uganda at large.

From this study, the ministry of health will be informed on the impact of OTC that it is currently supporting partially in the treatment of acute malnutrition and hence push the country in a positive direction towards the realization of the Sustainable Development Goals. For instance, ending malnutrition is essential for societal development, and achieving the Global Nutrition Targets is vital to fulfilling the United Nations' Sustainable Development Goals (SDGs), specifically SDG-2, which aims to end hunger in all its forms by 2030 (Abu-Manga et al., 2021).

Further more, the study findings will inform the ministry of health of the successes that need to be replicated in other parts of the country and equally provide feedback to the already operating sites for purposes of improvement.

The information derived in this study will be useful for sensitizing the caregivers at the hospital on the importance of malnutrition and action that can be taken at the facility level to reduce the prevalence. The study will also advocate for improved support for nutritional interventions at JRRH in Busoga sub region and the country at large.

1.7 Scope of the study

This section will be described under the following perspectives;

1.7.1 Geographical scope

The research was conducted at Jinja Regional Referral Hospital (JRRH), located in Jinja City, Eastern region.' It is approximately 81 kilometres (50 mi) east of Kampala capital

city of Uganda. It sits along the northern shores of Lake Victoria, near the source of White Nile at an average elevation of 1,204 metres (3,950 ft) above sea level.

1.7.2 Content Scope

This study focused on predictors of adherence to outpatient therapeutic care program among children aged 6-59 months with severe acute malnutrition at JRRH to inform policies related to management of acute severe malnutrition. Socio-demographic characteristics and client factors constitute were Independent Variables (IV), service related factors were the moderating variable while adherence to OTC was the dependent variable encompassing optimal adherence and sub-optimal adherence.

1.7.3 Time Scope

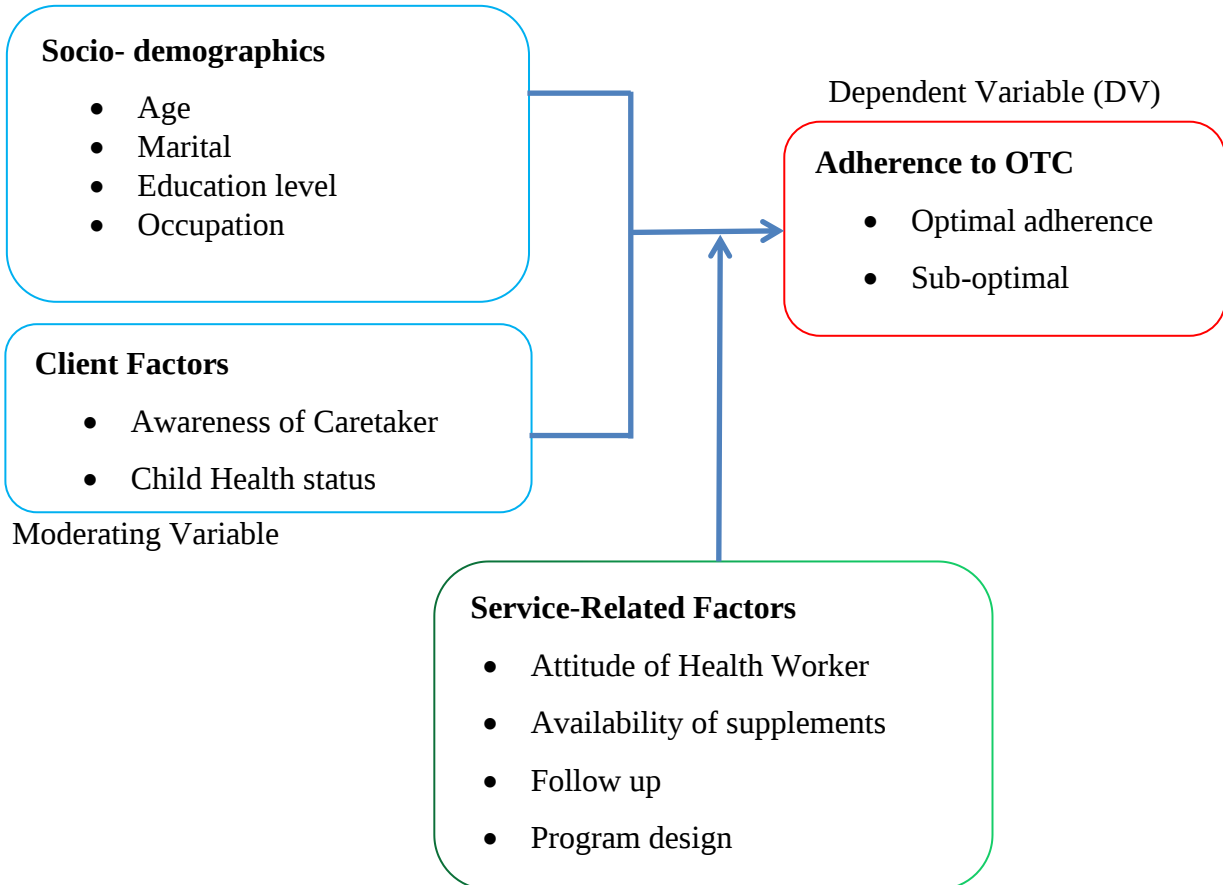
The study was carried out within one year from August, 2022 to August, 2023, however, secondary data covered a period of 5 years from 2018 to 2022 in order to obtain the most current information on OTC as a precursor for malnutrition.

1.8 Conceptual framework

From the conceptual framework below, it can be hypothesized that socio-demographic characteristics and client factors are independent variables (IVs) while adherence to OTC is the dependent variable (DV). Firstly, Socio-demographic characteristics encompass; age, marital status, education level and occupation. Secondly, client factors constitute awareness of caretaker and child health status. These influence OTC adherences through optimal adherence and sub-optimal adherence. However, for there to a significant change, the moderating variables have to fall into place namely; service related factors which encompass; attitude of health workers, availability of supplements and follow up and program design.

Figure 1: Conceptual framework

Independent Variables (IV)



Source: partly adapted from literature review, and Modified by the Researcher, 2024

CHAPTER TWO:

LITERATURE REVIEW

2.0 Introduction

This chapter describes a combination of the reviewed literature on the predictors of adherence to outpatient therapeutic care program among children 6-59 months in different settings particularly by other authors, journals, textbooks and citations following the three objectives of the study to form the summary of the literature reviewed.

2.1 Socio-Demographic factors influencing OTC Adherence among children 6-59 months

Severe Acute Malnutrition (SAM) affects about 20 million children globally and contributes to an estimated one million child deaths every year (Khatun et al., 2019). Over the last decade, major improvement in the survival of children with SAM treated in outpatient therapeutic programs has been achieved (Ashworth, 2013). Despite advancements in outpatient therapeutic programs, the case-fatality rates in hospitals in developing countries remain alarmingly high, often exceeding the international standards of a 75% cure rate and a death rate of less than 10% (Pomati et al., 2021).

Recent local data highlights that severe acute malnutrition (SAM) remains a major public health burden in Uganda. According to the Uganda Demographic and Health Survey (UDHS) 2022, approximately 2.9% of children under five years suffer from severe wasting, while about 7% experience wasting overall, reflecting acute malnutrition. Additionally, nearly 26% of children under five years are stunted, demonstrating persistent under nutrition challenges within the country. The survey further indicates regional disparities, with Eastern Uganda, including the Busoga sub-region, continuing to record high levels of child under nutrition due to food insecurity, poverty, and inadequate childcare practices. (WHO | Regional Office for Africa)

Furthermore, national health sector reports indicate that malnutrition contributes to approximately 30–35% of under-five mortality in Uganda. This underscores the urgent need for effective community-based interventions such as Outpatient Therapeutic Care (OTC) programs to improve treatment adherence and recovery outcomes among children diagnosed with SAM. In the Busoga region, population growth, urban informal settlements, and economic vulnerability have further increased risks of child malnutrition, emphasizing the importance of strengthening treatment and prevention strategies at Jinja Regional Referral Hospital and surrounding health facilities.

What was not known was the case fatality rate in JRRH, whose results would be corroborated with those of other developing countries. This literature review synthesized the recent findings

regarding the socio-demographic factors that influence OTC adherence among children with SAM.

2.1.1 Mothers' / Caregivers' Age at Birth

A number of studies have reported that mother's age at birth is one of the most important determinants of malnutrition among under five children. This was confirmed by a study in Bangladesh that indicated children whose Mothers' / Caregivers' were less than 20 years at the time of birth were 1.22 times more likely to be stunted, wasted and underweight compared to children whose Mothers' / Caregivers' were 20 years and above at birth (Nure, Nuruzzaman and Goni, 2021). This suggests that the risk is greater in younger Mothers' / Caregivers' particularly those below 24 years because they are not ready to take care of the child including providing all the necessary attention required for the baby. Similarly, under five malnutrition is higher also among children whose Mothers' / Caregivers' give birth when they are older especially after 35 years due to higher incidences of low birth weight associated with advanced maternal age (Protas & Mweya, 2021). In Turkey, however, it was observed that younger mothers often receive support from their own mothers, which can mitigate the risks of malnutrition (Yigezu et al., 2024). This arises from young Mothers' / Caregivers' being ignorant about the foods that contain the nutritional contents required.

In South Ethiopia, a study highlighted that severely malnourished infants from younger mothers frequently had low birth weights and limited access to breastfeeding, hence the need for targeted interventions to improve maternal education and support systems (Belayneh et al., 2020). However, influence of mother's age to the optimal adherence to OTC had not been determined in the region. Therefore, the study sought to determine relationship of mother's age and adherence to OTC care among children under five years.

2.1.2 Maternal Education

Mother's education level is a crucial determinant of child nutrition, influencing health-seeking behaviors and nutritional practices. Studies have consistently shown that higher levels of maternal education correlate with improved child nutrition outcomes (Shafiq et al., 2019). Mother's responsibility to care for herself during pregnancy and her child through the most vulnerable stages of its life significantly affects under-five child malnutrition. For instance, a recent analysis demonstrated that children of mothers with no formal education were significantly more likely to be malnourished compared to those whose mothers had secondary or higher education (Khan et al., 2019). This is attributed to educated mothers being more aware of nutritional needs and better equipped to manage household resources effectively (Gebreyohanes & Dessie, 2022). Education helps Mothers' / Caregivers' gain additional

knowledge about the adequate intake of food for their children in terms of correct quantity, quality and frequency. It also determines Mothers' / Caregivers' income and this helps her access proper nutrition for the child as well as health services. However, issues like the occupation of the educated mother can weigh on the mother not to give the child enough time, leading to nutrition related complications.

However, the relationship is not always linear; some studies indicate that the impact of maternal education on child nutrition can vary significantly across different socio-economic contexts (Mbijiwe et al., 2022). A study in Africa showed that the decline in malnutrition rates with increasing maternal education underscores the importance of educational interventions in improving child health outcomes (Takele et al., 2023).

In Uganda, the UDHS, (2016) report revealed that with increasing level of mother's education, the proportion of children who are malnourished goes down. Whether the same variation existed at Jinja Regional Referral Hospital is the question the study set find out.

2.1.3 Marital Status of mother

The marital status of mothers has been linked to child nutrition, with studies indicating that unmarried or divorced mothers often have higher rates of child malnutrition (Sunuwar et al., 2020). In Ethiopia, for example, it was found out that under-five child malnutrition is higher among children of unmarried mothers compared to those with married mothers (Sunuwar et al., 2023). However, the above studies did not elaborate how marital status contributes to child malnutrition which the empirical study is to find out.

Contrary to the above, a study in Tanzania revealed that Mothers' / Caregivers' who are married were more likely to have undernourished children unlike those that were unmarried perhaps because of the cost of maintaining families hence sometimes these families fail to produce nutritious supplements to the under-five children (Tahlil et al., 2024). The above scenarios reveal that there is scanty literature linking mother's marital status and malnutrition among under-five children in developing countries suggesting that both social support and economic factors play critical roles in determining health outcomes for children.

2.1.4 Maternal Occupation of mother

Studies have found out that mother's occupation is one of the determinants of under-five malnutrition in most developing countries. Studies indicate that children of working mothers, particularly those engaged in low-paying jobs or agriculture, are at a higher risk of malnutrition due to the lack of time and resources for adequate child care (Masibo et al., 2020).

