

**YOUNG CHILD FEEDING PRACTICES OF WOMEN IN COMMON MARKET
PLACES IN MOROGORO MUNICIPALITY AND FACTORS INFLUENCING
ADOPTION OF RECOMMENDED PRACTICES**

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**A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE
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ABSTRACT

The purpose of this study was to assess young child feeding practices of women who earn their living by working in common market places in Morogoro Municipality and identify factors influencing adoption of recommended practices of feeding children aged 0-24 months. A sample of 90 such women was selected, either randomly or in some cases by convenience, and interviewed using a structured questionnaire. Descriptive statistics were performed and multiple regression analysis at significance level of $P \leq 0.05$ was used. The data were analyzed using the Statistical Package for Social Sciences (SPSS) software. The findings revealed that only about a half of the interviewed women (51.1%) had practiced exclusive breastfeeding as required (the first six months of a child). On the other hand, common aspects of responsive feeding, which include encouraging child to breastfeed and use of eye-to-eye contacts during feeding were used by almost all the sampled women (for more than 96% each). The study also revealed that almost two thirds of the respondents (62.2%) had good knowledge about exclusive breastfeeding and about forty percent (44.4%) had good knowledge about responsive feeding. Guided by the theory of planned behaviour (TPB), the analysis showed that almost seventy percent of the respondents intended to exclusively breastfeed their babies or apply the various aspects of responsive feeding that were tested. The findings also revealed that women's subjective norms was a significant factor in the adoption of exclusive breastfeeding ($p = 0.043$), whereas women's attitude was significant for adoption of responsive feeding ($p = 0.024$). The subjective norms include influence of the people surrounding these women such as parents and friends or other relatives. Nutrition education programmes should be put in place by government and Development Partners targeting such special vulnerable group, who are very often left out in the normal implemented interventions. Other special initiatives can also include provision of baby care facilities in those market places.

DECLARATION

I, MARY, SADICK MUZE, do hereby declare to the Senate of the Sokoine University of Agriculture that this dissertation is my original work done within the period of registration and that it has neither been submitted nor is being concurrently submitted to any other institution.

Mary, Sadick Muze**(MSc. Candidate)**

Date

The above declaration is confirmed by;

Prof. J. M. Msuya**(Supervisor)**

Date

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However I bear the responsibility for any shortcomings that may be found in the dissertation.

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DEDICATION

I dedicate this work to my beloved family Mr and Mrs Sadick Muze for laying the foundation of my education. I also dedicate this work to my father Mr. Japhet Masele for supporting my education and lastly my friends Macdonald and Ibrahim for their constructive ideas in the development of my work.

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LIST OF ABBREVIATIONS AND SYMBOLS

CVD	Cardiovascular diseases
DIPR	Development Initiatives Poverty Research Ltd
EBF	Exclusive breastfeeding
<i>et al</i>	And others
FAO	Food and Agriculture Organization
NBS	National Bureau of Statistics
NGO	Non-Governmental Organization
NMNAP	National Multi-sectorial Nutritional Action Plan
PCB	Perceived behavioral control
RCH	Reproductive Child Health
RF	Responsive feeding
SDG	Sustainable development Goals
SN	Subjective norms
TDHS	Tanzania Demographic and Health Survey
TPB	Theory of Planned behavior
UNICEF	United Nations Children's Fund
URT	United Republic of Tanzania
WHO	World Health Organization

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background Information

Malnutrition in developing countries usually manifests early in children between 6 months and 2 years of age and can be associated with poor feeding practices and severe or frequent infections (Rodríguez, Cervantes and Ortiz, 2011). About two-thirds of deaths are associated with inappropriate feeding practices, and occur during the first year of life (Gandhi, 2014). Although breast feeding is one of the most effective way to ensure child health and survival, nearly 2 out of 3 infants are not exclusively breastfed for the recommended 6 months worldwide (WHO, 2018). Since 2001 the World Health Organization (WHO) has recommended exclusive breast-feeding for the first six months of life. Exclusive breast-feeding (EBF) refers to the practice of feeding the baby with only breast milk (including expressed breast milk) and allows the baby to receive vitamins, minerals or medicine (WHO, 2014). Water and breast milk substitutes plus other liquids and solid foods are excluded. It is estimated that every day, as many as 4000 infants and young children die worldwide because they are not breastfed properly (Kandeel *et al.*, 2018).

Evidence has shown that approximately 40% of children aged less than six months are not exclusively breastfed and about half of the children are denied breast milk before their second birthdays worldwide (UNICEF, 2015). Recent studies indicate that increases in the rates of non-communicable diseases such as diabetes, obesity, autoimmune disorders and

cardiovascular diseases (CVD) are likely to be associated with low rates of breastfeeding (Nolan *et al.*, 2011).

Responsive feeding refers to a prompt response by the parent or caregiver to provide appropriate and emotionally supportive actions, and the reaction to the response when a child signals hunger or fullness by verbal, motor or facial expression (Almaatani *et al.*, 2017). During the first year, infants and caregivers learn to recognize and interpret both verbal and nonverbal communication signals from one another. This reciprocal process forms a basis for the emotional bonding or attachment between infants and caregivers that is essential to healthy social-emotional functioning (Black and Aboud, 2011). However studies show that mothers practicing responsive feeding have been found to be more likely to undertake exclusive breastfeeding for the first six months or breastfeed more frequently throughout the day, and to have longer planned breastfeeding durations (Chantry *et al.*, 2014).

There are various factors that affect the decision regarding the initiation and duration of exclusive breastfeeding, including responsive feeding. Foreexample socio-demographic factors (education level, monthly household income, and parity), residence, cultural beliefs and employment policies. A study by Handayani *et al.* (2013) have concluded that for working mothers, there are more obstacles and barriers for practicing breastfeeding and responsive feeding practices successfully.

1.2 Problem Statement and Justification of the Study

A study in Morogoro by Safari *et al.* (2013) found that young child feeding practices were largely sub-optimal leading to poor health in a large proportion of the children. The study noted that the majority of the infants were breastfed, but exclusive breastfeeding was rarely practiced at any age, and many of the young babies were introduced to liquids and foods earlier than the recommended age of 6 months. A recent study by (Muhimbula *et al.*, 2019) indicated that infant and young child feeding were inappropriate and undernutrition was high ranging from 30-40% in Morogoro. In many areas in Tanzania there are women who earn their living by working in market places who are known to often combine productive and child care responsibilities (FAO, 2016) whereby younger children do often spend the entire day with the mother at market place. It is within this aspect of child care that problems with feeding practices are likely to arise due to the multiple demands on the business and also taking care of children (Bianchi, 2000; Tillerman, 2012). These women do play big roles in ensuring daily survival of household members through such small businesses (Tillerman, 2012) without considering whether or not a male spouse is present or providing support.

In Africa, business in common open markets is usually time-consuming whereby vendors generally work for six or seven days a week and 10 hours a day (FAO, 2016), not counting time spent buying and preparing the commodities. Women working in such places particularly face great challenges given their double role of economic production as well as reproductive responsibilities, which include caring for young children. In order to reach such women with effective interventions to improve feeding and nutrition of their

infants and young children, it is important to understand how such women cope with the situation.

In trying to help such vulnerable population, community support based interventions have been attempted including group counselling, social mobilization and promotion of exclusive breastfeeding and responsive feeding through mass or social media. However, there are some weaknesses in this approach, especially the fact that it focuses on reaching the community rather than the individuals (i.e. community versus individual level), something that rise questions on whether such an approach is effective enough to reach this group of women in those communities.

In that respect, this study was undertaken to investigate the young child feeding practices of such women, and to explore factors that influence their adoption to recommended feeding practices. The understanding, which is currently lacking, will help in designing appropriate nutrition and health interventions and programs that will improve the nutritional status and health of children belonging to this vulnerable population.

The improvement in nutrition and health status can translate into reduction in mortality rate of children below the age of five years. This is in line with the new National Multi-sectorial Nutritional Action Plan (NMNAP) strategies of July 2016 – June 2021 (URT, 2016) which targets to improve nutrition status within three key result areas (KRAs). These are namely scaling up of Maternal, Infant, Young Child and Adolescent Nutrition (MIYCAN), scaling-up of prevention and management of micronutrient deficiencies as well as scaling up Integrated Management of Acute Malnutrition (IMAM). The NMNAP strategy is focusing on community centered multi-sectorial approach on social behaviour

change communication for nutrition to promote adoption of appropriate feeding practices and behaviour (exclusive breastfeeding and responsive feeding).

The study will also contribute to the attainment of the international agreements or commitments on nutrition improvement especially the Sustainable Development Goals (SDG) number two and three. The second SDG aims to end hunger, achieve food security and improve nutrition while the third SDG aims to ensure healthy life and promote well-being for all at all ages (Battersby, 2017).

