



Effectiveness of E-Health Emergency Neonates on Increasing Mother Awareness

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Abstract. Background: Attention to efforts to reduce neonatal mortality (0–28 days) is important because neonatal mortality contributes to 73 percent of infant deaths in Central Java Province. Neonatus mortality in Central Java in 2018 was 6.1 per 1,000 live births.

Aim: This study aims to analyze the effectiveness of E Health emergency neonates to increase maternal awareness. Taking research subjects using simple random sampling technique.

Methods: The research location is Semarang City, the working area of Nges-rep Health Center, Kedungmundu Health Center, Bandarharjo Health Center, Bulu Lor Health Center, and Genuk Health Center. This research was carried out in 2021. The research design used a quasi-experimental, with a pre and post test research design with control group design on neonates in each group with a simple random sampling technique. Data were analyzed by Wilcoxon test and Mann Whitney test to test the effectiveness of E Health emergency neonates on increasing maternal awareness between control and treatment groups.

Results: After the intervention, the results of the difference test showed that there were differences in the awareness scores of mothers and midwives post- test between the control group and the treatment group ($p = 0.000$). The percentage increase in awareness scores of mothers and midwives showed that there was a significant difference in the percentage increase in scores between the control group and the treatment group ($p = 0.000$).

Conclusion: This is supported by research which reveals that mothers who receive mindfulness information on infant health are more accepting of themselves and they are more receptive to experience as a lesson that causes mothers to become independent in caring for their baby's health.

Keywords: E Health · Emergency · Neonate · Mother Awareness

1 Introduction

Use of E Health that is relevant to health services for infants and children by facilitating communication between doctors and patients without the need for face- to-face contact. Baby parents also need a lot of support when their baby is sick at home [1]. E Health can

help doctors and health workers to improve the provision of support to parents of babies. Parents experience emotional relief when they can focus on dialogue through E Health with health workers to find out and make the best decisions for their children [2, 3]. The use of E Health as more for clinical diagnosis than for education and support. However, there are no studies that reveal the effect of E Health Emergency Neonates on parents of high-risk newborns as participants [4, 5]. The design of the E Health Emergency Neonate application is proposed as an alternative medium as an early detection of neonate danger signs which has the novelty of having a neonate emergency alert when there is a neonate danger sign.

2 Content

2.1 Awareness of Mothers in Emergency Neonate Detection

2.1.1 Definition of Neonates

Neonates are newborns from the mother's womb until the age of 28 days of life. This period is a period that is very susceptible to an infection so that it will cause a disease. This period also still requires improvements in physiological adjustment of the body to be able to live outside the womb [6].

Body weight and gestation period as indicators of health and well-being of newborns. The hope is that the longer the gestation period, the more appropriate the weight and the better the health and well-being of the baby. In addition, birth weight with gestational age can be used to predict the clinical condition of the baby and become one of the determinants of survival and development of newborns, but if there is a deviation between the baby's weight and gestational age, it will cause morbidity and mortality.

2.1.2 Adaptation and Early Detection of Neonatal Emergency

Neonatal physiological adaptation is a basic understanding of adaptation as well as the physiological adaptation of newborns is used as a basic foundation in providing care for the next baby as a whole. This understanding includes the normal functioning of the baby's body so that from the time the baby is born until the age of 28 days, the mother and family need to detect the baby's condition from signs of danger [1].

2.1.3 Mother's Awareness in Detecting Emergency Neonates

Mothers have to adapt to the complex transition period after giving birth. Health information during this transition period includes health professionals, family, and friends. Today mothers have broad access to health information through electronic communication devices. The survey results show that adults own 92% of mobile phones, 68% of smartphones, 73% of desktop or laptop computers, and 45% of tablets. An important problem after giving birth is the lack of parenting skills and recognizing the danger signs that occur in babies [6, 7].

