

Original Research Article

Effect of post-discharge postnatal educational intervention on maternal self-efficacy among low-income primiparas living in informal settlements in Nairobi County, Kenya

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ABSTRACT

Background: Maternal knowledge and maternal self-efficacy (MSE) are crucial for the adoption of health-promoting evidence-based postnatal practices. Short hospital stay after normal deliveries curtails delivery of pre-discharge postnatal education thus inadequate knowledge and poor MSE. This is accentuated among low-income primiparas thus a need for post-discharge follow-up. Aim was to determine the effect of self-efficacy theory-based post-discharge postnatal education on low-income primiparas' MSE.

Methods: A Quasi-experimental study on low-income primiparas residing in selected slums in Nairobi, Kenya. The control and experimental sites had 118 primiparas each conveniently recruited on early discharge after normal delivery from health facilities serving the slums. An interviewer-administered entry questionnaire was applied to collect facility and demographic data. The intervention group received post-discharge PNE intervention and routine PNC while the control group received routine PNC only. Perceived maternal parental self-efficacy scale was used to measure MSE at 6 weeks. Focus group discussions were conducted for qualitative data. IBM SPSS was used to analyze data. Independent sample t-tests and multiple linear regression were derived.

Results: There was a significant ($t=12.322$, $p=0.000$) difference in MSE between experimental and control groups. The intervention was a significant predictor of MSE ($\beta=0.59$, $p=0.00$). Respondents appreciated the multi-pronged learning methods, especially the community health volunteers. COVID-19 pandemic challenges such as loss of livelihood and disruption of social connectedness were highlighted.

Conclusions: Self-efficacy theory-based follow-up PNE intervention improves MSE among low-income primiparas thus a valuable complement to routine care.

Keywords: Maternal self-efficacy, Low-Income, Primiparas, Postnatal care, Postnatal education, Informal settlement

INTRODUCTION

Reducing maternal and newborn mortalities remains top on the global health agenda. The postnatal period (PP) – the first six weeks after birth – is a crucial time in the lives of the mother and baby.¹ Though most maternal and neonatal mortalities occur during this period, it

unfortunately remains neglected.¹ Kenya's Reproductive, Maternal, Neonatal, Child, and Adolescent Health (RMNCAH) investment framework calls for prioritization of disadvantaged populations with higher mortalities while highlighting preventive postnatal care (PNC) as a high-impact intervention². Nairobi informal settlements are home to such vulnerable populations. Nairobi urban

health and demographic surveillance system (NUHDSS) showed that maternal mortality ratio (MMR) is unreasonably higher in Nairobi informal settlements at 709 per 100 000 live births, almost double Kenya's 362.2.⁴ Similarly, Nairobi's neonatal mortality ratio (NMR) is estimated at 39 per 1000 live births higher than 22 nationally.⁴ This is concerning given that 60-70% of Nairobi's population lives in slums.³ These mortalities which are largely from preventable causes likely indicate higher morbidities. Postnatal education (PNE) enhances knowledge which is key to the adoption of evidence-based postnatal practices (PNPs) that can reduce these adverse outcomes.^{1,5}

However, enhancing knowledge alone is insufficient for the adoption of health-promoting behaviors. Health promotion interventions must consider the role of self-efficacy (SE) in the mechanism where health literacy improves knowledge, which in turn improves SE hence promoting healthy behaviors, ultimately improving health outcomes.⁶ This points to a need to incorporate the enhancement of SE in PNE interventions. According to Bandura's theory, perceived SE is defined as people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives. It is not a fixed personality trait, but a dynamic process modified by task and situational demands as well as changing individual factors. High self-efficacy reduces health-impairing habits while enhancing the adoption of health-promoting habits while low self-efficacy can have a direct impact on behavior where people who doubt their capabilities, slacken and avoid tasks they view as difficult.⁷ A subcategory of SE, "MSE is the belief a mother holds about her capabilities to organize and execute a set of tasks related to parenting a child" Montigny et al as cited by Zheng et al.^{7,8} It is an essential skill for the transition to motherhood and the promotion of healthy behavior as it mediates maternal health literacy and parenting practices meaning knowledge may only influence behavior if one is confident of their capabilities.^{8,9} During the PP, MSE is positively related to; a health-promoting lifestyle, early parenting practices, exclusive breastfeeding, parental satisfaction, early maternal competence, and child health outcomes, while inversely related to; postpartum depression, anxiety, and stress.⁹⁻¹² High MSE is also associated with higher postpartum functional status defined as "a multi-dimensional concept that includes self-care, neonatal care, family care, and social and occupational activities".¹³

