

“A Community Based Cross-Sectional Study to Assess the Post Natal Care Utilization and Associated Factors Among Mothers in Rural Areas of Karhal Block of Mainpuri District “

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Abstract:

Background:

Mothers and their newborns are vulnerable to threats to their health and survival during post-natal period as majority of maternal and neonatal deaths occur during childbirth and post-natal period especially in immediate post-natal period. Full PNC uptake decreases maternal and infant deaths. The post-natal care should be a continuation of the care that women has received through her pregnancy, labor and birth and take into account women's individual needs and preference.

Materials and Methods:

A community based cross-sectional study was conducted with the objective to assess the utilization pattern of PNC and Factors affecting utilization of PNC. Data was collected from the mothers who delivered in past one year, in rural areas of Karhal block of Mainpuri district in November 2021. A total of 165 mothers were selected using multistage sampling technique. Data was collected by using structured questionnaire. Chi square test used to assess the association between utilization of PNC and demographic factors and reproductive factors.

Results:

Among 165 mothers, 41.8% of mothers utilized the PNC services and 58.18% mothers not utilized PNC services. The main reason of not utilizing PNC was lack of awareness about PNC services. 90.3% mothers were delivered in health facility. Out of all the mothers who utilized PNC, 11.59% of the mothers attended PNC for neonatal checkup, 44.92% of the mothers attended PNC for self and 43.47% of mothers attended PNC for both self and neonate. There was found significant association between PNC services utilization and type of delivery, delivery complication, education of mother, and education of husband.

Conclusion:

Keywords: Post-natal care utilization, PNC services.

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I. Introduction

The world Health Organization (WHO) stated that postnatal care (PNC) is defined as “care given to the mother and her new-born baby immediately after the birth of the placenta and for the first 42 days of life.” The post-natal care should be a continuation of the care the women has received through her pregnancy, labour and birth and take into account women's individual needs and preference. Post-natal care concern with many aspects of mother and child health like their health check-ups, common problems of mother and new-born babies, breastfeeding, emotional and physical well-being of mother, contraception and sexual health etc. Mothers and their new-borns are vulnerable to threats to their health and survival during post-natal period as majority of maternal and neonatal deaths occur during childbirth and post-natal period. Earlier international studies have shown that 50% of maternal death and 40% of neonatal deaths occur within first 24 hour and 66% occur during the first week. Globally, there were an estimated 303,000 maternal deaths. Therefore, The PNC visit should start as early as possible within 24 hours after birth, even if birth occurs at home, as full PNC uptake decreases maternal and infant deaths.

II. Material and methods

This community based cross sectional study was conducted in the Karhal block of Mainpuri District, Uttar Pradesh in November 2021. A total of 165 mothers were selected who recently delivered in the one year prior to the study in the age group 18-49 years.

Study Design: Community based cross sectional research design

Study Location: Karhal Block of Mainpuri District, Uttar Pradesh.

Study Duration: November 2021.

Sample size: 165

Subjects and selection methods: Multistage sampling was adopted. In the first stage 10 Panchayats were selected randomly from Karhal Block in second stage from each Panchayat 1 village was selected randomly. In the third stage total of 165 Mothers were selected from 10 villages by systematic random sampling. For study purpose list of mothers who gave birth in 1year prior to study was collected from ASHAs.

Inclusion criteria:

- Mothers who gave birth within 12 months prior to the study.
- Mothers in the age group of 18-49 years

Procedure methodology: After taking informed consent, a structured questionnaire was used to collect the data from the selected mothers. The questionnaire had the three sections first section included Demographic characteristics such as age of mother, educational qualification of mother and her husband, religion, occupation of mother and husband, family income, type of family, age of mother at marriage and BPL status and second sections included Reproductive and obstetric factors such as age of mother at first pregnancy, type of delivery, delivery complications, number of children, gestational age at the time of birth, and the third section included the information for the utilization of PNC such as place of delivery, use of PNC, how many PNC visits, purpose of visit for PNC, timing of PNC Visit, visited by health care provider, self-visited the health facility, consumed the folic acid for 42 days after delivery and who was the services provider.