Monitoring the health of the mother and newborn during the postpartum period is very important. The risk of death is highest for newborns: 75% of all neonatal deaths occur during the first week of life. Timely detection and treatment of symptoms has been

shown to reduce mortality and complications. Postpartum women who stay healthy are more likely to stay healthy later in life. The sustainable health of the newborn, infant, child, adolescent, reproductive, maternal and perinatal period is part of a woman's way of life. All of these stages are interrelated [8]. One of the efforts that can be done to overcome the barriers for beneficiaries in accessing services is to increase awareness in detecting the occurrence of neonatal emergencies and accessing health services [5].

2.2 E-Health Emergency Neonates

E Health is an informative (90%), interesting (84%), current (86%) and useful (91%). Respondents agree or strongly agree that E Health is a well-organized resource (83%) varied in information (85%), easy to understand (96%), and specifically for mothers (89%). Submission of information on methods that participants rated as helpful or very helpful included text (85%), video with narration (66%) and illustrations (60%). E Health infant monitoring needs to be specifically designed for mothers and equipped with clinical interactions with health workers during the neonatal transition period [9].

Indonesia has more than 17,500 islands and more than 230 million inhabitants. Indonesia is the world's largest archipelagic country and is divided into 33 provinces with about 60% of the population estimated to be in rural areas. In general, there are remote places or areas where health services are less accessible in the range of 100 to 200 patients per day. Therefore, E Health is expected to support and improve services. In addition, E Health can provide further benefits of improving the quality of public health services [10, 11].

An application is a piece of computer software that utilizes the capabilities of a direct computer to perform a task the user wants. The main examples of application software are word processors, worksheets, and media players [7].

The E-Health Emergency Neonate application is an application/software for early detection of neonate danger signs on an Android-based smartphone. The E- Health Emergency Neonate application is in the form of an APK application which is then installed into the user's smartphone. To run the E-Health Emergency Neonate application, a minimum specification is required in the form of an android device version 4.0.4 ICS (Ice Cream Sandwich) with 512 MB RAM, standard processor. The E-Health Emergency Neonate application can be used when the smartphone is connected to the internet network.

The E-Health Emergency Neonate application contains guidelines for early detection of Emergency Neonates that can be carried out by newborn mothers [7, 10]. Emergency Neonatal Monitoring is carried out through monitoring of breath, skin color, seizures, activity, drinking breast milk, baby sucking, jaundice in babies, urinating, defecating, body temperature, umbilical cord, eyes, white patches in the mouth, and skin. Early detection of Neonatal Emergency is carried out through the Neonatal Hazard Signs Criteria. The use of the E-Health Emergency Neonate application is done by inputting data in the form of the name of the mother's identity or the identity of the child as well as important data including neonatal monitoring. After that, the conclusions of the monitoring results obtained from the data that have been input will appear along with suggestions that are in accordance with the conclusions obtained [12–15].

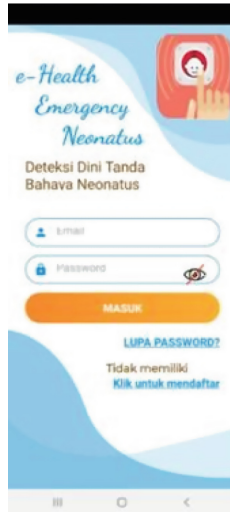


Fig. 1. Login

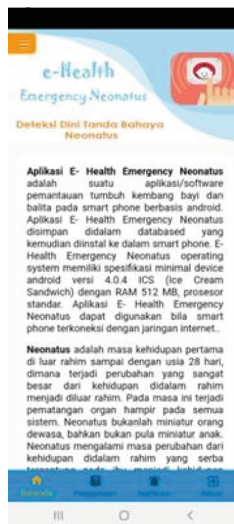


Fig. 2. E Health Emergency Neonate App Profile

The novelty of the E-Health Emergency Neonate application is that the Neonate E-Health Emergency application has been equipped with an early detection alarm for neonates so that mothers can be more alert to Neonatal Emergency events. The benefit of the early detection alarm system for neonates in the E-Health Emergency Neonate application is that it can increase maternal awareness in early detection of neonatal danger signs and immediately seek help at health facilities quickly and accurately (Figs. 1, 2, 3, 4, 5, and 6).



