Effect of Care Provided Using "Orem Self-Care Model" on Postpartum Dependent Care among Primiparous Mothers

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Abstract

Background: Encouraging self-care among women through education can improve postpartum women's knowledge and self-confidence, which will ultimately result in improved self-care and better childcare. **Aim**: To evaluate the effect of care provided using "Orem Self-Care Model" on postpartum dependent care among primiparous mothers. **Methodology:** A quasi-experimental design was conducted in this study at postpartum unit of obstetrics and gynecology department in Port Said city at Women's Health House Hospital (previously named Specialized Women and Obstetrics Hospital (affiliated to Egypt health care authority hospitals in Port Said). A purposive sample of 200 pregnant women was utilized. Three tools were utilized for data collection, a structured interviewing questionnaire, knowledge questionnaire form and Orem`s Self-Care Guidelines Checklist. **Results:** At the post-intervention phase, the women in the study group had more adequate knowledge in comparison with those in the control group. Also, a statistically significant difference the women in the study group had more satisfactory self-care practices in comparison with those in the control group. This was evident in all areas about self-care practices (p=<0.001*). **Conclusion:** The results of the study showed how well the early self-care education program worked and how it helped the women become better at adjusting to motherhood regarding self-care practices. The findings also showed that, following the educational program, there was a statistically significant difference between the study and control groups' mean self-evaluation scores of self-care practices regarding universal self-care requirements, developmental self-care requests, and health deviation self-care (P-value < 0.001). **Recommendations**: Training courses on Orem self-care for primiparous mothers should be conducted to enhance their ability to care for their newborns on their own. Also, teaching program for maternity nurses to implement Orem self-care for new mothers

Keywords: Orem's Self-Care Model, Dependent Care, Postpartum Primiparous Women.

Introduction

A woman must adjust to new responsibilities and tasks during the puerperium, in addition to bodily changes, which can be a difficult time. Parents have to learn how to observe caution of their new babies, provide a safe atmosphere for them, engage with them, take on new responsibilities, become more sensitive to their needs as a family, and deal with challenges pertaining to infants during this period (**Dol J, Richardson B, Grant A., 2021**). The six weeks following childbirth that mark the start of the body's normal recovery from the physical, physiological, and psychological changes brought on by pregnancy are known as the postpartum period. This is a critical time for maternal health.

Nevertheless, it is insufficient to help the mother during the postpartum phase adjust to her new circumstances. It is important to always monitor the mother's physical and mental health during this critical period, especially in the first

six weeks after discharge. In keeping with the expectations of the new mother and father, the midwife's duties throughout this time include facilitating the best possible biological and physical experiences for the family, creating a nurturing environment at home, and providing crisis assistance. Assessments conducted during the postpartum phase are therefore crucial **(Bahari S, Nourizadeh R, Esmailpour K, Hakimi S.,2o22).**

During the postpartum period, adaptation issues typically arise 4-6 weeks following delivery, when patients are discharged from medical facilities. During this time while the moms are at home, it is possible to pay attention to the indications and get an early diagnosis for them. As a result, it is critical to assess the mother's risk factors and to take the necessary precautions as soon as possible. After giving birth, midwives must assess the confined patient's adjustment as well as their social and psychological recovery. Midwives assess the mothers' concerns to provide skilled follow-up and care for the first six weeks after giving birth. With the right treatment, these problems may be resolved or prevented **(Madray C, Richardson J, Hornsby P, Grello C, Drake E, Kellams A.2022).**

For a woman, the postpartum phase is an important time of change. Apart from physiological changes, a woman can experience psychological and social transformations. It is during the postpartum phase when the new role and responsibilities are developed **(Başgöl, Ş., Koç, E., & Çankaya, S. ,2024).** In addition to providing a safe environment and talking and listening to their child, a woman should learn how to take care of her infant. Furthermore, the postpartum phase is a challenging and crucial time for women and has an adverse impact on their quality of life. Postpartum issues include loneliness, weariness, pain, anxiety, trouble nursing, sleep disturbances, nervousness about having sex, and post-traumatic stress disorder **(Shamsdanesh, S., Nourizadeh, R., Hakimi, S., Ranjbar, F. & Mehrabi, E.,2023).** After giving birth, problems and even death are still possible for women, even with postnatal care programs. These issues have detrimental effects, including early breastfeeding cessation, unfavorable maternal opinions of the newborn, jeopardizing the bond between the infant and mother, and behavioral issues in the kid. **(Alves, Costa, Ribeiro, N´en´e & Sequeira, 2023).**

