

## Effect of Online Health Guidance on Recovery of Postpartum Minor Discomforts and Neonatal Problems during COVID-19 Pandemic

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### Abstract

**Background:** Due to COVID-19 Pandemic, the hospitalization time of the mother and newborn has shortened resulting in limited knowledge and skills of the postnatal home-care. With the development of technology, the maternity nurse becomes able to provide online postpartum guidance for enriching women with information to be able to deal with postpartum minor discomforts and neonatal problems, also minimize the risk of infection caused by face-to-face visits during COVID-19 pandemic. **Aim:** This study aimed to assess the effect of online health guidance on recovery of postpartum minor discomforts and neonatal health problems during COVID-19 pandemic. **Design:** A quasi- experimental (pretest/posttest) research design was used. **Setting:** This study was carried out in Obstetric and Gynecological Inpatient Wards and Labor and Delivery unit at Mansoura University Hospitals, Mansoura city, Dakahlia governorate, Egypt. **Study subjects:** A non-probability purposive sample of 130 primiparous mothers with their newborns who were fulfilling the criteria. **Tools:** A structured interview questionnaire to cover the data related to general characteristics and questions related to mother's knowledge about postpartum minor discomforts and neonatal health problems, follow up sheet and satisfaction likert scale. **Results:** The present study results showed that there was a highly significant recovery of postpartum minor discomforts and neonatal health problems in the first and second week post intervention compared to pre intervention with a few percentage needed referral to health facility, also, the majority of the studied sample was satisfied with online health guidance and contents taken through it. **Conclusion:** The online health guidance served as a method for recovery of postpartum minor discomforts and neonatal health problems among primiparous mothers and the majority of them were satisfied with online health guidance and contents taken through it during COVID 19 pandemic thus the tested hypotheses were accepted. **Recommendation:** The current study recommended integrating the postpartum online health guidance as a new technology method of guidance into the routine maternity care especially during COVID 19 pandemic.

**Keywords:** COVID-19 pandemic, neonatal problems, online health guidance, postpartum minor discomforts.

### Introduction

The postpartum phase is a six-weeks period that begins immediately after a baby is born and ends six weeks

later during which the majority of pregnancy changes have resolved, and the body has returned to its pre-pregnancy state

(Pillitteri, 2017). It is the most pivotal, life-changing event, bringing with it tremendous emotional, physical changes and mother role adaptation (Shabaan, El Sayed & Ghonemy, 2018).

Postpartum minor discomforts arise as a result of all systems adaptation (Pillitteri, 2017). After-pains, episiotomy pain, fatigue, breast engorgement, constipation, urinary retention, lactation problems are common postpartum minor

discomforts (Chen, Wang & Chen, 2020). The common neonatal health problems during postpartum period include colic, vomiting after breast feeding, gastroesophageal reflux, diarrhea, constipation, jaundice, inflammation of the cord. Immediate and effective treatment for these issues after labor can make a significant difference in postpartum adjustment (Abd El-Salam & Ashour, 2020).

Several instances of new coronavirus pneumonia were reported in China in December 2019 (Huang, Wang & Li., 2020; Wang, Horby & Hayden, 2020). The global pandemic of new coronavirus pneumonia spreads quickly. On January 20<sup>th</sup>, 2020, China's National Health Committee classified the novel coronavirus pneumonia as a Category B infectious substance to be managed in accordance with the prevention and control measures for infectious diseases in that category (The Central People's Government of the People's Republic of China, 2020).

To curtail the continued spread of the coronavirus disease and its associated mortality especially for postpartum women and their newborns, regular hand washing with water and soap before breastfeeding, social distancing, coughing or sneezing with nose and mouth covered and avoid touching eyes, nose and mouth are among the preventive practices recommended by World Health Organization (WHO, 2020).

The current pandemic crisis, with the daily rise of reported cases across the world, changed the routine of healthcare practices as new challenges appeared, these created new ways for delivering obstetric and childbirth healthcare services as web-based social networking (Tanis, 2020). It is a set of activities that use a number of tools to create connections and interactions between individuals and groups. Email, blogs, instant messaging, text messages and postings are examples of these technologies

as well as programs that allow digital material to be shared in video, audio, or text format (Chen, Wang, Chen, 2020).