This study aimed to address the knowledge gap that exists about young child feeding practices for specifically the vulnerable population groups such as women working in open market places in urban areas. The study focused on those women found in markets within Morogoro Municipality, that the situation is also reflecting other urban market areas of Tanzania as a whole. The study also attempted to identify factors that influence adoption of recommended feeding practices specifically focusing on exclusive breastfeeding and responsive feeding. This research also aimed to highlight the child feeding challenges faced by this unique group of women who earn their living through vending different commodities in open common market places. Policy makers and other stakeholders who are champions of child nutrition will be better informed to come up with policies and intervention programs that favorably and positively support mothers in this category.

1.3 Study Objectives

1.3.1 General objective

The general objective of the current study was to investigate the young child (0 – 2 years) feeding practices of women working in common market places in Morogoro Municipality, and to identify factors that influence their adoption to recommended feeding practices.

1.3.2 Specific objectives

The general objective was attained by undertaking the following four specific objectives:

- i. To determine the extent to which caregivers who are engaged in petty trading in open markets implement recommended young child (0 – 2 years) feeding practices focusing on EBF and responsive feeding.
- ii. To assess knowledge of the target caregivers about recommended infant and young child feeding practices.
- iii. To determine the intention of mothers to practice recommended feeding practices for their young children (0 -2 years).
- iv. To determine association between various components of the Theory of Planned Behaviour (TPB) Model and the intention to practice recommended feeding practices of young children.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Feeding Practices of Young Children (0 – 2 years)

The first 2 years of a child's life are principally important as optimal nutrition during this period lowers the risk of malnutrition and chronic diseases (Plagemann *et al.*, 2012). Worldwide about 2.7 million (45%) child deaths annually are associated with under-nutrition (WHO, 2020) whereby feeding of infant and young child is a key area to advance child survival and promote healthy growth and development. It is approximated that over 820 000 lives of children under the age of 5 years could be saved each year if optimal breastfeeding were in place (WHO, 2020).

The World Health Organization (WHO) recommends early initiation of breastfeeding within 1 hour of birth, exclusive breastfeeding for the first six (6) months of life followed by nutritionally adequate and safe complementary foods (at six months) together with continued breastfeeding up to 2 years of age (WHO, 2020; UNICEF, 2019). However, infants and young children under five years of age do not receive optimal feeding whereby only about 36% of infants aged 0–6 months worldwide were exclusively breastfed between 2007 and 2014 (WHO, 2020; Cai *et al.*, 2012). It has been noted that knowledge of caregivers on nutrition, and especially about the importance of dietary diversity, influences the feeding practices (Fosu-Brefo, 2015).

2.1.1 Exclusive breastfeeding

Exclusive breastfeeding refers to a child receiving only breast milk for the first six months of life with exception of oral rehydration solutions, drops/syrups of vitamins, minerals or medicine whereby not even water is recommended (WHO, 2020). Early initiation of breastfeeding, within 1 hour of birth is recommended, as it protects infants from infections, reduces newborn mortality and promote optimal growth and development (Kramer and Kakuma, 2012). Breast milk provides half or more of energy needs to a child between the ages of 6 and 12 months, and one third to a child between 12 and 24 months (WHO, 2020). Children and adolescents who were exclusively breastfed as babies are less likely to be overweight or obese with better performance on intelligence tests (WHO, 2020; Kramer and Kakuma, 2012). Breastfeeding also promotes good health and well-being of mothers as it reduces the risk of ovarian and breast cancer, and helps space pregnancies due to the hormonal effects that result into lack of menstruation which act as natural birth control (WHO, 2020; Kramer and Kakuma, 2012).

2.1.2 Complementary feeding

Complementary feeding refers to introduction of other foods along with breast milk when breast milk alone is no longer sufficient to meet nutritional needs of a child (Dewey, 2001). It is a transition from exclusive breastfeeding to family foods which covers the period from 6 to 24 months of age. At the age of 6 months, the energy and nutrients need of a child starts to exceed what is provided by breast milk and complementary foods are needed to meet those needs. Also, this is a critical period of growth during which nutrient deficiencies and illness contributes high rates of under-nutrition (WHO, 2020), and

therefore if complementary foods are not introduced and given in appropriately, child growth may falter.

During this period, mothers are required to continue with frequent on demand breastfeeding, introduce small amounts of food and increase gradually as the child gets older. (WHO and UNICEF, 2003) recommends the following feeding frequencies at different age categories, namely, 2–3 meals per day for infants 6–8 months of age and 3–4 meals per day for infants 9–23 months of age, with 1–2 additional snacks while maintaining good food hygiene practices and proper food handling. Vitamin and mineral supplements are also needed, and if a child gets sick fluids intake including breastfeeding and other soft foods and favorite foods must be increased (WHO and UNICEF, 2003).

2.1.3 Responsive feeding

Responsive feeding refers to a prompt response by the parent or caregiver to provide appropriate and emotionally supportive actions, and the reaction to the response when a child signals hunger or fullness by verbal, motor or facial expression (Almaatani *et al.*, 2017). A supportive social environment is a key component to responsive feeding represented by a calm, comfortable feeding setting with minimal distractions, and verbal responses that focus on internal rather than external cues, responsive feeding can be quite challenging if family, culture, social and economic supports undermines the confidence that parents have (Hurley *et al.*, 2011). Mothers who practice responsive feeding have been found to be more likely to undertake exclusive breastfeeding for the first six months or breastfeed more frequently throughout the day, and to have longer planned breastfeeding durations (Chantry *et al.*, 2014).

2.1.4 Predictors of intention to practice exclusive breastfeeding

Exclusive breastfeeding has been recommended by WHO as a best practice and an essential component of infant nourishment (WHO, 2013). For so many years various governments and non-government agencies across the world have been advocating and put more efforts to ensure exclusive breastfeeding is worldwide achieved, however, approximately 1.3 million lives are lost annually because of inadequate exclusive breastfeeding (Behera, 2015). In Tanzania, about 59% of children are exclusively breastfed and the country is still fighting to achieve a reasonable level of optimal infant and child-feeding practices (Dede and Bras, 2020). Different underlying factors have been considered as predictors of exclusive breastfeeding including employment, income level, attendance to prenatal and postnatal clinics, cultural and community beliefs, knowledge, attitude, subjective norm, prenatal stress, anxiety and depression (Behera, 2015; Stewart *et al.*, 2013). Therefore, efforts on improving exclusive breastfeeding among women should target cultural beliefs, socio-economic and family members including partners with emphasis on improvement and strengthening of the ongoing counseling within the health system (Senghore *et al.*, 2018).

2.2 Women Engagement in Vending Businesses and Infant and Young Child Feeding

Women engaged in vending businesses are local entrepreneur women with small capital involving in activities such as trade, food vending, catering and food processing in market places (Marras, 2018). They play key roles in the societies as an important source of labor, savings, capital accumulation as well as caregivers in their families (Tillerman, 2012).

Their incomes in petty trades and street food vending have been providing food security in their households (FAO, 2016). However, these women divide their time between their family and community responsibilities and running business, and therefore they have less time to spend on their family responsibilities, including child care and feeding (Mori, 2014).

According Tarimo (2018), four caring practices are crucial for children nutritional well-being; food preparation and storage, feeding practices, psychosocial care, hygiene and health practices. Considering UNICEF (1998) causes of child malnutrition framework, the two immediate causes; inadequate dietary intake and disease and underlying causes; food insecurity, inadequate maternal and child care practices and poor health environments and services manifest themselves at the household level and in most societies, it is women who are the caregivers for young children and bear the primary responsibility for their health and survival. In total, time constraints, poor social support, unavailability of reliable health services, and some negative cultural and traditional beliefs undermine the ability of the women to give adequate infants and young child feeding (Smith *et al.*, 2003).

2.3 Government and Development Partner's Efforts to Support Poor Women

The proportion of women involved in business in Tanzania has increased from 35% in early 1990s to 54.3% in 2012 (URT and UNIDO, 2012). Overall, 99% of women's businesses can be categorized as micro-enterprises with no or fewer employees, whereby majority of the businesses are operated by the owners, it appears that although many women have great potential for business development, they often lack the necessary

capacities, skills and resources and face more disadvantages due to cultural attitudes (Mori, 2014). The government of Tanzania has put commitment to support women's business through a number of policy formulation as well as specific support programs the support focuses on both growth of their businesses and reproductive and child health (RCH) whereby in business growth the government and its partners has introduced VICOBA village community banking a tailored micro-finance program. It is designed to provide credit to low-income people who need capital to start their own businesses (Mori, 2014). The program brings together groups of 25 to 30 people, mostly women, and allows them to combine their savings to create a community-based bank (Ollotu, 2017). In reproductive and health the government has offered special unit that provide services concerning reproductive and child health. Among the lessons provided by RCH unit is child feeding practices and childcare. This helps a lot of women working in common market places to be aware of infants and young child feeding (Afnan-Holmes *et al.*, 2015).