Stress has a negative effect on a mother's self-confidence, her health after giving birth, and her level of contentment with her child. It also has an impact on how a woman and her child interact, which lessens its compatibility with the role of motherhood. Postpartum problems for primiparous women are distinct as they must learn how to care for their newborn while also fulfilling their personal, health, and social obligations. They also have more physical and psychological difficulties **(Barandon, S et al.,2023).** The research' findings show that after being released from the hospital, women do not receive enough professional assistance to help them adjust to their new roles. A woman must learn to adjust to the changes that follow childbirth. Assessment, instruction, counseling, and nursing therapies for early mothers can help them become more adaptable and less incompatible with their partner and child. Assessment, instruction, counseling, and nursing interventions for early mothers can help them become more adaptable and less likely to react incompatible to their spouse and child **(Ong, Q., Ong, J., Ang, M., Julkunen, K., & He, H. ,2023).**

Encouraging self-care among women through education can improve postpartum women's knowledge and self-confidence, which will ultimately result in improved self-care and better childcare. Maintaining and improving one's health, wellbeing, and quality of life can be achieved through self-care, which is a learnable and voluntary practice. Orem's theory states that self-care is a human regulating function that gives an individual the capacity to live and preserve their physical and mental abilities. Additionally, it aims to empower and assist a person in engaging in self-care **(Chamgordani FK, Barkin JL, Esmaeilpour K, Malakouti J, Buoli M, Mirghafourvand M.,2020).** As stated by **Kim and Dee (2019),** dependent care is when someone else, such as a family member, provides care that must be learnt and given consciously in order for life, human functioning, and well-being. In terms of nursing systems theory, dependent care is defined as "a series of actions a nurse takes to meet the patient's self-care

requisites," according to **Orem (2001).** The nursing system must be centered on the patient's needs and abilities, even though it is created by the nurse in collaboration with the patient and support system **(Fawcett, 2013).**

Self-care, a relatively new concept in healthcare, refers to actions a person takes to maintain and improve her own health and wellbeing. It is crucial for the promotion of health, the prevention and control of diseases, and it can be used as an affordable approach for postpartum individualized patient education **(Ghiasvand, 2017).** For women and families, the postpartum period is critical to their physiological, psychological, and social well-being because it is during this period that most maternal fatalities and health difficulties occur. These issues might result in functional restrictions and are not always resolved in the first year following childbirth. Significant problems and even mortality still occur in moms after childbirth, even with postpartum care programs in place. The primary health concern of the twenty-first century is enhancing life quality and, consequently, health. This can be achieved by giving society more authority to take charge of their own health and, eventually, to make improvements to it. **(Bahari S, Nourizadeh R, Esmailpour K, Hakimi S.2022).**

Most first-time mothers have limited self-care knowledge and skills. Education about self-care is therefore essential to management. A suitable framework for teaching and promoting self-care is the Orem's Self-Care Deficit (OSCD) Theory. Orem sees his patients as human beings with potential capacities who can take care of themselves. Her idea posits that nurses can assist persons in regaining their lost talents by offering them with whole compensatory, partial compensatory, and educational-supportive care **(Hellqvist, C.,2021).** In this context, nurses play a critical role in instructing women on self-care behaviors. Sufficient self-care abilities could reduce the costs of healthcare services and repeated hospitalization **(Khademian Z, Kazemi Ara F, Gholamzadeh S.,2020).**

By applying Orem's Self-Care Deficit Nursing Theory to the management of postpartum period, nurses can empower women with the knowledge and skills they need to promote overall well-being and quality of life for women's health through self-care activities. **(Khademian Z, Kazemi Ara F, Gholamzadeh S.,2020).** According to Orem, there are three categories of self-care requirements. These are universal, developmental and health deviations. Whereas universal requirements are linked to events in life and the preservation of human form and function, developmental requirements are the result of natural conditions encountered over the life cycle. Health deviation requisites are met when a person is unwell **(Orem, 2001).**

Significance of the study

The postpartum period is a stressful time when a woman must adjust to new roles and obligations in addition to physical changes. During this time, parents must learn how to care for their newborn, create a safe environment for them, interact with them, take on new roles, increase family sensitivity, and handle infant-related issues. It can be said that vulnerability in women during this period is associated with reduced self-care during postpartum **(Başgöl, Ş., Koç, E., & Çankaya, S. (2024).** Nurse is considered to play a significant role in postpartum transition, counseling and maternal care during pregnancy, childbirth, and postpartum, maintaining and improving maternal and infant health, providing favorable care, counseling, and teaching health to women, family and society **(Chamangasht M, Akbari Kamrani M, Farid M., 2021).** Although the healing of the reproductive organs has received most attention in postpartum research, other topics have also been discussed, such as adjusting to parenthood, taking on more responsibilities, fatigue, altering partnerships with the spouse, beginning pre-pregnancy social, professional, and other activities, and adjusting to the postpartum space. Therefore, nurse should assess the women in terms of their risk factors, mental and physical health, and compatibility with postpartum conditions, overall well-being and quality of life for women's health through self-care activities. There isn't more research that applies the Orem self-care theory to dependent care among postpartum primiparous mothers, according to a review of the literature.

Consequently, by carrying out this study, researchers aimed to close this research gap.

Aim of study

To evaluate the effect of care provided using "Orem Self-Care Model" on postpartum dependent care among primiparous mothers.

