



**Maternal Role Competence and its Associated Factors
among Mothers Who Attended Immunization Clinics at
Public Health Facilities of Arba Minch Town, Southern
Ethiopia: A Cross Sectional Study**

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Abstract

Maternal role competence is a mother's skills and satisfaction in the care of her infant. In most developing countries like Ethiopia, antenatal and postnatal care to women largely focuses on physiologic and pathologic aspect leaving the role of mothers unaddressed satisfactorily. The objective of this study is to assess the magnitude of maternal role competence and its associated factors among mothers who attended immunization clinic, at Public Health facilities of Arba Minch town southern Ethiopia. A cross-sectional study design was employed. The sample size was determined by using single population proportion formula, by considering the following assumptions; (P) = 50%, the level of confidence (CI) = 95%, margin of error (d) = 5% and 10% non-response rate with which a sample size of 422 was obtained. Mothers were systematically selected from each health facilities by systematic sampling.

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Data was collected using a questionnaire having seven parts that was pretested and standardized Cornbrash's alpha of each part was found to be > 0.74 . Data were entered by using Epi Data Version 4.4.2 and exported to SPSS 25 for analysis. Descriptive and analytic statistics were done. Bivariate and Multivariable logistic regressions were performed. Adjusted Odds ratio along with 95% Confidence interval was estimated to measure the strength of the association. Statistical significance was declared at p -value < 0.05 . A total 389 mothers participated with over all response rates of 92%. A few less than half of participants had poor maternal role competency (39.6%). Self-esteem, Child care experience, perceived social support and post natal depression were found to be independently associated with poor maternal role competency. Significant numbers of mothers were found to have poor maternal role competence. Maternal role competency of all mothers in general and first time mothers in particular should be addressed at each visit of antenatal and postnatal care beyond the usual physiologic and pathologic aspect.

Key Words: Maternal role competency; infant; public health facility; Arba Minch.

1. Introduction

Pregnancy and child birth a greatest transitional periods whereby women go through lots of physiological, emotional and psychological change [1]. Maternal role competence (MRC) determines how mothers adjust to this transition and the new role [2]. Mothers who have high perceived maternal role competence are able to make a successful transition to motherhood and gain mastery in their maternal role performance [3]. Maternal role competence is a mother's skills and interactions in the care of her infant, constituent of maternal role attainment (MRA) and maternal identity as a major component in the process [4].

Physical and emotional state of mothers tremendously changes during post-partum period causing difficulties in the acquisition of new skills related to childcare [5, 6, and 9]. A woman's competence in role of caring for her infant has been implicated as a factor contributing to successful mother-child interaction, long-term breastfeeding; neonate's growth, psychosocial and psychological development [7, 8, 10,11, 12, 13].

The "maternal role attainment - becoming a mother" model of Mercer provided the theoretical frame work for this research. Mercer developed the four stages of role acquisition—anticipatory, formal, informal, and personal identity to explain the process of MRA [6]. The anticipatory stage, start prior to pregnancy, is a time of psychosocial preparation for the role. At birth, the mother moves to the formal stage (birth-2 weeks) and begins care-taking tasks by copying experts behaviors and following their advice. During the informal stage (2weeks-4month), the mother progresses to using her judgment about the best care for her infant. The stage of maternal identity(>4month) is characterized by the mother's sense of harmony, confidence, satisfaction in the maternal role, and attachment to her infant [20] .

Maternal age, post natal depression, being first time mother, relationship with the father, socioeconomic status, birth experience, personality traits, self-concept, childrearing attitudes, role strain, health status, and infant variables, knowledge and skill preparation for motherhood had been reported to be factors affecting maternal competency [2, 14,15, 16].

The aim of this study is to assess the magnitude of maternal role competency and identify associated factors among mothers who attended EPI clinic in all public health facilities in Arba Minch town, southern Ethiopia.

2. Method and material

2.1. Study area and period

The study was conducted at Arba Minch town public health facilities Southern Ethiopia, from February -March 2019.

2.2. Study design, population and eligibility criteria

A facility based cross-sectional study was employed. Mothers attending EPI clinics in public health facilities during the data collection period in third stage (informal stage) of maternal role competency that last from 2wk-4 month post-partum period were systematically selected. Mothers with adopted infant and severely ill during data collection time were excluded.