Facebook and WhatsApp are prominent social media platforms that contain groups and channels for antenatal and postnatal periods that appear to provide visual and textual information about postpartum minor discomforts and neonatal health problems (Sama, Eapen, Weinfurt, Shah & Schulman, 2018). Social media has the potential to be broadly embraced in a variety of areas, resulting in a greater public health impact. It has been widely used in promoting maternal and newborn health during the postpartum period (Miremberg et al., 2018).

Nurses can use social media to contact with postpartum women and provide online health teaching and guidance to solve health problems that they or their newborns face without the risk for visiting obstetric clinic during this current pandemic situation (Sharma & Singh, 2020). Nurses can also use this supportive environment to participate in online forums, ask questions and debate patients' health issues with peers who share similar interests, exchange ideas about treatment options with a variety of groups and learn about the latest clinical expertise (Beraki et al., 2020; Piscotty et al., 2015).

Online health guidance creates awareness and empowers postpartum women particularly primiparous to look after their own and their newborns' health. This prompted the women to seek treatment for the health problem, which is important for sustaining health and allowing for a quick recovery. The goal of online guidance is to exchange knowledge and practices in a horizontal relationship, in which the nurse may serve as both a career and an educator, as well as establish and add experience to primiparous mothers for dealing with postpartum minor discomforts and neonatal health problems (Abd El-Salam & Ashour,

2020; Barbosa, Sousa, Vasconcelos, Carvalho, Oria & Rodrigues, 2016).

### **Significance of the study**

The majority of deaths occur during the postpartum period according to WHO, making it the most critical and ignored period in primiparous mothers and newborns lives (WHO., 2017). According to the 2014 EDHS, there are 27 neonatal deaths per 1,000 live births, with slightly more than half of these deaths occurring in the first month of life. In 2013, maternal mortality was likewise 52 deaths per 100,000 live births ( EDHS., 2015).

COVID19 pandemic is a global health crisis of our time and the greatest challenge we face. This deadly and infectious disease has shaken up the health sector globally (Chen, Wang & Chen ,2020). In order to reduce the risk of cross infection caused by face to face contact, nurses can use online health guidance as a new communication tool to share knowledge & self-practices about postpartum minor discomforts and neonatal health problems with women and educate them without posing any risks & constrains on them (Miremberg et al., 2018). There are little researches that provide online health guidance about minor discomforts and neonatal health problems which the mother face during the postpartum period and can impair their health and affect relationships with their family and their newborns. Accordingly, the researchers attempted to fill such a gap in primiparous mothers by conducting this study.

### **Aim of the study:**

This study aimed to assess the effect of online health guidance on recovery of postpartum minor discomforts and neonatal health problems during COVID-19 pandemic.

### **Hypotheses of the study:**

- Postpartum primiparous mothers exhibit more recovery of minor discomforts and neonatal health problems after using the online health guidance post intervention than pre intervention.
- Postpartum primiparous mothers exhibit more satisfaction with online health guidance and its contents.

### **Online health guidance:**

is defined as instructions given to postpartum primiparous mothers about postpartum minor discomforts and neonatal health problems during COVID-19 pandemic by using Facebook application.

### **Subjects And Methods**

#### **Study design:**

A quasi-experimental (pretest / posttest) design was followed in this study.

#### **Study setting:**

This study was conducted at Obstetric and Gynecological Inpatient Wards (9, 15,18) and Labor and Delivery unit at Mansoura University Hospitals, Mansoura city, Dakahlia governorate, Egypt. The Obstetric and Gynecological Inpatient Wards consist of three wards with 26-28 beds in each. Labor and Delivery unit consists of the examination room, room for parturient women, postpartum room and operating room for delivery which involves two delivery tables. Mansoura University Hospitals provide free services for women during pregnancy, labor and postpartum periods.

#### **Sample type:**

A non-probability purposive sample was used.

#### **Study subjects:**

One hundred and thirty primiparous mothers with their newborns were recruited from the previously mentioned setting to

share in this study according to the following:

**Inclusion criteria: Mothers with**

- Age 18 – 35 years old.
- Full-term pregnancy.
- Can read and write.
- Having an Android mobile phone with Wi-Fi availability and Using Facebook application.

**Exclusion criteria:**

Mothers who had medical, obstetric or psychological problems.