Research hypothesis

- H1: Primiparous mothers who participate in care given using Orem's self-care model will report significantly improved knowledge related to postpartum care than those who don't participate in the intervention.
- H2: Primiparous mothers who participate in care given using Orem's self-care model will demonstrate more satisfactory postpartum self-care practices "higher dependent care of postpartum" than those who don't participate in the intervention.

SUBJECTS AND METHOD

A-Research design

A quasi-experimental design (study-control group) was conducted in this inquiry.

B- Setting

This study was conducted at postpartum unit of obstetrics and gynecology department in Port Said city at Women's Health House Hospital (previously named Specialized Women and Obstetrics Hospital (affiliated to Egypt health care authority hospitals in Port Said).

C – Sample

A purposive sample of 200 pregnant women was utilized at this study.

Inclusion criteria of the sample:

- Can read & write.
- Primiparous women who were free from high-risk antennal disorders (pre-eclampsia, diabetes, etc.)
- Women who were free from postpartum difficulties.
- Women who did not suffer from any psychiatric disorders.
- Mothers who nursed their newborns.

Sample Size:

A purposive sample of 200 postpartum mothers was utilized, with a sample size requirement of 90 per group based on flow rate and the usage of UCSF statistical tools. To account for the predicted dropout rate of around 10%, this is increased to 100.

The equation to calculate the sample size is:

$$n = \frac{Nz^2\, p\,(1-p)}{Ne2 + z^2\, p\,(1-p)}$$

The sample was divided into two groups:

They were randomly assigned to one of two groups*:*

a) Control group: women who were received routine postpartum care.

b) Study group: Women who were received routine postpartum care plus standard care,

They were randomly assigned to one of two groups: the study group, which received the research intervention, and the control group, which received care using Orem's self-care model.

TOOLS OF DATA COLLECTION:

Data were collected by using the following tools:

TOOL I: A Structured interviewing schedule form in an Arabic language was established by researchers after evaluating relevant materials. It is divided into 2 parts to collect the relevant information.

Part 1: Demographic and socioeconomic characteristics, such as age, education, occupation, marriage length, residence, and

income, are collected here.

Part 2: Obstetric history, which contains pregnancy information, a history of past miscarriages, postpartum care information for both the mother and the newborn, and information sources.

TOOL II: Knowledge questionnaire form: It was developed by researchers in an Arabic language to evaluate women's postpartum knowledge before and after research interventions. It consists of 18 multiple-choice questions (MCQs) that cover four topics: postpartum problems, postpartum needs, maternal care (including diet, hygiene, perineal and wound care, rest, sleep, exercise and contraception), and newborn care (including breastfeeding, vaccines, and daily care).

Scoring system:

A correct answer is given a value of 1 for each knowledge item, whereas a wrong answer is given a value of zero. To get the average, add the item scores for each knowledge area and the full questionnaire then divide the total by the number of items. Higher numbers imply superior knowledge; therefore, these are converted to percentages and means, and standard deviation and median are produced. The woman's knowledge is judged satisfactory if the percentage is 60 percent or greater, and unsatisfactory if the proportion is less than 60 percent.

TOOL III: Orem`s Self-Care Guidelines Checklist: Researchers modified English form and translated in an Arabic language in accordance with the literature (Alligood & Tomey, 2002; Orem, 2001; Tomey & Alligood, 2006) using Orem's Self Care Model. This form consisted of questions that examined Orem's selfcare needs of universal self-care requirements, developmental self-care requirements and health deviations self-care requirements. It contains questions about:

Part I: self-care practices to meet postpartum woman's universal requisites such as: nutrition, elimination, rest and sleep …etc.

Part II: Self-care practices to meet postpartum woman's developmental requisites model such as self-esteem, disturbed body image, risk for infection …etc.

Part III: Self-care practices to meet postpartum woman's health deviation requisites. This includes all minor discomforts of postpartum period such as stress incontinence, changes in comfort-pain (perineum), changes in comfort-pain (breast) …. etc. Each question is rated on a three points Likert scale as follows: (3) complete self-dependent, (2) partial dependent, and (1) fully dependent.

Tool validity

To ensure the authenticity of the content, the data collection tools were sent to five academic nursing specialists in community health nursing and obstetric nursing for revisions, after being developed with their input and reviewed by five expert university professors in the field of study.

Reliability

Content is checked for clarity, adequacy, and completeness using tools. Cronbach's Alpha was used to determine the tool's reliability. Cronbach's alpha of 0.83 revealed a strong and significant positive correlation between instrumental items in the post-test.

Pilot Study

Before actual data collecting began, a pilot study was done after the tool had been reviewed and approved by experts. The goal of the pilot study was to confirm that the research instrument was clear and applicable, as well as to identify potential data collection barriers and concerns. It also aids in estimating the amount of time it will take to complete the questionnaire. The test was performed on ten percent of the 20 women in the study who were not included in the overall sample.