Fig. 3. Child Menu

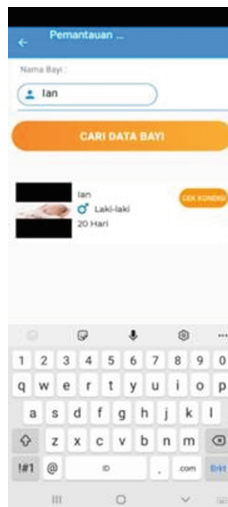


Fig. 4. Child Monitoring

3 Research Methods

3.1 Methods

The study design is Quasi-Experimental by comparing between the treatment group and the conventional group. In both groups, skills assessment will be carried out before and after treatment (pretest-posttest control group design). The instrument used to measure skills is the skills questionnaire.

Kembali ke List Pantau Bayi

Affian
Laki-laki

Kriteria Neonatus

Sehat	Tidak Sehat
1. Nafas <input type="radio"/> 40-60 Kali/menit	<input type="radio"/> Kurang 40 kali/menit atau lebih dari 60 kali/menit
2. Warna Kulit <input type="radio"/> Merah Muda	<input type="radio"/> Bayi pucat/biru pada tubuh
3. Kejang <input type="radio"/> Tidak ada	<input type="radio"/> Ada, mata

Fig. 5. Neonatal Emergency Screening



Fig. 6. Neonate Emergency Alert

3.2 Sample Design

The minimum number of samples obtained is 34 people in each group. Researchers set the number of samples to be added by 20% of the initial sample size so that the sample for each group became 40 people to anticipate a drop out response.

3.3 Data Collection

The research subjects were invited by the researchers and then the research subjects were divided into a treatment group and a control group. The next step is to do a pre test to get an awareness value. The last stage was a post test to get the value of the effect of using E Health on increasing awareness.

4 Data Analysis

4.1 Characteristics of Research Subjects

The characteristics of the research subjects are presented to determine the equality between the control group and the treatment group to be compared which includes age, number of children, education level, occupation, and income which are presented in Table 1.

4.2 Comparison of Pre-test and Post-test Results for the Application of E Health Emergency Neonates

The majority of participants in the control group were >30–35 years old (42.5%) while the majority of the treatment group were >25–30 years old (50%).

The results of the statistical test showed that the mother's awareness increased after the E Health Emergency Neonate intervention. Mothers at an early age have difficulty connecting emotionally with their babies, compared to adult mothers. A mother's age affects the quality of the emotional connection she can form with her baby. Several things exacerbate the relationship between early childhood mothers and their babies, among others: poverty, education, lack of social support. These things are not easy to deal with directly.

However, research on effective parenting class interventions can support the mother-infant relationship [3, 11, 16] (Tables 2 and 3).

The majority of participants in the control group were mothers with 1 child (57.5%) while the majority in the treatment group were mothers with >1 child (60%). The results of the statistical test showed that the mother's awareness increased after the E Health Emergency Neonate intervention. First-time mothers express how difficult it is to communicate about baby care. Programs to improve knowledge and skills in caring for the baby. This knowledge should be used in further evaluations of its effectiveness to improve health outcomes for mothers and their babies [8].