**Sample size calculation:**

Based on data from previous study of (Chen, Wang & Chen, 2020) explored the effects of providing postpartum maternity and infant guidance at home by online consultation mode under the situation of COVID-19 pandemic, considering level of significance of 5%, and power of study of 80%, the sample size was estimated according to the following formula:  $\text{Sample size} = [(Z_{1-\alpha/2})^2 \cdot P(1-P)]/d^2$  Where,  $Z_{1-\alpha/2}$  is the standard normal variate, at 5% type 1 error ( $p < 0.05$ ) it is 1.96.  $P$  = the expected proportion in population based on previous studies.  $d$  = absolute error or precision. So,  $\text{Sample size} = [(1.96)^2 \cdot (0.9863) \cdot (1 - 0.9863)] / (0.02)^2 = 129.8$ . Based on the above formula, 130 primiparous mothers were recruited.

**Tools of data collection:**

Three tools were used for data collection

**Tool I: A structured interview questionnaire:**

It was developed by the researchers after extensive review of literatures. It included two parts **Part one:** Covered data related to general characteristics as telephone number, age, educational level, occupation and residence.

**Part two: Mothers knowledge regarding postpartum minor discomforts**

**and neonatal health problems:** It was developed by the researchers after reviewing the related literatures (Abd El-Salam & Ashour., 2020; Elsebeiy., 2019; Shabaan et al., 2018) to identify the level of mother's knowledge regarding the minor discomforts and neonatal health problems during the early postpartum period. It consists of ten questions about maternal knowledge regarding postpartum minor discomforts and seven questions about maternal knowledge regarding neonatal health problems. Correct answer was scored one while incorrect answer was scored zero. The maximum score was 17 and the minimum score was zero. The higher scores indicated higher levels of knowledge about postpartum minor discomforts and neonatal health problems. The total knowledge score was as follows:  $\geq 75\%$  of the total knowledge score is good, from 50% to  $< 75\%$  is fair and less than 50% is poor score (Elsebeiy., 2019).

**Tool II: Follow up sheet of postpartum minor discomforts and neonatal health problems recovery:** It was developed by the researchers after reviewing the related literatures (Miremberg et al., 2018; Barbosa et al., 2016) to assess recovery of postpartum minor discomforts and neonatal health problems in the first and second week and those who need to visit health facility.

**Tool III: Satisfaction likert scale:**

It was developed by the researchers after reviewing literatures (Sama., 2018; Carroll et al., 2017; Aase & Goldman., 2016) to assess woman's satisfaction regarding online health guidance and contents introduced through it. It consists of five points Likert scale, start from score one for strongly disagree, score two for disagree, score three for undecided, score four for agree, score five for strongly agree. Total score ranges from 7-35 for satisfaction with online health guidance and from 5-25 for satisfaction with content taken through it. The higher score indicates more satisfaction.

**Validity of the tools:**

In this study, the questionnaires were translated into Arabic language before introducing it to the primiparous women. The content validity of the developed tools was reviewed by a panel of 3 experts in the maternity nursing specialty before using it to ensure that the questions were consistently conveyed and carried the anticipated meaning they were prepared for. No modifications were suggested.

**Reliability of the tools:**

Cronbach alpha coefficients for internal consistency of knowledge regarding postpartum minor discomforts and neonatal health problems was (0.886). It was (0.919) for follow up sheet and (0.877) for the satisfaction likert scale, hence the questionnaires were found to be highly reliable.

**Pilot study:**

A pilot study was carried out on 10% (13 primiparous mothers with their newborns) of the total study samples to test the objectivity and applicability of the study tools and the feasibility of research process as well as to estimate the time needed to answer them. Mothers with their newborns in the pilot study were excluded from the study.

**Ethical considerations:**

An ethical approval letter was attained from Research Ethics Committee, Faculty of Nursing, Mansoura University. Approval was obtained from the director of Mansoura University Hospitals to conduct the study. A written consent was obtained from every mother involved in the study after clarification of the aim and approach of the study. All mothers were reassured about the confidentiality of the collected data. In addition, the right to withdraw from the study was permitted.

