Effects of Knowledge Sharing Practices in conjunction with Empowerment Program in Adolescent Pregnant Women towards Promoting Exclusive Breastfeeding: a randomized controlled trial

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Abstract: Background and importance of the problem: Even though the best natural diet to feed a baby is "maternal milk," the rate of exclusive breastfeeding in the first six months of postpartum period remains below the threshold of International Health Organization especially in pregnant adolescents. The purpose of the research was to study the effects of the Knowledge Sharing Practices with Empowerment Program in adolescent pregnant women towards promoting exclusive breastfeeding during the first 6months of postpartum period compared to obtaining a standard knowledge program of normal maternal breastfeeding techniques.

Instruments and methods: The study was conducted in 10 to 19-year-old pregnant women who were more than 32 weeks pregnant, using randomized controlled trial (RCT), which divided the samples into two groups of the equal number: the study group and the control group. Each group has 40 people. The study group was given a knowledge sharing practices in conjunction with empowerment in pregnant adolescent women towards promoting exclusive breastfeeding as well as techniques to follow-up during 6 months of postpartum period while the control group received a standard knowledge program of normal maternal breastfeeding techniques and follow-up during the postpartum period. The research tools included a Knowledge Sharing Practices with empowerment, and a strategy to track during the first 6 months of postpartum period, created by the researchers based on the concept and theory of knowledge sharing practice in conjunction with empowerment strategies according to Gibson's theory (1991) to stimulate exclusive breastfeeding during the first 6 months of postpartum period. The statistics used in the research were paired t-test, unpaired t-test, Chi-square test and multivariate logistic regression analysis.

Findings: The exclusive breastfeeding rates during the first six months of postpartum in the study group was statistically significantly higher than the control group at .05 level in the first 14 days (82.5% and 50.0%, P=0.005), the first month (77.5% and 50.0%, P=0.021), the first 2 months (62.5% and 35.0%, P=0.023), first 4 months (35.0% and 7.5%, P=0.008), first 5 months (25.0% and 2.5%, P=0.012) and the first 6 months during postpartum period (40.0% and 5.0%, P=0.002) and the mean score of knowledge , including attitudes and perceptions of self-management competencies in breastfeeding in the study group after being given the program was higher than the control group's statistically significant at the .05 level (P<0.001).

Conclusion of the research: Knowledge Sharing Practices in conjunction with Empowerment Program and follow-up strategies to support postnatal breastfeeding could promote the rate of exclusive breastfeeding of adolescent mothers during the first 6 months of postpartum period, statistically significant at the .05 level

Keywords: adolescent pregnant women, exclusive breastfeeding, Knowledge Sharing Practices with Empowerment Program (KSPEP)

1. Introduction

The best natural food to feed babies, "mother's milk," is beneficial for both physical growth and mental development of babies. Mother's milk is a special form of infant food and is easy to digest. Breast-fed babies have an advantage over formula-fed babies in terms of improving overall health outcomes [1]. In addition, pure breast milk also has the correct proportion of fat, carbohydrate and protein. It also has an optimal temperature [2] and has a positive effect on growth and development as well as in physiological and psychological socials, learning interactions and mother-infant communication [3].

Many domestic and abroad agencies have been widely promoting the increase in the exclusive breastfeeding rate for the first 6 months after delivery. Most health organizations; for example, the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) recommend the exclusive breastfeeding until the baby is approximately 6 months of age before feeding other meals in conjunction with continued breastfeeding along with feeding supplements for at least the first 2 years of life [4]. The exclusive breastfeeding contains only breast milk that is given to babies; not to fortify with water, juices, milk mixes and other foods, yet drugs, vitamins and oral solutions can be administered [5].

COVID-19 infection is an emerging disease; nevertheless, there is very little known regarding this virus. According to preliminary data, there is no information about the infection of mothers during the first 3 to 6 months of pregnancy; there is only information shown on infected mothers in the last 3 months before delivery. In accordance with the china reports, there were 33 newborns born from Covid-19 mothers; nonetheless, only three

were found with COVID-19 and mild symptoms and there was undetected infection in the amniotic fluid and secretions from the vagina, cord blood and breast milk. Therefore, the expert concluded that the infection was most likely caused by contact with infections (droplets), not from a fetal infection (Vertical transmission). The World Health Organization (WHO), the US Centers for Disease Control (CDC), and other health organizations around the world have all reported with no evidence that the infection with Corona virus mothers can pass through the placenta or breast milk to baby. The mothers can still breastfeed their babies, including both suspected mothers (PUI) and confirmed cases. In addition, strict preventive standards must be followed in contact with droplets by wearing a sanitary mask, washing hands frequently with soapy water for 20 seconds or using 70% alcohol and reiterate social distancing. Breastfeeding is important in both body food and mind food. Body food is breast milk which has immunity to protect their children from infections in the early stages, and It contains nutrients that are important for growth while the mind food is breastfeeding which brings the mother and the child close to each other, creating a good relationship between the mother and the baby (Bonding) WHO, CDC, UNICEF, Breastfeeding Center of Thailand and Department of Health, Ministry of Public Health suggested that both mothers, who are suspicious and have already been infected, breastfeed their babies by following guidelines strictly to prevent droplet transmission [6].

