

**EFFECTS OF STRUCTURED NUTRITION EDUCATION ON MATERNAL
BREASTFEEDING SELF EFFICACY, PERCEPTIONS AND EXCLUSIVE
BREASTFEEDING DURATION IN KIANDUTU, THIKA-KENYA**



DOROTHY M. MITUKI



**A Thesis submitted to Graduate School in Partial Fulfillment for the Doctor of Philosophy
Degree in Nutritional Sciences of Egerton University**



EGERTON UNIVERSITY

November 2017

2022/11687R
X

ABSTRACT

Despite the fact that the overall benefits of exclusive breastfeeding (EBF) for the first half of infancy have well been established, especially for mother-infant pairs in low social economic status, the rates are low in Kenya. The study aimed at evaluating the effects of structured nutrition education on maternal breastfeeding self-efficacy, perceptions and EBF duration. A cluster randomized controlled intervention was carried out. The intervention included education sessions with the nutritionist at the health centre, monthly home visits by the community health workers (CHWs) plus the usual care at the Maternal Child Health (MCH) clinic. The intervention utilized the national manual on maternal infant and young child nutrition (MIYCN) and emphasized conditions infants were susceptible to with early complementary feeding, simple messages on the importance of positive attitude and making a decision to EBF, as the best choice for mothers, breastfeeding within the first hour of delivery; dietary diversity and importance of proper attachment. Monthly home visits were made by CHWs postpartum to encourage mothers to EBF and answer mothers' questions. Anthropometric and feeding data for the infants was collected at 6, 10, 14 and 24 weeks. Maternal anthropometric measurements (weight and height), and breastfeeding perceptions were collected at recruitment (28 weeks) at 38 weeks and 14 weeks postpartum while the feeding data was collected monthly. The primary outcome, duration of EBF for mothers in the intervention ($n=256$) compared to those in the comparison group ($n=176$) was examined. Secondary outcomes of the study (breastfeeding self-efficacy, and perceptions) were analysed in relation to involvement in the structured nutrition educational intervention or not. Analysis was done on intention to treat basis. A statistical significance difference was found between the two groups in regarding to EBF duration at 24 weeks log rank= 20.277, (1, $n=314$) $p < 0.001$. Intervention group (45.3%) compared to the comparison group (15.0%). The end line ($p=0.001$) maternal breastfeeding self-efficacy positively predicted EBF duration. Out of the four perceptions, only perceptions on barriers to EBF at end-line ($p<0.05$) positively predicted the outcome variable. Bivariate analysis yielded two socio-economic significant predictive variables of EBF duration, education level of mothers; (OR 4.75, 95% CI 1.58-14.30, $p=0.006$) and household food security (OR 0.03, 95% CI 0.01-0.09 $p=0.001$). Being in the intervention group, increased the likelihood of having higher BSE (Log odds 1.41, 95% CI 0.08-2.75) and EBF duration (Log odds 10.32, 95% CI 4.26-16.39) Structured nutrition education should be implemented to ensure mothers gain confidence and are able to deal with barriers associated with EBF for the first six months.

TABLE OF CONTENTS

DECLARATION AND RECOMMENDATION	II
DECLARATION	II
RECOMMENDATIONS	II
COPYRIGHT	III
DEDICATION	IV
ACKNOWLEDGEMENTS	V
ABSTRACT	VI
TABLE OF CONTENTS	VII
LIST OF TABLES	XII
LIST OF FIGURES	XIV
ABBREVIATIONS & ACRONYMS	XV
CHAPTER 1	1
1.1 Background information	1
1.2 Statement of the problem.....	3
1.3 Purpose of the study.....	4
1.4 Specific objectives	4
1.5 Research Question	5
1.6 Hypotheses.....	5
1.7 Significance and rationale of the study.....	5
1.8 Assumptions	6
1.9 Limitations of the study	6
1.10 Scope of the study.....	7
1.11 Operational definitions of terms	7
CHAPTER 2	10
LITERATURE REVIEW	10
2.0 Introduction.....	10
2.1 Nutrition education.....	10
2.2 Maternal formal education and maternal nutrition knowledge.....	12
2.3 Exclusive breastfeeding	14
2.4 Breastfeeding self-efficacy	17
2.5 Perceptions and EBF.....	20
2.6 Socio-economic, household food insecurity and post-partum factors influencing EBF ...	22
2.7 Community health workers and breastfeeding promotion.....	23
2.8 Government policies on infant health.....	25

