

A Study to Assess the Levels of Knowledge of Weaning Practices Among Postnatal Mothers in a Selected Hospital of Greater Noida

Versha Pal¹; Aditi Sharma²; Retu Verma³; Dr. T. David Ratna Paul^{4*}

⁴Associate Professor

^{1;2;3;4}B.Sc. Nursing Students, Sharda School of Nursing Science and Research,
Sharda University, Greater Noida, Uttar Pradesh, India.

Corresponding Author: Dr. T. David Ratna Paul^{4*}

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Abstract:

➤ Background:

Weaning (complementary feeding) from six months of age is a critical step in infant nutrition, and mothers are the main decision-makers. Local data on what postnatal mothers know about weaning are limited in hospital settings.

➤ Objectives:

To assess the level of knowledge on weaning practices among postnatal mothers and to examine its association with selected sociodemographic variables.

➤ Methods:

A descriptive cross-sectional study was conducted among 100 postnatal mothers with infants aged 0 to 12 months at a teaching hospital in Greater Noida, Uttar Pradesh, from 1 March to 31 May 2026. Participants were selected by purposive sampling. Data were collected by self-administered sociodemographic proforma and a 20-item Yes/No knowledge questionnaire (content validity by 10 experts; Cronbach's alpha 0.87). Scores of 1 to 10 were classed as poor and 11 to 20 as good knowledge. Data were analysed with SPSS using frequencies, percentages and the Pearson chi-square test at the 0.05 level.

➤ Results:

Most mothers were aged 21 to 30 years (90.0%) and Hindu (69.0%); 41.0% were graduates. Ninety-two mothers (92.0%) had good knowledge and 8 (8.0%) had poor knowledge. Age ($\chi^2 = 8.082$, $df = 3$, $p = 0.044$) and religion ($\chi^2 = 11.917$, $df = 3$, $p = 0.008$) were significantly associated with knowledge level. Education, occupation, husband's occupation, family income, family type, residence, number of children and age of the baby were not (all $p > 0.05$).

➤ Conclusion:

Knowledge of weaning was good in nearly all mothers, but a small group remains at risk. Because only eight mothers had poor knowledge, the chi-square findings need cautious interpretation. Nurses should reinforce weaning counselling at every postnatal contact and study actual feeding practice alongside knowledge.

Keywords: Weaning; Complementary Feeding; Knowledge; Postnatal Mothers; Infant Nutrition; Nursing; India.

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I. INTRODUCTION

The first 1,000 days of life, from conception to a child's second birthday, are the period when undernutrition does the most lasting damage to growth, cognition and later productivity (Victora et al., 2008). Maternal and child undernutrition underlies nearly half of all deaths in children under five years (Black et al., 2013).

Weaning, or complementary feeding, is the gradual introduction of safe, age-appropriate foods alongside continued breastfeeding from about six months of age (WHO & UNICEF, 2003; WHO, 2023). In this paper the term does not mean stopping breastfeeding. Starting foods too early exposes infants to infection and displaces breast milk, while starting too late leaves energy and micronutrient needs unmet (Dewey & Adu-Afarwuah, 2008). Growth faltering is sharpest between about six and 24 months, the same window in which complementary foods become essential (Victora et al., 2010).

India carries one of the world's highest burdens of child undernutrition. The National Family Health Survey 2019-21 (NFHS-5) found about 35% of children under five stunted, 19% wasted and 32% underweight, and only a small share of breastfed children aged 6 to 23 months received an adequate diet (IIPS & ICF, 2021). Earlier national analyses linked inappropriate complementary feeding to maternal education, household wealth, antenatal care, residence and region (Patel et al., 2012; Dhami et al., 2019). Similar patterns appear in Bangladesh, Nepal, Sri Lanka, West Africa and Ghana (Kabir et al., 2012; Joshi et al., 2012; Senarath et al., 2012; Issaka et al., 2015; Saaka et al., 2016).