Statistical analysis:

Data was analyzed using SPSS 22. Chi-square test, was used to find out the significant association between independent and dependent variables. The level $P < 0.05$ was considered as the level of significance. Data was organized and tabulated the data was presented in the form of figures and tables.

III. Results

TABLE- 1
Frequency and percentage distribution of demographic characteristics of sample mothers

N=165

Demographic variables		No. of mothers	Percentage
Age of the mother (In years)	Up to 20 years	24	14.54
	21-35 years	139	84.24
	Above 36 years	02	1.2
Education of Mother	Illiterate	22	13.33
	Primary education	107	64.84
	Under graduate	33	20
	Post graduate & above	03	1.8
Education of Husband	Illiterate	13	7.87
	Primary education	86	52.12
	Under graduate	60	36.36
	Post graduate & above	06	3.63
Religion	Hindu	156	94.54
	Muslim	08	4.84
	Others	01	0.6
Occupation of Mother	Housewife	157	95.15
	Self-employed	04	2.42
	Private employee	02	1.21
	Government employee	02	1.21
Occupation of Husband	Farmer	83	50.3
	government employee	07	4.24
	Private employee	61	36.96
	Unemployed	14	8.48
Monthly Income	Less than 5000	54	32.72
	5000-10000	74	44.84

	10000 or above	37	22.42
Family Structure	Joint	130	78.79
	Nuclear	28	16.97
	Extended	07	4.24
Age at Marriage	Less than 18 years	23	13.94
	18-25 years	138	83.64
	25 or above	04	2.42
Below poverty Line (BPL)	Yes	90	54.54
	No	75	45.45

Table 1 shows that 14.54% of the women were up to 20years, 84.24% women were between 21-35 years and 1.2% women were more than 36years of age. Majority of women 64.84% were primaryeducated,13.33% of the women were illiterate,20% women were undergraduates,1.8%were post-graduates. 94.54% women were Hindu, 4.84%were Muslims, 0.6% other. Majority 95.15% women were housewife, 2.42%women were self-employed,1.21%were private employe,1.21% were government employee. The 32.72% women had monthly family income less than 5000, 44.84% had monthly family income between 5000-10,000, 22.42% women had monthly family income more than 10,000. More than two third78.79% women had joint family, 16.97% had nuclear family and 4.24% had extended family. Majority of women 83.64%women were between age group 18-25yrs at time of marriage ,13.94% women were below 18yrs, 2.42%women were more than 25yrs at time of marriage. More than half 54.54%women had BPL status and 45.45% women were above BPL.

TABLE- 2
Frequency and percentage distribution of reproductive and obstetric factors of sample mothers
N=165

Reproductive factors		Frequency	Percentage
Age at first Pregnancy	20-29 years	142	86.1
	<20 or >30 years	23	13.94
Number of Children	1	77	46.64
	2	51	30.91
	3 or more	37	22.42
Type of Delivery	NVD	112	67.88
	NVD with episiotomy	21	12.72
	Vacuum or forceps	01	0.61
	Caesarean section	31	18.79
Delivery Complication	Present	26	15.76
	Absent	139	84.24
Gestational age	<37 weeks	26	15.76
	37-42 weeks	137	83.03
	>42 weeks	02	1.21

The table 2 shows that majority 86.1% of the women were between 20-29yrs age at the time of 1st pregnancy, 13.94% of the women were age <20and >30yrs.Approximately half 46.67% of the women had one child, 30.91% of the women had two children, 22.42% women had three or more children. More than half 67.88% women had normally vaginally delivery, 12.72% women delivered by NVD with episiotomy, 0.61% women delivered by vacuum or forceps, 18.79%women were delivered by caesarean section. Majority 84.24%women had no delivery complications and 15.76% women had delivery complications. 83.03% women had gestational age between37-42weeks, 15.76%women had gestational age <37weeks and 1.21% women had gestational age of 42 weeks.