The majority of participants in the control group had Bachelor's degrees (32.5%) as well as the majority of the treatment group's mothers who had Bachelor's degrees (30%) and Postgraduate degrees (30%). The results of the statistical test showed that the mother's awareness increased after the E Health Emergency Neonate intervention. One study revealed that women with low levels of education were less able to seek help for babies, compared to women with higher levels of education. Mothers with low levels of education and low socioeconomic status have a higher risk for their babies. (13). Health education about pregnant women, progress of pregnancy, education about breastfeeding and contraception, assisting in labor and delivery, and providing child

Table 1. Characteristics of Research Subjects

Control Group	Age	Number of children	Edu	Work	Income	Pre	Post	Awareness	Treatment Group	Age	Number of children	Edu	Work	Income	Pre	Post	Awareness
1	>30-35	>1	SI	Work	<EP	40,28	40,28	Steady	1	20-25	>1	SI	Work	<EP	38,89	73,61	Increase
2	20-25	1	S2/S3	Work	<EP	70,83	70,83	Steady	2	>30-35	1	SI	Unwork	<EP	41,67	68,06	Increase
3	20-25	1	SHS	Work	<EP	37,50	38,89	Increase	3	>30-35	1	SHS	Work	<EP	41,67	45,83	Increase
4	>30-35	>1	SI	Work	≥EP	40,28	40,28	Steady	4	>25-30	>1	JHS	Unwork	≥EP	44,44	44,44	Steady
5	>25-30	>1	SHS	Work	≥EP	34,72	34,72	Steady	5	>25-30	>1	SI	Work	≥EP	61,11	72,22	Increase
6	>30-35	>1	S2/S3	Work	<EP	72,22	72,22	Steady	6	20-25	1	SI	Unwork	<EP	34,72	75,00	Increase
7	>30-35	1	SHS	Unwork	<EP	41,67	41,67	Steady	7	>30-35	1	SHS	Unwork	<EP	44,44	47,22	Increase
8	20-25	1	SI	Work	≥EP	36,11	36,11	Steady	8	>30-35	1	JHS	Work	<EP	33,33	47,22	Increase
9	20-25	1	JHS	Unwork	<EP	37,50	37,50	Steady	9	>25-30	1	SI	Unwork	<EP	41,67	73,61	Increase
10	>25-30	>1	S2/S3	Work	≥EP	76,39	76,39	Steady	10	20-25	>1	SI	Unwork	≥EP	68,06	69,44	Increase
11	>30-35	>1	SHS	Unwork	<EP	40,28	41,67	Increase	11	>30-35	>1	SI	Work	<EP	43,06	75,00	Increase
12	>30-35	>1	SI	Work	≥EP	41,67	41,67	Steady	12	>25-30	>1	JHS	Work	≥EP	37,50	41,67	Increase
13	>25-30	>1	SHS	Unwork	<EP	41,67	41,67	Steady	13	20-25	>1	JHS	Work	≥EP	40,28	43,06	Increase
14	>30-35	>1	SI	Work	<EP	47,22	44,44	Decrease	14	>30-35	>1	SI	Unwork	≥EP	36,11	69,44	Increase
15	>30-35	1	S2/S3	Unwork	<EP	75,00	75,00	Steady	15	>25-30	>1	SHS	Unwork	≥EP	41,67	43,06	Increase
16	>30-35	1	SHS	Work	≥EP	34,72	34,72	Steady	16	20-25	>1	SHS	Work	≥EP	34,72	41,67	Increase
17	>25-30	>1	SI	Work	<EP	43,06	43,06	Steady	17	20-25	>1	S2/S3	Unwork	<EP	33,33	80,56	Increase
18	20-25	>1	JHS	Work	<EP	38,89	36,11	Decrease	18	20-25	1	S2/S3	Work	<EP	41,67	81,94	Increase
19	>30-35	>1	SI	Work	≥EP	37,50	38,89	Increase	19	>30-35	1	SHS	Work	<EP	33,33	47,22	Increase
20	>30-35	1	SHS	Unwork	<EP	43,06	38,89	Decrease	20	>25-30	>1	S2/S3	Unwork	≥EP	33,33	76,39	Increase

(continued)

Table 1. (continued)