In most Indian households the mother prepares the infant's food and decides what and when to feed, although elders often influence her choices. The postnatal period brings repeated contact with nurses through delivery care, postnatal visits and immunization, which makes it a practical time to assess and strengthen weaning knowledge. Systematic reviews show that counselling on complementary feeding improves dietary adequacy and growth (Dewey & Adu-Afarwuah, 2008; Bhutta et al., 2013).

Much Indian research combines breastfeeding with weaning or is community-based, and fewer studies examine weaning alone among postnatal mothers attending a hospital. Hospital studies matter because mothers who reach health services but still lack knowledge point to larger gaps among those who do not. We therefore assessed the level of knowledge on weaning practices among postnatal mothers at a teaching hospital in Greater Noida and tested its association with sociodemographic variables.

➤ Objectives

To assess the level of knowledge on weaning practices among postnatal mothers.

To examine the association between the level of knowledge and selected sociodemographic variables.

➤ Hypothesis:

There is a significant association between the level of knowledge on weaning practices and the sociodemographic variables of postnatal mothers (tested at $p < 0.05$).

II. METHODS

- Design and setting. We used a quantitative, non-experimental, descriptive cross-sectional design. The study took place at Sharda Hospital, a private teaching hospital in Greater Noida, Uttar Pradesh, in its postnatal ward and paediatric outpatient department. Data were collected from 1 March to 31 May 2026.
- Participants and sampling. The target population was postnatal mothers with infants. The accessible population was mothers with infants aged 0 to 12 months attending the hospital during data collection. Purposive sampling was used until 100 mothers were enrolled. No formal sample size calculation was done.
- Inclusion criteria: Mothers of infants aged 0 to 12 months attending the hospital; able to understand the language of the tool; willing to participate; available during data collection.
- Exclusion criteria: Mothers who were critically ill or had complications preventing participation; mothers whose infants had congenital anomalies or conditions affecting feeding; mothers who took part in the pilot study.
- Study tool. The tool was developed from the literature, national infant and young child feeding guidelines and expert opinion. It had two sections:
- Section A: a sociodemographic proforma with 10 items (age, religion, educational status, occupation, husband's occupation, monthly family income, type of family, place of residence, number of children and age of the baby).
- Section B: a 20-item Yes/No questionnaire on weaning knowledge, covering timing of introduction, first foods, consistency and frequency, dietary diversity, continued breastfeeding, feeding method, hygiene and responsive feeding.
- Each correct response scored 1 and each incorrect response 0 (maximum 20). Scores of 1 to 10 were classed as poor knowledge and 11 to 20 as good knowledge.
- Validity, reliability and pilot study. Ten experts in obstetric and gynaecological nursing, child health nursing, paediatrics, community health nursing and nutrition or statistics rated each item for relevance, clarity, accuracy and completeness, and their suggestions were incorporated. Reliability was tested on 30 mothers from the same hospital who were excluded from the main study; Cronbach's alpha was 0.87. A pilot study in the same 30 mothers confirmed feasibility.
- Data collection. After permission and consent, the investigator approached eligible mothers, explained the purpose of the study, and mothers completed the proforma and questionnaire themselves in a quiet area. Responses were checked for completeness.
- Ethical considerations. Written permission was obtained from the hospital authorities and written informed

consent from every participant. Participation was voluntary, withdrawal carried no penalty, and names were not recorded. The study followed the ICMR national ethical guidelines (ICMR, 2017).

- Statistical analysis. Data were coded, entered in a spreadsheet and analysed in SPSS. Frequencies and

percentages described the sample and knowledge levels. The Pearson chi-square test assessed associations between knowledge level and each sociodemographic variable at the 0.05 significance level.

