

# Effectiveness of Practice Application for Postpartum Mothers

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## Abstract

The aim of Experimental research was to examine Knowledge, behavior of postpartum mothers, and to evaluate the effectiveness of Practice Application (PA) for postpartum mothers. The subjects were 35 postpartum mothers, who volunteer in to experiment program by simple random sampling, between August - November 2019. Data were analyzed using descriptive statistics, and inferential statistics by Paired T-test to compare the effectiveness of the practical application.

The result shows that the subject had knowledge about the postoperative practice at a high level of 57.10% ( $28.17 \pm 1.42$ ), and using herbs of 65.70%. The behavior postnatal care was a moderate level of 65.70% ( $79.17 \pm 6.03$ ). The knowledge and behavior of post-partum after used PA was significantly better than before ( $P < 0.0001$ )

**Keywords:** Effectiveness, Application, Postpartum mothers, Practice postpartum mothers, Knowledge, Herb

## I. INTRODUCTION

Haemorrhage and hypertensive disorders are considered two leading causes of maternal mortality. However, when other most common causes of maternal mortality were investigated, maternal sepsis was ranked first (15.5%), followed by other medical conditions, often reflecting pre-existing illnesses (14.5%), infection (12.7%), hemorrhage (11.4%), and cardiomyopathy (11.0%) [1]. In 2016, approximately 2,600 children died within the first 24 hours every day of the year. For nearly 2 million newborn babies, their first week was also the last day. In total, 2.6 million children died before the end of the first month. Of those, more than 80% of those children died from preventable and curable causes, such as preterm birth, complications during childbirth and infection, such as sepsis [1].

A postpartum (or postnatal) period begins immediately after birth of child as mother's body, including hormone levels and uterus size, returns to a non-pregnant state [3]. The terms puerperium or puerperal period, or immediate postpartum period are commonly used to refer to the first six weeks

following childbirth [4]. The World Health Organization (WHO) describes the postnatal period as the most critical and yet the most neglected phase in the lives of mothers and babies; most maternal and newborn deaths occur during the postnatal period. Therefore, the practice of mothers after giving birth is important. In order to have good health habits after giving birth, mothers must have proper health promotion behaviors to prevent potential complications. The World Health Organization (WHO) recognizes the importance of promoting quality birth and growth. Thus, it is necessary to have a plan, well prepare before pregnancy and receive assistance in having children, promote birth of baby, safe mother, good post-natal care. In addition, children should be raised in an environment that is conducive to their growth and development and be ready to learn steadily in the next age [5].

Information and experience acquired during the childbearing period is critical for the future health of mothers and babies. Misinformation

derived from apps can cause unnecessary worry or false reassurances, resulting in poor outcomes. Because apps are becoming an increasingly important source of information during pregnancy, concerns about the quality of these apps are increasing. Some websites and magazines have introduced suitable apps for pregnant women. Furthermore, app stores provide information such as the number of times an app has been downloaded and user reviews or scores to help people choose which apps to download. However, people often delete dissatisfied downloaded apps, and reviews are optional and subjective. Moreover, app descriptions do not generally contain advice or safety information to serve as tools for medical care and the quality of these apps is not guaranteed. As a result, the information from apps for pregnant women cannot be considered completely safe [6].

## II. DETAILS EXPERIMENTAL

### II.I. Materials and Procedures

This research was a Randomized Controlled Trial (RCT). The sample of this research consisted of 35 postpartum mothers. The samples were selected based on a simple random sampling. The period of study was during August - November 2019, totaling 3 months. This research was conducted based on two phases, namely: data collection and intervention activities in the experiment with the following details:

- The 1<sup>st</sup> month was a data collection period. The research instrument used for data collection in this phase was a questionnaire with a confidence value of 0.88. Data were collected via Google Forms to assess knowledge of medicinal use and behavior before the experiment. Then, in-depth interview was conducted. In addition, the researcher also collected pregnancy history, analyzed data. Analyzed data were then used to develop the application.

- The 2<sup>nd</sup> month was try-out period with the following details:

- Week 1 was a period of providing knowledge through apps about food, stress management, exercise after birth, cleaning the mother and child body, and promoting child development.

- Week 2 was a period of educating knowledge through the app about breast milk, regular check of baby, vaccine, and modern child rearing, and raising children.

Figure I. Work Plan Intervention



- The 3<sup>rd</sup> month was a period of follow-up through the evaluation after application trial by re-measuring knowledge and behavior. Data were analyzed using descriptive statistics, including mean, median as well as inferential statistics, including Paired T-test to compare the effectiveness of practice application in postpartum women.

## III. RESULTS AND DISCUSSION

### III.I Personal factors

The results of studying personal factors of the sample showed as follows: The average age of the sample was 25.00 years old with a minimum age of 15.00 years old and the maximum age of 39.00 years old. For education level, most of them graduated with the high school level (30.60%). The majority of the sample earned their income of 10,000 baht / month (11.10%). 91.70% of them lived in their own home. Most of them had a first child (58.30%) and had experience in raising a hundred children (58.30%). 61.10% of them planned to have a child. In the first antenatal care, the average gestational age was 9.00 weeks. Most of them had antenatal care at a private clinic (41.70%), antenatal appointment (91.9%). 80.60% of samples searched for information after giving birth (69.40%). The average weight of newborn babies was 2,910.00 grams. Most of them received vaccination after birth (77.80%), and got milk immediately after giving birth (55.60%).