Procedure of work for planning, participation, and data Collection

Data collection procedure

The current study was carried out in four phases: a preparatory phase, an interviewing phase, an implementation phase and an evaluation phase.

1- The preparatory phase:

A thorough analysis of the study was carried out, encompassing the electronic dissertation, books, and publications that were accessible. To create a knowledge base pertinent to the study area, a review of the literature was also conducted.

Provision of informed consent

An explanation of the study was provided to the mothers under study in order to recruit possible participants before gaining their informed consent. All relevant information is provided, including the purpose of the study, and benefits of participation. Additionally, potential participants were made fully aware of their freedom to withdraw from the study at any moment. It is promised to them that their information will remain confidential. With that, the researcher phone was given to the attendees so they could stay in touch no matter what.

2- *The Interviewing phase:*

The researcher collected the data from the postpartum women through an interviewing questionnaire form. At Women's Health House Hospital, data were gathered for a duration of six months, starting in September 2023 and ending in February 2024. Women's Health House Hospital, formerly known as Specialized Women and Obstetrics Hospital (associated with General Authority of Health Care), in Port Said city, the program conducted two days per week. When postpartum mothers who fit the inclusion requirements are available, (Sunday and Wednesday) from 10 a.m. to 2 p.m., one woman per day and two days per week. This procedure was carried out up until the required sample size was obtained.

3- The implementation phase:

Once the postpartum moms who met the inclusion criterion provided verbal informed consent, the researcher gave a brief introduction and overview of the study's objectives during the first session. Interviews regarding past medical history, surgical history, and present pregnancy were conducted to compile data on each postpartum woman's sociodemographic status. For each research participant, the interview lasted between fifteen and twenty minutes. The researcher used three instruction sessions to provide postpartum women in the study with information on postpartum self-care: one on coping with the infant and its measures, one after giving birth, and one during the postpartum period.

In the first session, which lasted 45 minutes and was done one-on-one, the subject received an educational booklet based on Orem's self-care. For ninety minutes, a group of four to six subjects participated in the second and third sessions. We reminded participants to finish the instructional material between sessions by text message on their mobile device, via the internet, or by phone. Only standard postnatal care was provided to the control group. In accordance with research ethics, the control group was provided with an education booklet at study completion, and their inquiries were addressed through phone conversations or in-person meetings with subjects.

The researcher provided a booklet with three chapters to investigate moms who had recently given birth. Chapter 1 included a synopsis of the postpartum period. Information on postpartum self-care guidelines, newborn health care, and postpartum physiological changes, as well as self-care guidelines for the newborn, were covered in length in the second chapter. The problems that women encounter after giving birth and while acclimating to their new child were covered in length in the third chapter.

4- The evaluation phase:

Following that, the study and control groups finished the self-evaluation form. The

interviews with each participant lasted between fifteen and twenty minutes on average. The researcher used special equipment to record the participants' answers during the Arabic-language interview. The researcher was able to determine each woman's knowledge and practice gaps by using the data gathering instrument. The following were the topics covered in the sessions based on the Orem's self-care subscale: universal self-care (e.g., providing education on how to breastfeeding and the care of the infant), developmental self-care (e.g., teaching techniques to enhance self-esteem, improving attitudes toward the weakened physical image, parental role, activating the father's role by empowering the mother, family support, and the effectiveness of maternal role), and health deviation self-care (e.g., providing information on returning to work, education and social activities). The self-evaluation questionnaire was once completed by the control and study groups during the first two weeks after the intervention and six weeks after giving birth. The postpartum women completed the posttest to assess their knowledge regarding the self-care during the postpartum period

Ethical Considerations:

The Faculty of Nursing's Scientific Ethics Committee/ Port Said University gave a formal approval to perform this study with Code number NUR (7/7/2024)) (39). A written permission from the institutional authority of the hospital was obtained before conducting the study. In addition, an enlightened verbal consent was obtained from each participant after explaining the study aim. Each participant in the study was free to leave at any time without facing any repercussions for their voluntary participation. Furthermore, anonymity and the confidentiality of the data gathered were guaranteed. The process of data collection didn't interfere with the above-mentioned setting's harmonious composition.

C. Administrative design

Statistical Design

The information collected is organized, tallied, and analyzed according to the type of personal information. SPSS 20.0 was used for data entry and analysis (Statistical Package for the Social Sciences). Descriptive statistics were applied (e.g., mean, standard deviation, frequency and percentages). A significant level value was considered when $p \leq 0.05$. In addition, a highly significant level value was considered when $p < 0.01$/

Results:

The study's findings revealed that the study and control groups' socio-demographic characteristics were similar, with no statistically significant differences as presented in Table 1. Their age ranged between 18-33 years with an average age of 25, and a bachelor's degree was held (58.0% and 53.0%, respectively) of study and control groups. More than half of them were housewives (66.0% and 67.0%, respectively). Most women in the study and control groups, were living in urban areas, and considered their income was sufficient (74.0% and 72.0%, respectively).

