

Original Research Article

The benefits of nurse initiated interventional package based on health beyond pregnancy among postnatal mothers

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ABSTRACT

Background: The postnatal period is one of the most vulnerable and critical phases of life. There is a positive relationship between educating mothers with evidence-based quality-oriented self-care practices during antenatal period and positive health beyond pregnancy.

Methods: In this quantitative, experimental investigation, 100 antenatal mothers (50 each in control and experimental group) with gestational age ≥ 37 weeks were enrolled using total enumeration sampling technique. In the first week the control group was selected using lottery method and then in second week experimental group was recruited. Subsequently, the sequence was repeated for whole next study period. The study received institutional ethical clearance and permission from HOD. Self-structured and validated nurse initiated interventional package based on health beyond pregnancy in the form of a booklet was used for experimental group participants. Whereas the control group participants received routine care. Data was collected through an interview and observation via interview schedule and assessment sheet respectively and analysis was done using Statistical package for social sciences (SPSS) 20.0.

Results: The participants of experimental group followed better practices; desirable outcomes were attained as compared to the control group.

Conclusions: The present investigation supports that nurse-initiated intervention package based on health beyond pregnancy is useful for postnatal mothers. Thus, nurses can implement this intervention package to make mothers self-reliant for health beyond pregnancy.

Keywords: Postnatal care, Health beyond pregnancy, Nurse initiated intervention, Normal vaginal delivery, Postnatal interventions, Antenatal health teachings

INTRODUCTION

The pivot role of becoming pregnant is the angelic power earmarked to women alone. Women have the great opportunity and prestige honour by the God to be his companion in providing a new life to another human.¹ The postpartum period, usually defined as the six weeks following delivery, is very crucial. The chances for complications to occur are high during this time period. Educational activities starting in the antenatal period are more effective. Educating the antenatal mothers through

antenatal educational programs regarding the profits of good nourishment, adequate relaxation, cleanliness, family planning and sole breastfeeding, helps in promoting the health of the women after delivery.²

As per WHO, maternal mortality is devilishly sky-high. About 2,95000 women lost their life antenatally as well as postnatally in the year 2017.³ In a developing country, like India, maternal complications are quite common. Antenatal education programs focusing on prompt, well-timed care can save the life and prevent death of the

postnatal mother contributing to reduced maternal morbidity and mortality.^{4,5} The overall goal is to have a healthy mother. Providing perinatal services based on best evidence, well-coordinated in nature is the prime duty of interdisciplinary team of health care professionals for the betterment of postnatal mothers. The WHO states that “maternal care should respond to the special needs of the mother and baby during this special phase and should include the prevention and early detection and treatment of complications and disease, the provision of advice and services on breastfeeding, birth spacing, immunization and maternal nutrition.”⁶

Educating the antenatal mothers regarding healthy diet, required rest, hygiene, contraception, postnatal exercises, identification of danger signs, prevention of postnatal complications and exclusive breastfeeding offers informed decision making.² Antenatal period is an opportune time to be utilised for providing health education as compared to the postnatal period. Antenatal period is a potential platform to disseminate information than educating woman after delivery.^{7,8} It is believed that through educating a mother, we educate a family, a community and the whole nation.⁹ No attempt should be missed to educate an antenatal mother.

Routine monitoring of cardinal signs (mainly BP-Blood Pressure) and assessing for blood loss per vagina and status of uterus especially immediately after delivery and for first two hours is a gold standard for qualitative care that helps in the immediate detection of a probable life-threatening conditions.¹⁰ WHO postnatal care guidelines include routine postpartum evaluation of women at 3 days, 1–2 weeks, and 6 weeks.¹¹ WHO recommends promoting and supporting early and exclusive breastfeeding as a part of raising importance of postnatal care.¹² The World Health Assembly has laid down a target to expand globally the rate of exclusive breastfeeding from 38% in 2012 to 50% in 2025. As per the WHO tracking tool, to be a part of this contribution, India has to attain a rate of 65.7% for exclusive breastfeeding by 2025.¹³ Nursing officers plays a noteworthy role in helping and guiding the mother to start with breast feeding.