However, it was found that exclusive breastfeeding is still somewhat below national and international standards. Thailand started the breastfeeding program in 1989 with the main goal to encourage mothers to exclusively breastfeed during the first 6 months of postpartum period together with giving the dietary supplement until the age of 2, as well as the 12th National Health Development Plan (2017-2021); on the contrary, it has been found that the rate of exclusive breastfeeding during the first 6 months of postpartum in Bangkok is still low (11%) (Laisiriruangrai, 2008) which has many factors affecting the success of maternal childcare promotion, and the results are in contrast to the Department of Health, targeting of at least 50% [7] .

Especially adolescent mothers, pregnancy in women between the ages of 10-19, based on the age at the time of delivery. This can be categorized into adolescents with the age of 15-19 years and younger adolescents with the age of 10-14 years. Each year the worldwide incidence of adolescent mothers is around 14 million with approximately 12.8 million or more than 90% in developing countries. The worldwide average birth rate among the teenagers, aged 15-19 year olds is approximately 65 people per 1,000 adolescent women, the highest rate is in the groups of South African countries, some South Asian countries and Latin America, followed by the Middle East, North Africa, USA and Eastern Europe (World Health Organization, 2004)[4] In Thailand in 2018, a total of 666,207, pregnant mothers were born from adolescent mothers ,aged 10-19 in a total of 94,584, accounting for 14.2 percent of all births. Each day there are 259 adolescent mothers, aged 10-19 years [8].

For adolescent pregnancy, there is a greater risk than pregnancy in adulthood: anemia and preterm [9]. In addition, the incidence of low birth weight in pregnant adolescents are more likely than in adulthood, especially breastfeeding problems during the first 6 months of postpartum period as adolescent women often lack knowledge, attitude and awareness of performance, as well as the power to manage themselves and behaviors related to exclusive breastfeeding in the first six months after delivery, resulting in infants being fed with supplements, which are at risk of infection and malnutrition, which can cause disability and death in infants In the long run. It also affects physical and psychosocial development as well. However, the quality of life of men should begin immediately in the womb and after birth. This is the most important period for adolescent pregnant women to effectively treat themselves and breastfeed their babies for the first six months after delivery, leading to good health, physical, mental and intellectual health of the baby that will grow into good resources and quality of the nation in the future. Therefore, promoting the rate of exclusive breastfeeding for the first 6 months after delivery is an important and necessary measure for adolescent pregnant women [8].

Methods, strategies or programs to promote breastfeeding in the past are unable to increase the amount of breastfeeding mothers during the first 6 months of exclusive adolescent pregnant women in which some research has found limitations such as small sample sizes, other methodological problems that randomized controlled trials were not used and had no effective or effective research programs [10]. Therefore, it is necessary to have special techniques or programs that can increase knowledge, attitudes and perceptions, competencies, and power in self-management and behavior to promote exclusive breastfeeding effectively during the first 6 months of adolescent pregnant women.

Based on a review and collection of literature on the concept of exchange learning in conjunction with the knowledge sharing practice with empowerment program (KSPEP), it is a suitable method since it contains the theory of knowledge sharing practice [11] in accordance with Udomrat Jaratsorn's study on education knowledge management condition of teachers at the Demonstration School of Ramkhamhaeng University. It was found that teachers had opinions on the condition of the management of knowledge management in all aspects of the knowledge management process [12]. Likewise, the empowerment theory in correspondence with Maliwan Chanchai Viraphan on the effect of programs for empowerment in breastfeeding of adolescent mothers found that

the program was effective and could make teenaged mothers more knowledgeable and better attitudes and behaviors towards breastfeeding. Therefore, it can be applied to promote adolescent breastfeeding mothers [13]. The researcher has incorporated the two theories. As research found that an exchange program in conjunction with the empowerment of prenatal training and strategies for monitoring support for postnatal breastfeeding could promote the rate of exclusive breastfeeding during the first 6 months of postpartum period statistically significant at the .05 level [14] that knowledge sharing practice is used in conjunction with empowerment according to Gibson's theory [15], for the strategies on prenatal education and postnatal support strategies to stimulate exclusive breastfeeding to transform knowledge, attitudes, perceptions, competencies, as well as the power of self-management and behavior of Bartholomew's theory [16] to increase knowledge, change attitude and the perception of competencies, including the power to self-manage and stimulate behavior in adolescent pregnant women to effectively promote adolescent exclusive breastfeeding during the first 6 months of postpartum period, the KSPEP program has never been used to promote adolescent's exclusive breastfeeding during the first 6 months of postpartum period.