Figure (1): demonstrates that relatives and friends were the most reported source of information in the study and control groups, followed by internet phone and medical team. On the other hand, media and books were the least reported sources.

Regarding their mode of delivery, Table 2 demonstrates that 62.0% of the women in the study and 68.0% of those in the control group were delivered by cesarean section, with no statistically significant difference. More women in the control group had mother support (53.0%) compared with 50.0% of those in the study group, with statistically significant difference ($p=0.047$). The most common postpartum problem was pain in both groups (100.0%). The women in the control group had significantly more postpartum problems of most type, with median 6 problems compared with 4.5 in the study group ($p<0.001$).

As illustrated in Table 3, at the post-intervention phase, the women in the study group had more adequate knowledge in comparison with those in the control group. This was evident in all knowledge areas about postpartum

problems, postpartum needs, postpartum maternal care, newborn care and total knowledge score (p=<0.001*).

Figure (2): displayed that, the post-intervention knowledge of women in the study group was higher (74.0%) in comparison with those in the control group (45.0%). This difference was statistically significant (p=<0.001*).

Table (4): shows that educational level was the most predictor for total knowledge of mothers related to postpartum care (p value .020*).

As showed in Table 5, at the post-intervention phase, the women in the study group had more satisfactory self-care practices in comparison with those in the control group. This was evident in all areas about self-care practices (p=<0.001*).

Table 6 clearly illustrates the statistically significant difference (P-value < 0.001) in the mean total self-evaluation scores between the two groups following the training program, as determined by the independent t-test findings. The findings also showed that, following the educational program, there was a statistically significant difference between the intervention and control groups' mean self-evaluation scores for universal self-care Requisites, developmental self-care requests, and health deviation self-care (P-value < 0.001).

Table 1: Socio-demographic characteristics of women in the study andcontrol group

	Group				X^2 test	p-value
	Study(n=100)		Control (n=100)			
	No.	%	No.	%		
Age:						
<25	44	44.0	48	48.0		
25+	56	56.0	52	52.0	0.41	0.52
Range	19-31		18-33			
Mean±SD	25.6±5.0		25.7±5.9		t=2.31	0.13
Median	25.0		25.0			
Education:						
Secondary	42	42.0	47	47.0	0.64	0.42
University	58	58.0	53	53.0		
Job:						
Housewife	66	66.0	67	67.0	1.87	0.17
Employed	34	34.0	33	33.0		
Marriage period:						
<one year	34	34.0	30	30.0		
+one year	66	66.0	70	70.0	0.00	1.00
Range	9.0-24.0		9.0-24.0			
Mean±SD	12.2±4.7		11.8±4.3		t=0.07	0.80
Median	10.0		10.0			
Residence						
Rural	23	23.0	25	25.0		
Urban	77	77.0	75	75.0	1.88	0.19
Family income						
Sufficiant	74	74.0	72	72.0		
Insufficiant	26	26.0	28	28.0	0.44	0.64

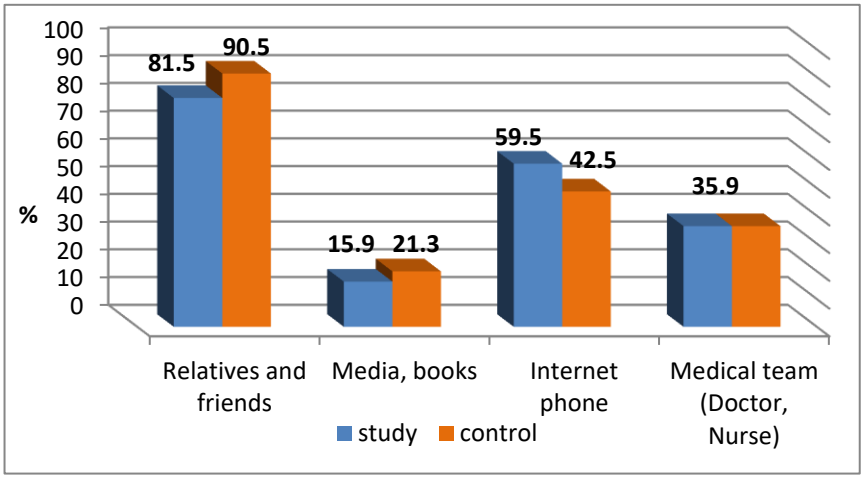

Figure 1: Sources of information reported by women in thestudy and control groups

Table (2): Mode of delivery and postpartum minor discomforts among women in thestudy and control groups