Control Group	Age	Number of children	Edu	Work	Income	Pre	Post	Awareness	Treatment Group	Age	Number of children	Edu	Work	Income	Pre	Post	Awareness
21	>25-30	1	S2/S3	Unwork	≥EP	43,06	43,06	Steady	21	>30-35	>1	S2/S3	Work	<EP	36,11	81,94	Increase
22	>30-35	>1	JHS	Work	<EP	33,33	36,11	Increase	22	>30-35	1	S2/S3	Work	≥EP	61,11	77,78	Increase
23	>30-35	>1	S1	Unwork	<EP	44,44	44,44	Steady	23	>30-35	>1	JHS	Work	≥EP	34,72	43,06	Increase
24	>30-35	1	SHS	Unwork	≥EP	36,11	36,11	Steady	24	>25-30	1	S2/S3	Work	≥EP	40,28	76,39	Increase
25	>25-30	1	S1	Unwork	<EP	43,06	44,44	Increase	25	>25-30	>1	S2/S3	Work	<EP	31,94	81,94	Increase
26	20-25	>1	SHS	Unwork	≥EP	33,33	33,33	Steady	26	>30-35	>1	SHS	Unwork	≥EP	36,11	43,06	Increase
27	>25-30	>1	JHS	Unwork	≥EP	31,94	34,72	Increase	27	>25-30	1	S1	Work	≥EP	37,50	70,83	Increase
28	>30-35	>1	S2/S3	Unwork	≥EP	62,50	72,22	Increase	28	>25-30	>1	S2/S3	Work	≥EP	75,00	79,17	Increase
29	>30-35	1	SHS	Unwork	≥EP	36,11	36,11	Steady	29	>30-35	>1	S2/S3	Work	<EP	41,67	79,17	Increase
30	20-25	1	S1	Work	≥EP	37,50	40,28	Increase	30	>30-35	>1	S2/S3	Unwork	<EP	41,67	80,56	Increase
31	>25-30	1	S2/S3	Work	≥EP	37,50	36,11	Decrease	31	>25-30	1	SHS	Unwork	≥EP	44,44	41,67	Increase
32	>30-35	1	JHS	Unwork	≥EP	37,50	37,50	Steady	32	>25-30	>1	S2/S3	Unwork	≥EP	72,22	77,78	Increase
33	20-25	1	S2/S3	Unwork	<EP	68,06	75,00	Increase	33	>25-30	>1	SHS	Work	≥EP	34,72	40,28	Increase
34	20-25	1	S1	Work	<EP	43,06	44,44	Increase	34	>25-30	1	JHS	Unwork	<EP	33,33	45,83	Increase
35	>25-30	1	S1	Work	≥EP	43,06	43,06	Steady	35	>25-30	1	S2/S3	Unwork	<EP	36,11	79,17	Increase
36	>25-30	1	SHS	Work	≥EP	34,72	34,72	Steady	36	>25-30	1	JHS	Work	<EP	40,28	47,22	Increase
37	>25-30	1	JHS	Unwork	≥EP	30,56	34,72	Increase	37	>25-30	>1	S1	Work	<EP	36,11	75,00	Increase
38	>25-30	1	S1	Unwork	<EP	47,22	47,22	Steady	38	>25-30	>1	S1	Work	≥EP	37,50	47,22	Increase
39	>25-30	1	JHS	Work	≥EP	33,33	33,33	Steady	39	>25-30	1	SHS	Unwork	≥EP	38,89	41,67	Increase
40	>25-30	1	SHS	Work	≥EP	34,72	34,72	Steady	40	>25-30	>1	S1	Work	≥EP	76,39	72,22	Decrease

Table 2. Comparison of pre-test and post-test results control group for the application of E Health Emergency Neonates