A study in vietnam revealed that children from Mothers' / Caregivers' who were farmers and housewives had a greater prevalence of stunting, underweight and wasting than those from

Mothers' / Caregivers' who worked in office or were housewives (Bajracharya & Subedi, 2017). This is because working Mothers' / Caregivers' rarely get time to take care of their children. They also leave their children at home with other siblings who may neglect feeding them following the right frequency and this sometimes worsens the problem of malnutrition.

Additionally, the economic status associated with maternal occupation can affect access to nutritious food and healthcare services, further exacerbating malnutrition risks (Amare et al., 2019). In Uganda, the relationship between maternal occupation and child nutrition remains underexplored, necessitating further investigation into how occupational factors influence health outcomes in local contexts (Kejo et al., 2018).

The DFID, (2021) report revealed that Mothers' / Caregivers' have poor attitude as regards admitting malnourished children into healthcare, since in many communities like Uganda, Mothers' / Caregivers' do a lot in providing for the family, they usually escape from the health facilities in order to continue working for household survival with a source of income for these Mothers' / Caregivers' being brewing of local beer (DFID, 2021). Therefore, the Mothers' / Caregivers' abscond from the hospital even though the children have not cured.

2.2 Client related factors influencing adherence to Outpatient Therapeutic Care among children 6-59 months.

2.2.1 Awareness

Maternal awareness and understanding of child health significantly influence healthcare-seeking behaviors and adherence to treatment protocols. Research indicates that higher levels of maternal education correlate with improved child health outcomes, as educated mothers are more likely to seek healthcare services and adhere to treatment regimens (Chauhan & Gupta, 2023; Agunwa et al., 2017).

For instance, a study conducted in Nigeria highlighted the importance of patient knowledge regarding disease management and treatment compliance, suggesting that a lack of understanding can hinder effective treatment adherence (Agunwa et al., 2017). This finding is particularly relevant in the context, where community awareness about available health services directly impacts treatment compliance and this absence of knowledge regarding service availability can act as a significant barrier to accessing healthcare, especially in marginalized communities (Udeme et al., 2022).

In Uganda, the implementation of the Supplementary Feeding Program (SFP) alongside Outpatient Therapeutic Care (OTC) aims to enhance adherence among children suffering from severe acute malnutrition (SAM) (Vishwakarma & Fellows, 2021). However, the effectiveness of these programs is contingent upon the awareness of caregivers regarding the services

provided and their role in managing malnutrition (Abate et al., 2020). This study sought to explore the relationship between maternal awareness and adherence to OTC among children aged 6-59 months at Jinja Regional Referral Hospital (JRRH).

2.2.2 Health status

The health status of children, particularly those suffering from SAM, is intricately linked to their adherence to outpatient therapeutic care. Co-morbidities such as diarrhea and HIV significantly complicate the treatment of SAM and can adversely affect adherence rates (Tadesse et al., 2017; Isanaka et al., 2017). Diarrheal diseases are known to exacerbate the mortality rates among children with SAM, and the interaction between these conditions remains poorly understood (Peñalba, 2021). High mortality rates in inpatient settings have been attributed to inadequate adherence to therapeutic guidelines and the presence of severe co-morbidities (Debie et al., 2022). The outpatient therapeutic care model utilizes Ready-to-Use Therapeutic Foods (RUTFs) to treat uncomplicated SAM, which has been shown to be effective in community settings (Isanaka et al., 2017). Despite the availability of these nutritional interventions, adherence to feeding protocols in outpatient settings like JRRH is not well documented. Studies indicate that approximately 85% of severely malnourished children without medical complications can be effectively treated at home, which underscores the importance of adherence to outpatient care protocols (Vishwakarma & Fellows, 2021; Tadesse et al., 2017). The WHO guidelines recommend that regional referral hospitals provide basic therapeutic treatments for children with SAM, yet it remains unclear whether JRRH is fully implementing these guidelines (Ruton et al., 2018). This study aimed to investigate the predictors of adherence to outpatient therapeutic care among children aged 6-59 months with SAM at JRRH, thereby contributing to the understanding of how health status and maternal awareness influence treatment outcomes in this vulnerable population.

2.3 Service factors influencing adherence to OTC among children 6-59months

2.3.1 Attitudes of Health worker

The perception that nutrition is a lower priority compared to other nursing practices has been documented in recent studies. For instance, Keaver et al. (2021) highlighted a significant gap in the nutritional knowledge and practices among healthcare professionals, indicating that many nurses and doctors do not prioritize nutritional assessment in their routine care. This lack of emphasis on nutrition is reflected in the findings of (Wangari et al., 2024), which showed that nurses' attitudes towards nutritional care were often influenced by their training and experience, with many expressing a desire for further education in this area. Further research

by Shakhshir & Alkaiyat (2023) supports the notion that healthcare providers' attitudes towards nutrition care significantly impact their practice. They found that nurses who had received recent training exhibited more positive attitudes towards nutritional care, which in turn improved their engagement with nutritional screening and intervention. A qualitative study by Brunner et al. (2022) emphasized that while caregivers may express positive attitudes towards nutrition, this often does not translate into practice. For example, despite a high percentage of nurses acknowledging the importance of nutritional screening, actual implementation rates were significantly lower. This discrepancy suggests a need for systemic changes to bridge the gap between attitudes and practices in nutritional care.

2.3.2 Availability of supplements

The World Health Organization (WHO) advocates for community-based management of uncomplicated severe acute malnutrition (SAM), emphasizing the need for appropriate health facilities for children with medical complications (WHO, 2020). Recent trials, such as those conducted by Dent (2019), have shown varying outcomes between outpatient and inpatient care for SAM, highlighting the importance of context in treatment efficacy. For instance, a trial in Malawi indicated better recovery rates in outpatient settings compared to inpatient care, suggesting that the environment and available resources significantly affect treatment outcomes. Collins and Sadler (2016) outlined the principles of community therapeutic care, which include maximizing coverage and access, timely intervention, and sustained care. These principles have been integral to the success of management programs for moderate acute malnutrition (MAM), achieving high recovery rates while minimizing caregiver opportunity costs. However, the implementation of these principles in local contexts, such as at JRRH, remains to be evaluated. The decision to implement Supplementary Feeding Programs (SFPs) is often influenced by the prevalence of acute malnutrition and associated aggravating factors like food insecurity (Moyer, 2021). The WHO guidelines have evolved to include recommendations for vitamin A supplementation and the use of ready-to-use therapeutic foods (RUTFs) for children with SAM (WHO, 2013). Studies have shown that locally produced RUTFs can be effective in treating malnutrition, as they are designed to meet the specific nutritional needs of children without requiring extensive preparation (Manary, 2016).

2.3.3 Follow up on malnourished children

According to UNICEF (2023), effective follow-up care for malnourished children is crucial for ensuring long-term recovery. Parents are encouraged to provide energy-dense foods and to bring children back for regular check-ups, which should include vitamin A supplementation

and booster immunizations (WHO, 2014). Mates (2014) noted that monitoring children's progress can be facilitated through outreach workers, which can help identify cases requiring immediate attention. Research by Gebremichael et al. (2019) indicates that demographic factors such as age and sex may not significantly influence recovery times in outpatient therapeutic programs. However, variations in recovery rates based on gender have been reported, suggesting the need for tailored interventions that consider these factors. The current study aims to explore whether these trends hold true in the context of JRRH, where local practices may differ.

2.3.4 Program design

Outpatient therapeutic feeding programs (OTPs) are essential components of community-based management for SAM, with specific admission criteria based on nutritional assessments (Dent, 2019). Golden (2014) emphasized the importance of community mobilization and engagement in ensuring adherence to therapeutic care protocols. Effective OTPs provide RUTF and routine medications, which are critical for managing severe malnutrition without complications. The nutrient composition of therapeutic foods, such as F75 and F100, is vital for inpatient treatment of SAM, with specific caloric requirements tailored to children's needs (Berti et al., 2018). However, the preparation and storage of these foods pose challenges, as they cannot be easily managed at home. This highlights the necessity for comprehensive program designs that address both the nutritional needs of children and the logistical challenges faced by caregivers. In conclusion, the integration of training, community engagement, and appropriate resource allocation is essential for improving adherence to nutritional care among children suffering from malnutrition. Future research should focus on evaluating the effectiveness of existing programs and identifying barriers to optimal nutritional practices in various healthcare settings.

2.4 Conclusion and research gap

Despite significant advancements in addressing childhood malnutrition, it continues to pose a substantial public health challenge in developing nations. Factors contributing to this issue include intra-uterine growth retardation, low birth weight, inadequate exclusive breastfeeding, and inappropriate complementary feeding practices. Additionally, maternal education and nutritional knowledge, along with socio-economic factors such as food availability, housing conditions, and sanitation, play critical roles in influencing childhood nutrition outcomes (Phiri et al., 2022; Grey et al., 2021).

The inconsistent availability and utilization of Ready-to-Use Therapeutic Foods (RUTFs) for treating severe acute malnutrition (SAM) further complicate efforts to combat malnutrition.

Community-based models have shown promise in enhancing access to these essential supplements, yet local production remains a critical factor for sustainability (El-Kour et al., 2021).

Effective follow-up care is essential for ensuring long-term recovery from malnutrition, although the efficacy of these mechanisms can vary significantly (Harahap et al., 2023).

Current trends emphasize the shift towards community-based treatment for SAM, favoring outpatient care over inpatient facilities to alleviate the burden on healthcare systems. However, discrepancies in practices among healthcare providers and reliance on imported therapeutic foods present ongoing challenges (Grey et al., 2021; Shamsuddin et al., 2022). Identified gaps include the involvement of health workers in nutritional decision-making, the effectiveness of supplementary feeding programs, and the mechanisms for monitoring children's progress, particularly in outpatient settings (Ndikumana et al., 2019).

This study intended to focus on Jinja Regional Referral Hospital (JRRH) to explore how these challenges manifest locally, aiming to enhance adherence to outpatient therapeutic care and improve treatment outcomes for SAM in Uganda.

CHAPTER THREE:

METHODOLOGY

3.0 Introduction

This chapter describes the research design, study area, target population, sample size, sampling techniques and procedures, data sources, data collection methods, data collection instruments, validity and reliability, data collection procedures, data analysis and measurement of variables that will be employed.

3.1 Study Design

The study adopted an analytical cross-sectional design to gather data from several groups of respondents. The study described the study population but also examined the associations between variables at a point in time. According to Kothari (2004), it is easy for researchers to understand cross-sectional surveys because of its richness in details and variation which eases the researcher's understanding of how and where studies of similar designs may have worked well with correlational outcomes. This design is suitable for snapshots or short time studies which was the case with this study. A Mixed Method Approach was used to investigate the predictors of adherence to outpatient therapeutic care program among children aged 6-59 months with severe acute malnutrition at JRRH. It combined quantitative and qualitative data collection and analysis techniques to gain a comprehensive understanding.

3.2 Area of Study

This study was conducted at Jinja Regional Referral Hospital, a government owned referral hospital with a 500 hospital bed capacity offering a whole range of health services and is located in the South-Eastern part of Uganda.

The hospital serves approximately a population of 4.5 million in a catchment area comprising of 1 city and 11 districts among others. It is a referral point for 6 general hospitals and 22 health centre IV's both Private not for profit (PNFP) and a number of private for profit (PFP) within the Busoga region

Annexed to Jinja Regional Referral Hospital is the Children's Hospital nutritional unit at an adjacent site in Nalufenya. This nutritional unit handles and rehabilitates patients with Nutritional disorders in the region and other surrounding areas. It generally offers inpatient and outpatient therapeutic care to the severe acute malnutrition (SAM) survivors and those who report with a particular form of nutritional disorder (SAM) that affected their normal growth and development.

3.3 Study Population

The study population was children aged 6-59 month with severe acute malnutrition receiving outpatient therapeutic care (OTC) at JRRH. They were paired with their Mothers' / Caregivers'/caretakers of children with acute malnutrition who were receiving OTC. Other study categories were nurses and nutritional unit staff.

3.4 Source of Data

Sources of data were both primary and secondary sources as explained below;

3.4.1 Primary Data

The primary data was collected by interviewing parents/ caregivers of children 6-59 months' who consented and responded to questions in the study questionnaires. This was collected from 138 parents/ caregivers of children 6-59 months with severe acute malnutrition since the patients were minors. The other respondents were 4 nutritional staff and 3 nurses working directly with malnutrition cases who were purposively selected for the Key informant interviews.

