FACTORS DETERMINING COMPLEMENTARY FEEDING PRACTICES OF INFANTS 6-11 MONTHS BORN OF ADOLESCENT MOTHERS IN MOROTO DISTRICT, UGANDA: A CROSS-SECTIONAL STUDY

BY

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A DISSERTATION SUBMITTED TO BUSITEMA UNIVERSITY FACULTY OF HEALTH SCIENCES DEPARTMENT OF PUBLIC HEALTH IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF A MASTERS DEGREE OF PUBLIC HEALTH

JANUARY 2021

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Declaration

I, hereby declare that this research dissertation, is my original work, except where due acknowledgement has been made and it has never been submitted to this university or to any other institution for partial fulfillment for any award.

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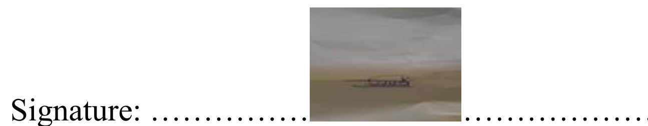
Signature: ……………………………

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Dedication

This research dissertation is dedicated to my late Dad Fabian Opado, and the people who have always believed in me and helped me to achieve my potential: My wife Jane Akello, Children Daniella, Daniel, Emmanuel, Ian, Mum Kevin and my siblings. Thank you so much for being part of my life.

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Acknowledgment

My utmost thanks to the almighty God for my life and the good health he has given me. I am very grateful to the Moroto district biostatician and the entire Moroto district health staff for granting me this research opportunity. The same goes to regional hospital and the eight lower health facilities, Moroto who hosted me while collecting data in the field.

I am obliged to my academic supervisors: Dr. George Wilson Khaukha for his guidance and commitment during the period of dissertation development; Thank you for bringing me to the understanding, when I did not understand much of these concepts. I particularly thank you for keeping your office open when I had issues that needed your support. Your objective criticisms, advice and patience did so much help to me during this study.

Dr. Stephen Waiswa for his guidance and valuable input during the period of dissertation development; Your attention and professional advice in the entire study process and for going extra miles whenever contacted.

Ms. Athieno Justine for her guidance and support at times when I felt that I could not handle the academic load. All the friendly and professional advices offered and also for creating time whenever called upon.

I am forever grateful to my family (Jane and children) for the moral support provided and endurance during the tough academic moments, my mother Kevin Amongin for the encouragement and her desire to see me reach great heights, my siblings Robert and Angela for moral support and for always believing in my abilities.

Special thanks go to my colleagues for always being helpful with issues that I had little knowledge.

To God almighty, I give you glory and honor because you have always lifted me in your arms during the hardest moments of my life.

List of acronyms

ANC	Antenatal Clinic
AOR	Adjusted Odds Ratio
B/F	Breastfeeding
BMI	Body Mass Index
BUFHS	Busitema University Faculty of Health Sciences
BFHI	Baby Friendly Health Initiative
CF	Complementary Feeding
COR	Crude Odds Ratio
CI	Confidence Interval
CWC	Child welfare clinic
DRH	Division of Reproductive Health
EBF	Exclusive Breastfeeding
HA	Height for Age
HIV	Human Immunodeficiency Virus
IBFAN	International Baby Food Action Network
IUGR	Intrauterine Growth Restriction
IYCF	Infant and Young Child Feeding
LBW	Low Birth Weight
MDD	Minimum Dietary Diversity
MMF	Minimum Meal Frequency
MOH	Ministry of Health
MRRH	Moroto Regional Referral Hospital
MUAC	Mid Upper Arm Circumference
OR	Odds Ratio
PLBW	Preterm low Birth Weight
SAAH	Smart Action Against Hunger
SSA	Sub-Saharan Africa
SDG	Sustainable Development Goal
UDHS	Uganda Demographic Health Survey
UNAP	Uganda Nutrition Action Plan
UNICEF	United Nations children's fund
UTI	Urinary Tract Infection

WA	Weight for Age
WFP	World food program
WH	Weight for Height
WHO	World Health Organization
FSNA	Food Situation Nutrition Assessment

Operation definitions

Feeding practices refers how and what is to be done while feeding the infant.

