

Effectiveness of Telelactation Intervention on knowledge, Breastfeeding and Relationship between Primiparas and Their Newborns

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Abstract: Background: Breastfeeding has multiple benefits for mothers and infants which protects against health problems. Telelactation services can sustain breastfeeding at any location through, audio visual technology. **Purpose:** To investigate effectiveness of telelactation intervention on knowledge, breastfeeding, and relationship between Primiparas and their newborns. **Design:** Quasi- experimental (control & intervention) design was done at antenatal, delivery and postpartum department of maternity and children Minia university hospital. A randomized sample of fifty four pregnant women per each group was included. Four instruments were used for data collection (breast feeding structured interview, postpartum bonding, mother infant attachment scale and maternal satisfaction of telelactation) questionnaire. **Results:** Primiparas in the intervention group had higher mean level of knowledge in the intervention group than control group (26.22 ± 2.62 Vs 13.74 ± 2.83), primiparas in the intervention group initiated breastfeeding earlier (48.1%) than primiparas in the control group (14.8%) and the majority of primiparas in the study group were satisfied from using telelactation intervention for breastfeeding consultation. **Conclusion:** The study concluded that telelactation intervention was effective in improving primiparas' knowledge and relationship between Primiparas and their newborns. **Recommendation:** Telelactation nursing intervention must be used to improve knowledge of Primiparas and solve breastfeeding problems.

Key words: Telelactation, Breastfeeding, Knowledge, Relationship, Primiparas

Introduction

Through the use of videoconference-based and at-home consultations, the developing technology support strategy

known as "telelactation" is intended to reduce the access barrier for international board-certified lactation

Effectiveness of Telelactation Intervention on knowledge, Breastfeeding and Relationship between Primiparas and Their Newborns

consultants (IBCLCs) (Uscher-Pines et al., 2020). Improvement of breastfeeding using telelactation support offers mothers and babies several health benefits. Breastfeeding has various advantages for mothers, including helping with natural family planning, lowering diabetes (type II), breast, and ovarian cancer risks, as well as enhancing mental health (WHO, 2018). Breastfeeding has also benefits for babies' physical and neurological development as well as their defense against viral and chronic disorders (Kapinos et al, 2019).

According to the American Academy of Pediatrics (AAP, 2016), Breast milk provides numerous immunologic and nutritive qualities that preserve and enhance the child health in a way that synthetic formula can't do. Breast milk contains antibodies that can either prevent or lessen the severity of a variety of illnesses, including common colds, diarrhea, vomiting, spinal meningitis as well as respiratory, ear, and urinary tract infections. International organizations advise beginning breastfeeding (BF) within the first hour of the newborn's life and continuing it exclusively until the kid is 6 months old. After that, they advise introducing appropriate supplementary meals while continuing BF until the child is at least 2 years old (Kim et al, 2018).

There is a wealth of information available on the primary social and health advantages of breastfeeding as well as ways to support and encourage it. It is therefore unexpected that huge portions of the worldwide population still engage in inadequate breastfeeding practices in the 21st century. Additionally, it is essential to make greater investments in workforce training to ensure the Baby Friendly Hospital Initiative's sustainability and large-scale implementation as well as

community-based breastfeeding counseling. It is now possible for policymakers to support and direct the expansion of breastfeeding programs that are both affordable and successful by using evidence-based policy instruments (Farhadi et al, 2021).

Concerns about going back to school or work, the time-consuming, unsuitable aspects of breastfeeding, a lack of individualized or expert support or guidance, health issues, and a loss of milk production are some of the often cited reasons for early breastfeeding discontinuation (Alianmoghaddam et al., 2018).

Throughout COVID-19, the use of telemedicine & mobile-assisted technology at this time could help provision of clinical services while avoiding & controlling the virus. Also, management of vulnerable cases can be done through telehealth services (Raofi et al., 2020 & Keshvardoost et al., 2020). It has recommended that x virtual appointments during postnatal & distant consultation could support healthy new mothers in beginning breastfeeding practices during COVID-19 while, decreasing the number of contact with healthcare providers. Mothers with COVID-19 infection were recommended to maintain breastfeeding with following the infection preventive measures (Gjoni & Alevizou, 2020). According to recent report about the detection of anti-COVID-19 antibodies in breast milk, further research reinforces it's the value for infants during the pandemic disaster (Dong et al., 2020). Innovation like Telehealth & mobile-health could found the solution through virtual communication (Kapinos, 2019).