Nurse plays a vital role in reinforcing contraceptive counselling among antenatal woman. Prior educational interventions can help increase knowledge of available contraceptive options, thus helping individuals to make informed choice and use contraception more efficiently. The immediate postnatal period is a crucial time period to use modern contraceptive methods that improves maternal health, so more attention is to be given for initiating modern contraceptive adoption and utilization.¹⁴

Nurse needs to educate each mother individually and to plan health teaching accordingly. ACOG in 2002, advocated that exercise thirty minutes per day postnatally for endorsing additional health benefits.¹⁵ Nurses can help in establishing a routine pattern of postnatal exercises that can further become a good habit among postnatal mothers.

Minimising the length of hospital stay after normal vaginal delivery and ensuring early discharge is associated with positive experiences for mothers.¹⁶ Nurses should remain vigilant while guiding the mothers in antenatal period. It would be easy for nurses to educate them using a nurse developed intervention to prevent the occurrence of postpartum danger signs and enhancing health beyond pregnancy. There is a call for nurses to provide persistent and logical education in the antenatal period about obvious warning signs that can ultimately reduce maternal death and ill-effects of maternal complications in postnatal phase.¹⁷

The objective of the study was to assess the effectiveness of Nurse initiated interventional package based on health beyond pregnancy.

METHODS

Quantitative Research approach and Experimental design was used in the study to assess the effectiveness of nurse initiated interventional package based on health beyond pregnancy. Ethical Clearance was obtained from the Institute Ethics Committee, PGIMER, Chandigarh. The trial was also registered under the clinical trials registry-India (CTRI). Written Permission was taken from the Head, Department of Obstetrics and Gynaecology, PGIMER, Chandigarh. Total enumeration sampling technique was used to enrol subjects and divided into experimental and control groups. A total of 100 sample was taken for the study, keeping 50 antenatal mothers each in control and experimental group. In the first week the control group was selected using lottery method and then in second week experimental group was recruited. Subsequently, the sequence was repeated for whole next study period. All antenatal mothers who were admitted for normal vaginal delivery and willing to participate in the study were included. Antenatal mothers who are mentally unable to respond to the package were excluded. Women were explained the purpose of the study and written informed consent was taken. Data was collected during October 2020 to December 2020 on the basis of sociodemographic profile which included baseline identification data of the study subjects like C.R.no., age, date of admission, address, mobile number, marital status, age at marriage, duration of marriage, religion, education status, occupation, total income per month, number of family members, per capita income, date of discharge and using obstetrical profile which included LMP, POG, EDD, obstetrical score- parity, gravida, menstrual history, obstetrical diagnosis, past obstetrical history, history of previous pregnancies, length of stay in hospital, date and time of delivery, any contraceptive method used, complications at the time of discharge; if any. Nurse initiated interventional package was developed with the help of the reviews from relevant literature on postnatal care, discussion with the experts from National Institute of Nursing Education, PGIMER, Chandigarh and Department of Obstetrics and Gynaecology, PGIMER, Chandigarh. The protocol was developed in the form of a

booklet, in English, translated to Hindi and validated by experts for translation validity too. It was implemented among the experimental group participants and control group participants received routine care. As the study participants underwent normal vaginal delivery; assessments were made using interview schedule and observations on postnatal day1 to day3 and telephonic follow up was done at 6th postnatal week. Self-developed and validated questionnaire for the assessment of postnatal self-care practices till 6th postnatal week was used to assess the activities of postnatal women regarding the health beyond pregnancy after normal vaginal delivery. The data was analysed using descriptive and inferential statistics. Analysis was done with Statistical Package for Social Science (SPSS-20) program. The analysis was done by comparing the results of the control and experimental

groups. In descriptive statistics, frequency, percentage, mean, standard deviation was used to describe the data, in inferential statistics, Chi square, Fisher exact test, Mann Whitney U test were used.