2.3. Sample size calculation and sampling procedure

The sample size was determined by using single population proportion formula, by considering the following assumptions; (P) = 50%, the level of confidence (CI) = 95%, margin of error (d) = 5% and 10% non-response rate with which a sample size of 422 was obtained. Mothers were systematically selected from each health facilities.

The questionnaires were translated to the local language Amharic and again translate back to English for checking the consistency and pretest was done on 5 % of the sample before the actual data collection. Standardized Cronbach's alpha used to test reliability of tool with the minimum score of >0.74. Data collectors and supervisors were well trained prior to data collection.

2.4. Data processing and analysis

Data were entered by using Epi Data Version 4.4.2 and exported to SPSS 25 for analysis. Descriptive and analytic statistics were done. All variables with p value less than 0.25 in bivariable analysis were entered into multivariable logistic regression model to control for all possible confounders and to identify independent predictors of the outcome variable. Adjusted Odds ratio along with 95% Confidence interval was estimated to measure the strength of the association. Statistical significance was declared at p-value <0.05.

2.5. Variables, operational definitions and ethical issues

The dependent variable was maternal role competence and the independent variables were: Socio demographic, Maternal psychosocial, Pregnancy and Infant related variables.

Operational definition for Maternal role competence is the mother's knowledge, attitude and confidence in

practice of the new born care(26). It is the ability to manage maternal requirements measured by parenting sense of competency scale, which is widely used scale in assessing maternal sense of competency(31).

Good maternal competence refers those mothers who score above the mean value on 17 items scale those asses MRC and Poor maternal role competence were those mothers who score below the mean value on the scale(26).

Ethical clearance was obtained from the Arba Minch University Research and Institutional Review Board (IRERB) to conduct the study. Permission of All public health facility was granted. Consent was obtained from mothers after informing about the aim of the study.

All the subjects were assured of confidentiality and the freedom to reject. There was no record of identification information and the interview was conducted in separated place after/before they get the service to ensure confidentiality and privacy.

3. Results

3.1. Socio-demographic characteristics

A total 389 mothers participated with over all response rates of 92%. Around 43% of mothers were in age category of 20-29years. Regarding place of residence and marital status, 83% of them live in urban and 95% of the women were married. Majority of the mother completed secondary school (29.8%) (Table 1).

3.2. Maternal and Obstetric characteristics of respondent

Among respondents 55.3% of them were multipara, having average number of two children. Around 14.1% of the pregnancy were unplanned and unwanted, majority of the mothers 360 (92.8%) had ANC follow up but only 163 (45.3%) follow four time and above. Modes of delivery were SVD for 83.3% of the mothers and more than half of (59.6%) the babies were female.

3.3. Maternal role competency

The magnitude of poor maternal role competence were 39.6% [95% CI; 37%, 41%], the respondents have a total mean score of 59.3 for maternal role competency. Majority, 235 (60.4%) of the mothers have good competency in maternal role and the rest 154 (39.6%) have poor competency (Figure 1).

Table 1: Socio demographic and economic characteristics of mothers who attended EPI clinic at public health facilities in Arba Minch town, southern Ethiopia, 2019

Variables	Categories	Frequency	Percent (%)
Age	≤19	56	14.4
	20-29	169	43.4
	≥30	164	42.2
Marital status	Married	371	95.4
	Others ***	18	4.6
Religion	Orthodox	135	34.7
	Muslim	85	21.9
	Protestant	161	41.4
	Catholic	8	2.1
Residence	Urban	323	83.0
	Rural	66	17.0
Educational status of mother	No formal education	77	19.8
	Primary school	103	26.5
	Secondary school	116	29.8
	Diploma and above	93	23.9
Occupation of mother	Housewife	193	49.6
	Merchant	44	11.3
	Gov't/private employee	70	18.0
	Others **	82	21.2
Husband occupation;	Daily laborer	69	18.0
	Merchant	69	18.0
	Gov't/private employee	180	47.0
	Farmer	38	9.9
	Other****	27	7.0
Total monthly income	≤2500ETB	77	19.8
	2501-3500ETB	60	15.4
	>3500ETB	252	64.8