	Group				X^2 test	p-value
	Study(n=100)		Control(n=100)			
	No.	%	No.	%		
Mode of delivery:						
Normal vaginal	38	38.0	32	32.0	1.22	0.27
Cesarean	62	62.3	68	68.0		
Postpartum support:						
Husband	12	12.0	10	10.0	7.98	0.047*
Mother	50	50.0	53	53.0		
Multiple	38	38.0	37	37.0		
Minor discomforts: Afterpain	100	100.0	100	100.0	0.00	1.00
Perineal pain	29	29.0	43	43.0	4.37	0.04*
Mastalgia	36	36.0	60	60.0	13.78	<0.001*
Cracked nipples	37	37.0	51	51.0	4.26	0.040*
Edema	15	15.0	20	20.0	0.76	0.38
Constipation/piles	48	48.0	61	61.0	4.00	0.046*
Urinary problems	8	8.0	18	18.0	4.31	0.040*
Sweating	48	48.0	67	67.0	9.84	0.002*
Total number of problems:						
Range	2-8		2-9			
Mean±SD	4.5±1.4		5.9±1.3		32.91	<0.001*
Median	4.5		6.0			

(*) Statistically significant at p<0.05

Table (3): Post-intervention knowledge among women in the study andcontrol groups

Items	Group				X2 test	p-value
	Study (n=100)		Control (n=100)			
	No.	%	No.	%		
Knowledge						
Postpartum problems	78	78.0	44	44.0	18.83	0.001*
Postpartum needs	75	75.0	42	42.0	18.770	0.000**
Postpartum maternal care	65	65.0	34	34.0	11.17	0.001*
Newborn care	79	79.0	59	59.0	9.101	0.004*
Total knowledge score	70.3±8.1		51.5±8.2		18.75	<0.001*

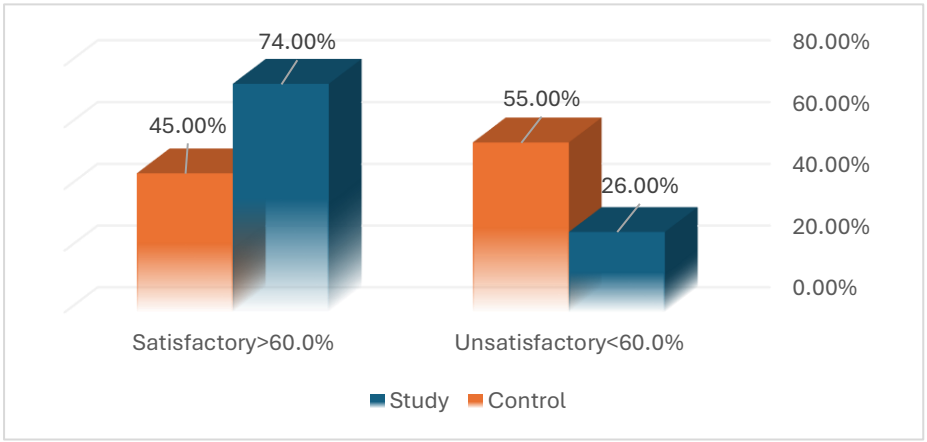

Figure (2): Post-intervention knowledge among women in the study and control groups

Table (4): Relations between women's post-intervention knowledge and their characteristics

Items	Unstandardized Coefficients		Standardized Coefficients	t-test	P value
	B	Std. Error	Beta		
Age	-.509	.421	-.681	-1.145	.255
Educational level	1.278	2.256	.345	.552	.020*
Occupation	-.465	1.717	-.069	-.258	.752
Duration of marriage	.689	.752	.724	.954	.371
Family Income	.574	3.395	.122	.112	.856

Table (5): Distribution of women according to self-care practices after intervention of Orem's Self-Care guidelines in the study and control groups

	Study(n=100)		Control(n=100)		X^2 test	p-value
	No.	%	No.	%		
Activity/Good rest/sleep	70	70.0	47	47.0	23.112	0.000**
Feeding	75	75.0	59	59.0	15.44	0.004*
Use prescribed drugs	65	65.0	43	43.0	21.71	0.001*
Proper wound care	68	68.0	34	34.0	33.42	0.001*
Perineal care	74	74.0	55	55.0	18.795	0.000**
Breast care	72	72.0	45	45.0	27.909	0.000**
Proper dealing with PP problems	67	67.0	29	29.0	37.008	0.000**
Exercise 30 min/day	60	76.9	44	55.0	14.087	0.002*
Types of exercise:						
Kegel	8	13.3	0	0.0		
Abdomen/back	0	0.0	3	6.8		
Walking	0	0.0	41	93.2		
Multiple	52	86.7	0	0.0		
Correct Breastfeeding	76	76.0	55	55.0	21.51	0.001*
Bathing	63	63.0	50	50.0	13.087	0.002*
Dressing	70	70.0	53	53.0	18.887	0.000**
Toilet use	79	79.0	45	45.0	34.770	0.000**
Adjustment for the motherhood	70	70.0	42	42.0	28.648	0.000**
Coping to the mother	72	72.0	45	45.0	27.909	0.000**

(*) Statistically significant at p<0.05

Table (6): Comparison of pretest-posttest mean scores obtained by women in the study and control group from post-partum self-evaluation regarding total, universal, developmental, and health deviation self-care