RESULTS

Table 1 shows the socio-demographic profile of the study participants in both groups. The mean age of mothers in control and experimental group were 27.68 ± 4.0 and 26.66 ± 5.0 respectively. Almost half of the control group participants 27(54%) were in the age group of 26-30 years and among experimental group 25 (50%) were in the age group of 20-25 years.

Table 1: Socio-demographic profile of the study participants.

Variables	Control group (n ₁ =50) f (%)	Experimental group f (n ₂ =50) (%)	χ^2 / Fisher exact test value df p value
Age (in years)			
21-25	12(24)	25(50)	9.417 ^b 3 0.018*
26-30	27(54)	15(30)	
31-35	10(20)	7(14)	
36-40	1(2)	3(6)	
Religion			
Hindu	39 (78)	39 (78)	0.153 ^b
Muslim	2 (4)	2 (4)	2
Sikh	9 (18)	9 (18)	1.000
Educational qualification of mother			
Graduate and above	26 (52)	31 (62)	4.613 ^b 5 0.462
Diploma	7 (14)	8 (16)	
High school certificate	11 (22)	4 (8)	
Middle school certificate	5 (10)	6 (12)	
Illiterate	1 (2)	1 (2)	
Occupation status of mother			
Professional	5(10)	9(18)	9.344 ^b 6 0.125
Clerical, shop-owners/farm	3 (6)	2 (4)	
Skilled workers	5 (10)	2 (4)	
Unskilled workers	3 (6)	0 (0)	
Unemployed/housewife	34 (68)	37 (74)	
Family type			
Nuclear	27 (54)	31 (62)	0.657 ^a
Joint	23 (46)	19 (38)	1
Habitat			
Rural	14 (28)	23 (46)	3.475 ^a
Urban	36 (72)	27 (54)	1
Diet			
Vegetarian	21 (42)	30 (60)	0.062
Non-vegetarian	22 (44)	15 (30)	3.246 ^a
Eggetarian	7 (14)	5 (10)	2
Marital status of mother			
Married	50 (100)	49 (98)	0.197
Unmarried	0 (0)	1 (2)	1.396 ^b
			1
			1.000

*p value significant at <0.05, ^aChi- square test, ^bFisher exact test, Mean \pm SD Age in years (Experimental- 26.66 ± 5.053) (Control- 27.68 ± 4.043), Mean \pm SD Per capita income in Rupees (Experimental- 6198.16 ± 5694.6), (Control- 5920.80 ± 7522.8)

Table 2: Obstetrical profile of the study participants.

Variables	Control group (n ₁ =50) f (%)	Experimental group f (n ₂ =50) (%)	χ^2 /Fisher exact test value df p value
Gravida			
Primi	28 (56)	27 (54)	0.040 ^a
Multi	22 (44)	23 (46)	1 1.000
Period of gestation (weeks+days)			
37 ⁺⁰ – 37 ⁺⁶	11 (22)	16 (32)	2.502 ^b 4 0.686
38 ⁺⁰ – 38 ⁺⁶	17 (34)	13 (26)	
39 ⁺⁰ – 39 ⁺⁶	15 (30)	17 (34)	
40 ⁺⁰ – 40 ⁺⁶	5 (10)	3 (6)	
41 ⁺⁰ – 41 ⁺⁶	2 (4)	1 (2)	
Contraception used			
Condoms	4 (8)	13 (26)	6.074 ^b 3 0.081
Copper T	3 (6)	2 (4)	
Contraceptive pills	1 (2)	1 (2)	
Not used any	42 (84)	34 (68)	

*p value significant at <0.05, ^a Chi- square test, ^bFisher exact test**Table 3: Comparison of selected variables among study participants during postnatal period.**