** student, daily laborer, farmer, house servant ****driver, delala
 ***single, separated, widowed, divorced

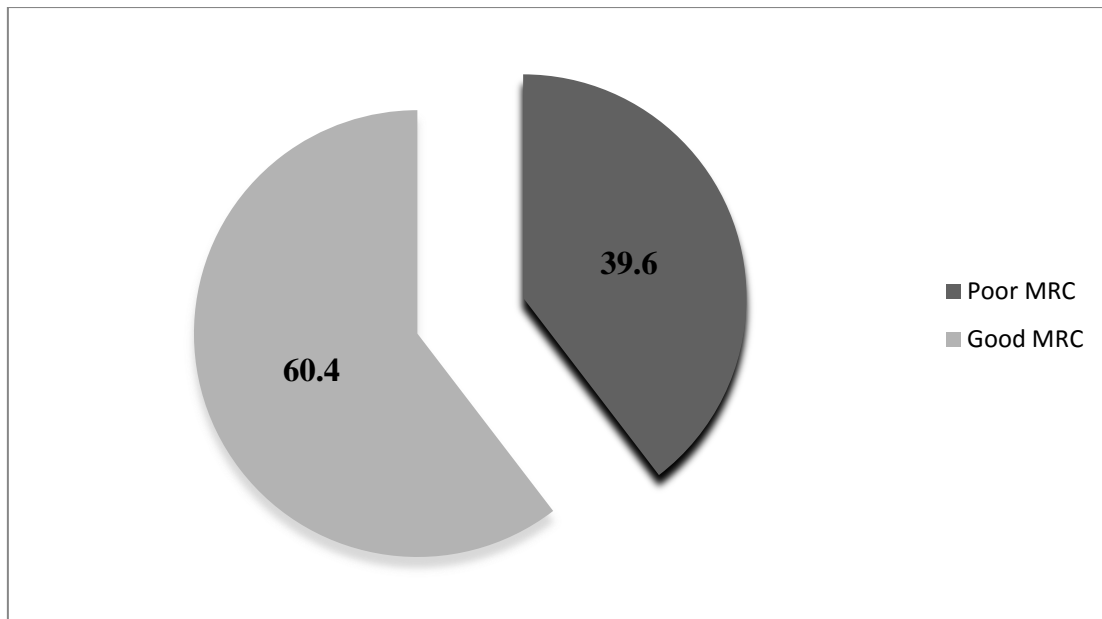


Figure 1: Maternal role competency among mothers who come to EPI clinic in all public health facilities, Arba Minch town, southern Ethiopia, 2019.

3.4. Factors associated with maternal role competency

Self-esteem, Child care experience, perceived social support, post natal depression were variables statistically associated with poor maternal role competence (See Table 2). Mothers who have low self-esteem were 5.518 times more likely to be poor in MRC than mothers who have high self-esteem (**AOR; 5.518; 95%: 1.669, 13.109**). Mothers without child care experience are 2.9 times more likely to be poor in maternal role competence than their counter parts (**AOR; 2.948;95%: 1.682, 5.167**). Those mothers who perceive they had low social support were 8 times more likely to be poor in maternal role competency than mothers who perceive they have high social support (**AOR: 2.05; 95%:1.219,3.44**), whereas, mothers who received moderate social support were 3.5 times more likely to be poor in MRC than those received higher support (**AOR;3.598;95%;1.864,6.946**). Mothers who score higher in Edinburg postpartum depression assessment scale were 4.7 time more likely to have poor MRC than those who had no/minimal depression symptoms (**AOR:4.72;95%:1.699,13.109**), and mothers with moderate post-partum depression symptom were 4.1 times more likely to be poor in MRC(**AOR;4.109;1.676,10.072**).

Table 2: Factors associated with MRC on bivariate and multi variable logistic regression for mothers attending EPI clinic in public health facilities of Arba Minch town, southern Ethiopia, 2019.