In other East African countries of Uganda and Kenya, women entrepreneurs have also shown to suffer due to spending much of their working time on domestic activities and childcare (Mugabi, 2014). When comparing these three East African countries, it is no wonder that their experience of malnutrition challenges are similar with stunting rates of 26.8% and 23.7% in Uganda and Kenya, respectively, while in Tanzania it is 34% (DIPR, 2020). In response to that, governments of Uganda and Kenya have taken important initiatives to support the needs of women in their businesses as well as in reproductive and child health (Mugabi, 2014).

2.4 Psycho-social Explanation of How an Individual Makes Decision

In attempts to understand better how individuals make decisions for undertaking certain actions related to their health, researchers have tried to formulate certain theories. One of such theories, which has gained popularity in the recent decade is the Theory of Planned Behavior (TPB). It is now widely used for health promotion by providing a practical theoretical perspective to evaluate factors that influence an individual's decision to engage or not to engage towards a specific behaviour including the feeding practices (Glanz and Bishop, 2010).

This theory links an individual's attitude, perceived behaviour and subjective norms, which together shape an individual's intention to engage (or not to engage) in a specific behavior at a specific place and time. Thus, it is accordingly, hypothesized that the stronger the attitude, subjective norms and perceived behaviour control, the greater the intention and behaviour towards that specific behavior whereas the lower the attitude, subjective norms and perceived behavior control, the less the intention and behavior, and an individual engages less in that specific behaviour (Shapiro *et al.*, 2011). Such behaviour can include recommended feeding practices, which is the subject of the current study.

CHAPTER THREE

3.0 MATERIALS AND METHODS

3.1 Description of the Study Area

This study was conducted in Morogoro Municipality, which is located about 200 km west of the main trading city of Dar es Salaam and about 350 km east of the country's new capital Dodoma. Morogoro Municipality has an area of 531 square km with a population of 315 866 (URT, 2012). Apart from being the main trading centre of the Morogoro Region, Morogoro town is also the administrative headquarter of the region. Like in many other towns in Tanzania, the socio-economic activities undertaken in Morogoro Municipality include petty trading conducted in open common markets consisting of vendors who sell food items (e.g. grains, vegetables and fruits), clothes and other household items, and different merchandise products.

There are about eleven formal markets around Morogoro Municipality; different markets can be distinguished in Morogoro town based on their locations within the town and nature of the market (e.g. weekly markets such as Kikundi and Saba Saba, and formal markets selling vegetables and fruits e.g. Mawenzi and Chamwino markets). Other types include street vending in Morogoro inner town, and banana and/or vegetable hawkers from the Uluguru Mountains. In terms of size, large markets such as Manzese and Mawenzi markets; while small markets include Bigwa and Kilakala market. The town also has many mobile petty traders selling clothes or foods around the market areas, crowded streets and Bus stands (such as the Msamvu Bus Terminal).

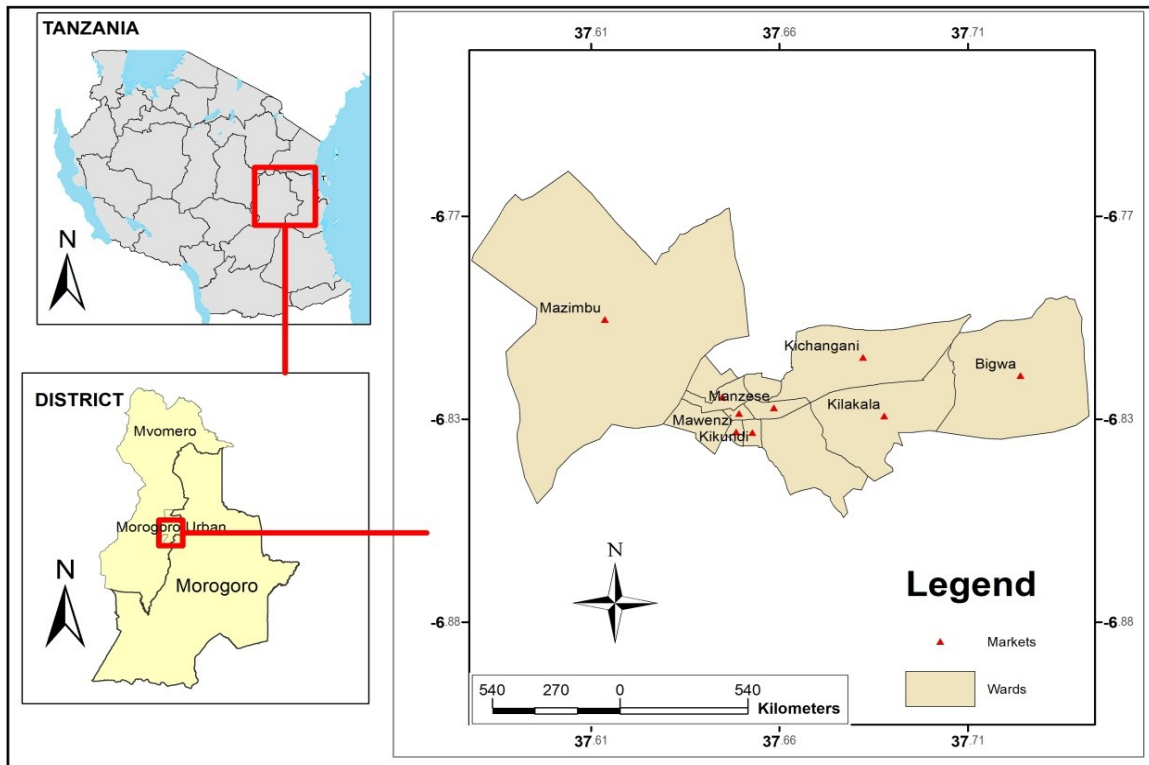


Figure 1: Map showing study area and markets in Morogoro Municipality

Morogoro Municipality was selected for this study because it is reported to experience inappropriate feeding practices whereby considerable proportions of children have been reported to be affected (Safari *et al.*, 2013; Muhimbula *et al.*, 2019). Also, the extent of malnutrition in Morogoro is high with stunting prevalence rate among under five children being more than the national average a of 33.4% (URT, 2016). In addition, Morogoro Municipality has typical urban characteristics in the study population were obtained.

3.2 Study Design

3.2.1 Theory guiding the assessment of factors that influence adoption of recommended feeding practices

This study was guided by the Theory of Planned Behaviour change (TPB). This is a theory that links one's beliefs and behaviour. The theory considers that an individual's behavioural intentions and behaviours (or actions) are shaped together by three main constructs namely, attitude toward behaviour, subjective norms, and perceived behavioural control (Ajzen, 2011) (Appendix 1).

Attitude towards behaviour is defined as a person's evaluation of performing behaviour. The attitude towards behaviour is assumed to be determined by beliefs about the positive or negative consequences of performing certain behaviour (behavioural belief). Each behavioural belief is weighted by the subjective value of the positive or negative consequences (outcome evaluation). Subjective norm is defined as a person's perceived social pressure to perform, or not to perform, the behaviour. Perceived behavioural control belief is defined as a person's perceived ability to perform a specific behaviour. On the other hand, behavioural intention is an indication of how hard a person is willing to try, or how much effort a person is planning to make in order to perform a certain behaviour (Ajzen, 2011).

The study applied this theory or framework to determine the factors that influence the adoption of recommended feeding practices: exclusive breastfeeding and responsive feeding practices of children less than 2 years. According to the TPB, it is hypothesized

that adoption of exclusive breastfeeding (EBF) and responsive feeding (RF) will be influenced by three sets of beliefs (Appendix 1).

- *Attitude towards a feeding practice*: One is more likely to have a positive attitude towards practicing EBF or RF if he/she believes that the behaviour leads to a certain desired outcome and prevents negative outcomes, such as illnesses.
- *Subjective norms*: This is about the participant's reported perceiving social pressure associated with using EBF and RF behaviour coming from, for example, parents, spouses, or grandparents who may influence the feeding behaviour.
- *Perceived behaviour control*: This is the person's ability to perform or practice certain behaviour such as EBF and RF. For example, how easy or difficult is it for the person to practice EF or RF (Appendix 1).
- *Intention*: towards behaviour refers to the plan to either practice or not practice a specific behaviour.
- *TPB theory has a number of limitations including being specific in time to perform a behaviour and considerations in this study was the indication of the specific time to perform a specific behaviour either EBF or RF in this study,*

3.3.2 Study population

The study population included mothers (biological parents) or caregivers (persons responsible for child care) who earn their living by conducting petty businesses in common open market places in Morogoro Municipality together with their children aged below 2 years of age. Only those who were willing to participate in the study were recruited. The study also excluded women who were new in the business, those with children above 2 years of age and only one child per mother was assessed and only one child per caregiver was assessed.