Variables	Postnatal Day 1			Postnatal Day 2			Postnatal Day 3		
	Control group (n ₁ =50) f %	Experimental group (n ₂ =50) f %	χ^2 /Fisher value df p value	Control group (n ₁ =50) f %	Experimental group (n ₂ =50) f %	χ^2 /Fisher value df p value	Control group (n ₁ =50) f %	Experimental group (n ₂ =50) f %	χ^2 /Fisher value df p value
Breast Normal condition of nipples	46 (92)	49 (98)	2.022 ^b (1) 0.362	46 (92)	49 (98)	2.022 ^b (1) 0.362	46 (92)	50 (100)	5.712 ^b (1) 0.117
Inverted nipples	4 (8)	1 (2)	2.022 ^b (1) 0.362	4 (8)	1 (2)	2.022 ^b (1) 0.362	4 (8)	1 (2)	5.712 ^b (1) 0.117
Breastfeed independently	20 (40)	27 (54)	2.476 ^b (2) 0.271	29 (58)	32 (64)	1.125 ^b (2) 0.685	41 (82)	41 (82)	1.239 ^b (2) 0.652
Breast engorgement	0 (0)	0 (0)	--	1(2)	0 (0)	1.316 ^b (1) 1.000	1 (2)	0 (0)	1.316 ^b (1) 1.000
Wearing brassieres	3 (6)	43 (86)	64.412 ^a (1) <0.001*	15 (30)	50 (100)	53.846 ^a (1) <0.001*	28 (56)	50 (100)	28.205 ^a (1) <0.001*
Maintenance of breast hygiene	49 (98)	50 (100)	1.396 ^b (1) 1.000	49 (98)	50 (100)	1.396 ^b (1) 1.000	49 (98)	50 (100)	1.396 ^b (1) 1.000
Bladder Catheter in situ	1 (2)	1 (2)	0.000 ^b (1)1.000	0(0)	1(2)	1.396 ^b (1)1.000	0(0)	1(2)	1.396 ^b (1)1.000
Burning micturition	3 (6)	0 (0)	4.252 ^b (1)0.242	3(6)	0(0)	4.252 ^b (1)0.242	1(2)	0(0)	1.396 ^b (1)1.000
BOWEL Passage of flatus	30 (60)	43 (86)	8.574 ^a (1)0.006*	46(92)	49(98)	2.022 ^b (1)0.362	48(96)	50(100)	2.813 ^b (1)0.495

Continued.

Variables	Postnatal Day 1			Postnatal Day 2			Postnatal Day 3		
	Control group (n ₁ =50) f %	Experimental group (n ₂ =50) f %	χ^2 /Fisher value df p value	Control group (n ₁ =50) f %	Experimental group (n ₂ =50) f %	χ^2 /Fisher value df p value	Control group (n ₁ =50) f %	Experimental group (n ₂ =50) f %	χ^2 /Fisher value df p value
Motion not passed	11 (22)	5 (10)	2.679 ^a (1)0.102	5(10)	3(6)	0.549 ^b (1)0.715	0(0)	0(0)	--
Perineum Sanitary pads used per day.									
2 pads	9 (18)	0 (0)		1(2)	0(0)		1(2)	0(0)	
3 pads	26 (52)	5 (10)	44.640 ^b (3) <0.001*	31(62)	2(4)	53.902 ^b (3) <0.001*	34(68)	2(4)	59.029 ^b (3) <0.001*
4 pads	15 (30)	34 (68)		18(36)	31(62)		15(30)	32(64)	
5 pads	0	11 (22)		0(0)	17(34)		0(0)	16(32)	
Episiotomy present	47(94)	45(90)	0.543 ^a (1)0.461	--	--	--	--	--	--
Perineal tear	5(10)	7(14)	0.379 ^a (1)0.538	--	--	--	--	--	--
Early contraceptive adoption (PPIUCD)	0(0)	3(6)	4.252 ^b (1)0.242	--	--	--	--	--	--
REEDA score									
Score 0	3(6)	5(10)		3(6)	5(10)		3(6)	5(10)	
Score 1	0(0)	0(0)		0(0)	0(0)		47(94)	45(90)	
Score 2	43(86)	43(86)	1.168 ^b (2)0.629	43(86)	43(86)	1.168 ^b (2)0.629	0(0)	0(0)	0.549 ^b (1)0.715
Score 3	4(8)	2(4)		4(8)	2(4)		0(0)	0(0)	
Score 4	0(0)	0(0)		0(0)	0(0)		0(0)	0(0)	
Score 5	0(0)	0(0)		0(0)	0(0)		0(0)	0(0)	
Personal hygiene Brushing	12(24)	18(36)	1.714 ^a (1)0.275	33(66)	43(86)	5.482 ^a (1)0.034*	44(88)	49(98)	3.840 ^a (1)0.112
Sponge bath	0(0)	5(10)	7.195 ^b (1)0.056	7(14)	10(20)	0.638 ^a (1)0.424	21(42)	27(54)	1.442 ^a (1)0.317
Maintenance of perineal hygiene	48(96)	50(100)	2.813 ^b (1)0.495	49(98)	50(100)	1.396 ^b (1)1.000	49(98)	50(100)	1.396 ^b (1)1.000