2.9 Government policies and programmes on infant health	26
2.9.1 The National Maternal, Infant and Young Child Nutrition Strategy, 2011 – 2017	26
2.9.2 Maternity protection	27
2.9.3 Breast milk substitute control bill.....	27
2.9.4 Baby-friendly hospital initiative	27
2.9.5. Beyond zero campaign	28
2.10 Non-Governmental organizations’ interventions promoting infant health.....	28
2.11 Theoretical framework.....	29
2.12 Conceptual framework.....	30
CHAPTER 3.....	33
RESEARCH METHODOLOGY	33
3.0 Introduction.....	33
3.1 Research design	33
3.2 Study area	33
3.3 Population of the study	33
3.4 Sample size determination and sampling procedures.....	34
3.4.1 Sample size	34
3.4.2 Sampling procedures	35
3.5 Research instruments	36
3.5.1 Questionnaire for assessing socio-economic, breastfeeding self-efficacy breastfeeding perceptions and anthropometry.....	36
3.5.2 A Health form	36
3.5.3 An individual dietary diversity questionnaire.....	36
3.5.4 Household food insecurity access scale.....	37
3.5.5 Breastfeeding questionnaire.....	37
3.5.6 Validity and reliability.....	37
3.6 Data collection.....	38
3.6.1 Data collection procedures	38
3.6.2 Anthropometric measurement procedures.....	39
3.6.3 Individual dietary diversity assessment.....	40
3.6.4 Breastfeeding self-efficacy and perceptions.....	40
3.7 Nutritional intervention protocol	41
3.8 Nutritional intervention curriculum guide.....	42
3.9 Ethics and quality control	43

3.10 Data analysis.....	44
CHAPTER 4.....	46
RESULTS AND DISCUSSIONS.....	46
4.1 Introduction.....	46
4.2.0. The Pilot study results	46
4.2.1. Socio-demographic characteristics of the pilot study respondents.....	46
4.3 Validation of tools	47
4.3.1 Translation of the tools and face validity	47
4.3.2 Content validity	49
4.3.3 Construct validity.....	50
4.3.4 Factor analysis	50
4.3.5 Predictive validity.....	59
4.4 Reliability	61
4.4.1 Internal Consistency	61
4.5. Observed changes after intervention	63
4.5.1 Perception and breastfeeding self-efficacy scores after the intervention	63
4.5.2 Differences in infants anthropometry by study group after intervention	64
4.5.3 Differences in infant feeding practices during the first week and six weeks after birth by study group	66
4.5.4 Differences in EBF status by study group	67
4.5.5 Household food security situation by study group after the intervention.....	67
4.5.6 Dietary diversity by study group after the intervention.....	67
4.6 Socio-demographic characteristics of the respondents' household food security and post- partum factors of mothers for the main study.....	68
4.6.1 Socio-economic and demographic characteristics.....	68
4.6.2 Household food security	73
4.6.3 Intrapartum/postpartum factors	76
4.7 Baseline breastfeeding self-efficacy (BSE) and breastfeeding perceptions scores	79
4.8. Endline maternal breastfeeding self-efficacy and perceptions of mothers in Kiandutu informal settlement.	81
4.8.1 Endline maternal breastfeeding self-efficacy	81
4.8.2 Endline maternal breastfeeding perceptions.....	82
4.9 Relationship between maternal breastfeeding self-efficacy (BSE), breastfeeding perceptions and EBF duration	84

4.9.1 Relationship between maternal breastfeeding self-efficacy (BSE) and EBF duration	84
4.9.2 Relationship between breastfeeding perceptions and EBF duration	85
4.9.3 Association between socio-economic factors verses EBF duration	87
4.9.4 The association between household food security, and EBF duration	94
4.9.5 The association between Intra-partum/post-partum factors and EBF duration	96
4.10 Effect of the structured nutrition education intervention on maternal breastfeeding self-efficacy (BSE) and EBF duration	105
4.10.1 Effect of Intervention on maternal breastfeeding self-efficacy (BSE)	105
4.10.2 Effect of the intervention on maternal breastfeeding perceptions	107
4.10.3 Effect of intervention on breastfeeding duration	107
4.11 Hypothesis Testing	112
4.11.1 Hypothesis one: Differences in BSE and Breastfeeding perceptions between the intervention and comparison groups at baseline	112
4.11.2 Hypothesis two: Differences in BSE and breastfeeding perceptions between the intervention and comparison groups at end line	113
4.11.3 Hypothesis three: Relationship between BSE and Breastfeeding perceptions and EBF duration	114
4.11.4 Hypothesis four: Effect of the intervention on the BSE breastfeeding perceptions and EBF duration	114
CHAPTER FIVE	117
CONCLUSIONS AND RECOMMENDATIONS	117
5.1 Introduction	117
5.2 Conclusions	117
5.2.1 Adaption and validation of the nutrition education protocol, perceptions and breastfeeding self-efficacy scale-short form	117
5.2.2 Maternal breastfeeding self-efficacy (BSE) and breastfeeding perceptions at baseline	117
5.2.3 Maternal breastfeeding self-efficacy (BSE) and breastfeeding perceptions at end-line	117
5.2.4 The relationship between maternal breastfeeding self-efficacy (BSE), breastfeeding perceptions, socio-economic, household food security, post-partum factors and EBF duration	118

5.2.5 Effect of the structured nutrition education intervention on maternal breastfeeding perceptions self-efficacy (BSE) and EBF duration	118
5.3 Recommendations.....	118
REFERENCES	121
APPENDICES.....	141