Selection was based on predefined criteria including professional experience, length of service in the nutritional unit, and involvement in decision-making or implementation of outpatient therapeutic services. Key Informant Interviews were conducted using semi-structured interview guides to allow participants to provide detailed insights into program implementation challenges, caregiver adherence behaviors, and institutional support mechanisms. Interviews continued until data saturation was reached, ensuring comprehensive coverage of relevant themes.

3.4.2 Secondary Data

The secondary data was obtained by reviewing different literature related to the objectives of the study. The authentic literature was chosen from resources demonstrated by books, journals, published papers, presentations, magazines and online publications. Also, hospital records were reviewed which constituted; treatment guidelines, recovery reports, general nutritional unit reports among others. It was done progressively in order to compare the existing information with the findings of the study. Also, all the information obtained through literature review was properly acknowledged through citations and references.

3.5 Eligibility Criteria

The eligibility criteria encompassed both inclusion and exclusion criteria as explained below;

3.5.1 Inclusion Criteria

Children aged 6-59 months with severe acute malnutrition who had been receiving outpatient therapeutic care at JRRH from 1st day of May, 2022 to 31st day of December, 2022. With the last date of admission being 31st day of December, 2022. This period was adequate for data collection from care givers and health workers among others.

3.5.2 Exclusion Criteria

The study excluded Children aged 6-59 months with severe acute malnutrition receiving outpatient therapeutic care whose Mothers' / Caregivers'/caretakers were not around at the time the study and those children transferred out after being admit, or those that did not consent to participate in the study.

3.6 Sampling Procedures

3.6.1 Sample Size determination

The 138 respondents were sampled by use of Kish Lesslie formula considering prevalence of severe acute malnutrition among children aged 6-59 months in the region using simple random sampling. The researcher used the Kish Lesslie formula below to get the estimated sample size (**n_o**) for the study.

$$n_o = \frac{Z^2 pq}{e^2}$$

Where: **Z**= the 95% confidence level of the normal distribution =1.96,

e = the desired level of precision of 5% (the acceptable margin of error (e) being ≤10%),

p = the estimated proportion of the population which had the attribute in question (the prevalence of acute malnutrition is 9.4% according to UDHS, 2016).

q = 1 – p.

Therefore, **n_o** = 1.96² X 0.094(1- 0.094)/ 0.05²

n_o = 3.8416 X 0.094 X 0.906/0.0025= 130.9 ≈ **131** children 6-59 months in outpatient therapeutic care were sampled to participate in the study.

Non-participation was anticipated during the study and addressed through several methodological safeguards. Caregivers who declined participation or were unavailable during data collection were respectfully excluded without coercion. To minimize non-response bias,

the sample size was increased by 5% to compensate for potential attrition to cover the non-response rate of 7 respondents, giving a final total of **138 respondents**.

The researcher ensured voluntary participation by clearly explaining the study objectives, confidentiality assurances, and the right to withdraw at any stage without affecting service delivery.

Additionally, participants who were too emotionally distressed or whose children were critically ill were not recruited to avoid ethical concerns and potential distress. Reasons for non-participation were documented where possible to assess potential bias. Data collectors also scheduled flexible interview times to accommodate caregivers' availability, thereby improving participation rates and ensuring inclusivity.

Table 1: Categories of Respondents

Categories of respondents	Sample size per stratum	Sampling Technique
Diagnosed Children paired with their care givers (paired)	138	Simple random sampling
Nutritional unit staff	4	Purposive sampling
Nurses	3	Purposive sampling

Source: Jinja RRH (2022)

3.6.2 Sampling Techniques

The study employed Probability sampling technique known as simple random sampling to select the 138 respondents and Purposive sampling for the 7 staff which is a non-probability sampling method as explained below;

3.6.2.1 Simple random sampling

Simple random sampling was employed to select caregivers of children aged 6–59 months diagnosed with severe acute malnutrition and enrolled in outpatient therapeutic care at Jinja Regional Referral Hospital. A sampling frame consisting of all eligible children receiving OTC during the study period was obtained from the hospital nutritional unit register. Each eligible participant was assigned a unique identification number. The lottery method was then applied whereby numbers were randomly selected without replacement until the required sample size of 138 respondents was achieved. This technique ensured that every eligible caregiver had an equal probability of participation, thus minimizing selection bias and improving the representativeness of the sample.

3.6.2.2 Purposive sampling

Purposive sampling was used to select healthcare workers who possessed specialized knowledge and direct involvement in the management of severe acute malnutrition. The researcher, in consultation with the hospital administration and nutritional unit leadership, identified staff who met the inclusion criteria based on their roles, experience in managing SAM cases, and involvement in OTC program implementation. This approach ensured the collection of in-depth and context-specific information relevant to service delivery factors affecting adherence.

3.7 Study variables

3.7.1 Dependent variable

Patients' "adherence to outpatient care program" was measured using the "Medication Adherence Report Scale" (MARS-5) on the adherence to medication, adopted from (Cheiloudaki, 2019), this was modified by the researcher to suite treatment domain of rehabilitation.

Adherence refers to the extent to which individuals follow or comply with recommended treatments or interventions prescribed by healthcare providers. On the other hand, outpatient therapeutic care refers to medical or healthcare services provided to individuals who do not require hospitalization or overnight stays and can be treated outside of a hospital setting.

Respondents were asked to rate the frequency of performing each of five behavioral aspects of adherence to OTC program, on a five-point scale with the options: always, often, sometimes, rarely, and never. Each answer was assigned a numerical value 1 to 5 with: Always = 1, often = 2, sometimes = 3, rarely = 4, and very rarely = 5. Scores were summed up to a scale ranging from 5 to 25, with higher scores indicating higher levels of patient adherence to treatment. In this research adherence below 25 was considered as sub-optimal.

3.7.2 Independent variable

Socio-demographic factors; Level of education categorized as "None, primary, secondary, college/tertiary or specify", Marital status categorized as "Single, married, divorced, widowed, separated, or cohabiting", religion categorized as "Catholic, Muslims, Anglican, Pentecostal or SDA", caretaker's relationship to the child categorized as "Adopted, biological or others specify".

Client factors: Awareness on malnutrition and its treatment categorized as "yes or no" and Health status of the child; Severity of SAM categorized as "totally dependent on a wheel chair, partially dependent, or independent", Duration of SAM categorized as "Less than a month, 2

months- 5 month, 6 months- 9 months, 9 months- 13 month, or more than 14 months”, Duration of therapeutic care categorized as “Less than a month, 2 months- 5 months, 6 months- 9 months, 9 months- 13 months, or more than 14 months”, SAM based symptoms categorized as “Yes or No” and Co-morbidities categorized as “Yes or No”.

Service factors:- Attitudes of health worker categorized as “Yes or No”, benefit from the OTC “Yes or No”, easy access to supplements categorized as “Yes or No”, sharing of supplements categorized as “Yes or No”, stock out of supplements in hospital categorized as “Yes or No”, child growth routinely monitored categorized as “Yes or No”, How children with malnutrition are identified categorized as “Self-reporting, screening or others specify”, administration of therapy directly observe categorized as “Yes or No” and community members categorized as “Yes or No”.

3.8 Data Collection Procedure

After the Research and Ethics Committee approved the research proposal, the researcher obtained an introduction letter to the JRRH administration from Uganda Christian University (UCU). This letter was then presented to the Medical Superintendent at JRRH for clearance. Subsequently, the researcher was introduced to the Head of Nutritional Unit and the Senior Nursing Officer in charge of pediatrics, who helped identify respondents.

During a meeting, the purpose of the study was clearly explained and thereafter the researcher engaged with various respondents and requested their participation in exit interviews. Each caregiver was interviewed at the exit point after receiving a service.

3.9 Data Collection Methods

This study used interview-administered questionnaires, interviews and observation as the methods of data collection. Bell, (1999) emphasizes that the veracity of results and the soundness of the research conclusions are based on the appropriateness of the methodology and the quality of data upon which the conclusions are based on. The choice of questionnaires and interviews as methods of data collection was justified on the grounds that the study being descriptive in nature required an intensive interaction with informants in order to gain better insight into the research issues. Observation involved observing elements that were in line with the study. The researcher also made direct observations of the processes and activities in the nutritional unit of JRRH, including how OTC programmes is implemented to help the kids get over the situation.

3.9.1 Data Collection Instruments

Questionnaire: - The researcher employed questionnaire, which after formulation himself administer to the care givers of diagnosed children. The instrument was translated to local language; however, it was researcher administered The questionnaire was closed and open ended which contained multiple choices, check boxes which were ticked to get data from selected respondents. The researcher then organized 30-minute sessions for each individual care giver.

Key Informant Interview guide: Key Informant Interview (KII) guide was employed to conduct KIIs sessions with staff of the nutritional unit and nurses deployed to look after the malnourished children where they were asked questions relevant to the area of study. The interview guide had brief questions designed to elicit information from the respondents as key informants, to supplement on the data collected using questionnaires. Each interview sessions lasted for 30 minutes in order to provide the researcher with vital and viable information concerning the phenomena under study. This was a good tool for soliciting responses from key respondents.

Observation check-list: according to Fontana, (1994), observation checklist is a tool of data collection where a list of observable elements in place and in line with study needs is observed and conclusions made. The researcher also made direct observations of the treatment sessions in the nutritional unit, including how the care givers take care of the children under SAM. This was vital because certain processes and behaviour accessioned as outcomes of execution programmes may not be accurately measured. An observation checklist guided the researcher on the activities and processes to observe.

3.10 Data Quality Control

3.10.1 Validity

The validity of the instruments was established through content validity which was done by making the content therein to be in tandem with the purpose and the objectives of the study. For this to happen, the researcher had to examine the contents in the instruments before they were used. It was meant to ensure their responsiveness through validation. This transformed the tools to measure as expected. Finally, alpha values were determined by the Content Validity Index (CVI), where the ratio of 0.7 was the basis to declare them as being valid, while for some whose results could not measure up to 0.7, they were improved further. For qualitative data, peer checking was employed where the attention of colleagues was sought to edit the instruments further, also during pretest, constructive criticism was allowed whose concerns gave room for further improvement.

3.10.2 Reliability

In order for the instrument to gain their reliability, a pretest was done thrice involving 20 (15 for quantitative and 5 for qualitative), at Budondo Health Center IV, which is located in Jinja City northern division. Questionnaires were cross-checked to ensure completeness before the researcher left the study area to ensure that good quality data was collected. The pretest aligned the questions to the content of the study by establishing internal consistency through the alpha values generated. As part of the improvement process, the pretest team had to have room to make constructive criticism where they felt it was necessary. According to Sekaran (2001), Alpha values for each dimension in the study should not measure below 0.6, of the contents therein is to be declared reliable. Therefore, in a sequential way, all the questions and statements were examined, and for those that measured above 0.6, were concluded to be reliable, as for the ones that could not measure, they were refined gain.

3.11 Data Processing and Analysis

Analysis is the computation of certain measures along with searching for patterns of relationships that exist among data groups (Kothari, 2004). After the collection of data, both qualitative and quantitative data analysis methods were employed.

The data was collected in questionnaires embedded in Kobo collect application which were only accessed by authorized persons so as to ensure confidentiality and avoid data loss. After data collection, the data was saved in form of an excel spread sheet under passwords. It was then cleaned and exported to SPSS for analysis. Coding and categorization of data was done for easy manipulation, analysis and presentation.

3.11.1 Quantitative data analysis

Univariate analysis was conducted to summarize variables in frequency tables, figures and percentages. For categorical variables, chi square test ($P < 0.05$) and odds ratios with corresponding 95% confidence intervals was used to determine the association

Binary Logistic regression analysis was used to determine association between Outpatient therapeutic care adherence and independent variables. The variable will be considered to be significant if the P-value is less or equal to 0.05 ($P \leq 0.05$).

The variables found significant at bivariate analysis were fixed at multivariate analysis to determine adjusted odds ratios (AOR) and confidence intervals (C.I) at 95% confidence level for their net effect on the dependent variable.

3.11.2 Qualitative data analysis

Qualitative data was collected through Key Informant Interviews and direct observations using structured guides and checklists. Interviews were conducted in private settings within the hospital to encourage open and honest responses. Each interview lasted approximately 30 minutes and was audio recorded with participant consent. Field notes were also taken to capture non-verbal cues and contextual observations.