Undernutrition refers to nutritional deficiencies includes wasting (low weight for height), stunting (low height for age) and underweight (low weight for age), illness and insufficient intake and or inadequate absorption of energy, protein or micro nutrients to meet a person's needs required by body for maintenance and growth.

The eight food groups are (i) breast milk; (ii) greens, roots and tubers; (UNICEF, WHO, FANTA-III, & USAID.) beans, seeds and nuts; (iv) dairy products (milk, yogurt, cheese); (v) flesh foods (meat, fish, poultry and liver/organ meats); (vi) eggs; (vii) vitamin-A rich fruits and vegetables (carrots, mangoes, dark green leafy vegetables, pumpkin, orange, fleshed sweet potatoes); (viii) other fruits and vegetables.

Introduction of solid, semi-solid and soft foods: a proportion of infants 6-9 months of age who receive solid, semi-solid and soft foods.

Infant is a baby from birth to 12 months of age

The minimum meal frequency a proportion of infants 6-12 months who consumed solid, semi-solid or soft foods at least the recommended number of times in the last 24 hours of the study.

A minimum acceptable diet is the proportion of infants 6-11 months of age who received a minimum acceptable diet (apart from breast milk).

Minimum Dietary Diversity is a diverse diets includes meals consisting of foods from variety of food groups in each day including breast milk. It's a measure of the number of foods or food groups consumed in a given time period

Breast milk Substitute is any food being marked or otherwise represented as a partial or total replacement for breast milk, whether or not suitable for that purpose.

Complementary feeding is feeding of a child from 6 months of age using age appropriate, adequate and safe solid, semi-solid or liquid food in addition to breast milk or a breast milk substitute.

Bottle-feeding is feeding on a bottle, whatever its contents, whether expressed breast milk, water, infant formula or another food or liquid.

Complementary food is any food (liquids, semisolids and solid) whether manufactured or locally prepared other than human milk or infant formula provided to an infant to provide nutrients and energy.

Exclusive breastfeeding is feeding a child through only breastfeeding, giving no other liquids or solids, not even water, with exception of prescribed Oral Rehydration Salt, drops or syrups consisting of vitamins and mineral supplements or medicines and breast milk.

An adolescent is a young person from 10 years to 19 years of age.

Adolescence typically describes the period between 10 years and 19 years of age and can be considered the transitional stage from childhood to adulthood.

Chronic malnutrition is a form of protein-energy malnutrition caused by inadequate nutrition over a long period leading to the failure of linear growth (stunting or shortness).

Acute malnutrition is a form of protein-energy malnutrition that caused acute inadequate nutrition leading to rapid weight loss or failure to gain weight normally (wasting or thinness).

Underweight is proportion of children less than 5 years of age with weight for age < -2 z-scores of the median WHO child growth standards.

Stunting is a form of undernutrition, also known as chronic undernutrition or repeated episodes of under nutrition is defined by a height for age (HAZ) z-scores below two SDS of the median WHO standards.

Overweight is proportion of children less than 5 years of age with weight for length or height > +2 z-scores of the median WHO child growth standards.

Karamojong is derived from the phase " ekar ngimojong", meaning "the old men can walk no farther" is Nilotic ethnic group involved in agro-pastoral herders living mainly in the north east of Uganda.

Abstract

Introduction: The world health organization recommends complementary feeding which is a process of introducing a breastfeeding infant to additional sources of nutrition, which could be other foods and liquids rather than only breast milk. Usually, this is initiated from the age of six months (UNICEF., 2011) as this will meet the evolving energy needs of the growing infant. Little evidence exists on factors determining complementary feeding practices in pastoralist community in sub-Saharan Africa. The aim of this study was to determine complementary feeding factors of infants aged 6-11 months born of adolescent mothers in Moroto district.