TABLE- 3
Chi-square showing relationship between utilization of PNC and selected demographic characteristics
N=165

Demographic factor		Utilization	Non-utilization	Chi square	Significance
		Frequency			
Age of the Mother (In years)	Up to 20 years	11	13	3.10	Not significant
	21-35 years	56	83		
	Above 36 years	2	0		
Education of Mother	Illiterate	10	12	23.71	Significant
	Primary education	32	75		
	Under graduate	24	9		
	Post graduate & above	3	0		

Education of Husband	Illiterate	7	6	9.528	Significant
	Primary education	27	59		
	Under graduate	33	27		
	Post graduate & above	2	4		
Religion	Hindu	64	92	2.16	Not significant
	Muslim	05	03		
	Others	00	01		
Occupation of Mother	Housewife	63	94	5.87	Not significant
	Self employed	02	02		
	Private employee	02	00		
	Government employee	02	00		
Occupation of Husband	Farmer	31	52	3.82	Not significant
	government employee	05	02		
	Private employee	28	33		
	Unemployed	05	09		
Family Structure	Joint	58	72	1.99	Not significant
	Nuclear	9	19		
	Extended	2	5		
Age at Marriage	Less than 18 years	6	17	4.31	Not significant
	18-25 years	60	78		
	25 or above	3	1		
Below poverty Line (BPL)	Yes	33	57	2.16	Not significant
	No	36	39		

The table-3 shows the chi square values to establish the relationship between PNC utilization and selected demographic characteristics. There was found significant association between PNC utilization and education of mother, education of husband.

TABLE-4
Chi-square showing relationship between utilization of PNC services and selected Reproductive variables
N=165

Reproductive Variables	Utilization	Frequency		Chi square	Significance
		Utilization	Non-utilization		
Age at first Pregnancy	20-29 years	63	79	2.72	Not Significant
	<20 or 30 years	06	17		
Number of Children	1	33	44	5.1	Not Significant
	2	26	25		
	3 or more	10	27		
Type of Delivery	NVD	33	79	34.67	Significant
	NVD with episiotomy	08	13		
	Vacuum or forceps	01	00		
	Caesarean section	27	04		
Delivery Complication	Present	23	03	27.57	Significant
	Absent	46	93		
Gestational age	<37 weeks	10	16	1.65	Not Significant
	37-42 weeks	59	78		
	>42 weeks	00	02		

Table-4 shows the chi square values to establish the relationship between PNC utilization and selected reproductive variables. There was found significant association between PNC utilization and type of delivery, delivery complications.

Table 5
Frequency and percentage distribution of sample mothers for utilising PNC
N=165

	Frequency	Percentage
Mothers who attended at least one follow up visit of PNC within 42 days	69	41.8

Table 5 shows that 41.8% of mothers utilized the PNC

Table 6
Percentage distribution of population for utilization pattern of PNC by Postnatal mothers

N=69

		Percentage
No of visits attended by post-natal mothers	One	44.92
	Two	34.78
	Three or more than three	20.28
Purpose of attending PNC	For self	44.92
	For neonate	11.59
	For both purpose	43.47
Timing of attending PNC	Within 24 hrs	7.24
	3 rd day of delivery	8.69
	7 th day of delivery	62.31
	After 6 weeks	21.73
Mothers visited by ASHA in community		37.68
Mothers consumed iron and folic acid for 42 days		33.33

Table 6 shows that 11.59% of the mothers attended PNC for the neonatal check-up, 44.92 % for self, and 43.47% for both self and neonate. 44.92% of mothers attended one PNC visit, 34.78% two PNC visits and 20.28% three or more than three PNC. 7.24% mothers attended PNC within 24 hours, 8.69% in 3rd day after delivery, 62.31% in 7th day after delivery and 21.73% at 6 weeks after delivery. 37.68% of mothers visited by ASHA in home after delivery. 33.33% mothers consumed IFA tablet for 42 days after delivery.