Nowadays Sirindhorn Hospital Medical Bureau Bangkok located in Bangkok is a high-level secondary hospital with 243 beds, certified quality hospital in 2010 and 2011, and the gold level of "Family Love Bonding Hospital" in 2011 from the Department of Health, Ministry of Public Health. It is a hospital serving Thai pregnant women who earn various incomes at all levels, including teenage pregnancy which means Thai adolescent pregnant women coming for antenatal care, in the fiscal year 2018, equal to 265 people, with the awareness of the value of promoting exclusive breastfeeding for the first 6 months after delivery, in line with WHO, AAP, ADA and the National Health Development Plan at 12 (2017-2021): Exclusive Breastfeeding for 6 Months after delivery consisted of the hospital's policy that "Bond of Love: Sirindhorn Hospital, "Family Love Hospital" where the hospital has set a goal about exclusive breastfeeding the first 6 months after delivery , not less than 50 percent to be in line with the Ministry of Health and the network in 2019, which set a target in 2025 that at least 50 percent of babies will exclusively be breastfed during the first 6 months of postpartum period In line with the goals of all the world's countries ,yet it was found that exclusive breastfeeding rate during the first 6 months of postpartum period in Sirindhorn Hospital in 2018 was only 39.26 percent (Pediatric Outpatient Department Sirindhorn Hospital, 2018).

For all the reasons above, the researcher is, therefore, interested in researching the effects of learning exchange programs in conjunction with empowerment in adolescent pregnant women towards promoting exclusive breastfeeding: a randomized controlled trial to study the effects of receiving a learning exchange program with the empowerment of adolescent pregnant women towards promoting exclusive breastfeeding all the time during the first 6 months of postpartum period ,compared with the standard knowledge program of normal breastfeeding techniques.

2. Research Objectives

The purpose of the research was to study the effects of the Knowledge Sharing Practices with Empowerment Program in adolescent pregnant women towards promoting exclusive breastfeeding during the first 6 months of postpartum period compared to obtaining a standard knowledge program of normal maternal breastfeeding techniques.

3. Research Methodology

The sample group used in this quantitative and qualitative study was pregnant women, Thai teenagers aged 10-19 years older than 32 weeks, who received antenatal care and delivery services at department of obstetrics and gynecology, Sirindhorn Hospital, Bangkok Medical Center during May And June 2020 and follow-up to support breastfeeding mothers during the first 6 months of postpartum period between June and November 2020.

After being certified by the Research Ethics Committee, Western University and the Research Ethics Committee Bangkok, Volunteers who meet the selection criteria and had consents were randomly divided into 2 groups: study group and control group, which collect data conducted by researchers and research assistants, as well as informing the objectives and procedures of the study, and the protection of human rights in participating in this research; offering positive human relationships, and opening discussions or questions to promote confidence in participation as a volunteer in the study to meet the selection criteria for both groups of 90 people, namely, pregnant women, adolescents and parents / sponsors who are willing to participate in the research project, adolescent pregnant women and their babies who have no complications at the gestational age of less than or equal to 32 weeks, adolescent pregnant women and their babies who are of normal health and have no prohibited diseases during breastfeeding less than or equal to 32 weeks, adolescent pregnant women who do not have nipple abnormalities at a young age less than or equal to 32 weeks, and pregnant women and adolescents pregnant woman who have channels that can communicate through social media.

Randomized Controlled Trial (RCT) was an experimental method. This statistics can be used to examine the effectiveness of healthcare services and technology. The participants showed similar characteristics and were

divided into two groups: Treatment Group and Control Group. This allowed the experiment to reduce or avoid bias In the selection of samples and bias from Other factors affecting the results of the study [17] which the researcher has used this method to draw the sample. The samples were randomized by using table of random numbers method. The researcher created the allocation sequence and examined the enrollment of the participants. The researcher had the participants choose sequentially numbered, opaque, sealed envelopes, containing 45 tickets, identifying the study group or control group. The participants were not known to be in the study or control group. Each group was offered a knowledge sharing practices and empowerment (KSPEP) among adolescent pregnant women to promote exclusive breastfeeding for the first 6 months after delivery, which was a study group. Another group was given the standard knowledge program of normal breastfeeding techniques, which was the control group. The treatment of the two groups of participants was identical.