Methods: A multifacility-based cross-sectional study among 177 adolescent mothers with 6-11 months old infants was conducted from 1st -31st July 2020 in Moroto district. We employed purposive and stratified random sampling for selecting health facilities and systematic sampling in selecting participants. Interviewer-administered questionnaires were used for collecting the data. Univariate, cross tabulation, bivariate and multivariate analyses were employed using STATA 14.2 as data was presented in tabular form.

Results: The mean age of adolescent mothers was 18.7 years and that of the infants was 7.8 months. A high proportion (88%) of infants were introduced on solid, semi-solid and/or soft foods from 6 months, 98% with continued breastfeeding. The minimum dietary diversity reached a proportion of 28% of infants and 58% ate less than 3 meals in a day during the 24 hours prior to interview. Adolescent mothers from rural settings (AOR=0.22; 95% CI: 0.06-0.81, p<0.05), grandmothers and adolescent mothers influence on decision of choice of food (AOR=0.29; 95% CI: 0.10-0.76, p<0.05 and AOR=0.25; 95% CI: 0.09-0.64, p<0.01 respectively) were less likely to attain minimum dietary diversity (MDD) whereas mothers with primary level of education (AOR=2.5; 95% CI: 1.05-5.84, p<0.05) were more likely to attain MDD. Young mothers (15-19) were less likely to achieve minimum meal frequency (MMF) (AOR=0.13; 95% CI: 0.04-0.40, p<0.001) and mothers who took farming as an occupation were 7 times more likely to achieve MMF (AOR=7.0; 95% CI: 2.35-20.61, p<0.001).

Conclusion: This study shows that the proportion of infants with recommended minimum dietary diversity was still very low. Furthermore, maternal social demographic factors of residence, age, occupation, education level and influence on food choice were the factors that were more likely determining complementary feeding practices.

CHAPTER ONE: INTRODUCTION

1.1 Background

Complementary feeding is defined as the process starting when breast milk alone is no longer sufficient to meet infants' nutritional requirements, resulting in the need for other foods and liquids along with breast milk(K. G. Dewey et al., 2021). It includes timely introduction of complementary feeding, diet diversity and meal frequency(Saadeh, 2003).

Adequate breastfeeding and optimal complementary feeding promote health, support growth and enhance the development of infants(WHO. & UNICEF., 2003). Conversely, suboptimal complementary feeding practices can negatively impact the growth of infants and young children and contribute to health-related problems such as delayed motor and cognitive development, nutrient deficiencies or undernutrition(Bhutta et al., 2013). Poor feeding practices are characterized by poor timing of complementary foods introduction (too early or too late); infrequent feeding; and poor feeding methods, hygiene, and child-care practices (WHO. & UNICEF., 2003). Added to these is the poor dietary quality of the foods served, characterized as too little variety; inappropriate consistency (food is too thin or too thick); too few essential vitamins and minerals, especially vitamin A, iron, zinc, and calcium; too few essential fatty acids; and too few calories among non-breastfed infants(K. G. Dewey & Adu-Afarwuah, 2008). The poor quality and lack of diversity in foods adversely affects the children's growth and nutritional status(Onyango, Borghi, de Onis, del Carmen Casanovas, & Garza, 2014).

Following the World Health Organization (WHO, UNICEF) recommendations, timely introduction means that complementary feeding should be introduced from 6 months of age. Complementary feeding is needed from that age because breast milk or infant formula alone are not enough to cover the infant's energy needs or provide sufficient amounts of certain nutrients such as protein, zinc, iron and fat-soluble vitamins(K. G. Dewey et al., 2021) and adequate quantities given in proper balances and five times every 24 hrs. Infants are born with a store of iron in their liver that is sufficient for the first 6 months of life but after that the amount of iron in breast milk will not satisfy infants' nutritional requirements for iron(Maguire, deveber, & Parkin, 2007). In addition to timely introduction, the WHO also emphasizes diet diversity, meaning that a variety of the basic food groups should be included as part of the complementary feeding to ensure a heterogeneous nutrient intake that satisfies all nutrient needs in the growing infant.

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Appendix I: Work Plan