3.3.3 Sample size determination

According to Furahisha (2013) having 80 - 120 respondents are adequate for most socio-economic studies in Sub-Saharan Africa. Therefore, a total of 90 mothers or caregivers with their babies, who met the above mentioned criteria, were recruited in this study.

3.3.4 Sampling technique

The sampling involved a combination of probability (random) sampling and non-probability (purposive and snowball) sampling to obtain the desired sample size of caregivers/mothers. The sampled respondents were obtained from nine purposively selected common markets found in different locations of Morogoro Municipality. These are namely Mawenzi, Manzese, Sabasaba, Kikundi, Chamwino, Kichangani, Bigwa Kilakala, and Mazimbu. These markets were selected given their nature, size and location within the Municipality. For example, Kikundi and Saba Saba markets are weekly markets while Mawenzi and Chamwino markets are popular formal markets for selling vegetables and fruits. In random sampling was employed to select the respondents where several relevant respondents were identified in a particular market, for example in Manzese or Mawenzi markets where potential respondents were many. Otherwise, snowball sampling method was used to obtain the respondents where the potential ones were difficult to identify or reach. In that respect, once a respondent was identified and interviewed, she was requested to lead the researcher to another individual doing similar business in the market, who had the required characteristics.

3.4 Data Collection

Data were collected through interview using structured questionnaire which included, in the first part, socio-demographic variables such as: education level, age, marital status, age of the child, and relationship with the child. The second section involved questions about the extent to which mothers/caregivers practice EBF and RF, and assessed their knowledge about EBF and RF. The third section was deducing the stipulated TPB construct variables as measured using a five-point Likert scale (strongly agree, agree, not sure, disagree and strongly disagree). The TPB construct variables include: (1) Attitudes representing as a person's evaluation of undertaking EBF and RF, (2) Subjective norms reflecting a person's perceived social pressure to undertake (or not to undertake) EBF and RF, and (3) Perceived behavioural control indicating a person's perceived ability to perform EBF and RF. Other TPB variables included the intention towards undertaking EBF and RF and indication of how hard a person is willing to try, or how much effort a person is planning to make in order to perform EBF and RF. The RF indicators were based more on willingness to feed the child directly by being sensitive to its hunger and satiety, encouraging child to breastfeed, having eye-to-eye contacts during feeding, doing experimentation with different food combinations after 6 months, and minimization of distractions during feeding begging from 0 months and exclusive breastfeeding from 0-6 months (Appendix 2).

3.5 Data Analysis

Statistical Product and Service Solutions IBM (SPSS) version 20 was used to analyze the data from the survey. Descriptive statistics were performed for frequency, percentages and means to assess extent to which mothers practice EBF and responsive feeding. Others were for knowledge towards EBF, responsive feeding and intention towards EBF and

responsive feeding practices. Multiple regression analysis was used to determine association between the intention to practice EBF and RF with attitude, subjective norms and perceived behavior control at significance level of $P \leq 0.05$. The regression model used was:

$$Y = \beta_0 + \beta x_1 + \beta x_2 \dots \dots \dots \beta x_q$$

Where:

Y= dependent variable (intention)

x= independent or explanatory variables (i.e attitude, subjective norm, perceived behavioral control)

β = coefficients associated with each explanatory variable x_1, x_2, \dots, x_q

3.6 Ethical Considerations

Permission for conducting the research was obtained from Sokoine University of Agriculture as well as the Morogoro Regional and Municipal Authorities. Verbal informed consent was sought from the study participants before they were enrolled into the study. Research objectives, procedures and confidentiality were well explained and assured to all participants prior to their consent.

CHAPTER FOUR

4.0 RESULTS

This chapter presents the results of the study organized in six sections. Firstly, the characteristics of the sampled respondents are presented followed by the extent at which they practice recommended young child feeding practices. Knowledge about exclusive breast feeding (EBF) and responsive feeding (RF) are then presented followed by results of the analysis of intention towards EBF and RF. The chapter then presents the results of various tests of association for different variables assessed in this study as guided by the TPB model.

4.1 Characteristics of the Sampled Respondents

Six aspects were considered as characteristics of the sampled respondents, namely: caregiver's age, marital status, education level, and relationship with the index child. Others were age of the index child, and whom the caregiver is living with in her household.

4.1.1 Caregiver's age, marital status, education level and relationship with the index child

The results in Table 1 show that 43.3% of the respondents were of the age category of 31-35 years. Very young caregivers (15-20 years) and very old mothers (46 years and above) were quite few (2.2%). Table 1 also shows that 43.3% of the caregivers were married. Few of the respondents were either widows (7.8%) or divorced (6.7%). Results in Table 2 show that 2.2% of the respondents did not attend any formal education or training while 12.2% spent only some few years in primary schools and 35.6% completed primary

school education. On the other hand, 26.6% of the respondents completed secondary school while a few (6.7%) attended only few years in secondary schools. Only about eight percent (7.8%) of the respondents managed to attend tertiary education (university, college or polytechnic). The majority of caregivers (Table 2) who were included in this study (84.4%) were the biological mothers of the children they were caring for. The rest were stepmothers (5.6%), grandmothers (5.6%) or aunts (4.4%) of the children.

Table 1: Distribution of the sampled caregivers according to their age and marital status (n = 90)

Respondent's characteristics	n	%
Age of caregivers (in years)		
15 – 20	2	2.2
21 – 25	16	17.9
26 – 30	31	34.4
31 – 35	39	43.3
>36	2	2.2
Marital status		
Single	14	15.6
Married	39	43.3
Divorce	6	6.7
Widow	7	7.8
Cohabiting	24	26.6

Table 2: Distribution of the sampled caregivers according to their education level and relationship with the index child (n = 90)

Respondent characteristics	n	%
Education level		
Informal education	2	2.2
Not completed primary school	11	12.2
Completed primary school	32	35.6
Not completed secondary education	6	6.7
Completed secondary school	24	26.6
High school (Form six)	8	8.9
Diploma/University	7	7.8
Relationship with the index child		
Biological mother	76	84.4
Stepmother	5	5.6
Grandmother	5	5.6
Aunt	4	4.4

4.1.2 Whom living with and age of the child

Results in Table 3 show that (52.2%) of the sampled caregivers lived with their husbands/spouses while 18.9% lived with their children only. Some caregivers still lived with their parents (10%) while 15.6% lived with both husband/spouse and children, and very few (3.3%) lived with other relatives. The results in Table 4 show that children of 7-

12 months were (33.3%) followed by those of 0-6 months old (25.6%) and 13-18 months (24.4%). The 19-24 months old were only few (16.7%).

Table 3: Distribution of the sampled caregivers according to who they live with in households (n = 90)

Whom do you live with	n	%
Children only	17	18.9
With husband/spouse only	47	52.2
With parents	9	10
With other children and husband	14	15.6
With other relatives	3	3.3

Table 4: Distribution of the sampled children according to their age in months (n = 90)

Age of the child (in months)	n	%
0-6	23	25.6
7-12	30	33.3
13-18	22	24.4
19-24	15	16.7

4.2 Recommended Feeding Practices

Two aspects of recommended feeding practices were considered in the assessment. These included the use of exclusive breastfeeding in the first six months and the use of responsive feeding.

4.2.1 Use of exclusive breastfeeding (EBF)

Above 50% of the interviewed caregivers (51.1%) reported to have practiced exclusive breastfeeding during the first six months of the baby's life and 49% could not (Table 5).

Table 5: Distribution of the sampled caregivers showing their extent of practice exclusive breastfeeding (EBF) (n = 90)

EBF practice	n	%
No	44	48.9
Yes	46	51.1

4.2.2 Responsive feeding (RF)

Five components of the responsive feeding were assessed in establishing the extent to which responsive feeding was used by the sampled caregivers. Results are presented in Table 6. Two aspects (encouraging child to breastfeed and use of eye-to-eye contacts during feeding) were used by almost all the sampled caregivers (for more than 96% each), while experimenting with different food combinations after the child has attained 6 months of age and minimizing distractions during feeding were each reported by about 75%. Feeding a child directly for being sensitive to its hunger and satiety was used by 87.8% of the respondents.