3.1 Research instruments used for data collection

This randomized and controlled study with research tool consisted of Knowledge Sharing Practices with Empowerment Program (KSPEP), Knowledge Sharing and Empowerment Program in prenatal training and strategies for monitoring adolescent breastfeeding after 6 months of delivery. The researchers led the Knowledge Sharing Practices with Empowerment Program (KSPEP) based on the Knowledge Sharing Practices concept and theory by adopting a strategy of five areas of exchange theory: adoption, problem-solving, communication, decision-making and compliance together with empowerment of Gibson's theory (1991), in which Kupratakul J. In 2010, both theories were incorporated, adapted to adolescent pregnant women and periodic behavioral monitoring to promote exclusive adolescent breastfeeding throughout the first 6months of delivery by evaluating the basics of knowledge, attitudes, perceptions of competence, and self-management power of Bartholomew's theory (1993) as shown in figure 1.

3.2 Statistics used in data analysis

The researcher analyzed the data collected using the standard program SPSS / PC version 13 [18] for statistical analysis. Results are presented as adjusted odds (OR) with 95% confidence interval (CI) P-value < 0.05, considered to be statistically significant.

The categorical data was displayed in percentage and compared with the chi square test. Continuous variables were shown as mean and standard deviation and the test was compared by t-test. The data was analyzed by using descriptive statistics, mean and standard deviation of knowledge, attitudes and perceptions of self-management competencies in breastfeeding per the mean scores of breastfeeding of the sample, comparing the duration and exclusive breastfeeding between the study and control groups. It was calculated by a statistically significant Chi-square test at 0.05, a test of difference between the mean scores of knowledge, attitudes and perception of self-management performance in both groups before and after receiving the program, using the unpaired t-test and the difference test between the knowledge score, attitudes and perceptions of self-management competencies in breastfeeding before and after receiving the program in the study and control groups, using paired t-test.

4. Research Results

Prior to the start of the study, the participants were placed into two groups. The sample group was randomized by using Table of Random Numbers method. The researcher created the allocation sequence and examined the enrollment of the participants and had the participants choose sequentially numbered, opaque, sealed envelopes which has tickets indicating the study group or control group. Each group consisted of 45 people who did not know to be in the study or control groups before. Some groups received Knowledge Sharing Practices with Empowerment Program of adolescent pregnant women towards promoting exclusive breastfeeding for the first 6 months (the study group) while the other groups received a standard knowledge program of conventional breastfeeding techniques (the control group). The treatment of the two groups of participants was identical.

It was found that 10 teenage mothers were missing during the research. It consisted of 5 adolescent mothers in the study group due to the fact that the causes of address change could not be followed up for 3 people, mastitis for 2 people and 5 adolescent mothers in the control group thanks to the change of the address which could not be tracked for 3 people, 1 mastitis and 1 neonatal abnormalities, totally 80 adolescent mothers in the study, calculated approximately 88.89% (40 people in the study group and 40 people in the control group), followed-up for a six-month period, completed in November 2020, as summarized in Figure 2.

Factors for demographic characteristics (age, religion, educational status, occupation status, family income and equities), intention and breastfeeding plans. As summarized in Table 1, the number and percentage of demographic data, intention and breastfeeding plans of the study and control groups showed that regarding the demographic factor, the study group received Knowledge Sharing Practices (KSPEP) with Empowerment Program In adolescent pregnant women towards exclusive breastfeeding while the control groups received the standard knowledge program of normal breastfeeding techniques. There was a statistically significant difference of 0.05, i.e. occupation

status, workplace and monthly family income. The leading factors for demographic characteristics were age, religion, educational status, intentions and plans for breastfeeding. There was no significant difference in 0.05, as summarized in Figure 1.