*p value significant at <0.05, ^a Chi- square test, ^bFisher exact test

Almost 3/4th, 39 (78%) of study participants were Hindu among both the groups. 26 (52%) and 31 (62%) of study participants were graduate/ postgraduate among control and experimental group respectively. Majority of the participants in control 34 (68%) and experimental group 37 (74%) were housewives respectively. Similarly, a little higher than half 27 (54%) among control group participants and 31 (62%) in experimental group belonged to nuclear family. Among control group study participants

36 (72%) and 27 (54%) among experimental group constituted for urban habitat. More than half 30 (60%) of the experimental group participants and 21 (42%) among control group were vegetarian. Almost, all the participants were married in both the groups except 1 (2%) of the experimental group participants. On the basis of socio-demographic profile, both the groups were found out to be comparable according to variable educational status, occupation, type of family, marital status, religion, dietary habits and habitat (p>0.05) (Table 1).

Table 4: Comparison of vital signs and REEDA score among study participants during postnatal period.

Variable	Postnatal Day 1				Postnatal Day 2				Postnatal Day 3			
	Median (IQR) Experimental group (n ₂ = 50)	Median (IQR) Control group (n ₁ = 50)	Mann-Whitney U test value	P Value	Median (IQR) Experimental group (n ₂ = 50)	Median (IQR) Control group (n ₁ = 50)	Mann-Whitney U test value	P Value	Median (IQR) Experimental group (n ₂ = 50)	Median (IQR) Control group (n ₁ = 50)	Mann-Whitney U test value	P Value
REEDA Score	2(2-2)	2(2-2)	-1.064	0.370	2(2-2)	2(2-2)	-1.064	0.370	1(1-1)	1(1-1)	-0.734	0.715
Vital signs												
Systolic BP	110 (100-118)	110 (100-120)	-0.282	0.778	112 (106-120)	117 (100-120)	-0.367	0.714	116 (110-120)	112 (100-116)	-1.867	0.062
Diastolic BP	70 (70-80)	70 (70-80)	-0.163	0.871	76 (72-80)	76 (70-78)	-1.040	0.298	80 (76-80)	78 (70-80)	-1.506	0.132
Pulse	80 (76-84)	80 (76-86)	-1.007	0.314	78 (74-86)	79 (74-84)	-0.415	0.678	80 (76-84)	79 (74-82.5)	-0.829	0.407
Respiration	20 (20-20)	20 (20-20)	-1.143	0.253	20 (18-22)	20 (18-22)	-1.211	0.226	20 (18-23.5)	20 (18-20)	-1.375	0.169
Temperature	98.40 (98.00-98.40)	98.40 (98.00-98.40)	-0.040	0.968	98.03 (97.60-98.60)	98.40 (98.00-98.60)	-0.705	0.481	98 (97.45-98.20)	98 (97.60-98.40)	-1.447	0.148

*p value significant at <0.05

Table 5: Comparison of length of hospital stay among the study participants.