Table 6: Distribution of the sampled caregivers showing their extent of using various aspects of responsive feeding (RF) (n = 90)

Aspect of responsive feeding	n	%
Feeding the child by being sensitive to its hunger and satiety	79	87.8
Encourage child to breastfeed	87	96.7

Eye-to-eye contact during feeding	88	97.8
Experimenting with different food combinations after 6 months	68	75.6
Minimization of destructions during feeding	70	77.8

4.3 Knowledge on Recommended Feeding Practices of Young Children (0-2 years)

4.3.1 Knowledge about exclusive breastfeeding

Knowledge scores, which ranged from 0 to 10, were grouped into three categories (0-5; 6-8 and 9-10) as shown in Table 7. Accordingly, medium knowledge category was less than low knowledge category, which was also less than high knowledge category (i.e. high knowledge category was the best performer followed by low knowledge category, and medium knowledge category was the least). Almost 62.2% of the respondents were in high knowledge category while the other two categories were only few (Table 7).

Table 7: Distribution of sampled respondents showing their knowledge scores about exclusive breastfeeding (EBF) (n = 90)

Scores (points)	Knowledge category	n	%
0-5	Low	18	20
6-8	Medium	16	17.8
9-10	High	56	62.2
Total		90	100

4.3.2 Performance on individual questions of exclusive breastfeeding

Results for performance of each aspect (question) that was included in assessment of exclusive breastfeeding are shown in Table 8. Accordingly, the worst performed aspect (i.e. less known to respondents) was “*recommended time for breast milk after birth*” whereby about 50% were aware. Five aspects were the most known, which were familiar to more than 80% of the respondents. They included

“source of information regarding exclusive breastfeeding”, “first milk that come out after delivering called colostrum”, “the use of first milk or colostrum”, “right time to start giving complementary food” and “whether pre-lacteal is needed for infant before start breast milk”.

Table 8: Respondents with correct answers about exclusive breastfeeding

Breast feeding aspect		n	%
I	Understanding of exclusive breastfeeding	69	76.7
Ii	Health institution as source of information regarding EBF	73	81.1
Iii	Recommended time for breast milk after birth	46	51.1
Iv	First milk come after delivering called colostrum's	78	86.7
V	The use of first milk colostrum's	76	84.4
Vi	Right time to start giving complementary food	79	87.8
Vii	Food recommended for child below 6 months	69	76.7
viii	Pre-lacteal needed for infant before start breast milk	73	81.1
Ix	Is breast milk alone enough for child below 6 months	70	77.8
X	If EBF can prevent diseases to a child	66	73.3

4.3.3 Knowledge about responsive feeding

Scores of knowledge about responsive feeding, which ranged from 0 to 8, were grouped into three knowledge categories (0-4; 5-6 and 7-8) as shown in Table 9. Accordingly, low knowledge category was less than medium knowledge category, which was also less than high knowledge category (i.e. high knowledge category was the best performer followed by medium knowledge category, and low knowledge category was the least). About 44.5% of the respondents were in high knowledge category followed closely by medium knowledge category which was 43.3% while low knowledge category were only few (Table 9).

Table 9: Respondents with correct answers about responsive feeding (RF) (n = 90)

Scores (Points)	Knowledge Category	n	%
0-4	Low	11	12.2
5-6	Medium	39	43.3
7-8	High	40	44.5
Total		90	100

4.3.4 Performance on individual questions of responsive feeding

Results for performance of each aspect (question) that was included in assessment of responsive feeding are shown in Table 10. Accordingly, the worst performed aspect (i.e. less known to respondents) was “*feeding whenever the child feels hungry is the best response to child’s hunger cues*” whereby only about 30% were aware, followed by “*minimizing destructions during feeding helpful promotion*” (51.1%). Two aspects were the most known, which were familiar to more than 90% of the respondents, included “*sensitivity to hunger and satiety cues of the child*” and “*missing signs and cues of the child can contribute to obesity/under nutrition*”. Other aspects are shown in Table 10.

Table 10: Respondents with correct answers for individual questions about responsive feeding (RF)

	Answered question	n	%
I	Understanding about responsive feeding	72	80.0
Ii	Sensitivity to hunger and satiety cues of the child	84	93.3
Iii	How babies are fed is as important as what they are fed	79	87.8
Iv	Missing signs and cues of the child can contribute to		

	obesity/under nutrition	83	92.2
V	Best approach in feeding is to only encourage the child to feed not using force	74	82.2
Vi	Source of information regarding responsive feeding mainly healthy institution	75	83.3
Vii	Feeding whenever the child feels hungry is the best response to child's hunger and cues	28	31.1
viii	Minimizing distractions during feeding should be promoted	46	51.1

4.4 Intention towards Adopting Recommended Feeding Practices and Factors Influencing Them

Results are summarized in Table 11 whereby more than seventy percent of the respondents indicated to either agree or definitely agree to intend to exclusively breastfeed their babies. Similar trends are also shown for the various aspects of responsive feeding that were tested.

Table 11: Percentage distribution of respondents showing their different intentions towards EBF and RF

Test aspect	Definitely do not	I do not	Neutral	I do	Definitely do	Total
-Intention towards EBF	8.9	4.4	13.3	52.2	21.2	100

Responsive feeding:

-Intention to being sensitive to child's hunger and satiety cues	5.6	6.7	6.7	70	11
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in feeding						100
-Intention to encourage child in breastfeeding	2.2	6.7	12.2	61.1	17.8	100
-Intention to keeping eye contact to the child when feeding	3.3	5.6	22.2	51.1	17.8	100
-Intention to experimenting with different food combinations for the child	3.3	4.4	12.2	55.7	24.4	10 0
-Intention to minimize destructions during feeding	1.1	11.1	13.3	46.7	27.8	100

4.4.1 Factors influencing the intention to adopt exclusive breastfeeding practices

Multiple regression analysis, as described in Chapter 3, was used to determine association between the intention to practice EBF and RF with attitude, subjective norms (SN) and perceived behavior control (PCB), as depicted by the Theory of Planned Behaviour change (TPB). The regression model used was $Y = \beta_0 + \beta_{x_1} + \beta_{x_2} \dots \beta_{x_q}$, where Y is the dependent variable (intention) and X's are the independent variables (attitude, SN and PCB) while β 's are the coefficients associated with each explanatory variable.

Results of the regression analysis in Table 12 show that while the influence of subjective norms (SN) towards intention to exclusively breastfeed was significant ($p = 0.043$), those of either attitude or perceived behavior control (PCB) were not significant at $p \leq 0.05$. (Appendix 3, showing results on aspects of Attitude, SN, PBC and intention towards RF and EBF practices)

Table 12: Multiple regression analysis results of factors influencing the intention to adopt EBF

Tested factor	Standardized Coefficient β	Standard Error	p-value
Attitude	0.099	0.207	0.086
Subjective norms (SN)	0.004	0.161	0.043
Perceived behavior control (PCB)	-0.225	0.298	0.218

4.4.2 Factors influencing the intention to adopt responsive feeding practices

Results of the regression analysis in Table 13 show that while the attitude towards the intention of doing responsive feeding is significant ($p = 0.024$), those of either subjective norms (SN) or perceived behavior control (PCB) were not significant at $p \leq 0.05$.

Table 13: Multiple regression analysis results of factors influencing the intention to adopt responsive feeding practices

Tested factor	Standardized Coefficient β	Standard Error	p-value
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Attitude	0.239	0.139	0.024
Subjective norms (SN)	0.890	0.200	0.409
Perceived behavior control (PCB)	-0.051	0.108	0.637

CHAPTER FIVE

5.0 DISCUSSION

5.1 Extent of Practicing Exclusive Breastfeeding and Responsive Feeding

5.1.1 Exclusive breastfeeding

Exclusive breastfeeding for the first six (6) months of infant's life is highly recommended by the World Health Organization (WHO, 2018) because it is essential for the infant's development and survival. This study observed the prevalence of exclusive breastfeeding among women working in common market places in Morogoro Municipality to be low. Only a half of the surveyed respondents were exclusively breastfeeding their infants for six months. This is also below the average of Tanzania which is 57.8% (URT, 2018) also is far below the universal coverage of 90% as recommended by the World Health Organization (WHO, 2018). This is probably because these women have little time to spend with their children as they wake up early in the morning and spend most of the day time busy in their businesses and spend on average of 10 hours a day at the market.

This results into reduction of duration of exclusive breastfeeding because they resort to providing other foods (either solids and/or semi-solids) before six months of age. It is also due to some of them believe that breast milk alone is not sufficient for a child after 3 or 4 months. Similar concern has also been raised by Webb-Girard *et al.* (2012). Other related studies have also reported that exclusive breastfeeding for six months was rarely attained

by different socio-economic and demographic groups in Tanzania, rural residents, teenagers and working mothers (Nkala and Msuya, 2011; Shirima *et al.*, 2001). Exclusive breastfeeding for six months is strongly recommended but it has not highly practiced widely due to Some mothers give complementary foods to their children as early as one month of a to avoid the trouble caused by the children, mothers would supplement the child with other foods so that they can work comfortably and the babies can relax and stop crying.