Positive predictors of MSE include; social support, previous experience in handling or watching another parent a child, a mother's higher education, good marriage, guidance and encouragement, good income and being employed.^{8,14-16} On the other hand, depression, lower education, lack of social support, higher perceived barriers, low income, unskilled occupation, and poor working and living conditions are notably associated with low MSE.^{8,17,18} These unfavourable conditions

disproportionately affect mothers living in informal settlements which are characterized by overcrowding, poverty, and limited access to; health, basic education, water and sanitation, and employment.³ The situation is worse for low-income primiparous mothers. Indeed, maternal competency is lowest in disadvantaged primiparity where "First-time, low-income mothers' new role, life stressors, and economic hardships can increase psychological distress resulting in less positive parenting practices".¹¹ Primiparas are faced with scores of transitional challenges occasioned by low maternal knowledge and poor MSE due to their lack of previous experience.^{8,18,19} This calls for interventions that enhance primiparas MSE especially given their dissatisfaction with early discharge and little or absent post-discharge follow-up.^{20,21} This is especially so for those living in low-resource settings such as Nairobi slums. Fortunately, self-efficacy is modifiable. Bandura proposed four sources of self-efficacy: mastery experiences (performance accomplishment) where previous self-success is the most effective promoter of SE, vicarious experiences- where witnessing others succeed in a task raises self-belief that one can succeed too, verbal persuasion where if one is persuaded of their capability through feedback, it enhances their confidence thus higher effort, and Physiological/emotional arousal where physical or emotional reactions affect once competence thus helping someone harness positive mood enhances perceived SE while negative arousal inhibits it.⁷ This points to a need to incorporate these sources into PNE interventions.

WHO guidelines for positive postpartum experience recommend "the skills and confidence of the woman for newborn and self-care be assessed before discharge".¹ It however does not prescribe a way forward in case they are found to be low, which would mean low MSE. As such, health workers should evaluate women who show a possible risk of low MSE especially primiparas, and provide professional support to them via training, assistance, and interventions to boost it.^{14,22} However, evaluation of MSE during the short postpartum stay may be unreliable due to the hospital circumstances and short contact between the mother and the newborn.¹⁶ Furthermore, in low-resource settings, the nurses may not have the time to assess and effectively deliver sufficient PNC pre-discharge, especially in light of the short window in the postnatal ward.²³ This points to a need for continuity of care beyond the facility doors. Indeed, first-time mothers value continuity of professional support, reassurance, and information.²⁴ In this regard, the sources of self-efficacy can be purposely incorporated into follow-up PNE interventions to improve MSE after discharge. Studies on diverse SE theory-based post-discharge educational interventions demonstrate that they cost-effectively improve primiparous women's maternal outcomes, MSE, with most subsequently improving postnatal outcomes.^{21,25-28} Evidence favors home-based multimodality programs that incorporate experience, and individualized sessions with key content packages

addressing self and baby care with information presented via an array of formats.^{5,29} Including self-efficacy-enhancing strategies in these programs is critical to improving MSE in adopting health-promoting PNPs. There is however a paucity of studies establishing the influence of self-efficacy theory-based multimodality follow-up PNE interventions on MSE among low-income primiparas living in informal settlements. This study aimed to determine the effect of a self-efficacy theory-based post-discharge PNE intervention on MSE among low-income primiparas living in informal settlements in Nairobi, Kenya.