Variable	Median (IQR) Experimental	Median (IQR) Control	Mann-Whitney U test value	P value
Length of hospital stay	3(3-4)	3(3-3)	-1.253	0.218

Table 6: Practices related to postnatal exercises among study participants.

Variables	Control group (n ₁ =50) f (%)	Experimental group f (n ₂ =50) (%)	χ^2 /Fisher exact test value df p value
Postnatal exercises			
Deep breathing	48(96)	50(100)	2.813 ^b (1)0.495
Pelvic tilting	1(2)	14(28)	13.255 ^a (1) <0.001*
Ankle rotation	9(18)	35(70)	27.435 ^a (1) <0.001*
Knee rotation	3(6)	27(54)	27.429 ^a (1) <0.001*
Kegal exercises	4(8)	29(58)	28.268 ^a (1) <0.001*
Brisk walking	46(92)	50(100)	5.712 ^b (1)0.117
Time preferred for exercising			
Morning	6(12)	4(8)	0.444 ^a (1)0.505
Evening	44(88)	46(92)	
Duration of postnatal exercise			
1-15 minutes	42(84)	30(60)	9.663 ^b (2)0.007*
16-30 minutes	8(16)	14(28)	
31-45 minutes	0(0)	6(12)	

*p value significant at <0.05, ^a Chi-square test, ^b Fisher exact test

Table 7: Exclusive breastfeeding practice among the study participants.

Variable	Control group (n ₁ =50) f (%)	Experimental group (n ₂ =50) f (%)	Chi-square value /Fisher exact test value df p value
Exclusive breastfeeding	39(78)	49(98)	9.470 ^a (1)0.002*

*p value significant at <0.05, ^a Chi- square test, ^bFisher exact test

Table 2 demonstrates the obstetrical profile of the study participants depicting that a little higher than half 28 (56%) and 27 (54%) of study participants were primigravida among control group and experimental group respectively. Remaining were multigravida. 17(34%) of the participants among control and experimental group had 38+0 – 38+6 and 39+0 – 39+6 weeks of gestation respectively. More than half of the control group study participants 42 (84%) and 34 (68%) of experimental group did not used any of the contraceptive method. On the basis of obstetrical profile, both the groups were found to be comparable according to variable gravida, period of gestation, contraceptive used ($p>0.05$). (Table 2)

Table 3 shows the selected variables (normal nipples, inverted nipples, independent breastfeeding, breast engorgement, wearing brassieres, catheter in situ, self-voiding passage of flatus and motion, sanitary pads used, episiotomy, perineal tear, early adoption of contraception, REEDA score and hygiene) among the experimental and control group participants for the first three postnatal days. It describes that 46 (92%) study participants in the control group had normal nipples (neither inverted nor flat). Similarly, majority of the experimental group participants 49 (98%) had normal nipples (neither inverted nor flat). More than half of the study participants in experimental group 27 (54%) breastfeed their babies on postnatal day 1. Similarly, 32 (64%) and 41 (82%) of the experimental group participants were able to breastfeed on postnatal day 2 and 3 respectively. Significantly higher percentage of participants in the experimental group 43 (86%) wore brassieres, 43 (86%) passed flatus on postnatal day 1 itself ($p<0.05$). All of them 50 (100%) were able to maintain breast hygiene. 3 (6%) of the control participants had burning micturition on postnatal day 1. 1 (2%) of participants among both the groups had catheter in situ. More number of control group participants 11 (22%) as compared to the experimental group 5 (10%) didn't passed the motion on first postnatal day. The difference is statistically significant for the number of sanitary pads used per day ($p<0.05$). More than half of experimental group participants 32 (64%) used 4 pads on 3rd day as a part of perineal hygiene. Majority of the experimental group 45 (90%) and control group participants 47 (94%) were given episiotomy incision at the time of delivery. Among the experimental group participants 7(14%) suffered a perineal tear as compared to the 5 (10%) participants among the control group. Among the experimental group 3 (6%) of the study participants adopted early contraception, immediately after delivery and none of the control group participants opted for