### III.II Knowledge of practice after childbirth and herbal use

The results of the research indicated that the sample's knowledge of practice for postpartum care was a high level. At pre-experimental period, the knowledge of the sample mostly was a low level (54.30%). After the experiment, the sample's knowledge was a high level (57.10). The sample's knowledge of using herbs for postpartum care such as lying near an open fire for warmth and drinking water for womb's return to normal position was a high level (65.70%). Behavior of self-care after giving birth of the sample was at a moderate level (79.17 ± 6.03).

**Table 1** Knowledge of postpartum practice and herbal use

Knowledge Practice postpartum mothers	Ever Amount (Percent)	Never Amount (Percent)
Low level	54.30	42.90
High level	45.70	57.10
$\bar{x} \pm SD$ .	(24.57 ± 2.64)	(28.17 ± 1.42)
herbal knowledge		
Low level	34.30	34.30
High level	65.70	65.70
$\bar{x} \pm SD$ .	(3.77 ± 1.66)	(3.77 ± 1.66)
Practice of postpartum mothers		
Low level	14.30	11.40
Moderate	42.90	68.60
High level	42.90	20.00
$\bar{x} \pm SD$ .	(62.11 ± 3.87)	(79.17 ± 6.03)

### III.III Evaluating the effectiveness of the application

The comparative results showed that mean scores of knowledge and behavior of postpartum practice at post-experiment period was higher than pre-experiment at with a statistical significance ( $P < 0.01$ ).

of the average blood sugar level (HbA1c) of diabetics before and after E-san program

**Table II** Comparison of application using for postpartum women practice

Application	$\bar{x}$	S.D.	Mean different	T	95%CI		p-value
					lower	upper	
<b>Knowledge</b>							
Before Experimental	24.57	2.64	-3.6	-6.615	(- 4.705, -2.494)		0.000**
After Experimental	28.17	1.42					
<b>Practice</b>							
Before Experimental	62.11	3.87	-17.02	-27.67	(-18.28, -15.77)		0.000**
After Experimental	79.17	6.03					

\*\*( $p < 0.0001$ )

Based on literature review, the results of the previous research revealed as follows: The research entitled "Postpartum period: three distinct but continuous phases" by [7] indicated that most of mothers (83%) had low level of physical activity. Knowledge, attitude, and subjective norms could significantly predict the intention to perform physical activity. These variables accounted for 21% of the variance in behavioral intention. Moreover, behavioral intention was the best predictor of postpartum physical activity behaviors ( $P < 0.001$ ,  $\beta = 0.140$ ).

Study on "Effect of Maternal Confidence on Breastfeeding Duration: An Application of Breastfeeding Self-Efficacy Theory". The results showed that although 92 percent of participants initiated breastfeeding, by 4 months postpartum almost 40 percent of mothers discontinued and only 28.6 percent were breastfeeding exclusively; the most common reason for discontinuation was insufficient milk supply. Antenatal and 1-week Breastfeeding Self-Efficacy Scale scores were significantly related to breastfeeding outcomes at 1 week and 4 months. Mothers with high breastfeeding self-efficacy were significantly more likely to be breastfeeding, and doing so exclusively, at 1 week and 4 months postpartum than mothers with low breastfeeding self-efficacy. [8]

## IV. CONCLUSIONS

The results of this research indicated that the sample had a high level of knowledge about the

postpartum practice at 57.10% ( $28.17 \pm 1.42$ ), and the knowledge of using herbs for postpartum care was 65.70%. The sample's behavior at post-experiment period was moderate level ( $79.17 \pm 6.03$ ). 65.70% of them used herbs for postpartum care. The results of comparing effectiveness of using the Practice Application for Postpartum Mothers showed that a mean score on knowledge at post-experiment period was higher than that at pre-experiment period with a statistical significance level ( $P < 0.01$ ). The sample improved the behavior of postpartum care at pre-experiment period and post-experiment period with a statistical significance level ( $P < 0.01$ ).

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## REFERENCES

- [1] **Unicef for every child.** 2018. <https://www.unicef.org/>. Accessed Feb. 27, 2019.
- [2] Centers for Disease Control and Prevention. 2019. **Pregnancy mortality surveillance system.** <https://www.cdc.gov/reproductivehealth/maternalinfanthealth/pregnancy-mortality-surveillance-system.htm>. Accessed Feb. 27, 2019.
- [3] Kansky C. 2016. **"Normal and Abnormal Puerperium: Overview, Routine Postpartum Care, Hemorrhage"**. Medscape.
- [4] Romano M, Cacciatore A, Giordano R, La Rosa B. 2010. **"Postpartum period: three distinct but continuous phases"**. Journal of Prenatal Medicine. 4 (2): 22–5. PMC 3279173. PMID 22439056.
- [5] **World Health Organization.** 2017. Infant and young child feeding: Fact sheet Updated July 2017. Retrieved June 26, 2019, from <http://www.who.in>
- [6] Yeonkyu Lee and Mikyung Moon. 2016. **Utilization and Content Evaluation of Mobile Applications for Pregnancy, Birth, and Child Care.** Healthc Inform Res. 2016 Apr; 22(2): 73–80.
- [7] Zohreh ,Majid Barati, Saeed Bashirian. 2014. **Application of BASNEF Model to Predict Postpartum Physical Activity in Mothers Visiting Health Centers in Kermanshah.** J Educ Community Health 2014, 1(3): 54-62
- [8] Rosemary Blyth BN, MMid(Hons) Debra K. Creedy RN, Cindy-Lee Dennis RN, Wendy Moyle RN, Jan Pratt RN, MHLthSc Susan M. De Vries RN, 2008. **Effect of Maternal Confidence on Breastfeeding Duration: An Application of Breastfeeding Self-Efficacy Theory.** BIRTH 29:4 December 2002:278-285