METHODS

Study design

A post-test-only, quasi-experimental study, with an intervention group and a control group applying both quantitative and qualitative data collection methods.

Study setting

The study was conducted in Nairobi informal settlements, purposively selected due to its disproportionately higher MMR. Korogocho and Viwandani were purposively chosen having been the two Demographic Surveillance Areas (DSA) for the Nairobi Urban Health and Demographic Surveillance System since 2002.³⁰ To increase the target population an adjacent slum was added to each; Huruma slum to Korogocho (cluster 1) and Kwa Reuben to Viwandani (cluster 2). Maternity units serving the two clusters as per the County records were purposefully included.

Sample size

The sample size was calculated according to the formula by Chan (2003) for the comparison of two proportions (two-sided) at a 5% level of significance and 80% statistical power.³¹ Since we could not determine the mean MSE in the study population from the literature, the generally agreed 50% was assumed, with an average 20% effect size, a 4% increase from a 16% previous study by Shorey et al 2015 given that our study had an extra component of self-affirmation- yielding 91 participants per group.³² Based on a 30% dropout rate in the previous study 118 participants were required for each arm of the study.¹²

Inclusion and exclusion criteria

Consenting postpartum primiparous mothers residing in the selected slums, being discharged from maternity units serving the selected slums within 48 hours of birth, who had a term, uncomplicated birth to a healthy single neonate, who hoped to be domiciled in the area of study for subsequent 2 months and had access to a telephone were eligible to participate. Sick primiparas or sick

neonates who could not be visited by a CHV were excluded.

Participants sampling

Given the rarity of the target population as estimated against the 2019 delivery records in the target health facilities, convenience sampling was used to select participants on a rolling basis until the desired sample was reached. The list of mothers cleared for discharge for the day was obtained from the nurse in charge. Eligibility information was obtained from the mother. The eligible respondents were taken through the basics of the intervention and the consent process and once they signed, they were enrolled in the experimental group if living in Cluster 1 or the control group if living in Cluster 2. Two FGDs per study arm with 8 participants each who were purposefully selected based on consent and availability were used for qualitative data.

Study arms

Participants from the experimental group were discharged as per the routine facility criteria and booked for a visit by the CHV scheduled within the first 7 days postpartum who delivered the intervention in addition to the routine Ministry of Health (MoH) PNC. Participants from the control group were discharged per the routine facility criteria and were entitled to receive routine MoH PNC. They only provided a telephone contact for the planning of the face-to-face exit interview at 6 weeks.

The intervention

It included comprehensive PNE content as recommended by WHO which included; identification and health-seeking for maternal and neonatal danger signs, baby care practices including EBF, cord care, warmth, self-care practices, and utilization of postnatal contacts at 2 and 6 weeks.³³ To enhance self-efficacy the study applied multiple delivery strategies based on Bandura's theory of self-efficacy namely; mastery experiences, vicarious experiences, verbal persuasion, and physiological and affective states.⁷ For guided mastery of experience, - a visit first week, by a specially trained CHV who offered practical informational support via 45 minutes teaching using a comprehensive counseling guide and didactic demonstration on basic baby care tasks such as bathing the baby, cord care, and breastfeeding with participants' active participation. The participants were further provided with an informational wall hanging with baby care and self-care tips including symptoms of key maternal and neonatal danger signs and a call to action - Seek emergency health care- for the same, which was explained by the CHV to reinforce the content. The wall hanging was hung in a position where the mother could easily read while resting. For vicarious experience; a video of a model, a primiparas from a similar background (Mathare slum) demonstrating key skills including proper breastfeeding, cleaning the baby, cord care, and soothing