Data were transcribed verbatim and analyzed using thematic content analysis. The analysis followed systematic steps including familiarization with transcripts, coding of meaningful text segments, categorization of codes into themes, and interpretation of emerging patterns. Codes were developed both deductively from study objectives and inductively from participant responses, ensuring comprehensive analysis.

According to Mbabazi, (2006), Content analysis is the systematic classification, organization, and comparison of the content of document or communication. The communication was in the form of responses, i.e content of interviews, content of questionnaires and field notes. In this technique, all elements of data set were examined to clarify concepts and constructs as well as the deconstruction of the textual data into manageable categories, patterns, themes and relationships.

To enhance trustworthiness, credibility was ensured through peer review of transcripts and triangulation of data sources including interviews, observation findings, and hospital records. Dependability was strengthened through consistent use of interview guides and documentation of the analysis process.

Qualitative findings were presented narratively according to major thematic areas aligned with study objectives, including caregiver experiences, healthcare service delivery challenges, and institutional factors influencing adherence. Representative quotations from key informants were included to support thematic interpretations and provide authentic participant perspectives. Observation findings were integrated to corroborate interview responses and provide contextual explanations for adherence patterns observed within the outpatient therapeutic care program.

3.12 Ethical Consideration

Before undertaking the study, ethical Clearance was sought from the Research and Ethics committee of Uganda Christian University. Permission to collect data was sought from Jinja Hospital research and ethics committee (JREC).

Voluntary informed consent was obtained from the respondents after thorough explanation about the study and it's Purpose. Privacy and anonymity of the study participants was assured

by recording unique numbers as their IDs, and then interviewing the participant in an isolated place.

All respondents were told of how the research findings would be confidentially handled and used for the good of the community, Uganda Christian University and other health institutions. However, data collected was purely for educational and planning purposes.

The researcher avoided all forms of discrimination against respondents on the basis of sex, gender, profession, nationality, race, etc. by conducting sampling of respondents to avoid discrimination. The research ensured integrity of respondents.

The research ensured that all respondents who participated in the research did so out of their own free will and were fully informed of the procedures of the research project, any potential risks and their consent to participate.

3.13 Dissemination of findings

After approval of the dissertation by the supervisor and viva team clearance, copies of the dissertation were disseminated to a constellation of stakeholders as highlighted below;

- Health Department of Jinja City
- Jinja Regional Referral Hospital.
- Department of public health Uganda Christian University, College of Medicine.
- Uganda Christian University Library.
- The supervisor also retained a copy
- The results would be shared with the scientific community by publishing in a recognized academic journal

CHAPTER FOUR - RESULTS

4.0 Introduction

This chapter presents the study findings, providing a comprehensive analysis of the data collected and emphasizing the key factors influencing adherence to outpatient therapeutic care among the study population.

In alignment with the research objectives, the analysis utilized both descriptive and inferential methods. Descriptive statistics provided straightforward summaries of the study variables through figures and tables, while measures of association such as Chi-Square tests at the bivariate level and binary logistic regression at the multivariate level were employed to further investigate relationships between variables

On the other hand, qualitative findings from key informant interviews with caregivers and health workers, supplemented observations of the outpatient therapeutic care (OTC) program at Jinja Regional Referral Hospital. These results highlight themes such as the characteristics of SAM cases, service delivery, treatment outcomes, challenges, and caregiver experiences.

4.1 Background Characteristics of Respondents

The sample of 138 respondents primarily comprised children aged 6-24 months 103(74.6%), with a nearly equal gender distribution of 74(53.6%) male and 64(46.4%) female. Most mothers were unemployed 65(47.1%) or in informal employment 61(44.2%), and had primary 58(42.0%) or secondary 51(37.0%) education levels, while few attained tertiary education 11(8.0%). Marital status was balanced between the married 45(32.6%) and cohabiting 45(32.6%) mothers, with single mothers making up 40(29.0%) and widows representing 8(5.8%). Catholicism was the most common religion 38(27.5%), followed by Islam 35(25.4%) and Pentecostalism 32(23.2%). The majority of respondents were biological mothers 122(88.4%). Additionally, over half of the mothers 77(55.8%) were aged 26 years and above, indicating a predominantly young adult cohort as illustrated in the table below.

Table 2: Frequency distribution of Socio-Demographic characteristics

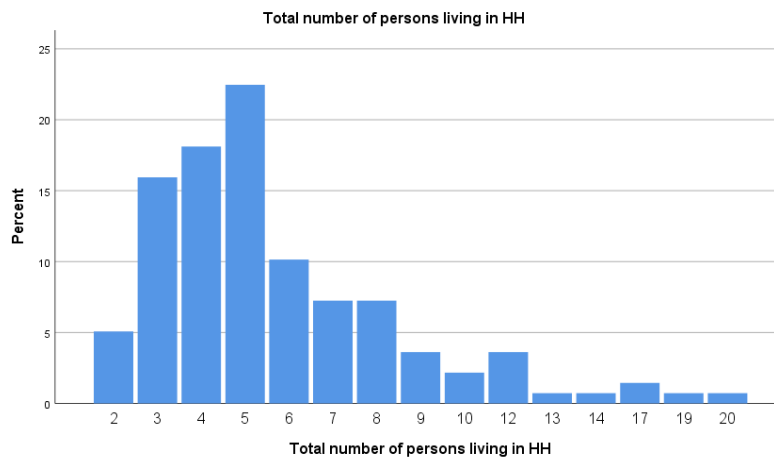
Variable		Frequency (n=138)	Percentage (%)
Child's Age	6-24	103	74.6
	25-43	20	14.5
	44-59	15	10.9
Child's gender	Male	74	53.6
	Female	64	46.4

Mothers occupation	Formal	12	8.7
	Unemployed	65	47.1
	Informal	61	44.2
Mother's education status	None	18	13.0
	Primary	58	42.0
	Secondary	51	37.0
	Tertiary	11	8.0
Marital status	Single	40	29.0
	Married	45	32.6
	Widowed	8	5.8
	Cohabiting	45	32.6
Mothers Religion	Anglican	24	17.4
	Catholic	38	27.5
	Muslim	35	25.4
	Pentecostal	32	23.2
	SDA	9	6.5
Relationship of respondent to the child	Non Biological	16	11.6
	Biological	122	88.4
Mothers Age Category	<26	61	44.2
	>=26	77	55.8

4.1.1 Household size

The bar chart below illustrates the distribution of household sizes by showing the percentage of households with different numbers of residents. The data reveals that households with 3, 4, and 5 members are the most common with 22(15.9%), 25(18.1%) and 31(22.5%) respectively, with 5-member households being the highest at around 33(22%) households.

Figure 2: Graph showing the Total number of people living in a House hold



4.2 Socio-demographic characteristics influencing adherence to outpatient therapeutic care

4.2.1 Cross tabulations of Socio-Demographic characteristics with Adherence

The analysis revealed no statistically significant associations between adherence to outpatient therapeutic care (OTC) and variables including child's age group ($\chi^2 = 1.637$, $p = 0.441$), gender ($\chi^2 = 0.764$, $p = 0.382$), mother's occupation ($\chi^2 = 3.521$, $p = 0.172$), education level ($\chi^2 = 2.958$, $p = 0.398$), marital status ($\chi^2 = 1.364$, $p = 0.714$), religion ($\chi^2 = 3.411$, $p = 0.492$), caregiver relationship to the child ($\chi^2 = 1.666$, $p = 0.197$), household size ($\chi^2 = 0.576$, $p = 0.448$), and mother's age category ($\chi^2 = 0.058$, $p = 0.810$), indicating that none of these demographic or social factors were significantly associated with optimal or sub-optimal OTC adherence.

Table 3: Cross tabulations of Socio-Demographic characteristics with Adherence

Variable			OTC Adherence		Chi-square (X^2)	P-value
			Optimal	Sub-optimal		
Child Age group (months)	6-24		59	44	1.637 ^a	0.441
	25-43		13	7		
	44-59		11	4		
Child's Gender	Male		42	32	0.764 ^a	0.382
	Female		41	23		
Mothers occupation	Formal		6	6	3.521 ^a	0.172
	Unemployed		35	30		

	Informal	42	19		
Mother's education status	None	9	9	2.958 ^a	0.398
	Primary	32	26		
	Secondary	35	16		
	Tertiary	7	4		
Marital status	Single	22	18	1.364 ^a	0.714
	Married	26	19		
	Widowed	5	3		
	Cohabiting	30	15		
Mothers Religion	Anglican	17	7	3.411 ^a	0.492
	Catholic	24	14		
	Muslim	17	18		
	Pentecostal	19	13		
	SDA	6	3		
Relationship of respondent to the child	Non Biological	12	4	1.666 ^a	0.197
	Biological	71	51		
Household size	2-5	49	36	0.576 ^a	0.448
	>5	34	19		
Mothers Age Category	<26	36	25	0.058 ^a	0.810
	>=26	47	30		

Caregivers often came from poor families, unable to afford nutritious food or treatment. One informant stated,

"Mothers... they are not working... they cannot afford good food for their children... some have been abandoned by men.

Many children were brought in at advanced stages of SAM, often referred by friends when the situation was critical as stated as follows;

"They only bring their children for treatment when the situation is beyond them."

Underlying Conditions: Some children had additional health issues, such as poor eating habits, mental disturbances, or chronic illnesses, complicating recovery.....

4.2.2 Multivariate Analysis for Socio demographic and Adherence

Variables included in the multivariate logistic regression model were selected based on their statistical and theoretical relevance to adherence to outpatient therapeutic care (OTC). Initially, all independent variables were subjected to bivariate analysis to assess their association with adherence to OTC treatment. Variables that demonstrated statistical significance at the bivariate level ($p \leq 0.05$) were prioritized for inclusion in the multivariate model.

In addition, variables considered biologically plausible or supported by existing literature as predictors of treatment adherence were also considered for inclusion to control for potential confounding effects. This approach ensured that the multivariate model captured both statistically significant predictors and theoretically important variables that could influence adherence outcomes. The final multivariate model was therefore constructed to estimate adjusted odds ratios (AOR) while controlling for confounding relationships among variables. The analysis of factors associated with optimal adherence to outpatient therapeutic care (OTC) revealed that mother's occupation was the only significant predictor, with mothers informal employment more likely to have sub-optimal adherence (aOR = 0.516, 95% CI: 0.284-0.937, $p = 0.030$), while other variables, including child's age, gender, mother's education, marital status, religion, caregiver relationship to the child, household size, and mother's age, showed no significant associations with adherence as shown in the Table 4 below.

Table 4: Multivariate Analysis for Socio demographic factors and Adherence

Variable			OTC Adherence		aOR	95% CI	P value
			Optimal	Sub-optimal			
Child Age group (months)	6-24		59	44	0.704	0.383-1.293	0.258
	25-43		13	7			
	44-59		11	4			
Child's Gender	Male		42	32	0.680	0.323-1.434	0.311
	Female		41	23			
Mothers occupation	Formal		6	6	0.516	0.284-0.937	0.030
	Unemployed		35	30			
	Informal		42	19			
	None		9	9			
	Primary		32	26			
	Secondary		35	16			

Mother's education status	Tertiary	7	4			
Marital status	Single	22	18	0.918	0.674-1.250	0.588
	Married	26	19			
	Widowed	5	3			
	Cohabiting	30	15			
Mothers Religion	Anglican	17	7	1.116	0.821-1.517	0.485
	Catholic	24	14			
	Muslim	17	18			
	Pentecostal	19	13			
	SDA	6	3			
Relationship of respondent to the child	Non Biological	12	4	2.614	0.733-9.326	0.139
	Biological	71	51			
Household size	2-5	49	36	0.701	0.321-1.533	0.374
	>5	34	19			
Mothers Age Category	<26	36	25	1.003	0.457-2.201	0.993
	>=26	47	30			

4.3 Client related factors influencing adherence to outpatient therapeutic care

4.3.1 Descriptive analysis for Client related factors influencing adherence to outpatient therapeutic care

The findings indicated that 100(72.5%) caregivers of children with severe acute malnutrition (SAM) were largely aware of the illness prior to diagnosis, 90(65.2%) believed poor feeding to be the primary cause of the child's illness, while 22(15.9%) of the respondents also attributed it to poor child health and even witchcraft 21(15.2%); most were aware of treatment availability 115(83.3%) and 79(57.2%) perceived SAM's consequences to include stunting, death 28(20.3%), and weight loss 11(8.0%), with 95(68.8%) children often totally dependent

at treatment onset and impacted by symptoms like weakness 48(34.8%), repeated illness 37(26.8%), and depression 37(26.8%); before treatment, 55(39.9%) of the children struggled to eat or walk properly 43(31.2%) and 114(82.6%) children had generally been ill for less than six months with more than half 74(53.6%) receiving treatment for under a month while 86(62.3%) children had additional health issues including being weak to feed at 42(30.4%) and mental disorders at 19(13.8%), finally in this analysis, nearly half 62(44.9%) of the children had a history of chronic illness, underscoring the significant health burden and dependency associated with SAM.