**Procedure:**

This study was carried out from July to December 2020. The researchers attended the previously mentioned setting 3 days per week, (Sunday, Tuesday and Thursday) from 9 a.m. to 2 p.m. until the calculated sample size of women was obtained. This work was conducted through four phases; preparatory, assessment, implementation, follow up and outcome evaluation.

**Preparatory phase:**

The tools for data collection were prepared after a massive reviewing of literature then the contents of health guidance about postpartum minor discomforts and neonatal health problems were designed. Methods of delivering health guidance were determined, the educational media (videos, attractive pictures and an Arabic booklet) was prepared and Facebook application was designed to contact with women as group, joining and accepting the friend request on it is an acceptance to join the study.

**Assessment phase**

The researchers interviewed primiparous mothers, introduced themselves to them, clarified the aim of the research work. Once eligibility for participation was confirmed, the researchers took the participant's written consent to share in this study. Data regarding soicodemographic characteristics was collected by using a structured interview questionnaire. Mothers were assessed for their knowledge of postpartum minor discomforts and neonatal health problems before intervention at hospital. They were assessed online every day via Facebook application for 20-30 minutes for the presence of postpartum minor discomforts or neonatal health problems throughout the first 2 weeks after delivery.

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**Implementation phase:**

The researchers added postpartum mothers to the designed Facebook group and pushed information about both postpartum minor discomforts and neonatal health problems (maternal as postpartum cesarean section pain, episiotomy pain, after pains, urinary incontinence, breast engorgement, cracked nipples, constipation, urinary retention, vulvular discomfort, fatigue) and neonatal health problems as (colic, vomiting after breast feeding, gastroesophageal reflux, diarrhea, constipation, jaundice and inflammation of the umbilical cord).

The content of this information was displayed by using booklet, pictures, videos and animation. This interactive online health guidance with these features allows mothers to see, hear and interact with researchers and with each other throughout the first two weeks postpartum. After the consultation, women were asked to repeat the main points of their current problem. The plan for the mothers was discussed with them and adjusted according to the actual situation.

**Follow up and outcome evaluation phase:**

- During two weeks, mothers were contacted daily for **30-40 minutes** and guided on how to solve their health problems and practices to faster recovery. Also, they were instructed on protective measures at home under the situation of Covid 19 pandemic.
- At the end of two weeks postpartum follow up, the researcher's assessed maternal knowledge level of postpartum minor discomforts and neonatal health problems, whether their minor discomforts and neonatal health problems were recovered and whether they needed to visit a health facility. Also, assessed the primiparous mother's satisfaction with online health guidance and with the contents introduced through it.

**Data analysis:**

All statistical analyses were performed using SPSS for windows version 20.0 (SPSS, Chicago, IL). All continuous data were normally distributed and were expressed in mean  $\pm$  standard deviation (SD). Categorical data were expressed in number and percentage. Chi-square test was used for comparison of variables with categorical data. Cronbach's alpha test was performed to test for the internal consistency of the tools used in the study. Statistical significance was set at  $p < 0.05$ .

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**Results**

**Table (1):** shows that, (40.8%) of the studied sample aged 24-29 years with mean  $\pm$ SD 25.9  $\pm$ 4.7. Nearly two thirds (61.5%) of the women were from rural origin and more than half of them (56.2%) weren't working. A higher percentage of them had middle education (38.5%).

**Figure (1):** illustrates that, the majority of the studied sample (82.3%) had poor knowledge score pre-intervention whereas nearly three quarters (70.8%) of them had good knowledge score post-intervention. There was a highly statistical significant increase in the studied sample total knowledge score post intervention compared to pre intervention ( $p < 0.001$ ).

**Table (3):** illustrates that, there was a highly significant recovery of the studied sample postpartum minor discomforts and neonatal health problems in the first- and second-week post-intervention than pre-intervention ( $P < 0.001$ ).

**Figure (2):** Shows that, (9.2%) of the studied sample needed to visit a health facility due to maternal problems, the most commonly problem is urinary incontinence followed by vulvular discomfort and urinary retention and ( 5.4%, 2.3% & 1.5% respectively) , while (7.6%) of them visited health facility due to neonatal problems as gastroesophageal reflux, jaundice&

inflammation of the cord ( 4.6%, 1.5% & 1.5% respectively).