5.1.2 Responsive feeding

Child nutrition requires investing and commitment to develop and improve infant feeding practices. This includes having enough time for mothers to understand child's cues and psychomotor responses. Despite of having little time to spend with their children, women working in common market places in Morogoro town were reported to abide to good practices on aspects of responsive feeding whereby eye to eye contacts and encouraging a child during feeding were practiced by almost all the interviewed women. Sensitivity to child hunger and satiety, minimization of destruction and experimentation of different food combinations were also practiced by majority of them. This is likely because of their strong background and socialization on the African cultures where caring of babies is something that sibling girls are involved (Evans, 2010). There is no doubt that these women grew up with that kind of skills through socialization. Adequate intake of healthy food is necessary for young children's growth and development but mother's engagement in feeding provides a child with the necessary condition for its internal signals of hunger and satiety to be recognized and therefore attended for (Horodynski *et al.*, 2007).

Other related studies have reported that responsive feeding in many areas of Tanzania were still suboptimal especially in the aspect of child eating alone (Kinabo *et al.*, 2017), but was high for mothers who practiced responsive feeding aspects like encouraging their child to eat or by offering different food combinations if the child refused to eat (Kinabo *et al.*, 2017), which has been due to various reasons including the socio-cultural norms and beliefs which are strong in the community and supported by other family members example children are left to eat alone (Kinabo *et al.*, 2017).

5.2 Knowledge on Recommended Feeding Practices

5.2.1 Exclusive breastfeeding

This study showed that majority of women working in common market places in Morogoro Municipality have good knowledge on exclusive breastfeeding. Various aspects were considered including the meaning of it, appropriate time to start breastfeeding after delivery, importance of feeding colostrum and the recommended time to start complementary feeding. Also, a good proportion of them were quite aware that no pre-lacteal feeding is needed to be given to infants. This could be due to the efforts put by the Government of Tanzania and development partners mostly NGOs in educating the people about reproductive health example on exclusive breastfeeding and its benefits to the child and the mother. The government has designated reproductive and child health (RCH) as a special unit in health facilities from dispensaries to referral hospitals to deal with pregnant women, lactating mothers and under five children whereby education is highly emphasized.

Health institutions were the main source of information about exclusive breast feeding for the majority of surveyed women. Health workers who work in the areas of RCH clinic are better placed to give appropriate information about EBF to mothers who follow antenatal

clinic and for those who come for immunization. Also, NGOs play a significant role by actively supporting activities of health providers and through implementing health projects. According to Asare *et al.* (2018), most women in Ghana have the knowledge of exclusive breastfeeding which include the meaning of it, time to start breast feeding within an hour after delivery and importance of feeding colostrum. According to several studies in Tanzania, the knowledge of exclusive breastfeeding is relatively high in all parts of the country and among different population groups (Hashim *et al.*, 2016; Nkala and Msuya, 2011).

5.2.2 Responsive feeding

Children are always confronted with growth challenges including infections and malnutrition. However, healthy eating behavior that result into good feeding practices depends on both nutritious foods and responsive parenting behavior. This study showed that the majority of women working in common market places in Morogoro Municipality have good knowledge about responsive feeding. They also have good understanding of responsive feeding such as necessity of being sensitive to child's hunger and satiety cues and responding to child's needs to encourage him/her to feed. However, many respondents do not appreciate that minimizing destruction during child feeding is important to help a child eat more.

The high knowledge about responsive feeding is likely to be because generally women get the information about good child feeding practices in RCH when attend clinics. However, it is also likely that the understanding of importance of minimizing destruction during feeding was not highly appreciated because women working in common market places are

very often surrounded by noisy environment, and therefore they don't consider that to be strange situation.

5.3 Identification of Factors that Influence Adoption of Recommended Feeding Practices

One of the aims of this study was to identify and investigate factors that influence the intention to practice recommended feeding practices of young children (0-24months) for women working in common market places in Morogoro Municipality in Tanzania. The aim was achieved by taking two steps guided by principles of the Theory of Planned Behaviour (TPB) Model. In the first step, the study established the intention of mothers to practice recommended feeding practices for their young children. Then, the second step involved finding association between the intention of mothers to use recommended feeding practices and various individual variables or components as set out by the TPB Model.

5.3.1 Intention towards exclusive breastfeeding and its relation to adoption of recommended feeding practices

According to the TPB Model, one of the key factors associated with adoption of a certain behaviour (in this respect EBF) is the intention of a person towards that behaviour (Ajzen, 1991). Although the women working in common market places have shown high intention for practicing exclusive breastfeeding (about three quarters of them), their actual practice was quite low. This can be due to the high levels of awareness about the importance and benefits to practice EBF for the health of a child. However, these women are faced with a number of constraints that make them not to practice exclusive

breastfeeding. Such constraints may include lack of social support and cultural beliefs that make it difficult to undertake the caring practices and undermining their ability to give adequate infants and young child feeding similar results have been reported by (WHO, 2003) especially on lack of social support, among low-income women. Other related study by (Hashim *et al.*, 2016) have shown that that majority of women intended to practice exclusive breastfeeding for the first six months in Moshi, Tanzania.

5.3.2 Intention towards responsive feeding and its relation to adoption of recommended feeding practices

The intention to undertake responsive feeding by the respondents was high whereby almost three quarters of women were intending to practice each of the aspects of responsive feeding. The aspects of responsive feeding with high intention among the women working in common market places included encouraging the child to feed (including breastfeeding although many of them do not practice exclusive breastfeeding during the first six months of age of the child). The other aspect was experimenting with different foods for the child. This is also justifiable by the fact that these are committed for their children but to the growth of their businesses as well. From young age women are taught through socialization on how to feed a child and respond to cues of the child. In business growth the government and its partners have taken some initiatives such as VICOBA and loans to support women's businesses, which have proved to be important for generating income that allows women to experiment different foods for the child (Mori, 2014). Such incomes of women from petty trading and street food vending have proved to substantially providee food security in their households (FAO, 2016). The aspect with least intention was towards minimizing destructions during feeding mothers

had lowest intention compared to other aspects this can be due to the environment which they work at (market) that has a lot of distractions.

5.3.3 Factors influencing adoption of Exclusive Breastfeeding

The study observed a significant relationship between subjective norms and the adoption of exclusive breastfeeding among women working in common market places in Morogoro Municipality. In the Tanzanian community setup and Africa in general, the role of extended family or society can very much influence the behavior of an individual, and may not allow someone to exercise his/her own will (McClenahan *et al.*, 2007), and therefore the importance of this variable (or construct). Analysis found that perceived social barriers (lack of knowledge and exposure) to breastfeeding moderated the relationship between knowledge and beliefs. The study Bartle and Harvey (2017) showed the same results that subjective norms are important factor in positively and negatively affecting breastfeeding process by urban women. However, this study showed that attitude and perceived behavior control had no significant association with exclusive breastfeeding practices. The findings of this study on attitude, perceived behavior towards practice of exclusive breastfeeding were contradicting with the findings from other study by (McMillan *et al.*, 2007) which showed a significant relationship between attitude and perceived behavior control and exclusive breastfeeding practices.

5.3.4 Factors influencing the adoption of responsive feeding practices

The study observed a significant relationship between perceived behavior control and the intention towards exclusive breastfeeding among women working in common market places in Morogoro Municipality. However, to achieve this, a caregiver/mother should

dedicate her time for responsive feeding that gives a child enough time to learn and eat. In this study, women's intention to practice responsive feeding, their attitude towards responsive feeding, perceived behavior control and subjective norms were tested for decisions of women working in common market places in Morogoro to practice responsive feeding. The study observed a significant association between attitudes and responsive feeding practices. The study suggest that attitudes towards responsive feeding is the most important factor that can predict the practice whether a woman would responsively feed her child or not. This probably could be due to women's awareness of the importance of proper child feeding practices such as adequate quantity, quality as well as safe complementary foods for prevention of under nutrition and illness to their children. Also, the perception that complementary foods provide assurance to a child's stomach to remain full for a while. However, the study observed no significant association between subjective norms and perceived behavior control towards responsive feeding practices. Other related study by Wondafrash *et al.* (2012) in Ethiopia suggested that there is a significant association between women's intention and attitude and women's decision to practice responsive feeding.

CHAPTER SIX

6.0 CONCLUSION AND RECOMMENDATIONS

6.1 Conclusions

The study assessed young child feeding practices among women working in common market places and factors influencing adoption of the recommended practices specifically EBF and RF of children aged 0-24 months in Morogoro Municipality. The study has observed that majority of the respondents have enough knowledge about exclusive

breastfeeding. However their rate of practicing EBF was below that of the national average 51 versus 57. This is mostly likely due to their long duration at the market. Therefore they are forced provide other foods while doing business. They have also shown high extent of involvement in various aspects of responsive feeding whereby eye to eye contact and encouraging a child during feeding, sensitivity to child's hunger and satiety, and experimentation of different food combinations were practiced by the majority as they are always around the children at the market. However, minimization of destruction during feeding was not popular. On the factors influencing adoption of recommended feeding practices, the study found that women's subjective norms (people surrounding these women such as parents, other relatives and friends) was significantly associated with the intention towards exclusive breastfeeding. This shows that family members or neighbours can influence either positively or negatively to exclusively breastfeed. On the other hand, women's attitudes have influence on intention towards responsive practicing responsive feeding.