PPIUCD. Higher percentage of subjects in experimental group 49 (98%) brushed their teeth, 27 (54%) took bath as compared to the control group participants 44 (88%) did brushing, 21 (42%) took bath by the 3rd postnatal day. Findings show that a higher number of participants in the experimental group followed better practices (breastfeeding, wearing brassieres, change pads 4-5 hourly, brushing, maintaining hygiene) than in the control group. (Table 3)

Table 4 shows the assessment of vital signs and REEDA score among the participants of control and experimental group. It depicts the median (IQR) of the REEDA score on 3rd postnatal day as 1 (1-1) for the participants of both the groups with good healing. Vitals signs were within the normal range (as operationally defined) among the participants of both the groups. (Table 4)

Table 5 describes the length of hospital stay. The Median (IQR) among study participants of both the groups was compared and there was no significant difference observed between two groups in terms of length of hospital stay. The Median (IQR) for experimental group is 3 (3-4) and control group participants with 3 (3-3) ($p>0.05$). The median length of hospital stay is 3. (Table 5)

Table 6 illustrates the practice of postnatal exercises among the study participants of both the groups at the time of 6th week follow up. It shows that majority of the study participants in experimental group adhered to the regular exercise pattern. All the participants of experimental group 50 (100%) followed Deep breathing exercise. There was a significant difference among the participants of both the groups for the practice of Pelvic tilting, Ankle rotation, Knee rotation, Kegals exercises ($p<0.001$). Almost all the study participants in experimental group 50 (100%) and in control group 46 (92%) followed brisk walking. Maximum number of participants among the experimental group 46 (92%) preferred exercising during evening time while 44 (88%) among the control group participants exercised in the evening time. More than half of the experimental group study participants 30 (60%) did exercise for a duration of 1-15 minutes while only 6 (12%) of the study participants practiced for 31-45 minutes. Significantly higher percent of participants in experimental group were doing postnatal exercises (pelvic tilting, ankle rotation, knee rotation, kegal exercises). ($p<0.001$). (Table 6)

Table 7 shows the breastfeeding practices and postnatal complications among the study participants. It describes that almost all the experimental group participants 49

(98%) as compared to 39 (78%) of control group participants followed exclusive breastfeeding at home. The difference is statistically significant for exclusive breastfeeding among the study participants of both the groups ($p < 0.05$). Significantly higher number of mothers were practicing exclusive breastfeeding. (Table 7)

DISCUSSION

Antenatal period is considered as the best opportunity to educate the woman regarding self-care practices as compared to the postnatal period.⁷ Postpartum phase itself is a time of reconciling and restoration as the mother's body returns to normal pre pregnancy stage. It was noted that at the time of follow up majority of the participants among the experimental group followed practices as given in the booklet.

As per the findings of present study, significantly majority of the study participants in the experimental group than in the control group practiced exclusive breastfeeding at 6 weeks ($p = 0.002$). A study was conducted on the outcomes for pre-delivery breastfeeding teachings and counselling on the time-duration of breastfeeding as well as maternal attachment which concluded that early initiation of breastfeeding after delivery and maintaining exclusive breastfeeding continuation rates increased when mother's received training and counselling regarding breastfeeding from the pre-delivery period itself.

Mothers who were a part of nurse initiated interventional package based on health beyond pregnancy were able to meet the postnatal self-care demands and followed general hygiene and brushing practices. A RCT was conducted by Khodabandeh et al on the result of teaching intervention on living style of primigravida woman after their delivery. The findings concluded that training significantly improved the well-being in the trained group such as the brushing of teeth afterwards delivery, training had positive effects among mothers.¹⁹ As per the current study, it was found that educating the mothers priorly in the antenatal period improved the self-care practices in the postnatal period.