Bonding is an emotional connection between a mother and her newborn that eventually grows and develops into an attachment. For the newborn to be

Effectiveness of Telelactation Intervention on knowledge, Breastfeeding and Relationship between Primiparas and Their Newborns

protected, a strong bond is thought to be essential. However, bonding remains challenging for mothers who have spontaneous deliveries because they are more likely to be self-centered. Attachment and bonding with the newborn are vital, and moms should do both. However, it takes time and calls for the assistance of husbands, parents, relatives, and medical professionals. To improve the bonding and attachment between mothers and her newborn, nurses should pay close attention to this process (Wada et al., 2020). The use of telelactation in the provision of breastfeeding support the potential benefit of increasing the mother confidence in her breastfeeding abilities, and maternal satisfaction with telelactation services is generally high (Falcon, 2020).

Significance of the study

Sustainable development agenda of WHO 2030 was developed in 2015 and comprises 17 goals, there are two directly related to breastfeeding (United Nations, Sustainable Development Goals UNSDG, 2015; Millennium Development Goals Report, MDGR 2015). While WHO stated that exclusive breastfeeding up to 6 months of age is highly recommended and emphasizes breastfeeding importance, one of the most important problems faced by many countries is a decrease in the rate of exclusive breastfeeding (Ghasemi et al., 2018). Worldwide only 35% or less of babies are breastfed exclusively (WHO & UNICEF, 2018).

Furthermore, progress toward meeting the Healthy People 2030 breastfeeding objectives focuses on increasing the infants' percentage who is breastfed at 1 year (54.1%) (CDC, 2018) and infants who were exclusively breastfed for six months to 25.5% (ODPHP, 2019). Additionally, technology-

assisted telelactation, is supposed to strengthen and initiate emotional bonding between mother and infant (Farhadi et al., 2021). So, this study was conducted to help newly mother in solving BF problems, answer for any maternal inquires and improve BF outcomes by using telelactation as a new technologies that save time , reduce contact or attend to hospital .

Aim:

The study aim to investigate the effectiveness of telelactation intervention on knowledge, breastfeeding, and relationship between Primiparas and their newborns

Research hypotheses:

- **H1:** Primiparas who receive telelactation intervention are expected to have higher level of knowledge about breastfeeding, initiations and continuation of exclusive breastfeeding than Primiparas in the control group on posttest.
- **H2:** Primiparas who receive telelactation intervention are expected to develop more bonding and attachment relationships with their newborns than Primiparas in the control group on posttest.
- **H3:** It was expected that primiparas among intervention groups more satisfied with telelactation.

Operational definitions:

- **Telelactation intervention:** It is health education nursing intervention based on providing access to lactation services per day at morning hours, afternoon and evening. Inquiries were answered and information about breastfeeding was given with provided by the researcher via phones, text message, and audio-visual technology

Effectiveness of Telelactation Intervention on knowledge, Breastfeeding and Relationship between Primiparas and Their Newborns

(videoconference) through smartphones, computers, and tablets.

- **Breastfeeding:** It is the recommendations of WHO and UNICEF for the initiation and continuation of exclusive breastfeeding. It will be assessed using breastfeeding structured interview questionnaire. (Instrument one)
- **Relationship between Primiparas and their Newborns:** It is the amount of bonding and attachment that are present between Primiparas and newborns. It will be assessed using postpartum bonding questionnaire and mother infant attachment (Instruments two and three)

Methods

Design:

A quasi-experimental design was used (study and control group).

Setting:

It was implemented at antenatal, delivery and postpartum department of Maternity and Children Minia university hospital.

Sampling:

The study sample, consisted of 54 pregnant women who attended the afore previously mentioned setting for each group, they were randomly divided into two groups: the first group (intervention) included 54 pregnant women who received “routine protocol hospital care” (RPHC) in addition to telelactation as a supportive educational new technique that could be used during any pandemic, and the second group (control) included 54 pregnant women who also received RPHC.

Sample type:

Purposive sampling technique was used:

Inclusion criteria:

- Ante natal women during 3rd trimester who prime gravida able to read and write, had mobile. Install APPs application
- Single viable fetus, at term no congenital anomalies.
- Normal delivery.
- Free from medical and psychological disease.
- Otherwise is exclusion criteria as multigravida, CS, twins, and illiterate

Sampling technique

A simple random sample was used to assign Primiparas into a study and control groups. In order to allocate pregnant women to the control and intervention groups (intervention & control), the researcher wrote the names of pregnant women who attend prenatal clinics on indistinguishable pieces of paper, folded them well, and jumbled them up.

Sample size calculation:

Based on data from literature (**Uscher-Pines et al., 2020**), considering level of significance = 5%, Power = 80%, Type of test = two-sided

Formula of calculating sample size is $n = [2(Z_{\alpha/2} + Z_{\beta})^2 \times p(1-p)] / (p_1 - p_2)^2$ where n = sample size required in each group, p = pooled proportion (proportion of event in group 1 + proportion of event in group 2)/2 p₁-p₂ = difference in proportion of events in two groups

Z_{α/2}: This depends on level of significance, for 5% this is 1.96

Z_β: This depends on power, for 80% this is 0.84

$n = [2(1.96 + 0.84)^2 \times 0.51(1-0.51)] / (0.27)^2 = 53.7$

*Effectiveness of Telelactation Intervention on knowledge, Breastfeeding
and Relationship between Primiparas and Their Newborns*

Based on the above formula, the sample size required is 54 in each group.