Table 5: Frequency of Client related factors

Variable		Frequency (n=138)	Percentage (%)
Before your child got this sickness, Did you know..	Yes	100	72.5
	No	38	27.5
What do you think could have brought this to your child.?	Poor feeding	90	65.2
	Poor Child Health	22	15.9
	Witchcraft	21	15.2
	Lack of appetite	5	3.6
Did you ever know about availability of treatment?	Yes	115	83.3
	No	23	16.7
What do you think are some of the consequences?	Stunting	79	57.2
	Child Death	28	20.3
	More time spent at the facility	20	14.5
	Weight Loss	11	8.0
How was the child at the time of starting OTC?	Totally dependent, in a wheel chair	95	68.8
	Partially dependent	29	21.0
	Independent	14	10.1
How has the sickness affected this child?	Feeling weak	48	34.8
	Repeated illness	37	26.8
	Depression	37	26.8

	Weight loss	16	11.6
What couldn't the child do before treatment?	Eat Properly	55	39.9
	Walk properly	43	31.2
	Loss of appetite	40	29.0
How long has the child been with SAM (Months)	Less than 6 months	114	82.6
	More than 6 months	24	17.4
How long has the child been on this treatment?	Less than one month	74	53.6
	More than one month	64	46.4
Is the child having any other Problem	Yes	86	62.3
	No	52	37.7
If yes what is that problem	Weak to feed	42	30.4
	Loss of appetite	25	18.1
	Mental Disorder	19	13.8
Did the child have any other chronic illness	Yes	62	44.9
	No	76	55.1

4.3.2 Cross tabulations of Client Related factors and Adherence

The analysis of client related factors associated with adherence to outpatient therapeutic care (OTC) among children aged 6–59 months with severe acute malnutrition (SAM) reveals no statistically significant relationships between adherence and the examined client related variables, including caregivers' prior knowledge about the illness ($\chi^2 = 2.603^a$, $p = 0.107$), perceived causes and consequences of SAM ($\chi^2 = 1.958^a$, $p = 0.581$), awareness of treatment availability ($\chi^2 = 0.006^a$, $p = 0.938$), the child's functional status at treatment initiation ($\chi^2 = 1.110^a$, $p = 0.574$), duration with SAM ($\chi^2 = 0.067^a$, $p = 0.795$), presence of additional health issues ($\chi^2 = 0.666^a$, $p = 0.414$), or chronic illness history ($\chi^2 = 0.203^a$, $p = 0.652$) showing all p-values > 0.05 as in the table below.

Table 6: Cross tabulations of Client related factors with Adherence

Variable		OTC Adherence		Chi-square (X^2)	P-value
		Optimal	Sub-optimal		
Before your child got this sickness, Did you know..	Yes	56	44	2.603 ^a	0.107
	No	27	11		
What do you think could have brought this to your child.?	Poor feeding	58	32	2.356 ^a	0.502
	Poor Child Health	12	10		
	Witchcraft	10	11		
	Lack of appetite	3	2		
Did you ever know about availability of treatment?	Yes	69	46	.006 ^a	0.938
	No	14	9		
What do you think are some of the consequences?	Stunting	51	28	1.958 ^a	0.581
	Child Death	16	12		
	More time spent at the facility	11	9		
	Weight Loss	5	6		
How was the child at the time of starting OTC?	Totally dependent, in a wheel chair	59	36	1.110 ^a	0.574
	Partially dependent	15	14		
	Independent	9	5		
How has the sickness affected this child?	Feeling weak	29	19	1.526 ^a	0.676
	Repeated illness	20	17		
	Depression	25	12		
	Weight loss	9	7		
What couldn't the child do before treatment?	Eat Properly	38	17	3.626 ^a	0.163

	Walk properly	25	18		
	Loss of appetite	20	20		
How long has the child been with SAM (Months)	Less than 6 months	68	46	0.067 ^a	0.795
	More than 6 months	15	9		
How long has the child been on this treatment?	Less than one month	46	28	0.271 ^a	0.603
	More than one month	37	27		
Is the child having any other Problem	Yes	54	32	0.666 ^a	0.414
	No	29	23		
If yes what is that problem	Weak feed	29	13	2.654 ^a	0.265
	Loss of appetite	16	9		
	Mental Disorder	9	10		
Did the child have any other chronic illness	Yes	36	26	0.203 ^a	0.652
	No	47	29		

4.4 Service-related factors influencing adherence to outpatient therapeutic care

4.4.1 Descriptive analysis for Service-related factors influencing adherence to outpatient therapeutic care

The table summarizes study responses from 138 participants regarding their perspectives and experiences with their children's treatment and services, revealing that a significant majority of 117(84.8%) were satisfied with the treatment received, and nearly all 134(97.1%) respondents expressed happiness with the care process; 127(92.0%) of the respondents reported satisfaction with doctors, while 134(97.1%) believed their children benefited from outpatient therapeutic care (OTC), indicating high perceived effectiveness; additionally, 130(94.2%) of the respondents noted easy access to treatment refills, although 33(23.9%) encountered instances where they were not given refills, primarily due to stock shortages 21(15.2%); growth monitoring was prevalent among 134(97.1%) of the respondents, with 126(91.3%) receiving monthly monitoring, mostly conducted in hospitals 130(94.2%); 79(57.2%) of the children were identified for treatment during outreaches and 59(42.8%) during screenings, while 97(70.3%) of parents directly observed their child's treatment adherence; 112(81.2%) of the

respondents acknowledged community mobilization and sensitization efforts, focusing primarily on recognizing signs and symptoms of malnutrition at 48(34.8%), prevention 34(24.6%), management of severe acute malnutrition 26(18.8%), and WASH sensitization reported by only 4(2.9%) of the respondents, suggesting areas for expanded community health education.

Table 7: Frequency of Service-related factors

Variable		Frequency (n=138)	Percentage (%)
Do you like the treatment your child is receiving	Yes	117	84.8
	No	21	15.2
How do you feel about this treatment	Happy	134	97.1
	Unhappy	4	2.9
How do you feel about the doctors	Satisfied	127	92.0
	Not satisfied	11	8.0
Has the child benefited from OTC	Yes	134	97.1
	No	4	2.9
Do you have easy access to receive refills	Yes	130	94.2
	No	8	5.8
Do you sometimes share supplements	Yes	38	27.5
	No	100	72.5
Is there anytime you went to hospital for refill and not given	Yes	33	23.9
	No	105	76.1
If your answer is yes state reasons	Out of stock	21	15.2
	Overwhelming turnup	8	5.8
	Delayed delivery	4	2.9
Is your child growth routinely monitored	Yes	134	97.1
	No	4	2.9
If your answer is yes how often	Less than one month	126	91.3

	1 to 3 months	5	3.6
	More than 3 months	3	2.2
Where is the growth monitoring always done	Outreach worker / volunteers	4	2.9
	At the hospital	130	94.2
How was your child identified	During outreaches	79	57.2
	During Screening	59	42.8
Do you always directly observe	Yes	97	70.3
	No	41	29.7
Community members mobilized and sensitized	Yes	112	81.2
	No	26	18.8
If your answer is yes what were they sensitized on	Signs and symptoms of Malnutrition	48	34.8
	Prevention of malnutrition	34	24.6
	Management of SAM	26	18.8
	Water, sanitation and Hygiene sensitization	4	2.9

4.4.2 Service Delivery and Program Management

The mwanamugimu clinic provides diagnosis, treatment, and counseling for caregivers. SAM diagnosis uses standardized methods, such as weight-for-height, mid-upper arm circumference (MUAC), and clinical assessments. Respondents emphasized the importance of closely monitoring children to assess treatment progress:

"We monitor the children... nutrition specialists check on them immediately after admission and again before discharge... we ensure that caregivers know how to manage them at home."

Treatment duration varied, with most children staying for less than 30 days. However, some required three to six months due to underlying complications or poor response to treatment.

Key informants highlighted the role of outreaches in identifying and referring malnourished children:

"We go for outreaches like immunization... while there, we identify children who are malnourished and advise mothers to bring them for further screening."

4.4.3 Cross tabulations of Service related factors and Adherence

The analysis of service-related factors and OTC adherence among children with SAM reveals that most factors, such as satisfaction with treatment ($\chi^2 = 0.093^a$, $p = 0.760$), ease of access to refills ($\chi^2 = 0.782^a$, $p = 0.377$), and routine growth monitoring ($\chi^2 = 2.123^a$, $p = 0.145$), showed no significant impact on adherence, except for supplement sharing which is significantly associated with adherence status ($\chi^2 = 4.010^a$, $p = 0.045$) as shown in the table below.

Table 8: Cross tabulations of Service related factors and Adherence

Variable		OTC Adherence		Chi-square (X^2)	P-value
		Optimal	Sub-optimal		
Do you like the treatment your child is receiving	Yes	71	46	0.093 ^a	0.760
	No	12	9		
How do you feel about this treatment	Happy	82	52	2.123 ^a	0.145
	Unhappy	1	3		
How do you feel about the doctors	Satisfied	75	52	0.789 ^a	0.374
	Not satisfied	8	3		
Has the child benefited from OTC	Yes	81	53	0.177 ^a	0.674
	No	2	2		
Do you have easy access to receive refills	Yes	77	53	0.782 ^a	0.377
	No	6	2		
Do you sometimes share supplements	Yes	28	10	4.010 ^a	0.045
	No	55	45		
Is there anytime you went to hospital for refill and not given	Yes	24	9	2.864 ^a	0.091
	No	59	46		
If your answer is yes state reasons	Out of stock	15	6	1.940 ^a	0.379
	Overwhelming turnup	7	1		
	Delayed delivery	2	2		
Is your child growth routinely monitored	Yes	82	52	2.123 ^a	0.145

	No	1	3		
If your answer is yes how often	Less than one month	78	48	1.010 ^a	0.603
	1 to 3 months	2	3		
	More than 3 months	2	1		
Where is the growth monitoring always done	Outreach worker / volunteers	3	1	0.331 ^a	0.565
	At the hospital	79	51		
How was your child identified	During outreaches	48	31	0.029 ^a	0.865
	During Screening	35	24		
Do you always directly observe	Yes	61	36	1.024 ^a	0.312
	No	22	19		
Community members mobilized and sensitized	Yes	68	44	0.080 ^a	0.777
	No	15	11		
If your answer is yes what were they sensitized on	Signs and symptoms of Malnutrition	28	20	3.899 ^a	0.273
	Pevention of malnutrition	25	9		
	Management of SAM	13	13		
	Water, sanitation and Hygiene sensitization	2	2		

Key informants described efforts to raise awareness about SAM through community screenings and educational campaigns as stated by a respondent as;

"Where the children come from... we go there to screen others... we educate the parents on malnutrition and encourage them to bring their children for further screening."

Community outreach was identified as an essential strategy for improving early detection and referral.

Most caregivers received counseling on hygiene, food preparation, and recognizing danger signs in their children. Tailored communication addressed different literacy levels. The training aimed to empower caregivers to manage their children’s recovery at home effectively. Respondents emphasized the importance of follow-up:

"We give caregivers RUTFs and ensure they understand how to handle their children from home... we also encourage them to maintain hygiene."

4.4.4 Multivariate Analysis for sharing supplements and Adherence

The table shows the relationship between sharing supplements and optimal adherence to outpatient therapeutic care (OTC) using adjusted odds ratios (aOR). Families who reported sharing supplements had significantly lower odds of achieving optimal adherence compared to those who did not share, with an aOR of 0.437 (95% CI: 0.192–0.994, $p=0.048$) as shown in the Table 4 below.