Comparison of pretest-posttest mean scores obtained by women in the study and control group from post-partum self-evaluation regarding total, universal, developmental, and health deviation self-care	Study	control	F- test	p-value
Universal Self-Care Requisites.	48.13±15.79	24.10±3.79	23.396	0.001*
Developmental self–care requests (coping of mother).	64.90±3.18	25.69±4.00	39.339	0.001*
Health deviation self-care Requisites.	45.93±4.24	28.93±4.24	18.895	0.001*
Total	52.98±7.73	26.24±4.01	27.211	0.001*

(*) Statistically significant at p<0.05

Discussion

The aim of this study was to study the evaluate the effect of care given using "Orem Self-Care Model" on postpartum dependent care among primiparous mothers. For many women, being a mother is a challenging experience that necessitates a great deal of emotional, physical, and social adjustment. As a result, a woman's

health depends on how well she adjusts to motherhood. This study involved 200 women who were equally divided between study and control groups and had similar socio-demographic features but no statistically significant differences.

According to the current study, most of the study's women participants were between the ages of 18 and 33. This might be a result of the study's female participants being of childbearing age. Given that most women were first-time mothers wedded at this age, which is regarded as middle-aged for reproduction. Their conclusions corroborate this conclusion. Additionally, this result was consistent with **Miranda et al. (2021)** during assessment of postnatal psychosis, sleeplessness, and intellectual disability in Portugal's social isolation with connection to several characteristics with an average age of thirty years.

As shown in this study, more than half of study participants had obtained a bachelor's degree and were housewives. According to cultural norms, the girls were more from rural areas, they may be interested in education. This outcome disagreed with the study of **Mercan & Tari (2021)** after investigation of the relationship between early postnatal psychosis, social protection, lactation beliefs, and postnatal females' nursing ego scores. More than two-thirds of women were work who lived in rural areas, owing to their lack of education.

Regarding residence and standard of living, most women in the study and control groups, were living in urban areas, and considered their income was sufficient (74.0% percent and 72.0%, respectively). And from this point of view, **Ozdemir et al. (2018)** studied mothers' postpartum life quality and self-care abilities and found that more than three-quarters of the sample lived in rural areas. Also, **Salama et al. (2022)** who conducted a study entitled " Impact of a clinical preventive strategy for post-cesarean delivery mothers with reference to psychosocial functioning and post-operative complications and provided support for this" found that most of the sample lived in rural areas.

Regarding source of information, it was reported by postpartum women that the relatives and friends were the most reported source of information in the study and control groups, followed by internet phone and medical team, however, media and books were the least reported sources. In the same context, a systematic literature review of 31 studies from 14 countries that found the most common information sources used by women to be health professionals, family, friends, and the internet (**Camacho-Morell F, Esparcia J.,2020**). Further research revealed that women use internet sources as an additional source of knowledge outside of the healthcare system, serving a more complementary role. Digital information is a handy source of extra information since it is easily accessible and always available (**Boon-itt S, 2020**). According to a Dutch survey, the minority of women who did not use the internet to obtain information did not believe that they had to if they could get what they needed from other sources (**Boon-itt S, 2020).**

Regarding women's knowledge of postpartum self-care practices through discharge guidelines. The current study shown that, in the post-intervention test, most women in the study group had sufficient knowledge in all areas related to postpartum problems, postpartum needs, postpartum maternal care, and infant care, with a significant difference ($p=<0.001*$) between the two groups. Such results agree with **Soltanni, Esmaeili, Mohammadi,** and **Aghababaei (2019), Esmaeili**, **Mohammadi**& **Aghababaei**, (**2019**) study titled the Effect of Prenatal Counseling on the Knowledge and Performance about Postpartum Care in Primigravida Women, they reported that the mean of maternal knowledge scores about postpartum care in the intervention group increased after intervention and there was a significant difference with the control group. Also, **Okafor & Yewande, (2020)** findings showed significant improvement on post-intervention mean knowledge score in the study and was a significant difference with the control group.

According to the current study, there is a highly statistically significant relationship between women's overall knowledge score and

educational level in connection to their general characteristics. The results of this study align with the findings of **Mohamed et al. (2018),** who found a strong statistical correlation between women's educational level and their knowledge of postpartum self-care. Similarly, **Kalaivani (2019)** conducted a study entitled "Knowledge, attitude and practice regarding postnatal care among primi mothers in India", found that there is a substantial relation between mothers' educational level and their understanding of postpartum care. Also, **Berakiet al. (2020),** found a substantial relation between the women's knowledge and their age, place of residence, and educational background.

The present study clearly demonstrates that following the training program, there was a statistically significant difference (P-value < 0.001) in the mean total self-evaluation scores between the two groups. The study's findings showed that individuals in the study group had a higher likelihood of adjusting to the postpartum phase. It is typical for primiparous women to have poor self-esteem in the postpartum period as they adjust to their new role as mothers and the challenges of taking care of their newborn and completing their allocated chores in the first few weeks following delivery.