the baby while being guided by a health worker was used by the CHV and uploaded on the participant's or significant other's phone for reference. Extra videos from Global Health Media Project video website were used by the CHV to reinforce neonatal danger signs, maternal danger signs, and self and baby care including; breastfeeding techniques, keeping the baby warm, and cord care.³⁴ For verbal persuasion and encouragement, consistent feedback from the CHVs face to face or on the phone, and affirmation by significant others who were included in the didactic teaching and taught how to affirm the mothers. For physiological and affective states, mothers were given self-affirmation pamphlets in both English and Kiswahili and encouraged to keep reciting them. The educational video had affirmations too. Telephone access to the CHV for emotional support and troubleshooting was granted throughout the 6 weeks. The CHV called the mothers 3 times at 2, 4 and 6 weeks to address any concerns. An SMS reminder for 2 and 6 weeks of postnatal health contact was sent by the CHV to the participants.

Study variables

The independent variables were facility factors; type of facility ownership (Private, Public, FBO), level of facility (level 2-6), postnatal ward workload ratio, length of hospital stay (LOHS) after delivery, and primipara's perceived satisfaction with pre-discharge PNE. Social demographic factors included age, occupation, level of education, household income, and marital status. The intervening variable was the follow-up educational intervention while the dependent variable was MSE.

Study period

The intervention was applied and data collected on a rolling basis for eight months from May 2021 and December 2021.

Data collection

An interviewer-administered questionnaire was used to collect entry data which included: age, level of education, residence, household income, occupation, marital status, length of hospital stay after delivery, perceived satisfaction with in-hospital PNE, and their mobile telephone contact with an alternative contact to re-route in case they were not reachable. Facility data collected from the maternity in charge included the level and type of facility and postnatal ward workload ratio. On exit after 6 weeks, the MSE score was captured using the Perceived Maternal Parental Self-efficacy (PMPS-E) questionnaire; a 20-question scale by Ingram et al with a Chronbach Alpha score-0.89.³⁵ The questions are newborn care related and each item is rated on a four-point Likert scale ranging from 1 (strongly disagree), 2 (disagree), 3 (Agree), and 4 (strongly agree). The overall score ranges between 20- 80, with a greater score meaning a higher level of MSE. Intensive training of the

research assistants (Ras) on data collection and ethical consideration was undertaken. Two different RAs were used for each arm to avoid bias.

Data processing and analysis

Collected data were checked for completeness, coded, and entered onto Open Data Kit (ODK) then exported to IBM SPSS Version 20.0 for analysis. Descriptive statistics such as percentages, means and standard deviations were used to report facility, demographic characteristics, and MSE scores. To test the difference in MSE between the experimental and control groups t-test was calculated. To further isolate the predictor effect of the intervention on MSE, a multiple linear regression was conducted adjusted for background variables. The difference was considered significant at $p < 0.05$, two-tailed. Thematic analysis was used to present qualitative data. Though efforts were taken to avoid incompleteness of questionnaires, any cases with missing data were omitted from the analysis. Written permission was obtained from the Director of health services, Nairobi County. Permission to recruit mothers was granted by administrators at every facility. Written consent was explained, signed, and obtained from each respondent. Confidentiality was maintained on participants and codes used. Participants were adequately informed of their benefits and risks, right to voluntary participation, and withdrawal from the study. No incentives were given. Written permission was obtained from global media project to use their videos.

RESULTS

Social-demographic characteristics of the participants (n=235)

The attrition rate was 0.4% (117 experimental, 118 control) after one experimental participant dropped out after losing her newborn thus $n=235$. The average age of the participants was 23.3 years ($SD=14.1$). The majority of the participants were married; 68.4% ($N=80$) in experimental and 64% ($N=75$) in control, had some form of secondary education; 75% ($N=64$) experimental and 56.7% ($N=67$) control, unemployed; 83% ($N=97$) experimental, 53% ($N=62$) control. The response rate for income was extremely low at 28% (65) possibly due to COVID-19-related loss of livelihoods and thus excluded in the final analysis.