Table 9: Multivariate Analysis for sharing supplements and Adherence

Variable			OTC Adherence		aOR	95% CI	P value
			Optimal	Sub-optimal			
Do you sometimes share supplements	Yes		28	10	0.437	0.192 -0.994	0.048
	No		55	45			

To control for confounding factors and determine the independent contribution of each predictor variable to the outcome, Table 9 presents the relationship between supplement sharing and adherence, the analysis is still considered multivariate because supplement sharing was analyzed while controlling for other relevant covariates included in the regression model. The table presents the adjusted effect of supplement sharing after accounting for the influence of other predictor variables in the model. Therefore, the analysis reflects the independent association between supplement sharing and adherence rather than a simple single-variable analysis.

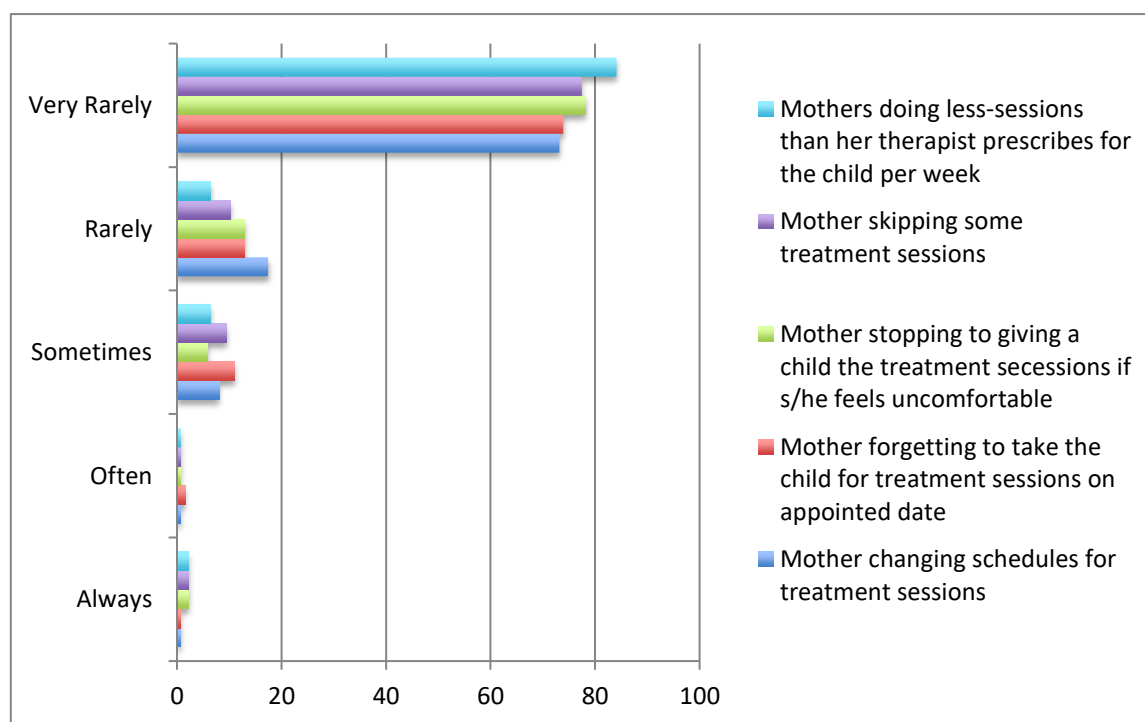
4.5 Adherence to OTC treatment

To ensure internal consistency and reliability of data collection tools, a Cronbach’s alpha reliability test was conducted on questionnaire items measuring adherence-related factors. The analysis yielded a Cronbach’s alpha coefficient of 0.72 indicating acceptable internal consistency of the instrument.

In this study comprising of 138 children aged 6-59 months, 96(69.6%) of Mothers' / Caregivers' very rarely changed treatment schedules for their children and 97(70.3%) of the respondents very rarely forgot to take children for treatment sessions on appointed date. Similarly, most Mothers' / Caregivers' 100(72.5%) reported very rarely stopping to give the child the treatment sessions if uncomfortable. 92(66.7%) of the respondents reported to be very rarely skipping some treatment sessions.

Lastly, the majority of Mothers' / Caregivers' 92(66.7%) reported very rarely doing less-sessions than their therapist prescribed for the child per week, while a smaller percentage of 26(18.8%) reported to be doing so rarely, sometimes 11(8%), often 3(2.2%), or always 4(2.9%) as represented in the graph below.

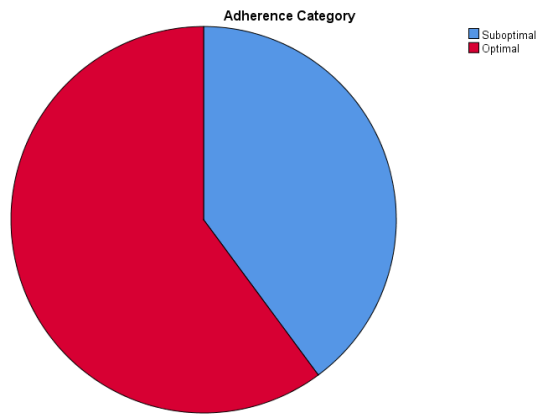
Figure 3: Adherence to treatment



4.5.1 Overall adherence to the OTC among malnourished children

The figure below shows that 83(60.1%) of the respondents overall adherence to OTC was optimal, while 55(39.9%) was sub-optimal.

Figure 4: Overall Adherence to OTC



4.6 Presentation of Qualitative Results

Qualitative findings were derived from Key Informant Interviews with healthcare workers and caregivers, as well as observations conducted within the Outpatient Therapeutic Care (OTC) unit. The findings are presented thematically based on patterns that emerged from participant responses and observations. The themes presented include caregiver knowledge and perceptions of severe acute malnutrition, service delivery factors influencing adherence, caregiver-related barriers to treatment adherence, and institutional challenges affecting service implementation.

4.6.1 Theme 1: Caregiver Knowledge and Perceptions of Severe Acute Malnutrition and Treatment

Most key informants reported that caregivers demonstrated basic awareness of severe acute malnutrition and the importance of therapeutic feeding. However, the depth of understanding regarding treatment duration and strict adherence to therapeutic feeding guidelines varied significantly. Healthcare workers observed that while caregivers often complied with treatment instructions initially, some caregivers discontinued treatment once visible improvement was noted in the child.

One healthcare worker noted:

“Many caregivers stop coming for follow-up visits when the child starts gaining weight, thinking the child is already healed, yet treatment requires completion to prevent relapse.”

Observational findings further supported these views, showing that although caregivers attended initial enrollment sessions, consistent follow-up attendance reduced over time. This indicated a gap in caregiver knowledge regarding the full treatment cycle and long-term recovery requirements.

4.6.2 Theme 2: Service Delivery Factors Influencing Adherence

Healthcare providers emphasized that accessibility and quality of healthcare services played a critical role in influencing adherence to outpatient therapeutic care. Participants highlighted that consistent availability of therapeutic foods and effective counseling services encouraged caregiver compliance. Positive health worker attitudes were also reported to promote trust and treatment adherence.

One respondent stated:

“When supplies are available and counseling is done properly, caregivers are more likely to return for review appointments.”

However, observation findings revealed that long waiting times and overcrowding occasionally discouraged caregivers from completing follow-up visits. Healthcare workers acknowledged that heavy patient workloads sometimes limited time available for individualized counseling and follow-up support.

4.6.3 Theme 3: Socioeconomic and Household Barriers to Adherence

Socioeconomic constraints emerged as a major barrier to treatment adherence. Several healthcare workers reported that caregivers faced transportation challenges, financial limitations, and competing household responsibilities that interfered with regular clinic attendance. Informants indicated that caregivers in informal employment often struggled to balance income-generating activities with scheduled clinic visits.

A key informant explained:

“Some mothers miss appointments because they cannot afford transport or they must work daily to provide food for their families.”

Additionally, supplement sharing within households was reported as a common practice, particularly among families experiencing food insecurity. Healthcare workers noted that sharing therapeutic foods reduced treatment effectiveness and prolonged recovery periods.

4.6.4 Theme 4: Institutional and Program Implementation Challenges

Healthcare workers identified several institutional challenges affecting outpatient therapeutic care delivery. These included limited staffing, high patient volumes, and occasional stock interruptions of therapeutic supplies. Informants indicated that these challenges sometimes reduced the quality of counseling services and follow-up monitoring.

One participant noted:

“The patient numbers are high compared to available staff, making it difficult to closely monitor each child’s progress.”

Observation findings also indicated that while treatment protocols were generally followed, limited physical space and resource constraints occasionally affected service efficiency.

Interviews revealed that most children admitted with severe acute malnutrition (SAM) were below two years old, a critical developmental stage prone to stunting if SAM is untreated. One respondent noted,

"We admit all kids who are under severe acute malnutrition....the unit is called mwanamugimu in Luganda... we are getting support from different organizations to help the children recover and save them from stunting... the work is too much."

Symptoms of SAM included extreme weakness, stunting, lack of appetite, and inability to walk, as highlighted by one informant:

"The kids are brought here when they are very weak... even holding food to eat is a challenge... they need to be closely monitored to get on their feet."

The key outcomes of non-adherence to OTC included stunting, increased morbidity, and mortality. One respondent described the consequences plainly as:

"When you fail to treat them, they become stunted... most of those children in the unit are stunted because of malnutrition... some even die."

Despite these challenges, treatment at the clinic yielded positive results. Caregivers expressed relief and happiness when their children recovered as stated below;

"When these mothers bring their children, they are hopeless... after one month, the child recovers, and they leave happy knowing the child has survived."

The qualitative findings complemented quantitative results by providing contextual explanations for observed adherence patterns. For instance, statistical findings showing reduced adherence among caregivers in informal employment were supported by qualitative responses highlighting financial and occupational constraints. Similarly, evidence of supplement sharing identified in quantitative analysis was reinforced by caregiver experiences documented during interviews.

4.6 Summary of Results

This study explored factors influencing adherence to outpatient therapeutic care (OTC) among children aged 6–59 months with severe acute malnutrition (SAM) at Jinja Regional Referral Hospital. The analysis involved both quantitative and qualitative methods, examining socio-demographic, client-related, and service-related factors affecting adherence.

The study sample comprised 138 caregivers, mostly biological mothers (88.4%), with a majority of children (74.6%) aged 6–24 months. Socio-demographic analysis revealed no significant associations between adherence and factors such as child's age, gender, mother's education, marital status, religion, or household size. However, mothers in informal

employment were significantly more likely to have sub-optimal adherence (aOR = 0.516, $p = 0.030$). Qualitative insights highlighted poverty and late health-seeking behavior as key barriers to adherence.

Most caregivers (72.5%) were aware of SAM before diagnosis, with poor feeding cited as the main cause. However, no significant relationships were found between adherence and client-related factors, including caregivers' knowledge, child's health conditions, or illness duration. Service-related factors such as satisfaction with care, ease of access to treatment, and community sensitization were generally positive, but stock shortages (15.2%) posed challenges. Supplement sharing was significantly associated with sub-optimal adherence (aOR = 0.437, $p = 0.048$).

Qualitative findings revealed that adherence to outpatient therapeutic care is influenced by a combination of caregiver knowledge, healthcare service delivery quality, socioeconomic factors, and institutional capacity. While caregivers generally demonstrate willingness to follow treatment guidelines, barriers such as financial hardship, limited health education, and healthcare system constraints continue to affect optimal adherence.

Overall, 60.1% of caregivers achieved optimal adherence, while 39.9% had sub-optimal adherence. Non-adherence led to increased stunting, morbidity, and mortality, whereas successful treatment resulted in positive health outcomes. Strengthening community outreach, addressing stock shortages, and enhancing caregiver education could improve adherence and treatment effectiveness.

CHAPTER FIVE - DISCUSSION, CONCLUSION & RECOMMENDATION

5.0 Introduction

This chapter presents a comprehensive discussion of the findings outlined in the previous chapter. The discussion is structured according to the study's objectives, linking the findings to existing literature, theories, and real-world implications.