Instruments

Four instruments were utilized:

Instrument One: Breast feeding

Structured Interview questionnaire:

It was adapted from Abuidhail et al., (2017); Padmasree et al., 2017). It contained 3 parts:

- Part one: It included socio-demographic characteristics such as age, level of education, occupation, residence, income, and source of knowledge about breastfeeding.
- Part two: It was adopted from Ayed, (2014) Breastfeeding Knowledge. It contained thirty eight questions allocated into 7 sections. 1st and 2nd related to the benefits of breastfeeding for both babies and mothers. The 3rd and 4th related to colostrum and effective breastfeeding. The 5th and 6th related to the duration and the problems related to breastfeeding. The 7th was concerned with the practical aspects of breastfeeding.
- Part three: It includes time for initiation of breastfeeding after current childbirth and exclusive time of breastfeeding.

Scoring System:

The correct response received 1 degree, & the wrong response received zero. The total knowledge response scores were 38. If the total response score < 50% (score of 19) level of knowledge was considered poor, If the scores ranged from 50% - 75% (score of 19–28.5) their level of knowledge was neutral, If the scores were >75% their level of knowledge was good.

Instrument two: The Postpartum Bonding Questionnaire (PBQ):

It was developed by Brockington et al. (2001) and it was updated in 2006. The 25-items PBQ were used to evaluate mothers' attitudes towards their newborns. Each question included six possible answers, ranging from "always" to "never." Positive replies were graded on a scale of zero to five. The score range for negative statements was from 5 (meaning "always" to 0 (meaning "never"). The maximum score was 125. It consists of four parts.

- **Part one:** Impaired bonding. It has 12 items and elevated score on scale I point out that an interview is essential to investigate the mother-infant bonding and existence of infant-focused anxiety, obsessions and anger.
- **Part two:** Rejection and pathological anger. It included seven items.
- **Part three:** Infant-focused anxiety. It contained four items.
- **Part four:** Incipient abuse. It involved two items .High total score means poor bonding.

Instrument three: Mother infant attachment scale:

It was developed by Bhakoo et al., (1994) to measure mother-infant attachment. It includes 15 items with responses ranging on five point scale from 'strongly agree', 'agree', 'do not know', 'disagree' and 'strongly disagree'. It composed of (e.g. I feel that this child does not love me, I love this child so much that I cannot bear to be away from him (her) even for a short time, etc.....). A score of five was assigned to the most favorable response and one to the most unfavorable response. Scores ranged from zero to 15 and maximum score

Effectiveness of Telelactation Intervention on knowledge, Breastfeeding and Relationship between Primiparas and Their Newborns

15. The highest total score means poor attachment.

Instrument four: Maternal Satisfaction of Telelactation:

It was designed by the researchers this questionnaire after reviewing the related literature, to assess maternal satisfaction regarding Telelactation. It consisted of 11 item such as (Nursing telelactation information is clear - Nursing telelactation provide simple & comprehensive information's - Nursing telelactation language is suitable for all studied sample- Save time and effort - Nursing telelactation helped improve knowledge- Nursing telelactation helped improve practices about breastfeeding -Nursing telelactation help in solving breastfeeding problems-Recommend for next future pregnancy- Recommend for relative and friends- Recommended to be involved in hospital care-Encourage new mothers to continue breastfeeding).each item assessed by likert scale, 3satisfy, 2 to some degree and 1 for not satisfy and it was classified as follows: (< 18) = not satisfy, (18-< 25) = to some degree, and (≥25) = satisfy.

Validity:

Panels of five nursing experts tested the tools: in the field of obstetrics and gynecology nursing .Their suggested configurations were made, such as the rephrasing of some sentences.

Reliability:

The tools were assessed by Cronbach's alpha to assess the internal consistency of the tools, which was 0.90 for the second part of Instruments I, "Breast Feeding Knowledge Questionnaire"; 0.93 for the second Instruments; and 0.92 for the third Instrument.

Pilot study:

It was conducted on 10 percent (n=11) of the study new mother to evaluate clarity and applicability of the tools and estimate the required time to fill it. Needed modifications were done. The subjects in this pilot study were excluded from the current study sample.

Ethical consideration:

Following approval from Minia faculty of nursing's research ethics commission and the director of maternity and children hospital, researchers launched their investigation. A written consent obtained from every participant involved in the study after clarification the purpose, aim, risks and benefits of the research. All participants reassured about the confidentiality of the collected data and the safety of the intervention. In addition, the right to be withdrawn from the study was permitted.