Facility characteristics

Majority of the respondents delivered in private facilities; 50% ($N=59$) in control and 55 %($N=64$) which were mostly level 3 facilities 73% ($N=86$) in control and 86% ($N=101$) in experimental, and their postnatal stay was in a ward with a workload ratio of 1:1; 42.4% ($N=50$) in control and 55.6% ($N=65$) in experimental. The majority of the respondents in the control group 63 (54.8) had 7-12 hrs, while a majority in the experimental group 58 (49.6) had 13-24 hrs. LOHS post-delivery.

Table 1: Comparison of demographic, facility of birth characteristics between the experimental and control groups (n=235).

Characteristic	Control, N (%)	Experimental total, N (%)		Statistical test, N (%)
Facility type				
NGO/FBO	23 (19.5)	53 (45.3)	76 (32.3)	Fishers Exact=58.1, p=0.00*
Public	36 (30.5)	0 (0.0)	36 (15.3)	
Private	59 (50.0)	64 (54.7)	123 (52.3)	
Facility level				
Level 2	32 (27.1)	16 (13.7)	48 (20.4)	$\chi^2= 6.5$, df=1, p=0.015
Level 3	86 (72.9)	101 (86.3)	187 (79.6)	
Postnatal ward workload ratio				
1:1	50 (42.4)	65 (55.6)	115 (48.9)	t=-5.14, p=0.00*
1:2	27 (22.9)	52 (44.4)	79 (33.6)	
1:3	41 (34.7)	0 (0.0)	41 (17.4)	
Age (years) (Mean±SD)				
Respondents	23.8 (4.2)	22.9 (19.5)	23.3 (14.1)	t=-0.448, p=0.65
Marital status				
Single	23 (19.7)	32 (27.4)	55 (23.4)	Fishers Exact=20.5, p=0.00*
Married	75 (64.1)	80 (68.4)	155 (66)	
Widowed	3 (2.6)	0 (0.0)	3 (1.3)	
Separated	16 (13.7)	1 (0.9)	17 (7.2)	
Educational level				
No education	2 (1.7)	0 (0.0)	2 (0.9)	Fishers Exact=4.8, p=0.43
Pry uncompleted	9 (7.6)	12 (10.3)	21 (8.9)	
Pry completed	21 (17.8)	19 (16.2)	40 (17)	
Sec uncompleted	24 (20.3)	25 (21.4)	49 (20.9)	
Sec completed	43 (36.4)	50 (42.7)	93 (39.6)	
Tertiary	19 (16.1)	11 (9.4)	30 (12.8)	
Occupation				
Employed	9 (7.6)	0 (0.0)	9 (3.8)	Fishers Exact=44.6, p=0.00*
Self-employed	32 (27.1)	3 (2.6)	35 (14.9)	
Casual job	15 (12.7)	17 (14.5)	32 (13.6)	
Unemployed	62 (52.5)	97 (82.9)	159 (67.7)	
Length of hospital stay (hours)				
≤6	18 (15.7)	23 (19.7)	41 (17.4)	U=5848, p=0.031*
7-12	63 (54.8)	31 (26.5)	95 (40.4)	
13-24	28 (24.3)	58 (49.6)	88 (37.4)	
24-48	6 (5.2)	5 (4.3)	11 (4.7)	
Satisfaction within hospital PNE				
Very satisfied	47 (40.2)	57 (48.7)	104 (44.3)	U=6103, p=0.088*
Satisfied	56 (47.9)	54 (46.2)	111 (47.2)	
Neutral	14 (12.0)	3 (2.6)	17 (7.2)	
Dissatisfied	0 (0.0)	2 (1.7)	2 (0.9)	
Very dissatisfied	0 (0.0)	1 (0.9)	1 (0.4)	

*significant p≤0.05, pry-primary, sec-secondary

Table 2: Effect of follow-up PNE intervention on MSE score.