**Table (3):** clarifies that, nearly three quarters of the studied sample strongly agreed that online health guidance was easy method for communication and had positive effect on their health and their newborns health outcomes (74.6% & 73.1% respectively). More than three quarters of them strongly agreed that online health guidance was fast reach for their need for information, attractive method for learning experiences and had positive effect on their postpartum experiences (79.2%, 78.5% & 76.9% respectively). The majority of them strongly agreed that online health guidance was available at any time and safe time, effort and money (81.5% %& 83.1% respectively)

**Table (4):** illustrates that, more than three quarters of the studied sample strongly agreed that the contents were interesting

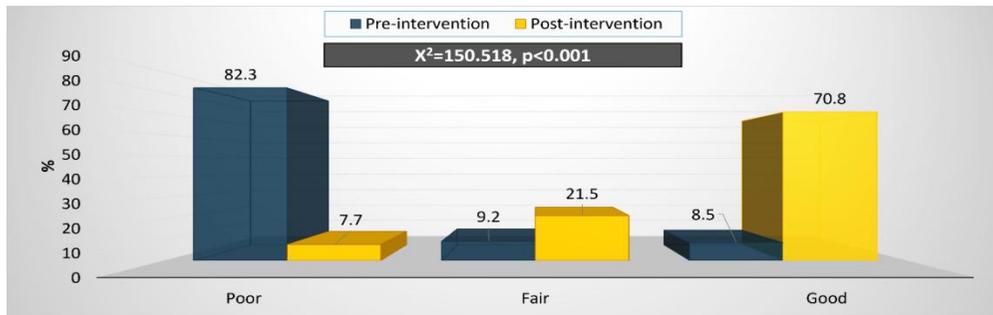
and presented in a logical sequence (79.2% & 76.2% respectively). More than two thirds of them strongly agreed that the scientific content was new and added to enhance their experience, the scientific material was clear and easy to understand and they will use it after future delivery and encourage their friends to use it (69.2%, 65.4% & 71.5% respectively).

**Figure (3)** shows that, the majority of the studied sample (88.5%) were satisfied with online health guidance and contents taken through it compared to (11.5%) were unsatisfied.

**Table (5):** shows that, the educational level and occupation were significantly associated with total knowledge score post intervention as highly educated and working mothers had good knowledge score about postpartum minor discomforts and neonatal health problems ( $P < 0.05$ ).

**Table (1):** General characteristics of the studied sample.

I Items	No.( (130)	%
<b>Age (years)</b>		
18 – 23	45	34.6
24 – 29	53	40.8
30 – 35	32	24.6
Mean $\pm$ SD	25.9 $\pm$ 4.7	
<b>Residence</b>		
Rural	80	61.5
Urban	50	38.5
<b>Educational level</b>		
Can read and write	37	28.5
Middle education	50	38.5
Higher education	43	33.1
<b>Occupation</b>		
Housewife	73	56.2
Working	57	43.8

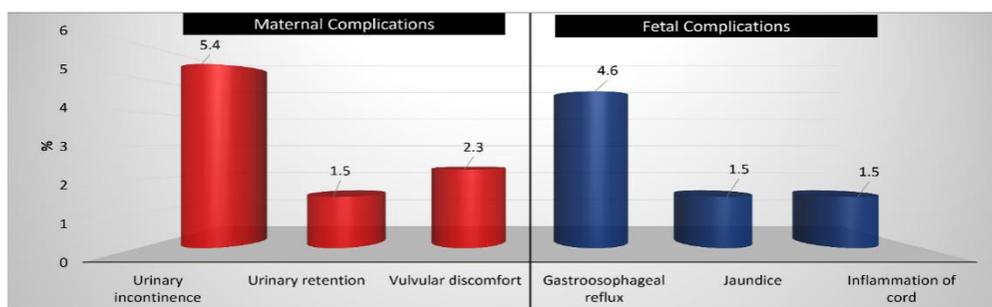


**Figure (1):** The total knowledge score of the studied sample regarding postpartum minor discomforts and neonatal health problems pre- and post-intervention