5.1 Discussion of Results

5.1.1 Socio-demographic Characteristics Influencing Adherence to Outpatient

Therapeutic Care

The results indicated that socio-demographic factors such as child's age, gender, mother's education, marital status, religion, and household size were not significantly associated with adherence to outpatient therapeutic care. These findings contrast with prior research suggesting that socio-economic and demographic factors influence health-seeking behavior and treatment adherence in malnourished children (Ndemwa et al., 2017). The lack of significance in this study could be attributed to the homogeneity of the study population, where economic hardship was prevalent across different demographic groups.

However, mother's occupation emerged as a significant predictor of adherence, with informally employed mothers showing a higher likelihood of sub-optimal adherence (aOR = 0.516, $p = 0.030$). This finding aligns with studies highlighting employment-related constraints, such as time limitations and financial instability, as barriers to consistent health service utilization (Kimani et al., 2023). Key informant interviews supported these findings, revealing that unemployed or informally employed caregivers struggled with transportation costs and meal affordability, impacting their ability to consistently bring children for scheduled treatment visits.

The qualitative data further revealed that caregivers often sought treatment late due to financial and social constraints. Many caregivers brought their children to the clinic only when symptoms had worsened significantly. This delay in seeking care is consistent with studies on delayed treatment-seeking behaviors among populations facing economic hardships (Debsarma et al., 2022).

5.1.2 Client-Related Factors Influencing Adherence to Outpatient Therapeutic Care.

Client-related factors, including caregivers' prior knowledge of SAM, perceived causes of illness, awareness of treatment availability, and the child's health status at the start of treatment, showed no significant association with adherence. This contradicts findings from previous studies where caregiver awareness and perceptions were found to influence adherence (Liu et

al. (2022). The high level of awareness about SAM (83.3%) among caregivers in this study might have mitigated variations in adherence across different knowledge levels.

Despite the statistical insignificance, qualitative findings revealed that misconceptions about the causes of SAM persisted, with some caregivers attributing it to witchcraft (15.2%). This finding underscores the need for targeted health education programs that dispel myths and enhance caregivers' understanding of the causes and management of malnutrition. For instance, Nalwanga et al. (2023) highlight that healthcare workers identified a significant gap in caregivers' understanding of how severe pneumonia could exacerbate malnutrition, suggesting the critical role of education in shaping health-seeking behavior.

A notable finding from qualitative interviews was the role of child dependency and illness severity at treatment initiation. Caregivers expressed difficulty in managing children who were too weak to eat or walk properly. The presence of additional health conditions (62.3%) among children further complicated adherence, as caregivers struggled with multiple treatment regimens.

5.1.3 Service-Related Factors Influencing Adherence to Outpatient Therapeutic Care.

The study revealed high levels of satisfaction with treatment services at JRRH, with 84.8% of caregivers expressing contentment with service delivery. However, challenges such as occasional stock-outs of therapeutic foods (15.2%) and supplement-sharing practices significantly impacted adherence. Supplement sharing was found to be significantly associated with adherence ($\chi^2 = 4.010$, $p = 0.045$), with families that engaged in sharing demonstrating lower adherence levels (aOR = 0.437, $p = 0.048$). These logistical concerns echo findings from other contexts, where inadequate resource availability impacts health service delivery efficacy, thereby lowering adherence to prescribed treatment plans (Nuwasiima et al., 2019).

Key informants emphasized the role of community outreach programs in identifying and referring malnourished children for treatment. However, challenges such as inadequate coverage of sensitization activities were highlighted, with only 2.9% of caregivers reporting exposure to WASH (Water, Sanitation, and Hygiene) sensitization efforts. This suggests a gap in community-level interventions that could enhance adherence through improved household hygiene and nutrition practices (Aloyo et al., 2022).

Qualitative data further underscored the importance of follow-up mechanisms. While most caregivers (97.1%) reported positive experiences with growth monitoring, some highlighted difficulties in maintaining treatment schedules due to competing household responsibilities. Health workers stressed the need for more structured follow-up visits and community engagement to ensure sustained adherence.

The absence of statistical significance does not imply absence of influence but may indicate complex interactions between multiple determinants that were not fully captured in the study sample. Additionally, the relatively small sample size may have limited the statistical power required to detect significant associations among some variables.

CHAPTER SIX: CONCLUSION AND RECOMMENDATION

6.0 Introduction

This chapter provides conclusions and recommendations based on the study results, offering insights for policymakers, healthcare providers, and caregivers involved in managing severe acute malnutrition (SAM) through outpatient therapeutic care (OTC) at Jinja Regional Referral Hospital (JRRH).

6.1 Conclusion

The study findings indicate that adherence to OTC among children with SAM at JRRH is influenced by multiple factors, with maternal occupation and supplement sharing emerging as significant predictors. While socio-demographic and client-related factors were not directly associated with adherence, qualitative findings suggested that financial constraints, cultural beliefs, and food insecurity contribute to treatment disruptions.

The high levels of caregiver satisfaction with service delivery suggest that the OTC program is well-received. However, adherence challenges persist due to structural barriers such as economic hardships, logistical difficulties, and stock shortages. Addressing these challenges would require a multi-faceted approach that combines economic support for caregivers, strengthened community education, and improved supply chain management for therapeutic foods.

6.2 Recommendations

The study showed that economic barriers significantly impact caregiver adherence; therefore, implementing financial assistance programs such as transport refunds or conditional cash transfers can help alleviate these challenges. Furthermore, the strengthening of community sensitization is also crucial in expanding outreach programs to enhance awareness about the causes of SAM, the importance of treatment adherence, and the risks associated with supplement sharing.

Additionally, ensuring food security through improved stock management of Ready-to-Use Therapeutic Foods (RUTF) is essential in minimizing shortages and ensuring a consistent supply for affected children.

To reinforce adherence further, structured home visit programs should be developed to monitor child progress and provide direct caregiver support and therefore addressing potential challenges in real-time.

Lastly, policy interventions are necessary to integrate OTC adherence strategies into broader child health programs, with a focus on caregiver education and economic empowerment.

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APPENDICES

Appendix I: English Informed consent form

Participant Information sheet

I am Nandala Kenneth, a student of Uganda Christian University, pursuing a postgraduate Masters' degree Public Health. I am conducting a study that intends to establish the "*Predictors of adherence to outpatient therapeutic care and its associated factors among children 6-59 months with severe acute malnutrition at Jinja Regional Referral Hospital*". I kindly request you to answer the questions in the questionnaire. The information given is for academic purposes and will be kept confidential. Your participation is voluntary and you have a right to withdraw in case you are not interested. questionnaire will be given to you upon consenting by signing on the provisions hereunder and your identity will not be revealed.

If there is anything that is not clear, I will be delighted to clarify.

Declaration

I have read this consent form and understood the purpose of the study and I voluntarily consent to participate in this study. I promise to give the information best to my knowledge.

Participant's signature.....Date.....

Researcher's signatureDate.....

Appendix II: Lusoga informed consent form

Okwikiriza Mubuwandiike

Ssoma embaluwa eno nobwegendereza. Osobola okubuza wotageire mu mbaluwa eno.

Lamba ku kwe ekyo kyolonze ku era weyame ne kinkumu kyo ne n'aku edo mwezi bwoba nga oyikiriza omwana wo okwetaba mukunonereza kuno.

- Okunonereza bakwinonoyile bulungi mu mbaluwa ewandikibwa omunonereza
- YII/MBE
- Ntegeire nti Okunonereza kuno kwenda okwiramubibuzo, era singa kyetagisa okugema eirrobozi lyange baidha kunkobera.
- YII/MBE
- Ntegeire nti omwana wange waiddembe okuva mu kunonereza kuno essawa yonna yona nga tabuzibwa kwenonola ku kwonna kwona era nga tikitetegania eidhembe lyo mwana
- YII/MBE
- Ntegeire nti Okunonereza kuno kwidha kumibwa n'obwegendereza, era tibaidha kutwala ebingema ku nga amaina gange nebindhogera ku.
- YII/MBE
- Ntegeire nti singa eirrobozi lyange ligemebwa mu kunonereza kuno, lidha kusangulwa nga Okunonereza kuweire.
- YII/MBE
- Ntegeire nti anonereza aidha kubita mu bininerezebwa nabasomesa be aba Uganda Christian University, era Okunonereza kuno kwa nsonga yakusoma.
- YII/MBE

Ndikiriza omwana wange okwetaba mu kunonereza kuno, nga tikakiibwa era mpereibwa embaluwa eno yensigaiza ku okweterekera

Ekinkumu kyange Ennaku edho mwezi

WEBALE INHO

Appendix III: Interviewer Administered Questionnaire

Questionnaire for Mothers' / Caregivers'/ Caretakers of Children on OTC Code

Dear respondent,

My name is Nandala Kenneth a Masters student from Uganda Christian University School of Postgraduate studies. I am conducting a study that intends to look at the *“Predictors of adherence to outpatient therapeutic care and its associated factors among children 6-59 months with severe acute malnutrition at Jinja Regional Referral Hospital”*. You have been chosen to participate in the study by only providing some answers to the Interview questionnaire herein. Information provided here below is strictly confidential. You are requested to follow the instructions clearly while answering the questions.

Tick as appropriate

SECTION A: CLIENT FACTORS

A1. Socio-demographics

1. Child's Age (months).....

2. Mother's Age (Years).....

3. Child's Gender

Male ☐

Female ☐

4. Mother's occupation

Formal ☐

Unemployed ☐

Informal (self) ☐

5. Mother's Level of education

None ☐

Primary ☐

Secondary ☐

Tertiary ☐

5. Marital status

Single ☐

Married ☐

Widowed ☐

Cohabiting ☐

6. Religion

Catholic ☐

Muslim ☐

SDA ☐

Anglican ☐

Pentecostal ☐

7. Total number of persons living in the Household

8 a). Relationship of respondent to the child

Non Biological ☐

Biological ☐

A.2 Awareness/ Knowledge

9. Before your child got this sickness, did you ever know about malnutrition?

Yes ☐

No ☐

What do you think could have brought this to your child or caused this sickness?

Poor Feeding ☐ Poor Child Health ☐

Witchcraft ☐ Lack of appetite ☐

Did you ever know anything about availability of malnutrition treatment before your child got malnourished?

Yes ☐

No ☐

What do you think are some of the Consequences of not adhering to the therapeutic care (treatment)?

Stunting ☐ More time spent at healthfacility ☐

Child Death ☐ Weight Loss ☐

A.3 Health status

13 a). How was the child at the time of starting therapeutic care (treatment)? (Severity of SAM)

Totally dependent, in a wheel chair ☐

Partially dependent ☐

Independent ☐

b). How has this sickness affected this child?

Feeling Weak ☐ Depression ☐

Repeated Illness ☐ Weight Loss ☐

c). What couldn't the child do before you came here for treatment?

Eat Properly ☐

Lost Appetite ☐

Walk Properly ☐

14. How long has the child been with this condition (SAM)? (Duration of SAM)

Less than 6 month ☐

More than 6 months ☐

15. For how long has the child been on this treatment? (Duration of therapeutic care)

Less than 1 month ☐

More than 1 month ☐

16 a). Is the child having any other physical problem that stops the child from receiving the therapeutic care/ treatment? (SAM based symptoms)

Yes ☐

No ☐

b). If yes, what is that problem?

Weak to feed ☐

Loss of appetite ☐

Mental disorder ☐

17. Did the child have any other chronic diseases/ illnesses? (Comorbidities)

Yes ☐

2. No ☐

SECTION B: SERVICE-RELATED FACTORS

B 1. Attitude

18 a). Do you like the treatment your child is receiving from the hospital? (Attitude)

Yes ☐

No ☐

b). How do you feel about this treatment (nutrition therapy) your child is getting from the hospital?

Happy ☐

Unhappy ☐

d). How do you feel about the doctors/ therapists treating your child?

Satisfied ☐

Not Satisfied ☐

19. Has the child benefited from the Outpatient therapeutic care (treatment) that was given from the facility?

Yes ☐

No ☐

B. 2 Availability of supplements

20. Do you have easy access to the facility to receive refills of supplements?

Yes ☐

No ☐

21. Do you sometimes share supplements of the child on treatment with other children?

Yes ☐

No ☐

22 a). Is there any time you went the hospital for refill of supplements and you were not given?

