FACULTY OF HEALTH SCIENCES

DEPARTMENT OF COMMUNITY& PUBLIC HEALTH

FINAL YEAR PROJECT REPORT

PREVALENCE OF AND FACTORS ASSOCIATED WITH COMBINED USE OF HERBAL AND CONVENTIONAL MEDICINE BY CARETAKERS OF CHILDREN WITH SICKLE CELL DISEASE IN JINJA REGIONAL REFERRAL HOSPITAL: A CROSS-SECTIONAL STUDY

BY:

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A RESEARCH REPORT SUBMITTED TO THE FACULTY OF HEALTH SCIENCES IN PARTIAL FULFILMENT FOR THE REQUIREMENTS OF THE AWARD OF THE DEGREE OF MASTERS OF PUBLIC HEALTH OF BUSITEMA UNIVERSITY

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ABSTRACT

Background: Concurrent use of Herbal (HM) and Conventional Medicine (CM) poses a huge risk of drug-herbal interactions that can result in therapeutic failure or toxicity. However, little is known about the prevalence of combined use of HM and CM and the associated factors by caretakers of children with sickle cell disease (SCD). This study aimed to determine the prevalence of and factors associated with the combined use of HM and CM by caretakers of children with SCD attending the Sickle Cell Clinic (SCC) at Jinja Regional Referral Hospital (JRRH), East-Central Uganda.

Methods: A mixed-method, explanatory design was used. Data were collected between January and March 2022. Quantitatively, a sample size of 394 caretakers of children with SCD aged 1-18 years was targeted. Structured questionnaires were used to collect data on socio-demographic characteristics, caretakers' take on SCD treatment, perceptions of and intentions of the caretakers to use HM, CM, or both, and community and health-related factors. The primary outcome was the combined use of HM and CM. Quantitative data analysis was performed using Stata version 15. A logistic regression model was fitted to determine the factors associated with the use of combined therapy and all factors with a p-value less than 0.05 were considered significantly associated with the primary outcome. After completion of the structured interviews, qualitative data were collected from 26 purposively selected caretakers who reported use of both HM and CM and had participated in the quantitative interviews. Four focus group discussions (FGDs) were conducted to collect data on caretakers' take on treatment outcomes; cultural, family, friends or relatives' influence, and caretakers' considerations when choosing both remedies. Qualitative data were analyzed following a thematic framework approach, using NVIVO software.

Results: A total of 372 (94.4% of the sample) caretakers were interviewed; 341 (91.7%) of whom were females. Respondents' average age was 34.3 (SD: ±9.8) years. More than half (55.1%, n=205) of the caretakers were aged 18-34 years while 40.9% (n=152) had primary education. Fifty-eight percent (n=217) of the caretakers reported use of only CM, 37.1%, (n=138) used combined therapy while 4.6% (n=17) reported use of HM only. In the multivariate analysis, caretakers aged 60+ years (adjusted odds ratio [AOR] = 11.8; 95% Confidence Interval [95%CI]: 1.2, 115.2), those with lower secondary education (AOR=6.2; 95% CI: 1.5, 26.0), those who believed that HM is beneficial (AOR=3.3; 95% CI: 1.5, 7.6) and those who believed that the use of both CM and HM is safe (AOR=7.7; 95% CI: 3.5, 17.0) were significantly more likely to use combined therapy than their counterparts. Caretakers who intended to use only CM (AOR=0.1; 95% CI: 0.1, 0.3) were significantly less likely to use combined HM and CM. From the qualitative findings, lack of trust in the use of either CM alone or HM alone and recommendations from relatives and friends were the main factors that influenced the use of combined therapy.

Conclusion: Slightly more than half of the caretakers used CM only while more than a third used both. Caretakers' age and level of education, compliance with recommendations from significant others, and lack of trust in either therapy alone were significantly associated with the use of combined therapy. We recommend that further research be done targeting the understanding of the use of combined medicines.

DECLARATION

I, Apolot Consiliate, certify that this study is my original work and it has never been published or submitted to any university or institution of higher learning for any academic award.

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APPROVAL

This dissertation has been with our approval as the academic supervisor(s)

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DEDICATION

This research is dedicated to Jehovah Jireh, the Alpha, and Omega, for without Him, I would not have started this journey.

To you, I give all the Glory and the Honor.