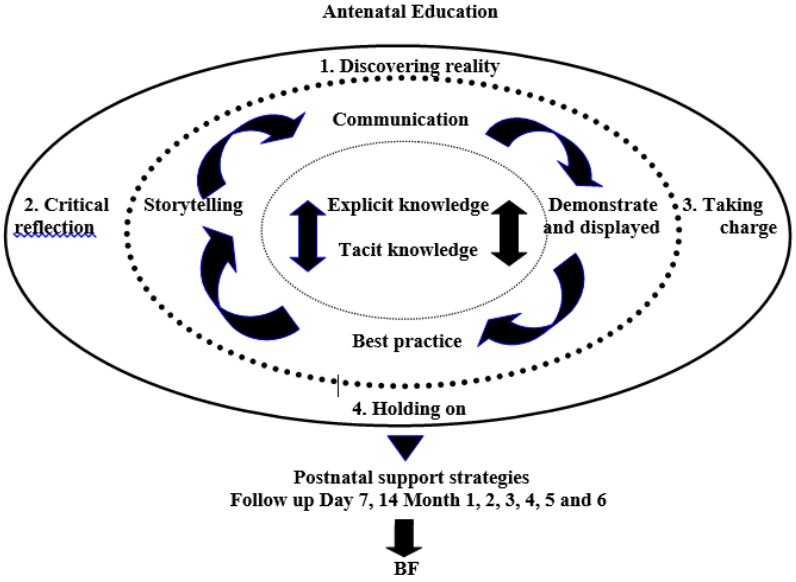

Figure 1: A model for KSPEP (Knowledge Sharing Practices with Empowerment Program)

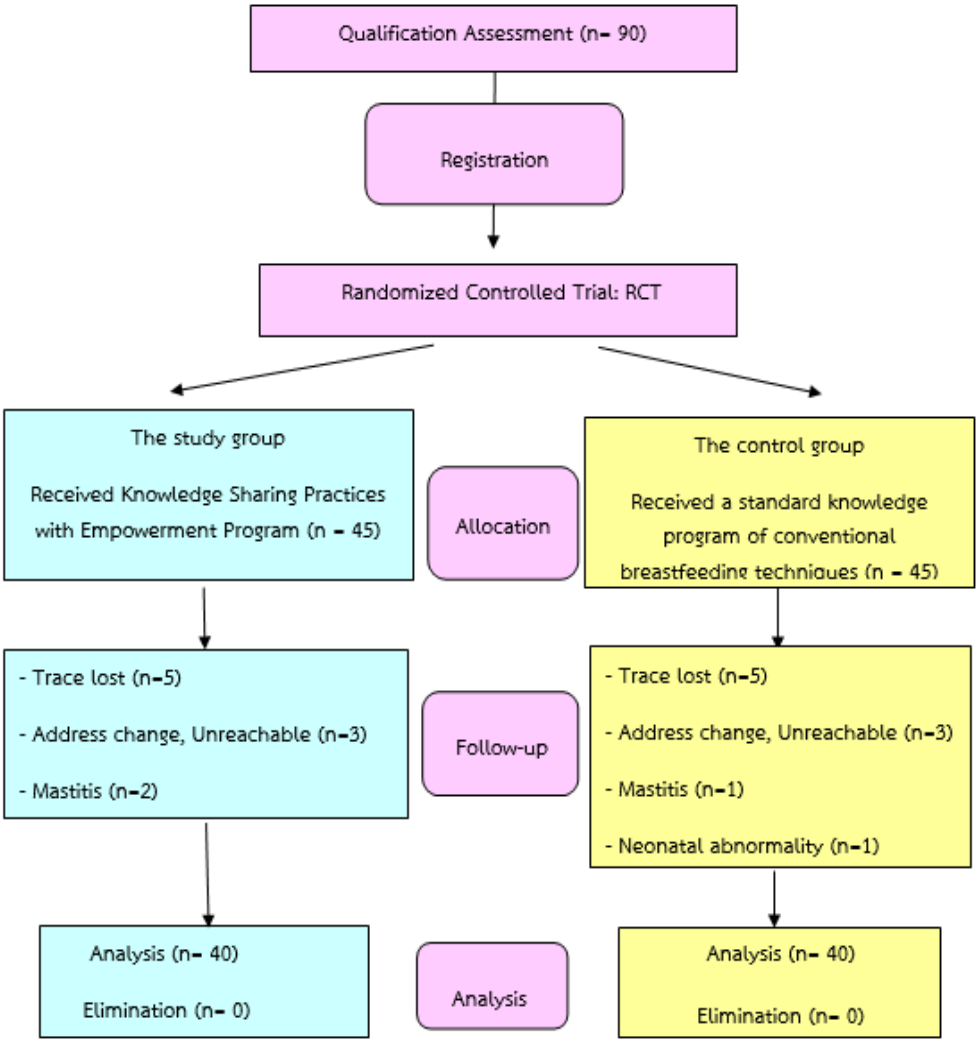

Figure 2: Screening, Randomized controlled trial, Termination and Loss to follow-up

Regarding the leading factors of breastfeeding knowledge, breastfeeding attitudes, perception of self-management competencies in breastfeeding, it was found that before receiving the Knowledge Sharing Practices with Empowerment Program in adolescent pregnant women towards promoting exclusive breastfeeding (KSPEP) in the study group together with the understanding of standard knowledge program of normal breastfeeding techniques in the control group. The average score of knowledge of breastfeeding and attitudes towards breastfeeding and the perception of self-management ability towards breastfeeding. There was a difference of 0.05 statistical significance of attitude towards breastfeeding and the perception of self-management ability to breastfeeding ($p = <0.001$ and $p =< 0.001$; respectively). However, no difference was found in the statistical significance of 0.05 of breastfeeding knowledge ($p = 0.071$).