**Table (2):** Postpartum minor discomforts and neonatal problems among the studied sample.

Items	Pre intervention (n=130)		Post intervention (n=130)				Significance test	
	No.	%	First week No.	First week %	Second week No.	Second week %	X <sup>2</sup>	P
<b>1. Maternal</b>								
- Postpartum cesarean section pain (n=35)	35	100.0	20	57.1	5	14.3	52.500	<0.001**
- Episiotomy pain (n=58)	58	100.0	23	39.7	13	22.4	77.513	<0.001**
- After pains	130	100.0	40	30.8	25	19.2	198.462	<0.001**
- Urinary incontinence	63	48.1	25	19.2	8	6.2	65.746	<0.001**
- Breast engorgement	57	34.8	30	23.1	10	7.7	45.805	<0.001**
- Cracked nipples	43	33.1	37	28.5	8	6.2	30.847	<0.001**
- Constipation	130	100.0	37	28.5	20	15.4	216.138	<0.001**
- Urinary retention	75	57.7	53	40.8	18	13.8	54.279	<0.001**
- Vulvar discomfort	95	73.1	75	57.7	37	28.5	53.618	<0.001**
- Fatigue	87	66.9	37	28.5	11	8.5	101.417	<0.001**
<b>2. Neonatal</b>								
- Colic	37	28.5	11	8.5	8	6.2	31.819	<0.001**
- Vomiting after breast feeding	80	61.5	53	40.8	12	9.2	77.221	<0.001**
- Gastroesophageal reflux	57	43.8	37	28.5	8	6.2	48.352	<0.001**
- Diarrhea	55	42.3	47	36.2	10	7.7	43.314	<0.001**
- Constipation	75	57.7	63	48.5	22	16.9	49.110	<0.001**
- Jaundice	73	56.2	55	42.3	15	11.5	58.388	<0.001**
- Inflammation of the umbilical cord	42	32.3	28	21.5	5	3.8	34.568	<0.001**

**\*\*Highly Statistical Significant at P<0.001**



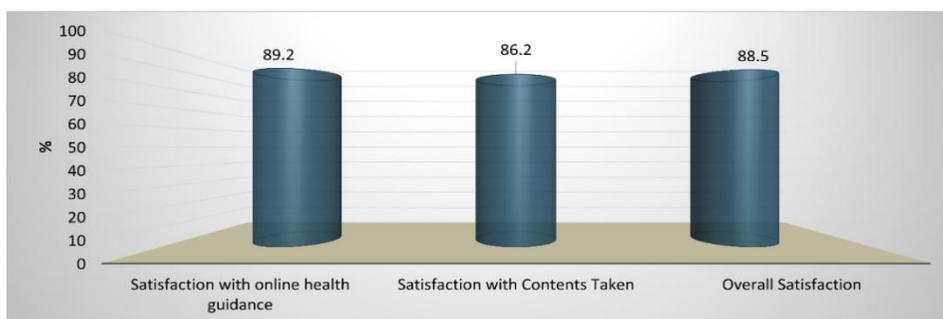
**Figure (2):** The studied sample who needed referral to a health facility 2 weeks post intervention.

**Table (3):** Distribution of the studied sample according to their satisfaction with the online health guidance (N=130).

Items	Strongly Disagree		Disagree		Undecided		Agree		Strongly Agree	
	No.	%	No.	%	No.	%	No.	%	No.	%
- Easy method for communication	5	3.8	5	3.8	5	3.8	18	13.8	97	74.6
- Fast reach for your need for information	2	1.5	5	3.8	8	6.2	12	9.2	103	79.2
- Available at any time	2	1.5	2	1.5	5	3.8	15	11.5	106	81.5
- Attractive method for learning experiences	0	0.0	8	6.2	5	3.8	15	11.5	102	78.5
- Safe time, effort and money	2	1.5	5	3.8	5	3.8	10	7.7	108	83.1
- Positive effect on postpartum experiences	0	0.0	5	3.8	10	7.7	15	11.5	100	76.9
- Positive effect on mother and newborn health outcomes	2	1.5	5	3.8	8	6.2	20	15.4	95	73.1

**Table (4):** Distribution of the studied sample according to their satisfaction with contents taken(N=130).

Items	Strongly Disagree		Disagree		Undecided		Agree		Strongly Agree	
	No.	%	No.	%	No.	%	No.	%	No.	%
- The contents were interesting	2	1.5	2	1.5	8	6.2	15	11.5	103	79.2
- The content was presented in a logical sequence	0	0.0	8	6.2	5	3.8	18	13.8	99	76.2
- The scientific content was new and added to enhance my experience	5	3.8	5	3.8	10	7.7	20	15.4	90	69.2
- The scientific material included was clear and easy to understand	2	1.5	5	3.8	20	15.4	18	13.8	85	65.4
- I will use it after future delivery and encourage your friend to use it	5	3.8	5	3.8	5	3.8	22	16.9	93	71.5



**Figure (3):** Distribution of the studied sample satisfaction with online health guidance and contents taken through it.