6.2 Recommendations

Based on findings in this study, the following recommendations can improve women who are at working class to practice exclusive breastfeeding and responsive feeding.

- i. Nutrition education programmes should be put in place by government and Development Partners targeting such special vulnerable groups in the communities, who are very often left out in the normal interventions implemented.
- ii. Since exclusive breastfeeding and responsive feeding are among strategies towards solving nutrition problems, their approaches must be of multidisciplinary

actions that enable all possible causes of the problem to be well taken under considerations. For example, colleges and universities, secondary schools, primary schools should have compulsory nutrition clubs, while government and non-government offices must have education materials for good infants and young child feeding practices. This will increase community awareness of nutrition concerns.

- iii. Need for special initiatives by the government of non-governmental organizations to provide support to women working in the informal sector, including market places, to have time to spend with their infants since this group of women do not have maternity leaves like the ones in the formal sector. Such initiatives can include provision of baby care facilities in those work places.

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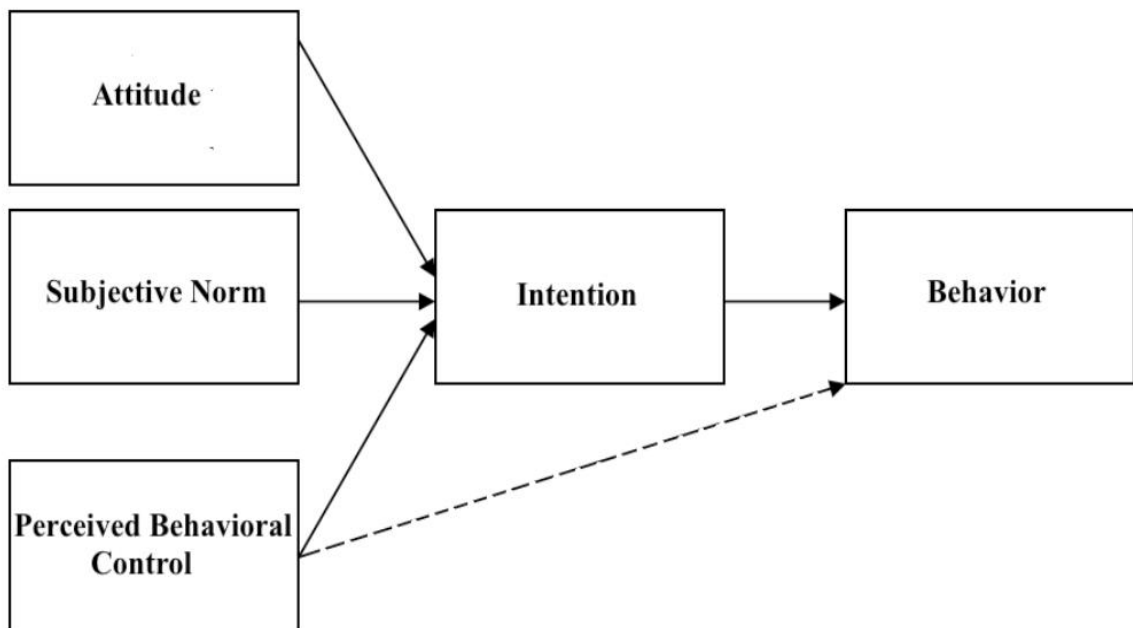
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APPENDICES

Appendix 1: Components of the TPB



Appendix 2: Questionnaire

This questionnaire is designed to identify factors influencing adoption of recommended feeding practices of young children (0-2years) among women/caregivers working in common market places in Morogoro Municipality. All information will be treated as confidential and anonymity is assured. Please provide frank/correct answers to the following questions.

SECTION A. SOCIO-DEMOGRAPHIC QUESTIONS (Tick at the right answer)

1. What is your relationship with the study child?

- a) Mother []
- b) Stepmother []
- c) Grandmother []
- d) Aunt []
- e) Other, specify.....

2. Marital status

- 1) Married 2) single 3) Divorced 4) Widow 5) Cohabiting

3. What is your age?

.....

4. Highest Educational level attained

- 1) No formal education/Training [] 3) Only some years in Primary school [] 4) Completed Primary School [] 5) Some years in Secondary School [] 6) Completed Secondary School 7) High School (Form Six) 8) Tertiary institution (University, training

College, Polytechnic) []

5. Who do you live with in the house? [You may choose multiple items]

- | | |
|-----------------|---------------------------------|
| Children | YES / NO |
| Husband/Spouse | YES / NO |
| Parents | YES / NO |
| Other relatives | YES / NO (If YES, specify.....) |

6. Age of the child in months.....

Exclusive breastfeeding

SECTION B

Extent of using exclusive Breastfeeding behaviour

Behaviour	None (0)	EBF (1)
Exclusive breastfeeding		

Questions about knowledge of mothers towards exclusive breast feeding

1. What do you understand about exclusive breastfeeding?

- (1) Giving breast milk for a newborn immediately within an hour after birth is important
- (2) Giving breast milk for a child immediately after birth up to six months of age without giving any liquid or food
- (3) Giving a child of three months only breast milk.
- (4) NOT giving complementary foods to a child before three months

2. What is your source of information regarding exclusive breastfeeding?

- (1) Friends and family
- (2) Mass media
- (3) Health institutions

3. What is the recommended time to start giving breast to a newly born baby?
 - (1) After giving some water
 - (2) After giving the necessary medicines to drink
 - (2) Within an hour
 - (3) After one hour
 - (4) After 24 hours

4. The first milk that comes from the breast after delivering a baby looks yellowish and different from the normal milk? YES / NO
5. What is the use of the first milk or colostrum?
 - (1) Discard it because it is not good for the baby.
 - (2) Feed it to the baby immediately – it is very healthy.
 - (3) It doesn't matter if you can avoid it

6. What is the right time to start giving complementary foods to a newly born baby (including clean water)?
 - (1) From birth
 - (2) After 4 months or less
 - (3) After 5 months
 - (4) After 6 months
 - (5) When the baby has fully grown teeth

7. What are the foods and/or fluids recommended to give a child of below 6 months of age?
 - (1) Only breast milk
 - (2) Breast milk and plain water
 - (3) Infant formula food or animal milk?
 - (4) Others (specify).....

8. Is pre-lacteal feeding needed for an infant before starting breast milk?

(1) Yes

(2) No

(3) I do not know

9. Is breast milk alone being enough for an infant during the first 6 months of life?

(1) Yes

(2) No

(3) I do not know

10. Is exclusive breastfeeding for the first 6 months of life helpful in preventing diarrheal and respiratory diseases for the infant?

(1) Yes

(2) No

(3) I do not know

SECTION C

Attitudes towards Behaviour

The attitude towards exclusive breastfeeding will be assessed using differential scales, Exclusive Breastfeeding a baby would be a baby for six months would.....

	I strongly disagree	I disagree	Neutral	I agree	I strongly agree
H1. Not satisfy the baby's need for food					
H2. Make the baby cry most of time					
H3. Not be able to quench the baby's thirst for water					

H4. Be very inconvenient to the mother/caregiver because she needs her time to do other things					
H5. Not be possible because I can't be eating while the child is watching me and not give him/her					
H6. People may think that I have HIV/AIDS					
H7. Inexpensive					
H8. It will make the child less vulnerable to many childhood diseases					
H9. Cause my baby to attain slow growth or weight gain					
H10. Make the child develop bad habits later on in life.					

Subjective norms regarding EBF

Two items will be used to measure the degree of the social pressure that can influence the mothers' intention to EBF

	I strongly disagree	I disagree	Neutral	I agree	I strongly agree
H1. People who are important to me think that I should exclusive breast feed.					
H2. People who are important to me would approve me to exclusive breastfeed my baby'.					

Perceived behavioural control

	Very Difficult	Difficult	Neutral	Easy	Very Easy
H1. For me, exclusive breastfeeding my baby would be					
	Very Unlikely	Unlikely	Neutral	Likely	Very Likely
H2. If I exclusive breastfeed my baby, things might get in the way that would stop me from doing it',					
	Not at all confident	Not confident	neutral	Confident	Very confident
H3. How confident are you that you could exclusive breastfeed your baby if you want to', 'not at all confident' (1) – 'very confident' (5).					