Control Group	Pre test										Post Test										Score					
	1	2	3	4	5	6	7	8	9	1	1	1	1	2	3	4	5	6	7	8		9	1	1	1	2
1	2	3	2	2	2	2	3	3	2	3	2	3	40,28	2	3	2	2	2	2	3	3	2	3	2	3	40,28
2	5	4	5	4	4	5	2	5	4	4	5	70,83	5	4	5	4	4	5	2	5	4	4	4	5	70,83	
3	3	1	3	2	3	2	2	2	2	2	3	37,5	3	1	3	2	3	2	2	2	3	2	3	2	38,89	
4	2	2	2	3	2	2	3	3	2	3	2	3	40,28	2	2	2	3	2	2	3	3	2	3	2	3	40,28
5	2	2	2	2	2	2	3	2	2	2	2	34,72	2	2	2	2	2	2	2	3	2	2	2	2	34,72	
6	5	5	4	2	5	5	4	5	4	4	5	72,22	5	5	4	2	5	5	4	5	4	5	4	5	72,22	
7	3	2	3	3	2	3	2	2	3	2	3	41,67	3	2	3	3	2	3	2	2	3	2	3	2	41,67	
8	2	2	2	2	3	2	1	2	2	3	2	36,11	2	2	2	2	3	2	1	2	2	2	3	2	36,11	
9	3	1	1	3	2	3	2	2	3	2	3	37,5	3	1	1	3	2	3	2	2	3	2	3	2	37,5	
10	4	5	5	5	5	5	5	5	3	4	4	76,39	4	5	5	5	5	5	5	5	3	4	4	5	76,39	
11	3	2	2	3	2	3	3	2	3	2	2	40,28	3	2	2	3	2	3	3	2	3	2	3	2	41,67	
12	3	3	1	2	3	2	3	3	2	3	2	3	41,67	3	3	1	2	3	2	3	3	2	3	2	41,67	
13	3	2	2	3	2	3	3	2	3	2	3	41,67	3	2	2	3	2	3	3	2	3	2	3	2	41,67	
14	3	3	2	2	3	3	3	3	3	3	3	47,22	3	2	2	2	3	2	3	3	3	3	3	3	44,44	
15	5	4	5	4	5	5	4	5	4	4	5	75	5	4	5	4	5	5	4	5	4	5	4	5	75	
16	2	2	2	2	2	2	3	2	2	2	2	34,72	2	2	2	2	2	2	2	3	2	2	2	2	34,72	
17	3	2	2	2	3	2	2	3	3	3	3	43,06	3	2	2	2	3	2	2	3	3	3	3	3	43,06	
18	3	2	1	2	2	2	3	2	3	3	3	38,89	3	2	1	2	2	2	2	2	2	3	2	3	36,11	
19	3	2	1	2	3	1	2	3	2	3	2	37,5	3	2	1	2	3	2	2	3	2	3	2	3	38,89	
20	3	3	3	3	2	3	2	2	3	2	3	43,06	3	1	2	3	2	3	2	2	3	2	3	2	38,89	
21	2	3	2	3	3	3	2	3	2	3	2	43,06	2	3	2	3	3	3	2	3	2	3	2	3	43,06	
22	3	2	1	2	2	2	1	2	3	1	3	33,33	3	2	1	2	2	2	2	2	2	3	2	3	36,11	

(continued)

Table 3. Comparison of pre-test and post-test results treatment group for the application of E-Health Emergency Neonates