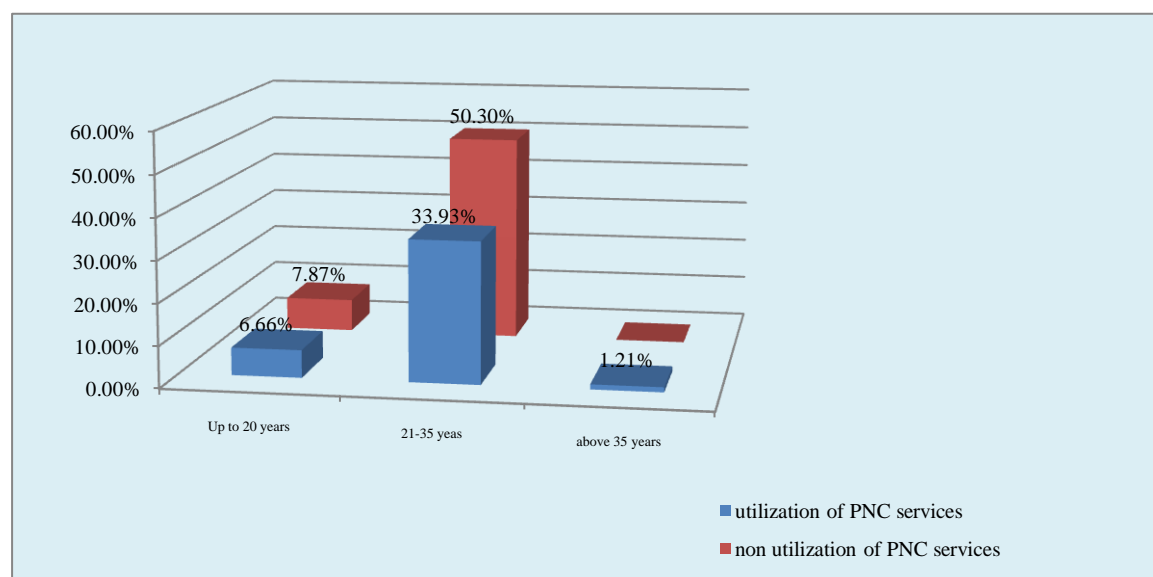


Figure-1: Bar diagram showing percentage distribution of age of mother having utilized and not-utilized PNC

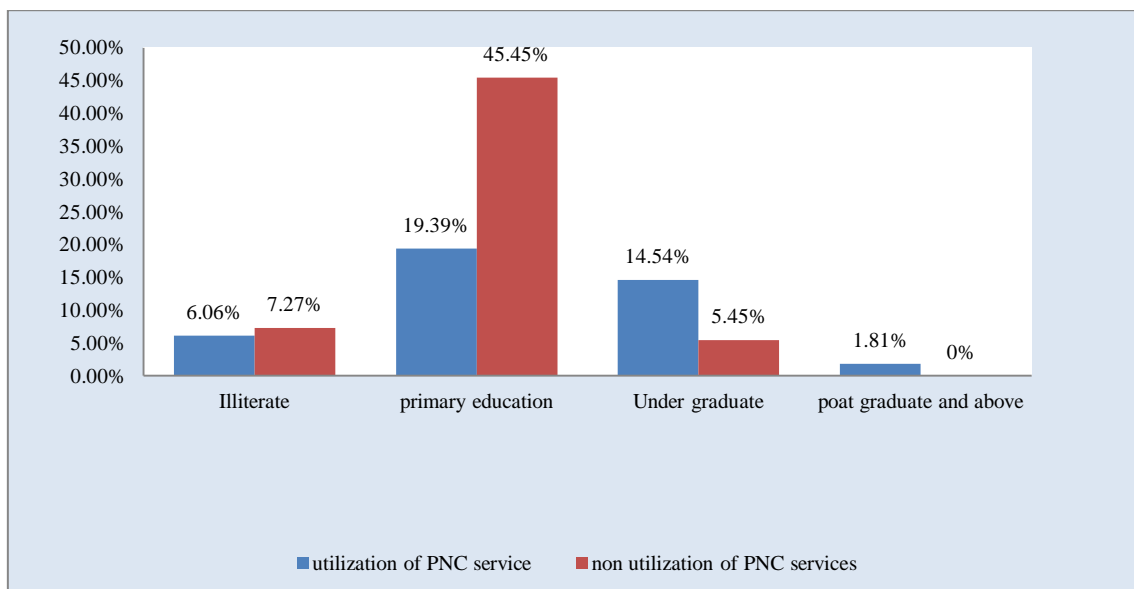


Figure-2: Bar diagram showing percentage distribution of education of mothers having utilized and not-utilized PNC