Congruent with the results of this study, **Chamgordani et al. (2020)** observed that following four sessions of skill-training counseling beginning in the third week following vaginal delivery, or CS, the maternal functioning in the study group was significantly higher than that in the control group. Furthermore, a study carried out by **Madray C et al. (2022)** found that maternal role training enhanced maternal competence in nulliparous women who had an unanticipated pregnancy both during and after giving birth. Furthermore, higher maternal self-efficacy was found in primiparous women with unexpected pregnancies in a study by **Fasanghari M, Kordi M, and Asgharipour N. (2019)** who ran a training program based on Mercer theory during pregnancy and after birth.

Taking into account the relationship between maternal self-reliance and mother functioning after childbirth, which served as the basis for suggesting interventions to improve maternal self-reliance for enhancing their functioning in the postpartum period, the current study demonstrated that mothers who acquire functional skills over time improve their self-reliance in caring for the baby. The results of the current study addressing maternal self-reliance are consistent with those of **Chaves & Ximenes (2019),** who reported that four months after delivery, the mother's self-reliance significantly improved after receiving three sessions of motivational phone counseling. However, a study carried out in Istanbul by **Gürkan ÖC and Ekşi Z. (2017)** found that postpartum functional status was not improved by prenatal education. This finding may have been caused by differences in the type and timing of interventions**. (Ekşi Z., Gürkan ÖC, 2017).**

After the training program, the women in the study and control group completed post-partum self-evaluation, and the results showed a statistically significant change in their pretest-posttest mean scores (P-value < 0.001). Also, it was clear that the study women's overall mean scores on the post- and follow-up tests showed an immediate improvement in the self-care model's implementation compared to the pretest for the universal self-care requisites (breathing pattern, fluid intake and output, feeding, elimination, sleeping pattern, social problems, hazards exposure, and normalcy). **Khatun et al. (2018)** found that there are correlations between postpartum fatigue, sad mood, self-care agency, and self-care action among first-time moms in Bangladesh. These findings are consistent with their research.

The mother's overall mean scores on the post- and follow-up tests demonstrated an immediate improvement over the pretest findings for the developmental self-care requisites (coping of mother) following the implementation of the self-care model. This outcome was in line with research conducted in **2019 by Kim & Dee** on the emotions, self-care, and child-rearing practices of Korean moms who were at risk of postpartum depression. This outcome also agreed with a study carried out in Bangladesh by **Barkin and Wisner (2019)** on the role that maternal self-care plays in the early phases of parenthood.

Following the application of the self-care model to the post and follow-up tests, there was an instantaneous improvement in the total mean scores of health deviation self-care (personal care, perineal care, and breast care) compared to the pretest. The findings aligned with the research carried out by **Khatun et al. (2018),** which investigated the connections between postpartum exhaustion, depression, self-care agency, and self-care action among first-time mothers in Bangladesh. This conclusion was further supported by the results of **Chamangasht et al.'s (2021)** investigation into the effects of an early self-care-oriented education program on primiparous mothers' postpartum self-evaluations.

This study's findings regarding breast care revealed that postpartum women's care was better than pretest on follow-up and posttests. An early education program focused on self-care's effectiveness on primiparous postpartum mothers' self-evaluations was examined by **Chamangasht et al. (2021),** who provided support for this finding. Perineal care improved in postpartum women on follow-up and posttest compared to pretest, according to the current study. The determination of the mothers' living quality and ability to take care of themselves during the postpartum time was examined by **Özdemir (2018),** who provided support for this finding. Perineal discomfort was shown to be less in postpartum women on follow-up and posttest than in pretest, according to the current study. Studies on the self-care practices of mothers in the initial motherhood phase conducted by **Lambermon et al. (2020)** corroborated this conclusion.

Following the self-care model's deployment, the dependent cares' overall mean scores on the post- and follow-up tests showed an instant improvement over the pretest results. This result was consistent with a research by **D'haenens et al. (2019)** regarding the impact of continuity of care on the postnatal health of both the mother and the child. Better outcomes were attained by women who received postpartum self-care practice instruction and did it with proficiency. Accordingly, maternity nurses ought to urge mothers to exercise care after being released from the hospital and encourage parturient to do the same **(Ari, Sotunsa, Leslie, Inuwa Ari & Kumzhi, 2019).**

Conclusion

The results of the study demonstrated how well the early self-care education program worked and how it helped the women become better at adjusting to motherhood regarding self-care practices. The findings also showed that, following the educational program, there was a statistically significant difference between the study and control groups' mean self-evaluation scores of self-care practices regarding universal self-care requirements, developmental self-care requests, and health deviation self-care (P-value < 0.001).

Recommendations:

- Training courses on Orem self-care for primiparous mothers should be conducted to enhance their ability to care for their newborns on their own
- Teaching program for maternity nurses to implement Orem self-care for new mothers.

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