Table 1. Number and percentage of demographic characteristics, intentions and breastfeeding plans of the study group and control group

Demographic characteristics	**Study group**		**Control group**		**Total**		**p-value**
	Number	**Percent**	**Number**	**Percent**	**Number**	**Percent**	
Ages (years)							
1. 14-15	2	5.0	6	15.0	8	10.0	.099
2. 16-17	11	27.5	9	22.5	20	25.0	
3. 18-19	27	67.5	25	62.5	52	65.0	
	Mean=17.85 Mode=18.00		Mean=17.40 Mode=18.00		Mean=17.63		

	SD=1.63 Min=14 Max=19		SD=1.50 Min=14 Max=19		Mode=18.00 SD=1.57 Min=14 Max=19		
Religions							
1. Buddhism	37	92.5	37	92.5	74	92.5	1.000
2. Islam	3	7.5	3	7.5	6	7.5	
Education status							
1. Primary education	5	12.5	8	20.0	13	16.2	
2. Secondary education	26	65.0	30	75.0	56	70.0	.084
3. Diploma or higher	5	12.5	0	0	5	6.3	
4. Bachelor's degree or higher	4	10.0	2	5.0	6	7.5	
Occupations							
1. Serving	1	2.5	1	2.5	2	2.5	**.026***
2. Company employee / employee	15	37.5	11	27.5	26	32.5	
3. Trading	6	15.0	6	15.0	12	15.0	
4. Student / student	0	0	9	22.5	9	11.3	
5 Housewife (unemployed)	18	45.0	13	32.5	31	38.7	
Workplaces							
1. Work in the home	16	40.0	26	65.0	42	52.5	**.025***
2. Work outside the home	24	60.0	14	35.0	38	47.5	
Average monthly income							
1. Less than or equal to 6,000 baht	3	7.5	11	27.5	14	17.5	**.003***
2. From 6,001 - 20,000 baht	25	62.5	27	67.5	52	65.0	
3. More than 20,000 baht	12	30.0	2	5.0	14	17.5	
Intention to raise children With breastfeeding							
1. Intentional	37	92.5	33	82.5	70	87.5	.176
2. Unintentional	3	7.5	7	17.5	10	12.5	
Plans for breastfeeding							
1. Planned	36	90.0	27	67.5	63	78.8	.014
2. Unplanned	4	10.0	13	32.5	17	21.3	
Total	**40**	**100.0**	**40**	**100.0**	**80**	**100.0**	

After receiving the Knowledge Sharing Practices with Empowerment Program (KSPEP) in adolescent pregnant women towards promoting exclusive breastfeeding in the study group and the understanding of standard knowledge program of normal breastfeeding techniques in the control group, there were differences of the statistical significance of 0.05 in the knowledge of breastfeeding and the perception of self-management abilities of breastfeeding ($p = 0.120$), as described in Table 2.

Table 2. Mean scores of knowledge, attitudes and perceptions of self-management competencies in breastfeeding before and after receiving the Knowledge Sharing Practices with Empowerment Program (KSPEP) in adolescent pregnant women towards promoting exclusive breastfeeding in the study group and obtaining standard knowledge programs of conventional breastfeeding techniques in the control group.

Questionnaire	**Study group (N=40)**		**Control group (N=40)**		**P-value**
	X	**S.D.**	**X**	**S.D.**	
Knowledge					
Before	6.65	4.76	10.30	3.88	0.071
After	18.40	1.74	9.48	3.82	<0.001*
Attitude					
Before	3.06	0.90	3.84	0.41	**<0.001***
After	4.65	0.40	3.64	0.58	0.120
Perception of self-efficacy					
Before	62.35	18.75	79.88	11.61	**<0.001***
After	97.35	8.80	75.68	12.88	**0.012***

When comparing the average score of knowledge in breastfeeding, attitudes towards maternal breastfeeding and the perception of self-management ability towards breastfeeding before and after obtaining a standard knowledge program of normal breastfeeding techniques In the control group. There was a statistically significant difference of 0.05 in the perception of self-management performance towards breastfeeding ($p = 0.028$), but there was no significant difference. At 0.05, regarding breastfeeding knowledge and breastfeeding attitudes ($p = 0.092$ and $p = 0.100$, respectively).