Variable	Categories	MRC		COR at 95%	AOR at 95% CI
		Poor	Good		
Mothers Occupation	House wife	73(37.8)	120(62.2)	0.639(0.379,1.076)*	0.618(0.293,1.306)
	Merchant	13(29.5)	31(70.5)	0.440(0.202,0.960)*	0.334(0.110,1.013)
	employee	28(40)	42(60.0)	0.700(0.367,1.334)	0.205(1.256)
	Others	40(48.8)	42(51.2)	1	1
Mothers educational status	No formal education	24(31.2)	53(68.8)	1	1
	Primary school	40(38.8)	63(61.2)	1.402(0.751,2.617)	1.829(0.739,4.528)
	Secondary school	53(45.7)	63(54.3)	1.858(1.015,3.402)*	1.815(0.728,4.522)
	Diploma and above	37(39.8)	56(60..2)	1.459(0.77, 2.757)*	1.645(0.542,4.99)
Income category	<2500	28(36.4)	49(63.6)	0.977(0.575,1.660)	1.166(0.488,2.784)
	2501-3500	33(55)	27(45)	2.090(1.183,3.693)*	1.270(0.536,3.013)
	>3500	93(36.9)	159(63.1)	1	1
Times of ANC visit(n=360)	Once	3(25)	9(75)	0.401(0.105,1.535)*	0.414(.053,3.194)
	Twice	15(39.5)	23(60.5)	0.784(0.382,1.611)	0.908(0.348,2.368)
	Three times	48(32.7)	99(67.3)	0.583(0.367,.926)*	0.546(0.287,1.039)
	Four and above	74(45.4)	89(54.6)	1	1
Child care experience	No	96(60)	64(40)	4.422(2.864,6.829)	2.948(1.682,5.167)**
	Yes	58(25.3)	171(74.7)	1	1
Self esteem	Low	33(82.5)	7(17.5)	11.821(4.98,28.029)	5.518(1.669,13.109)**
	Normal	54(47.4)	60(52.6)	2.257(1.419,3.589)	1.710(0.934,3.132)
	High	67(28.5)	168(71.5)	1	1
social support	Low	61(67.8)	29(32.2)	9.556(5.38,16.96)	8.051(3.778,17.159)**
	Moderate	58(55.2)	47(44.8)	5.606(3.297,9.533)	3.598(1.864,6.946)**
	High	35(18)	159(82)	1	1
Post natal depression	No depression	76(28.7)	189(71.3)	1	1
	Mild depression	16(39.0)	25(61)	1.592(0.805,3.147)	2.2024(.867,4.725)
	Moderate depression	38(77.60)	11(22.4)	8.591(4.174,17.684)	4.109(1.676,10.072)**
	Severe depression	24(70.6)	10(29.4)	5.968(2.724,13.076)	4.72(1.699,18.248)**

Key: 1= *candidate variable on bivariate (p<0.25) ** significant factors on multivariable (p<0.05)

4. Discussion

This study revealed that 39.6 % exhibit poor maternal role competence. Child care experience, Post natal depression, Self esteem and social support, were significantly associated with maternal role competence. The magnitude of poor maternal role competence were 39.6 % in this study which is higher as compared to magnitude of poor MRC found in research done at Pokohara, Nepal that was 22.7% [3]. Socio demographic difference may be attributable for the difference.

This study revealed that Perceived social support was statistically significant with MRC. This is In line with a studies conducted at Dharan (Nepal), Iran, Korea and Southern US [12,23–25] This might be due to adequate support from family and friends who had more experience of baby care make them feel confident in the maternal care they provide and increased in level of competency.

Self-esteem was one of the significantly associated variables which is consistent with a research in Dharan, Nepal [24]. The finding was also in line with study done by Roma T. Mercer (38). When a mother have low

self-esteem she consider less of herself, and she may feel as she can't achieve anything including her maternal role, low self-esteem also decrease the satisfaction she have in her life and in being a mother this may be the reason behind why mothers who have low self-esteem have poor maternal role competency.

This study revealed that postpartum depression was statistically significant with MRC. This is consistent with studies conducted in US and Finland [30,39]. Mothers with postpartum depression have decreased ability to take care of their infant; this will obviously decrease the maternal role competency.

Unlike a comparative study done by Mercer And Ferketich, Child care experience was significantly associated with MRC in this study [30].

5. Conclusion

Significant numbers of mothers were found to have poor maternal role competence. Having no child care experience, low Self-esteem, low and moderate perceived social support, moderate and sever perceived postnatal depression were factors associated with poor maternal role competency. Maternal role competency of all mothers in general and first time mothers in particular should be addressed at each visit of antenatal and postnatal care.

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