Yes ☐

No ☐

b). If your answer is yes, state reasons for your answer

Out of stock ☐

Overwhelming turn up ☐

Delayed Delivery ☐

B. 3 Follow up

23. Is your child growth routinely monitored/ measured?

Yes ☐

No ☐

24. If your answer is yes, how often is it done?

Less than one mo ☐

1-3 months ☐

More than 3 months ☐

Where is the growth monitoring always done?

Outreach worker/ volunteers ☐

At the hospital ☐

B. 4 Program design

26. How was your child identified to start on the treatment?

Self-reported ☐

During Screening ☐

27. Do you always directly observe the child every time of taking the therapy?

Yes ☐

No ☐

28 a). Since the child started on treatment, have your community members ever been mobilized and sensitized?

Yes ☐

No ☐

b) If your answer is yes, what were they sensitized on?

Signs and symptoms of malnutrition ☐ Management of SAM ☐

Prevention of malnutrition ☐ Water, Sanitation and Hygiene ☐

SECTION C: ADHERENCE CHARACTERISTICS

29. This question concerns your appointment schedules for therapeutic care program. You are required to give answer for the most appropriate section, either very rarely, Rarely, Sometimes, Often or Always.

Outpatient therapeutic Schedules	Frequencies of responses				
Questions/ Claim	Always (1)	Often (2)	Someti mes (3)	Rarely (4)	Very rarely (5)
Do you personally change your schedules for child treatment sessions?					
Do you forget to take the child for treatment sessions on appointed date?					
Sometimes if the child feels uncomfortable do you stop giving treatment sessions?					
Do you skip some treatment sessions?					
Do you do less-sessions than your therapist prescribes for the child per week?					

Appendix IV: Key informant interview guide for parents and care takers

Predictors of adherence to outpatient therapeutic care and its associated factors among children 6-59 months with severe acute malnutrition at Jinja Regional Referral Hospital.

Date of interview: _____

Venue: _____

Name of health facility: _____

Designation of the participant: _____

Interviewer's name: _____

Time started: _____

Time: _____

Key informant interview participant identifier: _____

WORK-RELATED CHARACTERISTICS

Number of years served at this health facility:

< 1 year 1

2-4 years 2

5+ years 3

Number of years served in the TB clinic

< 1 year 1

2-4 years 2

5+ years 3

Interview Questions

- i. Tell me about the services that you offer to children aged 6-59 months of age who present with severe acute malnutrition in this health facilities. How are these services organized?
Probe for: Any existence of the treatment guidelines for severe acute malnutrition.
- ii. What are the patterns of the occurrences of severe acute malnutrition among children aged 6-59 months in this health facility? How often do you get referrals from the lower level health facility? In your opinion, do you think that all children with severe acute malnutrition are brought to the health facility for medical care? Why do you think so?
- iii. How do you diagnose Severe Acute Malnutrition in children aged 6-59 months in this facility? How do you manage the children aged 6-59 months who present with Severe Acute malnutrition in this facility?
- iv. What indicators do you use to ascertain that indeed the OTC program has produced or failed to produce some results? How long do you keep a child in the OTC program? How do you get your feedbacks from the program and the channels of incorporating them into the mainstream program? How is the decision making process structured in this program? Do you experience cases of relapse and how do you handle such?
- v. What challenges do you face when managing severe acute malnutrition among children aged 6-59 months in this health facility? **Probe for:** challenges emanating from the system;

patient/client-related challenges, and community-related challenges. Have the challenges faced been addressed conclusively, if not, why? Who are the stakeholders in this program and what is their level of participation in this program? vii.

- vi. Do you train the care takers on the appropriate hygiene practices? What is your opinion on the completeness and effectiveness of the training manual you use in this program? Are care takers taught on the appropriate food preparation methods for their children? Do you teach the care takers on the health danger signs to look out for while taking care of children back at home? Do you take into consideration the education levels of the care takers and how do you handle those with different levels of education?
- vii. Thank for your corporation

Appendix V: Observation checklist

Observation of outpatient therapeutic care programme

Type of respondents

- (a) Caregiver attending to a child.....
- (b) Nutritional unit staff.....
- (c) Paediatrics Critical care Nurse
- (d) Outpatient Therapeutic Care Service Related Factors

1) Attitude of caregivers

.....
.....
.....

2) Availability of food supplements

.....
.....
.....

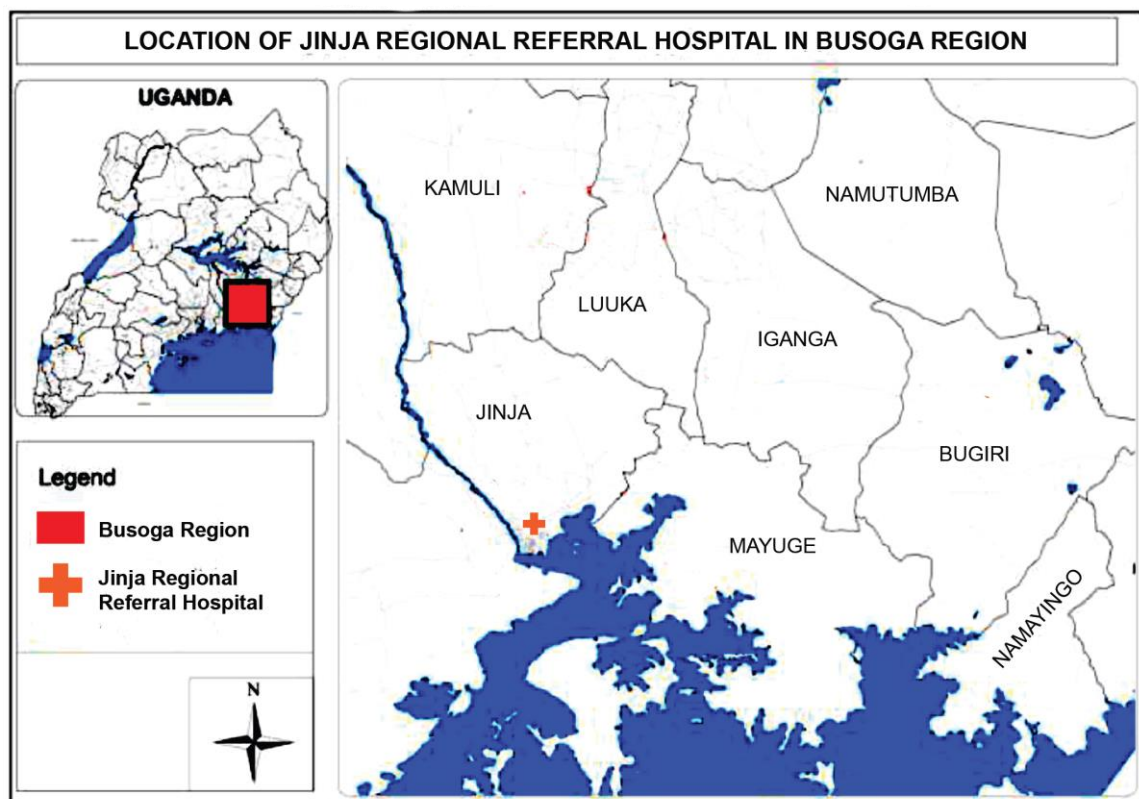
3) Follow ups observed

.....
.....
.....

4) OTC programme implementation

.....
.....
.....

Appendix VI: A map of Busoga Sub region showing Jinja Regional Referral Hospital



Appendix VII: Research approval letter



**UGANDA CHRISTIAN
UNIVERSITY**
A Centre of Excellence in the Heart of Africa

06/01/2022

To: Kenneth Nandala

Uganda Christian University
0774145047

Type: Initial Review

Re: UCUREC-2021-165: ADHERENCE TO OUTPATIENT THERAPEUTIC CARE AMONG CHILDREN 6-59 MONTHS WITH SEVERE ACUTE MALNUTRITION AT SELECTED NUTRITIONAL UNITS IN BUSOGA SUB REGION, 002, 2021-11-18

I am pleased to inform you that the Uganda Christian University REC, through expedited review held on **23/12/2021** approved the above referenced study.
Approval of the research is for the period of **06/01/2022** to **06/01/2023**.

As Principal Investigator of the research, you are responsible for fulfilling the following requirements of approval:

1. All co-investigators must be kept informed of the status of the research.
2. Changes, amendments, and addenda to the protocol or the consent form must be submitted to the REC for re-review and approval **prior** to the activation of the changes.
3. Reports of unanticipated problems involving risks to participants or any new information which could change the risk benefit: ratio must be submitted to the REC.
4. Only approved consent forms are to be used in the enrollment of participants. All consent forms signed by participants and/or witnesses should be retained on file. The REC may conduct audits of all study records, and consent documentation may be part of such audits.
5. Continuing review application must be submitted to the REC **eight weeks** prior to the expiration date of **06/01/2023** in order to continue the study beyond the approved period. Failure to submit a continuing review application in a timely fashion may result in suspension or termination of the study.
6. The REC application number assigned to the research should be cited in any correspondence with the REC of record.
7. You are required to register the research protocol with the Uganda National Council for Science and Technology (UNCST) for final clearance to undertake the study in Uganda.

The following is the list of all documents approved in this application by Uganda Christian University REC:

No.	Document Title	Language	Version Number	Version Date
1	Protocol	English	002	2021-11-18
2	Data collection tools	English	004	2021-11-17
3	Informed Consent forms	English	003	2021-11-17
4	Data collection tools	ENGLISH	001	2021-11-17

Yours Sincerely



Peter Waiswa

For: Uganda Christian University REC

Appendix VIII: Introductory letter to the study site



**UGANDA CHRISTIAN
UNIVERSITY**

A Centre of Excellence in the Heart of Africa

12th December, 2022

The Hospital Director,
Jinja Regional Referral Hospital,
P. O. Box 43,
Jinja Rotary Road, Jinja.

Dear Sir/Madam,

RE: INTRODUCTORY LETTER FOR NANDALA KENNETH.

Warm greetings from Uganda Christian University!

This serves to introduce the above named; Nandala Kenneth, as a Uganda Christian University student.

Kenneth is conducting a research as a requirement for the award of the above mentioned degree entitled; **Adherence to Outpatient Therapeutic Care among Children 6-59 months with Severe Acute Malnutrition at selected Nutritional units in Busoga Sub Region.**

He has fulfilled all clearance requirements such as getting Research Ethics Approval from UCU-REC which is accredited and regulated by Uganda National Council for Science and Technology (UNCST).

Any assistance given to him in achieving this goal will be highly welcome.
Thank you so much.

Yours faithfully,

Dr. Joseph Owor Jakisa
Head, Postgraduate Studies,
jowor@ucu.ac.ug



cc. Executive Secretary, Uganda National Council Science & Technology
cc. Chairperson, UCU-Research Ethics Committee

A Centre of Excellence in the Heart of Africa

P.O. Box 4, Mukono, Uganda (East Africa), Plot 67-173, Bishop Tucker Road, Mukono Hill, Tel: +256 (0) 31 235 0800, www.ucu.ac.ug
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Appendix IX: Data collection approval letter



MINISTRY OF HEALTH
JINJA REGIONAL HOSPITAL
JINJA HOSPITAL RESEARCH AND ETHICS COMMITTEE (JREC)

14th December, 2022

Our Ref: JREC 281/2022

To
Nandala Kenneth
Investigator

Dear Sir,

RE: APPROVAL TO DO DATA COLLECTION AT JINJA REGIONAL HOSPITAL

I am glad to let you know that I have reviewed your study titled **“adherence to outpatient therapeutic care among children 6-59 months with severe acute malnutrition at selected nutritional units in Busoga region”**

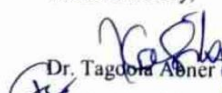
I have found your study to be meeting the minimum technical and ethical standards for doing research at Jinja Regional Referral hospital.

I hereby grant you approval to do data collection. Please note that all research undertakings should comply with guidelines for protection of human subjects in research.

This approval is granted under registration number **JREC 281/2022** and should never be used for any other research process in the hospital apart from this study.

During the study period, keep in touch with the chairperson Jinja Hospital Research and Ethics Committee Dr. Tagoola Abner 0772408100. For any inquiries, email the secretary JREC on kasib4god@gmail.com. As a **MUST**, share a copy of the report or publication link to kasib4god@gmail.com

Yours Sincerely,


Dr. Tagoola Abner
Chairperson JREC
cc: file