Procedure:

This study was conducted at the previously mentioned setting between Mach 2021 and December 2021; From 9 a.m. to 12 p.m. on Saturday, Monday, and Wednesday, until the estimated sample size of women was reached. Four stages—preparatory, assessment, implementation, and outcome evaluation—were used to complete this study.

- An official letter was submitted from the Dean of the Faculty of Nursing, Minia University to the director of Minia University hospital explaining the purpose and methods of data collection
- In the morning, the researchers went to the previously mentioned settings and searched through the registration book to discover

Effectiveness of Telelactation Intervention on knowledge, Breastfeeding and Relationship between Primiparas and Their Newborns

expectant mothers who meet the requirements for inclusion. After that, the researchers met with each expectant woman privately. Following their approval to join in the study, pregnant women were knowledgeable about the study's aim & exact required time for involvement from the researcher. In the control group, the researchers assessed primiparas on pretest (instrument one). The control group received only routine protocol hospital care. While the intervention group was assessed on pretest using instrument one (socio demographic data, and their knowledge about breastfeeding, source of knowledge about breastfeeding, initiation of breastfeeding) to be assessed. After that the researchers ask women in the intervention group to download WhatsApp on their smartphone. This application was planned to be used during the online educational session for mother who can't be able to attend the clinic for inquiry or problem about breastfeeding or were kept in isolation due to COVID-19

- In the light of the results, the online educational sessions were developed and implemented through four online educational sessions. The telelactation intervention was planned during the last month of pregnancy.
- ◆ The 1st session included importance, maternal benefits, and infant benefits of telelactation intervention.
- ◆ The 2nd session provided knowledge about composition of breast milk, techniques & positions of breastfeeding.
- ◆ The 3rd session was to identify (factors affecting successful breastfeeding, and breastfeeding difficulties).

- ◆ The content of 3rd session was about factors affecting successful breastfeeding, and breastfeeding difficulties.
- ◆ The 4th session contained management of breastfeeding problems.
- ◆ Pregnant women were divided into subgroups. Each group contained 10-15 pregnant women and each online session takes about (35-45 mins).
- ◆ In addition each mom who had any concern to ask at any time in not available that can send message to telelactation group, as well as
- ◆ All these sessions used animation, videos, power point presentations, colored electronic booklet and situations.

Finally, the knowledge, initiation, relationship with newborns (bonding, & attachment) were reassessed immediately post –delivery. In addition follow-up was conducted 3 months after birth of newborns for knowledge, bonding, attachment & exclusive breastfeeding) by the same format among both groups. Finally satisfaction about breastfeeding was evaluated from telelactation group (intervention groups)

Limitations:

Drop of some cases from intervention 2 and 3 cases from control group during follow-up due to unwilling and unfamiliarity toward telelactation

Statistical Analysis:

SPSS for Windows version 21.0 (SPSS, Chicago, IL) was used for all statistical analysis. Continuous data were normally distributed and presented in form of mean and standard deviation (SD). Frequencies and percentages were used to convey categorical data. The Student's ttest for two variables with continuous data was

Effectiveness of Telelactation Intervention on knowledge, Breastfeeding and Relationship between Primiparas and Their Newborns

used to compare the results. Chi-square test was used to compare variables using categorical data. A statistical significant difference was considered if $P < 0.05$. A highly statistical significant difference was considered if $P < 0.01$.

Results:

Table 1 Reveals that no statistically significant differences concerning socio-demographic variables among the both groups.

Figure 1: presents that 79% of the intervention group, and 49% in the control group whose main source of knowledge about breastfeeding was friends. While, less than half of source of knowledge about breastfeeding between intervention group and control group was from family members.

Table 2: shows that 48.1% of the intervention group started breastfeeding within 30-60 minutes after childbirth, compared to 14.8% of the control group. Also it was found that there were highly statistically significant differences between two groups regarding initiation of breastfeeding ($p=0.000$).

Table 3: illustrates that no statistical significant differences were found between the two groups regarding to their knowledge of breastfeeding before intervention ($p=0.469$). On the other hand, there were statistical

significant differences between two groups regarding the knowledge about breastfeeding immediately post childbirth and at follow-up 3 month post childbirth ($p=0.000$).

Table 4: shows that there were statistical significant differences between two groups concerning bonding level of breastfeeding on post childbirth and follow up tests ($p=0.000$).

Table 5: shows mean and standard deviation of attachment level between Primiparas in the study and control groups at post and follow-up tests. It illustrates that there were statistically and highly statistically significant differences between the two groups at post ($p=0.041$) and follow-up tests ($p=0.000$).

Figure 2: presents that the majority of Primiparas in the intervention group practice exclusive breastfeeding.