**Table (5):** Association between total knowledge score and socio-demographic data of the studied sample post-intervention.

Mother's characteristics	Poor (n=10)		Fair (n=28)		Good (n=92)		Significance test	
	No.	%	No.	%	No.	%	X <sup>2</sup>	P
<b>Age (years)</b>								
18 – 23	3	30.0	7	25.0	35	38.0	2.014	0.733
24 – 29	4	40.0	14	50.0	35	38.0		
30 – 35	3	30.3	7	25.0	22	23.9		
<b>Residence</b>							1.839	0.399
Rural	5	50.0	20	71.4	55	59.8		
Urban	5	50.0	8	28.6	37	40.2		
<b>Educational level</b>							12.054	0.017*
Can read and write	6	60.0	7	25.0	24	26.1		
Middle education	3	30.0	16	57.1	31	33.7		
Higher education	1	10.0	5	17.9	37	40.2		
<b>Occupation</b>							28.531	<0.001**
Housewife	10	100.0	25	89.3	38	41.3		
Working	0	0.0	3	10.7	54	58.7		

\* Statistical Significant at P<0.05

\*\*Highly Statistical Significant at P<0.001

### Discussion:

The present study aimed to assess the effect of online health guidance on recovery of postpartum minor discomforts and neonatal health problems during COVID-19 pandemic. This aim was accomplished through the present study findings which revealed that, there was a highly significant recovery of postpartum minor discomforts and neonatal health problems in the first and second week post intervention with only few percentage needed referral to health facility , Also, the majority of the studied sample was satisfied with online health guidance and contents

taken through it. Therefore, the hypotheses of the current study were accepted.

The present study findings revealed that, there was a highly statistical significant improvement in the studied sample knowledge regarding postpartum minor discomforts and neonatal health problems whereas, the majority of primiparous mothers had poor knowledge score pre intervention compared to nearly three quarters of them had good knowledge score post intervention. This could be due to the fact that online guidance on postpartum minor discomforts and neonatal health problems provided them sufficient basic

knowledge. This finding was consistent with **Kumbani and McLnerney's., (2017)** findings, who tested the impact of a video teaching program on primiparous women at urban maternity centers and found that the majority of the studied sample were unaware of any potential health problems after birth.

Similarly, **Menaka., (2016)** study to investigate the efficacy of structured educational program for primiparous mothers on newborn care in Bangalore found that, after applying video assisted educational program, the knowledge level of the studied sample on the management of breast engorgement was improved with highly significant difference between pre and posttest scores.

On the same line, a study conducted by **Kirandeeep et al., (2016)** to assess the effect of video on postpartum minor discomforts among primigravida mothers revealed that, the intervention which attempted to educate, assist and counsel new mothers had a positive impact on treating postpartum minor discomforts such as after-pains and constipation.

The present study findings revealed that, there was a highly significant recovery of the studied sample minor discomforts and neonatal health problems in the first and second week post intervention than pre intervention with only few percentage needed referral to health facility. This could be interpreted by, the postpartum primiparous mothers could acquire knowledge and skills and solve their problems properly after receiving the online guidance and online follow-up visits. This result was in accordance with study conducted by **Chen, et al., (2020)** to analyze the effectiveness of giving postpartum maternity and infant counseling at home using an online consultation mode during COVID-19 pandemic. They concluded that after providing the online consultation and online follow-up visits, maternal and infant problems were solved

for the majority of cases and only few cases were advised to consult relevant specialties or recommended to visit hospital.