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ACRONYMS AND ABBREVIATIONS

ADR: Adverse Drug Reaction

CAM: Complementary and Alternative Medicines

CM: Conventional Medicine

HM: Herbal Medicine

HU: Hydroxyurea

MOH: Ministry of Health

PHC: Primary Health Care

SCD: Sickle Cell Disease

SSA: Sub Saharan Africa

TPB: Theory of Planned Behaviour

WHO: World Health Organization

OPERATIONAL DEFINITIONS

Key Concepts	Definitions
Conventional Medicine	These are medicines formulated using known formulas and quantifications, produced under approval by Food and Drug Administration (FDA). In this study, I referred to conventional medicines as approved medicines that caretakers received from the sickle cell clinic of JRRH and administered to their children with sickle cell disease following the physician's prescription such as folic acid, and penicillins, and those provided during hospital admissions like blood transfusions, and other intravenous treatments. In addition, any other approved medicines that a caretaker bought from over – the counter in pharmacies or drug stores for disease management were also considered conventional.
Herbal Medicine	Herbal medicines in this study were referred to as medications prepared from one or more herbs or plant parts (roots, stem bark, seeds, and/or fruits and those medicines bought from the herbalists that caretakers of children with SCD may use to treat a child with sickle cell disease. Unlike prescription or over-the-counter drugs that may contain purified ingredients from plants, herbal medicines contain entire plants or plant parts, and the

	medication is usually not measured in any known units and the amount administered at any one given time largely depends on the caregiver's perception of the severity of disease or herbal drug efficacy.
Combined use/ Therapy	In this study, combined therapy/use referred to the use of both HM and CM concurrently by the caretaker to treat a child with sickle cell disease.
Child	In this study, a child was referred to as one who is between 1-10 years, diagnosed with Sickle Cell Disease (SCD) attending the sickle cell clinic of JRRH and under the care of an adult (caretaker).
Caretaker	A caretaker was referred to as someone who offered emotional, psychological, and physical support to the child with SCD, attending the Sickle Cell Clinic at JRRH.
Significant other	These referred to the people that caretakers believed are important to them, hence their say in the treatment choices also regarded important. This include friends, family, health professionals, neighbors.

CHAPTER ONE: INTRODUCTION

1.1 Background

Globally, it is estimated that about 300,000 to 400,000 babies are born annually with Sickle Cell Disease (SCD), with 90% of the cases occurring in sub-Saharan Africa (McGann, 2016). The prevalence of SCD ranges between 1% and 2% in North Africa to less than 1% in Southern Africa and in countries such as Cameroon, the Republic of Congo, Gabon, Ghana, Nigeria, and Uganda the prevalence of the SCD trait is between 20% and 30%. A survey done on SCD in Uganda revealed that the prevalence of SCD trait in Uganda is estimated to be 13.3%, and the disease at 0.7% (Ndeezi et al, 2016), across various regions. Another study further revealed that of the 900,000 thousand children born annually in Uganda (UDHS, 2006), approximately 2.8% have sickle cell disease (Serjeant & Ndugwa, 2003).

SCD disease management involves palliative care, comprising preventive, symptomatic, and supportive approaches (Sinha et al., 2019). Preventive therapy most commonly consists of hydroxyurea, routine vaccinations, blood transfusions, prophylactic antibiotics, and antimalarials coupled with iron supplements and pain management which are the mainstay treatments as the disease persists (Johnso et al., 2015) throughout life.

In recent decades, however, there has been a global surge in popularity of the use of Complementary and Alternative Modalities/Medicines (CAM) for disease management in both developing and developed countries with over 80% accounting for those in Sub-Saharan Africa (Sinha et al., 2019). Herbal medicines (HM) account for more than half of the various alternative medicines used in Africa (Mahomoodally, 2013; Ndeezi et al., 2016; Oshikoya et al., 2013; WHO, 2013). HM may be used alone as a substitute or concurrently with Conventional Medicine (CM).

The use of HM has been widely reported in the Caribbean, Trinidad, Uganda, South Africa, and Nigeria with a prevalence of 20-80% in both young and old patients with chronic health conditions such as SCD, diabetes, asthma, epilepsy, hypertension, HIV infection and cancer (Kamatenesi-Mugisha & Oryem-Origa, 2005; Langlois-Klassen et al., 2007; Nsibirwa et al.,

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