Figure (3) clarify that there were different newborn age when asking and inquires among telelactation group (46.3%, 37%, 27.8%, 18.5%) at (5-8 weeks, 2-4weeks, 13+ Weeks, 9-12 week & <7 days)

Figure 5: illustrates that majority of Primiparas in the intervention group were satisfied from using telelactation intervention for breastfeeding consultation

Effectiveness of Telelactation Intervention on knowledge, Breastfeeding and Relationship between Primiparas and Their Newborns

Table (1): The studied women socio-demographic data at the baseline assessment (N=108)

Socio-demographic data	Intervention group(TL) (n=54)		Control group(RHC) (n= 54)		Test of significance	P-value
	No.	%	No.	%		
Age						
20- 23 years	34	63	25	46.3	3.05	0.217
24-29 years	14	25.9	21	38.9		
30 -35 years	6	11.1	8	14.8		
Mean ± SD	29.02 ± 9.78		30.0 ± 8.6		t= 0.40	0.68
Marriage period in (years)	7.3 ± 8.7		8.1 ± 7.6		t= 0.62	0.70
Mean ± SD						
Educational level						
Read or write	11	20.4	14	25.9	X2= 1.84	0.387
Middle	40	74.1	34	63		
Higher	3	5.5	6	11.1		
Residence						
Rural	48	88.9	44	81.5	X2=1.71	0.274
Urban	6	11.1	10	18.5		
Occupation						
Working	9	16.7	17	31.5	X2 3.24	0.072
Housewife	45	83.3	37	68.5		
Income level						
Enough	24	44.4	21	38.9	X ² = 0.343	0.558
Not Enough	30	55.6	33	61.1		

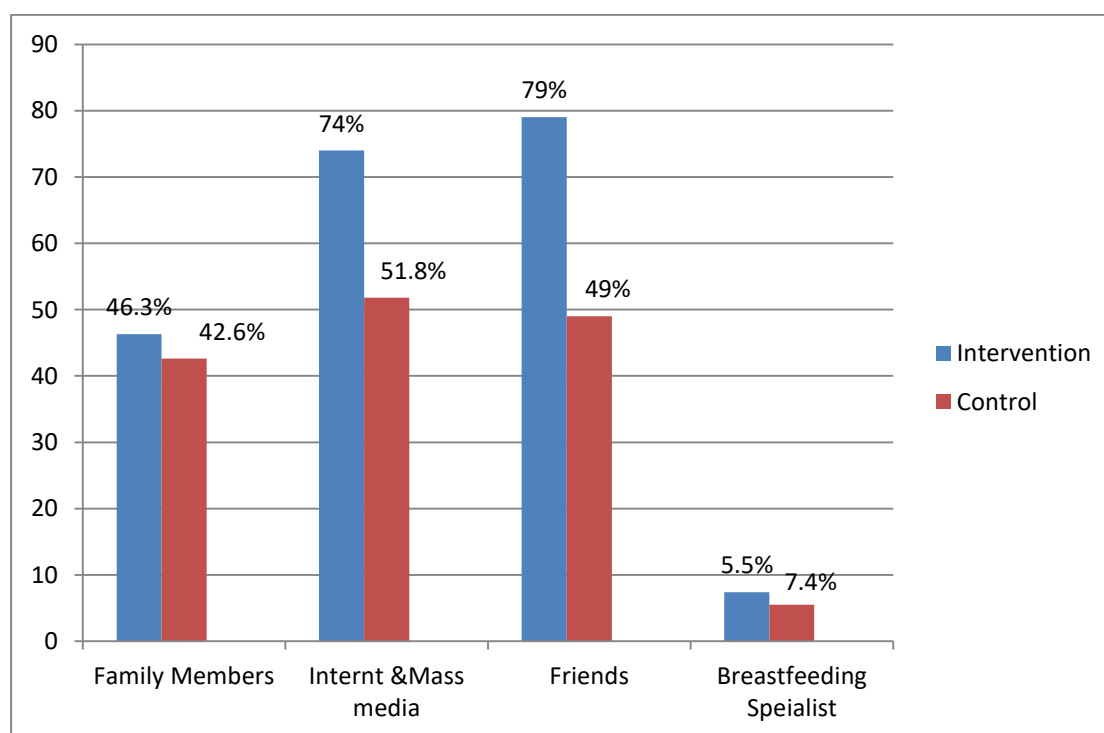


Figure (1) distribution of Primiparas according to source of knowledge about breastfeeding between intervention group and control group (N=108)

Effectiveness of Telelactation Intervention on knowledge, Breastfeeding and Relationship between Primiparas and Their Newborns

Table (2): Distribution of the studied Primiparas women according to their Initiation of breastfeeding after childbirth (N=108)

Initiation of breastfeeding	Intervention group (n=54)		Control group (n= 54)		Test of significance	P-value
	No.	%	No.	%		
30-60 minutes	26	48.1	8	14.8	23.99	0.000
2 hour	25	46.3	24	44.4		
3 hours	3	5.6	22	40.8		

Statistically significant at $p < 0.05$.