Treatment Group	Pre test					Score					Post Test					Score								
	1	2	3	4	5	6	7	8	9	1	1	2	3	4	5		6	7	8	9	1	1	2	
1	3	1	2	3	2	3	2	2	3	2	38,89	5	4	5	5	4	4	4	5	4	4	4	5	73,61
2	3	2	3	3	2	3	2	2	3	2	41,67	5	4	4	4	4	4	4	4	4	4	4	4	68,06
3	3	2	2	3	2	3	2	3	2	2	41,67	4	3	3	3	2	2	2	2	3	3	3	3	45,83
4	3	2	2	2	3	2	3	3	3	3	44,44	4	3	2	3	2	3	3	3	2	3	2	3	44,44
5	5	4	5	4	3	2	2	5	2	4	61,11	4	5	5	5	4	4	5	4	4	4	4	4	72,22
6	2	2	2	2	2	2	3	2	2	2	34,72	5	5	5	4	4	4	4	4	5	4	5	5	75
7	3	2	2	2	3	2	3	3	3	3	44,44	4	3	3	3	2	3	2	2	3	3	3	3	47,22
8	3	2	1	2	2	2	2	2	3	2	33,33	3	3	3	3	3	2	3	2	3	3	3	3	47,22
9	3	2	3	2	3	2	2	3	2	3	41,67	5	5	4	4	4	4	4	4	5	4	5	5	73,61
10	5	5	4	2	5	5	3	5	3	3	68,06	4	5	4	4	4	4	4	5	4	4	4	4	69,44
11	2	3	2	3	3	3	2	3	2	3	43,06	5	5	4	4	4	4	4	5	4	5	4	5	75
12	3	2	1	2	3	2	2	2	3	2	37,5	3	3	2	3	2	2	2	3	2	2	3	2	41,67
13	3	1	2	3	3	1	2	3	3	2	40,28	4	3	2	3	2	2	3	2	2	3	2	3	43,06
14	2	2	2	3	2	3	2	2	2	2	36,11	4	5	4	4	4	4	4	5	4	4	4	4	69,44
15	2	3	3	2	3	1	3	3	2	3	41,67	4	3	2	3	2	3	2	2	2	3	2	3	43,06
16	2	2	2	2	2	2	3	2	2	2	34,72	3	3	2	3	2	2	3	2	2	3	2	3	41,67
17	2	1	2	3	2	3	1	2	2	2	33,33	5	5	4	4	4	5	5	5	5	5	5	5	80,56
18	3	3	2	1	3	3	2	3	3	3	41,67	5	5	5	5	5	5	5	4	5	5	5	5	81,94
19	2	2	1	2	2	2	3	2	2	2	33,33	4	3	3	3	2	2	3	2	3	3	3	3	47,22
20	1	1	1	2	2	2	3	2	2	3	33,33	4	5	4	4	5	5	5	5	4	5	4	5	76,39
21	2	3	2	1	2	2	1	3	2	3	36,11	5	5	4	5	5	5	5	5	5	5	5	5	81,94
22	5	4	1	4	1	5	2	5	4	4	61,11	4	5	5	5	5	5	5	4	5	4	5	5	77,78

(continued)

Table 3. (continued)

Treatment Group	Pre test			Score			Post Test			Score										
	1	2	3	4	5	6	7	8	9		1	2	3	4	5	6	7	8	9	
23	3	1	3	2	3	2	1	2	3	2	34,72	4	3	2	2	3	2	2	3	43,06
24	2	2	2	3	2	2	3	3	2	3	40,28	4	5	4	5	4	5	4	5	76,39
25	2	2	2	2	1	2	2	3	2	2	31,94	5	5	5	5	5	5	5	5	81,94
26	2	2	2	2	3	2	2	1	2	3	36,11	3	3	2	3	3	2	2	3	43,06
27	3	1	1	3	2	3	2	2	3	2	37,5	5	4	5	4	4	4	4	4	70,83
28	4	5	5	5	5	5	4	5	4	4	75	4	5	5	5	4	5	4	5	79,17
29	3	2	2	3	2	3	3	2	3	2	41,67	5	4	4	5	5	5	5	5	79,17
30	3	3	1	2	3	2	3	3	2	3	41,67	5	5	4	4	5	5	5	5	80,56
31	3	2	1	3	3	3	2	3	3	3	44,44	3	3	2	3	2	2	2	3	41,67
32	4	5	4	4	5	5	5	5	4	4	72,22	4	5	5	4	5	5	4	5	77,78
33	2	2	1	3	2	3	2	2	2	2	34,72	2	3	2	2	2	2	2	3	40,28
34	1	1	2	3	2	3	2	2	2	2	33,33	3	3	3	2	3	2	2	3	45,83
35	3	3	1	2	2	3	2	2	2	2	36,11	5	5	4	4	5	4	5	5	79,17
36	2	2	2	2	3	2	3	3	2	3	40,28	4	3	3	2	2	3	2	3	47,22
37	1	1	1	2	3	2	3	3	2	3	36,11	5	5	4	4	4	5	4	5	75
38	3	2	2	3	2	3	2	2	2	2	37,5	3	3	2	3	2	3	2	4	47,22
39	3	2	2	2	2	2	3	3	2	1	38,89	3	3	2	2	2	2	2	3	41,67
40	4	5	5	5	5	5	5	5	3	4	76,39	4	5	5	4	4	4	4	4	72,22
Total	1	9	8	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	
	1	5	8	0	0	0	0	1	0	0		6	6	4	5	4	4	5	4	
	1			6	7	9	3	4	0	6		5	3	3	6	2	7	5	1	