But when comparing the average score of knowledge in breastfeeding, attitudes towards maternal breastfeeding and perceived self-management capacity to breastfeeding mothers before and after receiving the Knowledge Sharing Practices with Empowerment Program (KSPEP) in pregnant teens In the study group, the average score after receiving the KSPEP was higher than the score before receiving the KSPEP in the study group, statistically significant at 0.05 on the knowledge of breastfeeding, attitudes to maternal breastfeeding and perceived self-management capacity to breastfeeding. ($p = <0.001$ total), as described in Table 3.

Table 3. Mean scores and differences of knowledge about breastfeeding, attitude towards breastfeeding and self-efficacy of self-management towards breastfeeding before and after receiving programs in the study group and in the control group

Questionnaire	**Study group (N=40)**		**Control group (N=40)**	
	Mean ± SD of difference	**P- value**	**Mean ± SD of difference**	**P- value**
Knowledge	11.75±5.79	**<0.001***	0.83±3.02	0.092
Attitude	23.88±16.94	**<0.001***	3.00±11.26	0.100
Perception of self-efficacy	35.00±21.60	**<0.001***	4.20±11.61	**0.028***

The relationship of maternal breastfeeding during the 7, 14 days, 1, 2, 3, 4, 5 and 6 months after birth between the study and the control group was seen to be contrary to the fact that the study group received the Knowledge Sharing Practices with Empowerment Program (KSPEP) In pregnant teens to promote exclusive breastfeeding has a higher rate of breastfeeding, or EBF, than the control group that received the standard knowledge program of normal maternal breastfeeding techniques, statistically significant at 14 days 1, 2, 4, 5 and 6 months after birth

(82.5% vs. 50.0%, p = 0.005 at 14 days, 77.5% vs.50.0%, p = 0.021 at 1 month, 62.5% vs. 35.0%, p = 0.023 at 2 months, 35.0% vs. 7.5%, p = 0.008 at 4 months, 25.0% vs. 2.5%, p = 0.012 at 5 months, and 40.0% vs. 5.0%, p = 0.0002 at 6 months) The rate of Predominant Breastfeeding or PDBF was statistically significantly higher than the 3, 5 and 6 months after birth, but the rate of Partial Breastfeeding or PBF did not differ statistically significantly between the groups at all, and Not breastfed or NBF was statistically significantly higher than those 2, 3, 4, 5 and 6 months after birth, as described in Table 4.

5.Discussion

Discuss the results of the Knowledge Sharing Practices with Empowerment Program in adolescent pregnant women towards promoting exclusive breastfeeding: a randomized controlled trial. It was a randomized trial was consistent across the research objectives, research hypothesis and research results. It was found that the rate of exclusive breastfeeding, or EBF, was higher than that of the control group who received the standard knowledge program of normal breastfeeding techniques, statistically significant at 14 days 1, 2, 4, 5 and 6 months at postpartum periods. Especially, exclusive breastfeeding for the first 6 months after delivery was 40%, compared with the Montapachat's study and Sunthorn Kulwong et al. In the year [19] which was found that the first 6 months of exclusive breastfeeding was 34.40%, which is still higher than the study of Patthani Vijakul and his colleagues in [20] which was found that the first 6 months of exclusive breastfeeding after delivery was only 23%.

Table 4. The relationship of breastfeeding during the first *7*, 14 days, 1, 2, 3, 4, 5 and 6 months postpartum between study and control groups.

Duration / Samples	**Types of breastfeeding**			
	EBF **N/%**	**PDBF** **N/%**	**PBF** **N/%**	**NBF** **N/%**
7 days				
Study group	37/92.5%	3/7.5%	0	0
Control group	29/72.5%	4/10.0%	3/7.5%	4/10.0%
P-value	0.095	1.000	0.234	0,051
14 days				
Study group	33/82.5%	5/12.5%	2/5.0%	0
Control group	20/50.0%	8/20.0%	7/17.5%	5/12.5%
P-value	**0.005***	0.511	0.148	0.051
1 month				
Study group	31/77.5%	7/17.5%	2/5.0%	0
Control group	20/50.0%	8/20.0%	8/20.0%	4/10.0%
P-value	**0.021***	0.915	0.083	0.051
2 months				
Study group	25/62.5 %	10/25.0%	5/12.5%	0
Control group	14/35.0%	6/15.0%	6/15.0%	14/35.0%
P-value	**0.023***	0.184	0.931	**<0.0001***
3 months				
Study group	20/50.0%	13/32.5%	7/17.5%	0
Control group	14/35.0%	4/10.0%	9/22.5%	13/32.5%
P-value	0.158	**0.018***	0.691	**<0.0001***
4 months				
Study group	14/35.0%	11/27.5%	10/25.0%	5/12.5%