T test statistic				Multiple linear regression				
Groups	N	Mean	SD	T value	P value	R ²	β	P value
Experimental	117	76.4	6.3	11.69	0.00	0.48	0.59	0.00
Control	118	62.4	11.3					

The largest proportion in the control 56 (47.4) reported being satisfied with Pre-discharge PNE while 57 (48.7) in the experimental reported being very satisfied.

Comparison of control and intervention group

The study groups had statistically significant differences in; facility type ($F=58.1$, $p=0.00$), facility level ($\chi^2=6.5$, $df=1$, $p=0.015$), marital status ($F=20.5$, $p=0.00$), occupation ($F=44.6$, $p=0.00$), postnatal ward workload ratio ($t=-5.14$, $p=0.00$) and LOHS ($U=5848$, $p=0.03$). Age, education level, and satisfaction with in-hospital PNE were not significantly different as shown in (Table 1).

Effect of post-discharge PNE intervention on MSE

An independent t-test showed a significant difference ($t=11.69$, $p=0.000$) in MSE where the mean perceived MSE was 76.4 ± 6.3 among the experimental group versus 62.4 ± 11.3 among the control group. Further, a multiple linear regression was conducted to determine if the PNE intervention predicted MSE adjusted for covariates (education level, occupation, age, marital status, Facility level, facility type, facility workload ratio, Satisfaction with pre-discharge teaching, and LOHS). Dummy variables were created for categorical variables: facility type, occupation, and marital status. PNE intervention was a significant positive predictor of MSE by 59% ($\beta=0.59$, $p=0.00$) (Table 2).

The FGDs' findings affirmed the quantitative findings where experimental participants expressed appreciation for the multi-pronged intervention. "The visit home by my CHV was very comforting. After the teaching by the CHV, it was easy to take care of the baby and if I forget. I watch the video or chart if doing the right thing which makes me confident," (Respondent FGD 2, Viwandani) "CHV showed me how to wash and breastfeed my baby and encouraged me when I was hopeless. I felt covered". (Respondent.FGD1.Kwa Reuben). "Nilipenda kusoma hizo vitu za kujipea nguvu sana nikiwa chini nazisoma nakua sawa" (Respondent kwa Reuben) (I liked reading the self-affirmations, when low I read and felt better). Knowing that though they were home they were not alone since they could talk to the CHV gave them peace of mind. "Nilipojua naweza pigia CHV wangu wakati wowote wasiwasi ya kutunza mtoto mchanga iliisha. I knew I was not alone" (Respondent FGD 1, Kwa Reuben). (Knowing I could call the CHV anytime quelled my fears of caring for a neonate). Some of the mothers also expressed joy with the support their significant others gave them after the session with the CHV. "My boyfriend was told to help me when we were visited ameni-(He)encourage sana" (Respondent FGD, Kwa Reuben). Respondents also raised challenges related to COVID-19 which affected the social support they received some having only the CHV visit them. "Stress tupu! Sikua na mtu wakunisaidia kwasababu sijaoлека na mamangu hangekuja kutoka ushago kwasababu ya

COVID. I was happy when my CHV came" (Respondent FGD 1 Korogocho). (Was stressed because I had no one to help me, I am unmarried, and my Mum couldn't come due to COVID-19 restrictions). In addition to the loss of social connections, respondents from the control group expressed a need for home-based follow-up after early discharge. "A nurse should come home when we are relaxed to teach us mm. Also, we should stay in the hospital for two days rather than 8 hours so we gain courage" (FGD 3 Huruma).