Presently, there is a need to educate the woman regarding the need of contraception.²⁰ In the present study, some of the mothers in experimental group, 3 (6%) as compared to control group 0 (0%) choose PPIUCD as a temporary and an early method of contraception in view of family planning ($p = 0.242$). A study was conducted on experience of mothers with PPIUCD use, in India by Somesh Kumar et.al. (2014) on 2,733 married women, aged in between 15–49 years and the findings revealed that most of the females (99.6%) were being satisfied with and during the insertion of IUCD and 92% described satisfaction at the 6th week follow-up.²⁰ The International Federation of Gynaecology and Obstetrics (FIGO), in collaboration with the Sri Lankan College of Obstetrics and Gynaecologists (SLCOG), turned up an initiative in 2014 to institutionalize immediate postpartum IUD (PPIUD)

services. It was noted that prior to intervention 4.1% of women choose PPIUCD compared to 9.8% of women opting PPIUCD after the implementation of intervention.²¹ As per the present study, it was noticed that educating the mother for the use of modern contraception can improve her decision-making ability regarding the early adoption of contraception. PPIUCD was adopted by some of the experimental group participants.

Postnatal self-care practices are incomplete without the implementation of postnatal exercises in day-to-day life. The findings of the current study recorded at 6th postnatal week follow up evaluated that greater number of mothers in experimental group performed postnatal exercises at home as compared to the control group participants. A significant difference was drawn among both the groups for the practice of postnatal exercises involving pelvic tilting, kegal exercises, ankle and knee rotation ($p < 0.001$). As per present study, implementation of nurse initiated interventional package based on health beyond pregnancy among antenatal mothers enabled them to care for themselves during postnatal period.

The healing of episiotomy was good among the participants of both the groups. A descriptive comparative study on the resultant effect of self-perineal care was done for healing of episiotomy. The findings showcased the less chances for infection to occur in women who were actually taught, guided and supported, encouraged for practicing self-care steps of perineal care as compared to control group receiving regular care.²² In the present study, educating antenatal mothers regarding self-perineal care reduced the chances of infection among mothers after delivery.

Length of hospital stay following normal vaginal delivery was almost same among the participants of both the groups. It was observed that date of discharge of the participants was determined by the hospital protocol.

The findings of the present study suggested that the mothers got benefitted from the nurse initiated interventional package based on health beyond pregnancy. Practices including postnatal exercises (deep breathing, pelvic tilting, ankle rotation, knee rotation, kegal exercises, brisk walking) and maintaining hygiene, exclusive breastfeeding, early contraception adoption were better practiced among the experimental group participants as compared to the control group participants.

The nurse initiated interventional package based on health beyond pregnancy is a deliberate and dedicated effort towards the achievement of positive postnatal health of the mothers as it includes postnatal exercises, contraceptive advices, perineal care, breast care, hygiene, breast feeding, teachings at the time of discharge and follow up. The outcomes were better in the group which received intervention as compared to the group receiving routine care.

Limitation of the study included 100 antenatal mothers admitted for normal vaginal delivery. The study had excluded the mothers who were about to undergo planned LSCS, care of newborn was also excluded from the study. Due to COVID-19 pandemic, physical follow up at 6th postnatal week was not possible. So, follow up was telephonically done.

CONCLUSION

Nurse initiated interventional package based on health beyond pregnancy was found to be effective in improving and following exclusive breastfeeding, early adoption of contraception, performing postnatal exercises, self-care during postpartum. The outcomes were better in experimental group. These interventions play an important role in preventing postnatal complications. Hence, it is very well concluded that nurse initiated interventional package should be provided to the antenatal mothers for better maternal outcomes following normal vaginal delivery.

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