Table (3): Mean and standard deviations of the knowledge of Primiparas between the intervention and control groups pre childbirth, on post and follow- up tests (N=108)

Breast feeding knowledge	Intervention group	Control group	t-test	P-value
	Mean ± SD	Mean ± SD		
Pre childbirth (pre intervention)	14.07±2.07	13.79± 1.8	0.726	0.469
Immediately post childbirth	33.20±4.02	19.11±2.43	22.02	0.000
Follow up after 3 months post delivery	26.22± 2.62	13.74±2.83	23.29	0.000

Statistically significant at $p < 0.05$

Table (4): Mean and standard deviations of the bonding of Primiparas between the intervention and control groups on post and follow up tests (N=108).

Bonding time	Intervention group	Control group	t-test	P-value
	Mean ± SD	Mean ± SD		
Immediately post childbirth	48.01 ±7.55	55.59± 7.16	5.34	0.000
Follow up after 3 months post childbirth	37.88±5.82	53.27±9.31	10.07	0.000

Statistically significant at $p < 0.05$.

Table (5): Mean and standard deviations of attachment level between newly mother in the intervention and control groups immediately and at follow up3 months post childbirth(N=108).

Attachment	Intervention group	Control group	t-test	P-value
	Mean ± SD	Mean ± SD		
Immediately post childbirth	38.27±2.14	39.25 ±2.74	2.07	0.041
Follow up after 3 months post childbirth	35.67±1.20	38.23 ±2.35	6.97	0.000

Statistically significant at $p < 0.05$

Effectiveness of Telelactation Intervention on knowledge, Breastfeeding and Relationship between Primiparas and Their Newborns

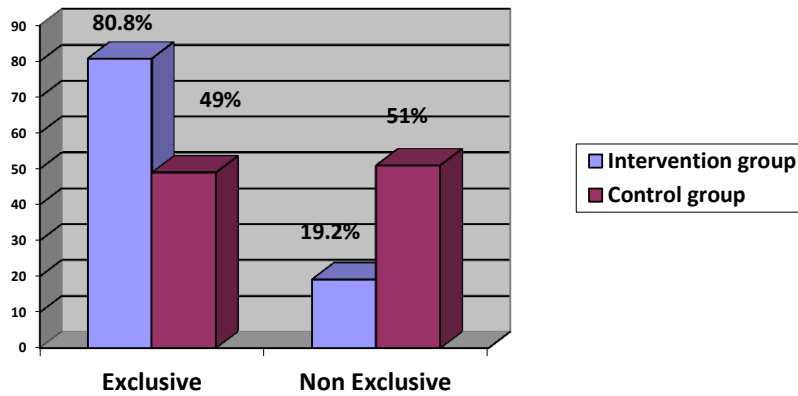
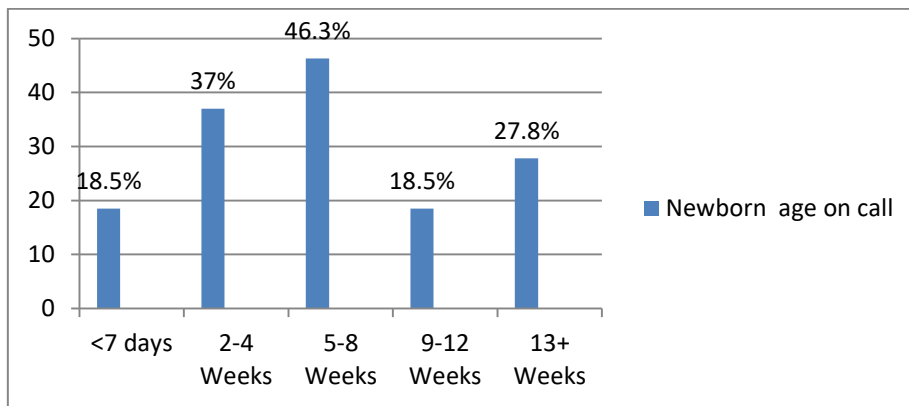


Figure (2) Distribution of Primiparas according to their practice of exclusive breastfeeding in the study and control groups (N=108)



More than one response

Figure (3) Distribution of newborn age when asking and inquires among telelactation group (N=54)