care and immunizations. Therefore, involving more topics in educational programs can improve the quality of care and minimize complications [4].

The majority of the control group participants were working mothers (55%) as well as the majority of the treatment group were working mothers (57.5%) and postgraduate students (30%). The results of the statistical test showed that the mother's awareness increased after the E Health Emergency Neonate intervention. Many working mothers experience health problems after giving birth, then take sick leave. So it is necessary to know the factors that cause postpartum health problems such as breastfeeding problems, baby care, lack of social support, workload, lack of sleep or other health complaints. Research reveals structured supervision including checklists, women's welfare, baby welfare, baby care, breastfeeding, anticipation of work problems, and expectations for returning to work after leave can help working mothers' physical and mental health [8].

The majority of participants in the control group were mothers with income \geq UMR (55%) as well as the majority in the treatment group, mothers with income \geq UMR (52.5%). The results of the statistical test showed that the mother's awareness increased after the E Health Emergency Neonate intervention. Low income may be associated with psychological symptoms associated with impaired child health care. Contributing factors to maternal-related infant mortality include low income, illiteracy, lack of access to health facilities, poor hygiene, and the high cost of obtaining appropriate health care. However, several studies have identified protective strategies that can support economic constraints related to infant health. For example, baby mother classes designed to improve positive baby care skills, and proven effective [7].

Reports on the activities of E-health users reveal the emergence of a number of unwanted things in patient interactions with health workers:

- a. Discrepancies between providers' expectations that E-health will attract health workers and patients to implement applications.

This is because patients are not ready, are not willing to use E-health and are not actively changing their health behavior. This is due to the fact that patients who have high health care awareness are twice as likely to interact with health workers. The strategy to overcome this problem is that health workers should adjust communication and expectations according to the patient's condition and use instruments to maintain patient health.

- b. Increased patient anxiety or confusion resulting from not understanding the information

Patients experience anxiety in using E-health, they have difficulty interpreting information or they find information that is negative, sensitive, or scary. The strategy to overcome this problem is that health workers need to use comfortable communication, show empathy, according to place and time, and provide good responses. Communication guidelines for health workers in using the E-health application will also be very useful.

- c. The relationship between patients and health workers has decreased due to delays in responding to patients

Patients who use E-health to obtain health information will become frustrated if there is a delay in response. The strategy to overcome this problem is that health workers need to follow communication guidelines between patients and health workers in patient-centered E-health services.

d. Discrepancies between service schedules and maintenance activities

If activities are not carried out according to schedule, the patient may experience difficulty in rescheduling his schedule. The strategy to overcome this problem is that the application can be designed by providing a choice of possible schedule timeframes for patients and health workers.

e. Discomfort of health workers towards the patient's attitude

If the patient finds unwanted information in E- health, the patient will criticize the health worker and make the health worker feel uncomfortable. In addition, health workers are worried about sensitive patient reactions. The strategy for overcoming this problem is that health workers should be careful with the information conveyed through E-health and use guidelines for interaction between health workers and patients through E-health.

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