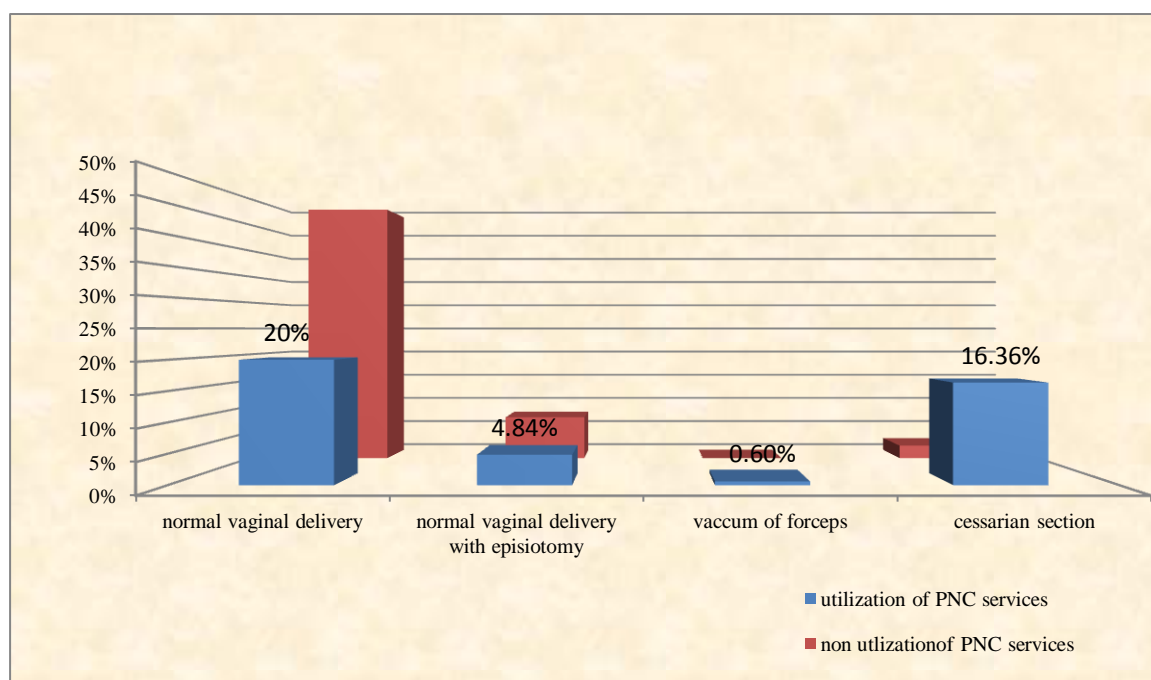


Figure-3: Bar diagram showing percentage distribution of type of delivery of mothers having utilized or not utilized PNC services

IV. Discussion

The findings of the study revealed that less than half of the mothers i.e., 41.82% utilized PNC services in rural areas of karhal block of Mainpuri District of Uttar Pradesh. There was found significant association between education of woman, education of husband, complicated delivery and type of delivery and utilization of PNC. The findings of the study to some extents are consistent with the community based cross sectional study conducted by Miteku Andualem Limenih et al (2014) to assess the postnatal care service utilization and associated factors among women who gave birth in the last 12 months, in Debre Markos Town, Northwestern Ethiopia. Data was collected using structured and pretested Questionnaire via face-to-face interview at participant's home. A total of 588 mothers were interviewed. 33.5% mothers utilized PNC services.

Findings of the study are found to be consistent with the study conducted by Arvind Sharma et al (2014) on utilization of post-natal care in tribal area of Madhya Pradesh. A total of 210 mothers who delivered in last one year were selected for study by 30 cluster sampling method nainpur block of Mandla district. 36.6%

of mothers received one post-natal check-up ,18.5% two, 14.7% three and only 1.9% received four post-natal check-ups. The education/occupation of mothers, cast, education of husband, place of delivery, person conducting delivery and level of knowledge of mother about need of postnatal checkup were significantly associated ($P<0.001$) with utilization of post-natal checkup.

V. Conclusion

- 41.8% of the mothers utilized PNC in rural areas of Karhal block of Mainpuri District of Uttar Pradesh.
- There was found significant association between PNC utilization and demographic characteristics such as education of mother, and education of husband.
- There was found significant association between PNC utilization and obstetric factors such as type of delivery, and delivery complications.

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