Furthermore, a study conducted by **Santhi &Kokilavani., (2017)** to analyze the most effective practices in managing postpartum minor discomforts reported that, the online video assisted teaching program offered to the primiparous women was considerably useful in improving postnatal mother's practices regarding postpartum minor discomforts and dealing with neonatal problems. Also, **Abd El-Razek., (2013)** conducted a study to analyze teaching guideline enhancement of mother's self-care behaviors for relieving minor discomforts during postpartum period and found that, the majority of mothers had incorrect knowledge and performance of postpartum maternal and newborn care pre intervention, while there was a significant improvement in the mother's knowledge and performance post intervention.

Additionally, **Shabaan et al., (2018)** study to investigate the efficacy of health education on women experience of minor discomfort during pureperium concluded that, after applying health education sessions during three consecutive weeks of assessment, more than three quarters of the subjects reported relieve in their episiotomy pain, urinary retention, after pains, breast engorgement and constipation while few subjects informed about getting worse.

Moreover, A study conducted by **Nigia., (2017)** on the effectiveness of applying education using videos on postpartum minor discomforts reported that, in sixty percent of the postpartum women, the practices of early ambulation, maintaining the mother's privacy, warm baths., these interventions alone have been demonstrated to relieve temporary urinary retention. Additionally, **Gadiya et al., (2017)** conducted a study on the efficacy of a planned teaching program on episiotomy care on sixty primiparous mothers and

found a highly significant difference between pretest and post test scores.

The present study findings showed that, the majority of the studied sample was satisfied with online health guidance and contents taken through it. Similarly, **Chen et al., (2020)** study indicated that, most of mothers and their family members were satisfied with the online consultant service. In the same line with the present study findings, **Abd El-Razek., (2013)** who reported that, the majority of the mothers was satisfied with information given to them for relieving minor discomforts and neonatal problems during postpartum period and was motivated to utilize it again for future pregnancy.

The present study findings revealed that, educational level and occupation were significantly associated with total knowledge score as highly educated and working women had good knowledge about postpartum minor discomforts and neonatal health problems. This can be explained by, education increases women understanding of knowledge given to them and employment allow them for acquiring and sharing experiences and information with each other. In accordance with the present study findings, a study conducted in Emirates by **Timilsina and Dhakal., (2015)** for assessment of maternal knowledge on care during pureperium revealed that, a significant association was found between knowledge level regarding postpartum minor discomforts and both educational level and occupation. Besides **Mirzaee et al., (2015)** study to investigate maternal knowledge on postpartum care in healthcare centers of mashhad concluded no significant relationship was found between age and postpartum maternal knowledge ( $P > 0.05$ ).

In addition, **Elsebeiy., (2019)** conducted a study to assess knowledge regarding postnatal minor discomforts and self-care activities among nulliparous women and explained that the mean score

of women total knowledge regarding all postnatal minor discomforts and self-care activities for relieving them was higher in university educated women than secondary and essentially educated women. Moreover, the mean score of working women was higher than housewives.

On the contrary, **Shabaan et al., (2018)** reported that, fifty-two percent of the study subjects were under the age of 20, and that their understanding of knowledge on minor discomforts during postpartum period had significantly altered from the pretest to the posttest, with a statistically significant difference ( $p$ -value = 0.008).

Therefore, online health guidance plays a key role in meeting the medical care needs of mothers and newborns in the COVID-19 pandemic situation due to its advantages. Mothers can directly receive professional guidance and assistance at home as well as increase their self-care ability. The risk of cross-infection is also reduced. Thus, the online health guidance prevents the discontinuation of postnatal services after discharge from the hospital.

#### **Limitation of the study:**

The only limitation in this study was the utilization of quasi experimental method without control group **and can be overcome by repeating this study using control group.**

#### **Conclusion:**

It was evident from the present study findings that, the online health guidance served as method for recovery postpartum minor discomforts and neonatal health problems among primiparous mothers and the majority of them were satisfied with online health guidance and contents taken through it during COVID pandemic thus the tested hypotheses were accepted.

**Recommendations:**

Findings incite the following recommendations:

- 1- Utilization of online health guidance among primiparous postpartum mothers to reduce postpartum minor discomforts and neonatal health problems
- 2- Applying the online health guidance in different areas of maternity nursing as pregnancy, labor& family planning.
- 3- Integrating new technology method of counseling or guidance into the routine maternity care especially during COVID 19 pandemic.

**Further studies**

- Implementation of online maternity health guidance on different settings.
- More research are needed to explore factors that affect applying online health guidance.

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