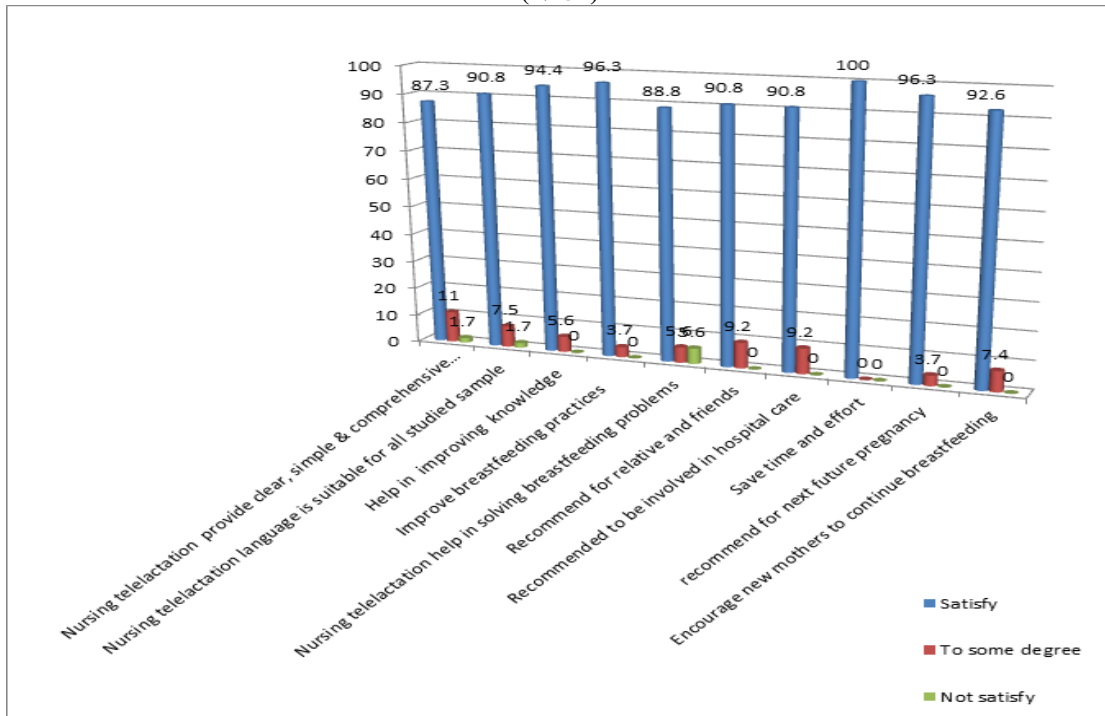


Figure (4): Distribution of satisfaction of Primiparas from the intervention among telelactation group (N=54)

Effectiveness of Telelactation Intervention on knowledge, Breastfeeding and Relationship between Primiparas and Their Newborns

Discussion:

The main of this present study was to investigate effectiveness of telelactation intervention on knowledge, breastfeeding, and relationship between Primiparas and their newborns. This aim was achieved through study hypothesis as well as **H1:** Primiparas who receive telelactation intervention are expected to have higher level of knowledge about breastfeeding, initiations and continuation of exclusive breastfeeding than Primiparas in the control group on posttest. **H2:** Primiparas who receive telelactation intervention are expected to develop more bonding and attachment relationships with their newborns than Primiparas in the control group on posttest. **H3:** It was expected that Primiparas among intervention groups more satisfied with telelactation.

Regarding ladies socio-demographic data in the study, the current study found that there we no statistically significant differences between the two groups in terms of socio-demographic factors. This finding was consistent with Shoman et al., (2018) who found that socio-demographic characteristics of the two groups did not differ statistically from one another. Similarly these finding were in agreement with Lyellu et al., (2020) who revealed that there were no statistically significant variations in the socioeconomic background of the groups.

Regarding distribution of studied Primiparas primary source of knowledge about breastfeeding, it was found that less than one tenth from specialist, more three quarters of the intervention group, compared to near than half of the control group whose main source of knowledge about breastfeeding was friends. While, family members are another source of

knowledge. This result was confirmed by (Shoman et al., 2018) who stated that the main sources of mothers' information regarding breastfeeding was from family members. These finding come in agreement with (Mohammed & Ahmed ,2016) who attributed the cause to special relationship, cultural factors where no hesitation to ask and need advice from family members. These results contradicted with (Yılmaz et al., 2017) who found that knowledge about breast feeding education not from social relation source. In another study done by (Narayana et al., 2018) report that mothers considered doctors to be the main source of information and knowledge about breastfeeding. This may be due to believe of doctors is castle of science that can guide and correct any wrong.

Concerning the initiation of breastfeeding after childbirth, it was found that nearly half of the intervention group started breastfeeding within 30-60 minutes after childbirth, compared to less than one quarter of Primiparas in the control group. Also it was found that there was highly statistically significant differences between two groups regarding initiation of breastfeeding ($p=0.000$). These results were in line with Yılmaz et al., (2017) who found that nearly half of mothers initiated BF within the 1st hour, and about one quarter within the 2nd hour after birth. Likewise Radwan (2013) found that the majority mothers put their infants on their breast within one hour after delivery.