DISCUSSION

Equipping low-income mothers with the crucial skills to find, understand, and apply parenting-related information could improve their MSE thus better health outcomes.⁹ The current study sought to evaluate the influence of self-efficacy theory-based follow-up PNE on low-income primiparas where the intervention was found to significantly enhance MSE. The results were similar to other studies. A study in Iran showed improved primiparas self-efficacy in neonatal care after a comparable PN home-based education intervention.³⁶ The results were also congruent with a systematic review of universal parent education interventions which were found to significantly enhance PSE among first-time parents thus helping them navigate adjustment challenges, facilitating a smooth transition into parenthood.²¹ Another study on the effectiveness of a technology-based supportive educational parenting program on parental outcomes yielded positive results in improving MPSE.²⁷ None of the studies above were from an African setting and this is the first as per our knowledge on MSE of primiparas living in Nairobi informal settlements, Kenya. In line with the call by WHO to have a "positive postnatal experience" as a crucial goal for all mothers and their newborns the respondents in this study expressed satisfaction and appreciated the home-based follow-up, especially the visit by the CHVs after early discharge.¹ The notion that they were not alone but could call the CHV anytime improved their social support, reduced their worries hence enhanced their MSE. Though a recent systematic review yielded uncertain evidence on the effectiveness of home visits on postnatal outcomes most studies show effectiveness.³⁷

A home-based quasi-experimental study in Iran demonstrated that follow-up empowerment training by nurses reduced parenting stress and transitioning difficulties such as maternal concerns, changes in life, negative postpartum feelings, and improved enjoyment.²⁸ Our study shows that home visits are especially impactful for primiparas in low-income settings. Indeed, evidence indicates that young, socio-economically disadvantaged mothers appreciate health visits by professionals as they assist them with recognizing and addressing their needs which can build their agency and thus improve MSE.³⁸ However, the use of midwives may not be feasible in low-resource settings due to shortage of health workers. In such cases, WHO recommends that trained CHVs

suffice for home visits.¹ This study included the significant others in the initial didactic teaching by the CHVs where they were encouraged to keep supporting and cheering the primiparas on. Respondents hailed the subsequent support and encouragement from family members. This is in line with Banduras' theory on the influence of verbal persuasion in the development of MSE⁷. postpartum mothers appreciate and benefit from home visits especially if the sessions involve influential family members.³⁹ It is thus imperative to include family members in primiparas PNE. The concern raised on short hospital stay and the need for follow-up by professionals at home points to a need for more contact time with the health providers pre- and post-discharge in enhancing maternal competence. The current intervention lasted 6 weeks. The period covered the critical period and was within the 2-15 weeks period recommended since longer interventions afford the necessary time and education required to acquire the needed skills, thus enhancing primiparas MSE.²¹

This study was carried out during the COVID-19 pandemic and some mothers expressed increased stress due to loss of livelihood and lack of the much social connection due to restrictions which affected their confidence. Lack of food, baby supplies, and the interruption of movement was said to affect the primiparas who expressed feeling more stressed. This is concurrent with the study by Lin et al which found that COVID-19 elevated parenting stress. Though our study did not measure this outcome, Lin et al study demonstrated that MSE and social support buffered COVID-19-related postpartum parenting stress and recommended the enhancement of MSE during challenging times.⁴⁰ It can be assumed then that given that our intervention improved MSE, then it was also helpful in minimizing stresses associated with COVID-19.

Limitations

The study was conducted during COVID-19 thus logistical barriers such as social distancing necessitated a longer time. The observed outcomes were self-reported and thus may have been subject to desirability bias.

CONCLUSION

This study established that follow-up post-discharge PNE intervention applying self-efficacy influencers can improve MSE among low-income primiparas. This is an important finding given that enhancing MSE in the postnatal period is crucial for the adoption of recommended practices and thus improving postnatal outcomes.

Recommendations

The ministry of health and relevant stakeholders should put in place measures to implement self-efficacy theory-based post-discharge PNE intervention for low-income

primiparas with early discharge. Extra innovative supportive care should be provided during challenging times such as the COVID-19 pandemic to safeguard MSE.

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