Control group	3/7.5%	6/15.0%	11/27.5%	20/50.0%
P-value	**0.008***	0.116	0.894	**<0.0001***
5 months				
Study group	10/25.0%	12/30.0%	10/25.0%	8/20.0%
Control group	1/2.5%	2/5.0%	12/30.0%	25/62.5%
P-value	**0.012***	**0.004***	0.894	**<0.0001***
6 months				
Study group	16/40.0%	8/20.0%	6/15.0%	10/25.0%
Control group	2/5.0%	0	8/10.0%	30/75.0%
P-value	**0.0002***	**0.005***	0.923	**<0.0001***

*Significant at the 0.05 level

EBF = Exclusive breastfeeding/Exclusively breastfed PDBF = Predominant breastfeeding.

PBF = Partial Breastfeeding NBF = No breastfeeding/ Not breastfed

In addition, when comparing the results of the mean scores of knowledge, attitudes and perceptions of self-management competencies on breastfeeding at 6 months postpartum in adolescent pregnant women before and after participation, it was found that the mean score of the Knowledge Sharing Practices with Empowerment Program after receiving the program was higher than the score before receiving the program In the study group, it was statistically significant in line with Phanthipa BuaKai [21] research on the effect of the empowerment program on knowledge, perception of self-power and health behavior during pregnancy and after childbirth of pregnant inmates and postpartum mothers with children attached to female inmates. The results of the study found that during pregnancy and postpartum period, self-empowerment scores were significantly higher than those before the receiving the program as well.

It was also found that the results of the mean scores of knowledge, attitudes and perceptions of self-management competencies on breastfeeding for the first 6 months of postpartum period among adolescent pregnant women after receiving the Knowledge Sharing Practices with Empowerment Program (KSPEP) towards promoting exclusive breastfeeding In adolescent pregnant women in the study group were significantly higher than the standard knowledge program of normal breastfeeding techniques in the control group. This was consistent with the research of Piyaporn Kong Ngoen, et al. [22] , it was found that at the end of the trial, the pregnant women in the experimental group had the average scores of health promotion in the prevention of preterm birth higher than the control group, statistically significant.

This was due to the efficiency of the Knowledge Sharing Practices with Empowerment Program (KSPEP) towards promoting exclusive breastfeeding In adolescent pregnant women towards promoting exclusive breastfeeding, which consists of knowledge management strategies: KM in line with Vicharn Panich, M.D. [23] states that related knowledge is either explicit knowledge in the form of text or code that is commonly understood (Explicit Knowledge) and Tacit Knowledge that is in people, both in the mind (beliefs, values), in the brain (reasoning) and in the hands and other parts of the body (skills in practice) in which the use of sharing methods. Knowledge Sharing Practice is that one person shares relevant information, suggestions and expertise with others and can make clear knowledge. It is a person's deep-seated knowledge, in line with Davenport and Prusak [24] and O'Dell and Grayson [25] states that knowledge contains information that comes from the interpretation of the individual experience and expertise which new knowledge born from the knowledge of the person. One is combined with the knowledge of the other persons. Therefore, effective knowledge sharing will enhance individual learning and another empowerment strategy based on Gibson's theory states that it is a process of helping people to control various factors affecting their health and quality of life. This gives a person the energy, well-being and awareness of his potential for maintaining health and the empowerment will provide people with the access to the best sources of power with various benefits in people, families and communities [15]. Providing the Knowledge Sharing Practices with Empowerment Program and Follow-up techniques to support after delivery to stimulate exclusive breastfeeding to modify knowledge, attitudes, perception of self-management and behavioral capacities Bartholomew [16'] was applied to increase knowledge, change attitude and the perception of competencies, including the power to self-manage and stimulate behavior in adolescent pregnant women to promote the effective exclusive breastfeeding of adolescent mothers for the first 6 months after delivery.

6.Conclussion

Knowledge Sharing Practices with Empowerment Program in adolescent pregnant women towards promoting exclusive breastfeeding: a randomized controlled trial was able to promote the rates of adolescent-exclusive breastfeeding after childbirth at 7, 14 days, 1, 2, 3, 4, 5 and 6 postpartum months.

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