Intention to EBF

	Definitely do not	I Do not	Neutra l	I do	Definitely do
H1. Do you intend to exclusive breastfeed your baby?					

Responsive feeding**SECTION B***Extent of using responsive feeding behaviour aspects*

Behaviour	None (0)	RF (1)
Being sensitive to child's hunger and satiety cues in feeding		
Encourage child in breastfeeding		
Keeping eye contact to the child when feeding		
Experimenting with different food combinations for the child		
Minimizing distractions during feeding		

Knowledge towards responsive feeding.

1. What do you understand about responsive feeding
 - (1) Responsive care refers to the behaviours and practices of the parents and family that provide the stimulation and emotional support as well as food and health care necessary for the child's healthy growth and development.
 - (2) Promoting emotional support
 - (3) Caring for the child
 - (4) Response to cues by the parents

2. During breastfeeding mother should be directly sensitive to their hunger and satiety cues?
 - (1) Yes
 - (2) No
 - (3)I don't know

3. How babies or young children are fed is as important as what they are fed.
 - (1) Yes
 - (2) No
 - (3)I don't know

4. Missing the signs or not responding appropriately to the signs/ cues can contribute to both obesity and underfeeding.
 - (1) Yes
 - (2) No
 - (3)I don't know

5. What is your source of information?
 - (1) Friends and family
 - (2) Mass media
 - (3) Health institutions

7. Best approach in feeding is to only encourage the child to feed not using force

(1) Yes

(2) No

(3) I don't know

8. Feeding whenever the child feels hungry is the best response to child's hunger and cues

(1)Yes

(2)No

(3)I don't know

9. Is minimizing distractions during feeding helpful in promoting concentration of the child during feeding.

(1) Yes

(2) No

(3)I don't know

Attitude towards Responsive Feeding

	I strongl y disagre e	I disagree	Neutra l	I agree	I strongl y agree
H1. To encourage the baby to the breastfeed whenever baby looks for it leads to indulging and spoiling the baby and creates bad habits					
H2. If young children refuse to feed they should be punished					

H3. If a baby refuse to feed should experiment the child with different food combinations					
H4. Breast feeding the baby frequently in the first few weeks after birth can help the mother to have a good milk supply.					
H5. A baby shows he/she wants to feed by crying.					
H6. If a baby refuses to feed then minimizing distractions during feeding helps.					
H7. Keeping eye to eye contact to the child during meal is not important when feeding.					
H8. Experimenting my child with different foods is expensive					

Subjective Norms towards Responsive Feeding

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
H1. People who live with me think i should feed my child directly while being sensitive to his/her hunger and satiety cues.					
H2. People who live with me think i should breast feed slowly and patiently,					
H3. People who live with me					

think i should encourage children to eat, but do not force them.					
H4. People who live with me think if my children refuse to breast feed, I should experiment with different food combinations, tastes, textures and methods of encouragement.					
H5. People who live with me think i should minimize distractions during breast feeding because the child loses interest easily					
H6. People who live with me think breast feeding times are periods of learning and love, so I should talk to children during breast feeding and keep eye-to-eye contact.					

Perceived Behavioural Control towards Responsive Feeding

	Very difficult	Difficult	Neutral	Easy	Very easy
H1. For me feeding my child directly and being sensitive to his /her hunger and satiety cues is					
H2. For me encouraging my child to breast feed without forcing him/her is					
H3. If my child refuses to breast feed, experimenting with different food combinations, tastes, textures and methods of encouragement is					
H4. For me minimizing distractions during feeding is					
H5. For me talking to my child during feeding and keeping eye-to-eye contact is					
H6. For me talking to the child during meal and encouragement is important when feeding					

Intention towards Responsive feeding

	Definitely do not	I Do not	Neutral	I do	Definitely do
H1. Intention to being sensitive to child's hunger and satiety cues in feeding					
H2. Intention to encourage child in breastfeeding					

H3. Intention to keeping eye contact to the child when feeding					
H4. Intention to experimenting with different food combinations for the child					
H5. Intention to minimize destructions during feeding					

Appendix 3: Results of Attitude, SN, and PBC

Exclusive breastfeeding

attitude construct	I strongly disagree	I disagree	Neutral	I agree	I strongly agree
H1. Not satisfy the baby's need for food	18.9	24.4	4.4	42.2	10
H2. Make the baby cry most of time	34.4	55.6	4.4	3.3	2.2
H3. Not be able to quench the baby's thirst for water	14.4	42.2	23.3	13.3	6.7
H4. Be very inconvenient to the mother/caregiver because she needs her time to do other things	21.1	32.2	22.2	15.6	8.9
H5. Not be possible because I can't be eating while the child is watching me and not give	12.2	47.8	16.7	10	13.3

him/her

H6. People may think that I have HIV/AIDS	51.1	42.2	1.1	3.3	2.2
H7. Inexpensive	14.4	50	3.3	15.6	16.7
H8. It will make the child less vulnerable to many childhood diseases	5.6	12.2	18.9	37.8	25.6
H9. Cause my baby to attain slow growth or weight gain	31.1	47.8	7.8	6.7	6.7
H10. Make the child develop bad habits later on in life.	45.6	44.4	4.4	1.1	4.4

SN constructs	I strongly disagree	I disagree	Neutral	I agree	I strongly agree
H1. People who are important to me think that I should exclusive breast feed.	6.7	8.9	28.9	37.8	17.8
H2. People who are important to me would approve me to exclusive breastfeed my baby’.	6.7	13.3	26.7	32.2	21.1

PBC constructs	Very Difficult	Difficult	Neutral	Easy	Very Easy
H1. For me, exclusive breastfeeding my baby would be	6.7	2.2	7.8	48.9	34.4
	Very Unlikely	Unlikely	Neutral	Likely	Very Likely
H2. If I exclusive breastfeed my baby, things might get in the way that would stop me from doing it',	8.9	23.3	14.4	28.9	24.4
	Not at all confident	Not confident	neutral	Confident	Very confident
H3. How confident are you that you could exclusive breastfeed your baby if you want to', 'not at all confident' (1) – 'very confident' (5).	5.6	2.2	5.6	18.9	67.8

Responsive feeding

Attitude construct	I strongly disagree	I disagree	Neutral	I agree	I strongly agree
H1. To encourage the baby to the breastfeed whenever baby looks for it leads to indulging and spoiling the baby and creates bad habits	15.6	37.8	21.1	15.6	10
H2. If young children refuse to feed they should be punished	28.9	58.9	4.4	2.2	5.6
H3. If a baby refuse to feed	5.6	16.7	20	41.1	16.7

should experiment the child with different food combinations

H4. Breast feeding the baby frequently in the first few weeks after birth can help the mother to have a good milk supply.	5.6	16.7	20	43.3	14.4
H5. A baby shows he/she wants to feed by crying.	4.4	21.1	21.1	45.6	7.8
H6. If a baby refuses to feed then minimizing distractions during feeding helps.	3.3	14.4	27.8	47.8	6.7
H7. Keeping eye to eye contact to the child during meal is not important when feeding.	1.1	10	32.2	38.9	17.8
H8. Experimenting my child with different foods is expensive	8.9	13.3	38.9	33.3	5.6

SN construct	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
H1. People who live with me think i should feed my child directly while being sensitive to his/her hunger and satiety cues.	7.8	14.4	21.1	42.2	14.4
H2. People who live with me think i should breast feed slowly and patiently,	2.2	13.3	23.3	37.8	23.3
H3. People who live with me think i should encourage children to eat, but do not force them.	4.4	13.3	22.2	33.3	26.7
H4. People who live with me think if my children refuse to breast feed, I should experiment with different food combinations, tastes, textures and methods of encouragement.	8.9	13.3	38.9	33.3	5.6

H5. People who live with me think i should minimize distractions during breast feeding because the child loses interest easily

3.3 14.4 27.8 47.8 6.7

H6. People who live with me think breast feeding times are periods of learning and love, so I should talk to children during breast feeding and keep eye-to-eye contact.

1.1 10 32.2 38.9 17.8

PBC contrast	Very difficult	Difficult	Neutral	Easy	Very easy
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H1. For me feeding my child directly and being sensitive to his /her hunger and satiety cues is

0 4.4 3.3 64.4 27.8

H2. For me encouraging my child to breast feed without forcing him/her is

0 1.1 3.3 72.2 23.3

H3. If my child refuses to breast feed, experimenting with different food combinations, tastes, textures and methods of encouragement is

5.6 16.7 20 41.1 16.7

H4. For me minimizing distractions during feeding is

6.7 21.1 30 36.7 5.6

H5. For me
talking to my child
during feeding
and keeping eye-
to-eye contact is

1.1

1.1

12.2

70

15.6

H6. For me
talking to the child
during meal and
encouragement is
important when
feeding

23.3

52.2

6.7

8.9

8.9