On the contrary Örün et al., (2010) found that more than one third of mothers initiated breastfeeding within the first hour while less than three quarters of them initiated breastfeeding within the immediate 2 hours of birth.

Effectiveness of Telelactation Intervention on knowledge, Breastfeeding and Relationship between Primiparas and Their Newborns

They found that maternal illness during pregnancy, cesarean section and preterm birth delayed the initiation of breastfeeding (2 hours after birth).

This difference might be caused by the fact that the newly interventional women received BF education throughout the antepartum period and that the majority of them gave birth vaginally, which increased their likelihood of initiating early BF considerably compared to caesarean births. Numerous studies have demonstrated that caesarean delivery is one of the major barriers that delay the commencement of BF. This delay could be caused by postoperative pain, extreme discomfort when holding and situating the infant, a delay in skin-to-skin contact and the production of breast milk, mobility issues, and the need for additional assistance for BF.

Regarding bonding between the mother and the newborn on post and follow-up tests, it was found that Primiparas in the study group developed earlier and stronger bonding post childbirth and at follow-up 3 month than Primiparas in the control group. These results contradicted with Taylor et al., (2005) who reported a significant bonding scores in the first few weeks and at week 12 of the control group.

Regarding the attachment between mothers and the newborns on post and follow-up tests, the current study illustrated that Primiparas in the study group had more attachment and there were statistical and highly statistical significant differences between two groups on post and follow-up. This result was consistent with Britton, et al., (2006) who reported that those mothers who preferred to breastfeed displayed greater sensitivity attachment in dyadic interactions with their infants 3 months postnatal than those who choose to bottle feed, and

intended breastfeeding duration prenatally correlated with sensitivity 3 months postpartum. Also, the current results were in agreement with Han, (2002) who found that the scores of mother-infant attachment and maternal sensitivity of experimental group were higher than those of the control group, but there were no statistical significant differences between two groups.

Similarly Tharner et al., (2012) found that longer duration of breastfeeding was associated with positive associations between duration of breastfeeding and sensitive responsiveness and attachment security. This finding could be related to the effect of educational session.

Regarding distribution of newly mothers' adherence to exclusive breastfeeding it was found that the majority of research group had exclusive breastfeeding. On the other hand, less than half of Primiparas in the control group had exclusive breastfeeding. The result was in accordance with Shoman et al., (2018) who stated that exclusive breastfeeding proportion was 73.9% in post intervention. This illustrated the positive effect of educational sessions that stressed on the importance of complying with exclusive BF for long period.

These results contradicted with Yılmaz et al., (2017) who stated that more than a third of the mothers kept up EBF for a period of six months. In addition to those factors that had statistically significant effect on the duration of EBF, mother and father low education levels, lack of antepartum BF education, nipple problems, rare BF at night, random BF, bottle/pacifier use, and lack of social support were also found to be variables associated with early cessation of BF.

Regarding newborn age for inquires calling when asking among

Effectiveness of Telelactation Intervention on knowledge, Breastfeeding and Relationship between Primiparas and Their Newborns

(telelactation) group. it was clarified that there were different newborn age on call for asking and inquires among Primiparas among telelactation group (near to half, near to two fifth, near to one third) at (5-8 weeks, 2-4weeks, 13+ Weeks). This is relatively near to the finding of with Kapinos et al., (2019) who reported that the majority of conversations happened within the first month of infant's life; However, 19% (16/83) of the video conversations happened nine weeks or more after the baby was born. 41% (34/83) of all video conversations took place outside of typical business hours. This reflect that telelactation is a method easy, quick in receiving any knowledge also, availability at any time.

Regarding satisfaction from using telelactation as an educational intervention, it was clarified that the majority of the interventional group were more satisfied regarding using telelactation as a method of education or need breastfeeding consultation. The current results agreed with a study done by Thomson et al., (2012) who mentioned high rates of satisfaction for utilization of telelactation in breastfeeding education.

From the present study finally, it was evident that telelactation during antenatal period and after childbirth had a positive impact on knowledge, bonding, attachment, early initiation, and exclusive breastfeeding rather than control group.

Conclusion:

This study concluded that using Telelactation intervention during antenatal and after birth significantly improved knowledge, initiation, bonding, attachment, and exclusive breastfeeding for intervention group rather than control group. Also, Telelactation increased level of satisfaction with the educational

method as reported by the newly mother.

Recommendations

- Encouragement of Primiparas to use Telelactation as new method which have positive effect on improving knowledge and solving breastfeeding problems.
- Encourage to disseminate culture of using tel-el-health for receiving information
- Further study should be done to compare between telelactation as a method of education and other methods of education
- This study can be applied on a larger sample at another setting to assure the generalizability of results.

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