III. RESULTS

Table 1 Sociodemographic Characteristics of the Mothers (N = 100)

Variable	Category	n	%
Age (years)	21–25	52	52.0
	26–30	38	38.0
	31–35	8	8.0
	Above 35	2	2.0
Religion	Hindu	69	69.0
	Muslim	22	22.0
	Sikh	5	5.0
	Christian	4	4.0
Education	No formal education	14	14.0
	Primary	23	23.0
	Secondary	22	22.0
	Graduate and above	41	41.0
Occupation	Housewife	44	44.0
	Private employee	27	27.0
	Self-employed	21	21.0
	Government employee	8	8.0
Husband's occupation	Private employee	50	50.0
	Business	22	22.0
	Government employee	15	15.0
	Labourer/farmer	13	13.0
Monthly family income	Below ₹10,000	21	21.0
	₹10,001–20,000	40	40.0
	₹20,001–30,000	39	39.0
Type of family	Joint	47	47.0
	Nuclear	40	40.0
	Extended	11	11.0
	Single-parent	2	2.0
Residence	Rural	36	36.0
	Metropolitan	23	23.0
	Urban	21	21.0
	Semi-urban	20	20.0
Number of children	One	46	46.0
	Two	47	47.0
	Three	4	4.0
	More than three	3	3.0
Age of baby (months)	0–3	14	14.0
	4–6	50	50.0
	7–9	19	19.0
	10–12	17	17.0

Most participants were young mothers, with 52.0% aged 21-25 years and 38.0% aged 26-30 years; only 8.0% were 31-35 years and 2.0% were above 35 years. The majority were Hindu (69.0%), followed by Muslim (22.0%), Sikh (5.0%), and Christian (4.0%). Graduates and above formed the largest educational group (41.0%), followed by primary (23.0%) and secondary (22.0%) education, while 14.0% had no formal education. Housewives were the

largest occupational group (44.0%), followed by private employees (27.0%), self-employed (21.0%), and government employees (8.0%).

Half of the husbands (50.0%) were private employees, followed by those in business (22.0%), government service (15.0%), and laborers/farmers (13.0%). Regarding monthly family income, 40.0% earned ₹10,001-20,000 and 39.0%

earned ₹20,001-30,000 (79.0% combined), while 21.0% earned below ₹10,000; none earned above ₹30,000. Joint (47.0%) and nuclear (40.0%) families predominated, followed by extended (11.0%) and single-parent (2.0%) families.

Rural residents formed the largest residential group (36.0%), followed by metropolitan (23.0%), urban (21.0%),

and semi-urban (20.0%) areas. Most mothers had two children (47.0%) or one child (46.0%), together accounting for 93.0%, while 4.0% had three and 3.0% had more than three. Half of the babies (50.0%) were aged 4-6 months, followed by 7-9 months (19.0%), 10-12 months (17.0%), and 0-3 months (14.0%).

Table 2 Levels of Knowledge on Weaning Practices Among Postnatal Mothers (N=100)

Knowledge levels on Weaning Practices among Postnatal Mothers	Frequency	Percent
Poor Knowledge	8	8.0
Good Knowledge	92	92.0

Table 2 presents the frequency and percentage distribution of mothers according to their level of knowledge regarding weaning practices among postnatal mothers.

The findings show that 92 (92.0%) mothers had good knowledge regarding weaning practices, whereas 8 (8.0%) mothers had poor knowledge. No participants were reported in any intermediate or moderate knowledge category, as the classification used in the study consisted of only two levels: poor and good knowledge.

Table 3 Association Between Knowledge Level and Sociodemographic Variables (N = 100)

Variable	χ^2	df	p
Age	8.082	3	0.044
Religion	11.917	3	0.008
Educational status	4.552	3	0.208
Occupation	1.684	3	0.640
Husband's occupation	1.259	3	0.739
Monthly family income	3.071	2	0.215
Type of family	3.812	3	0.283
Place of residence	2.423	3	0.489
Number of children	5.403	3	0.145
Age of baby	1.048	3	0.790

Table 3 presents the association between the level of knowledge regarding weaning practices and selected socio-demographic variables among postnatal mothers (N = 100) using the Pearson chi-square test at the 0.05 level of significance.

The findings revealed that age was significantly associated with the level of knowledge regarding weaning practices ($\chi^2 = 8.082$, $df = 3$, $p = 0.044$). Since the p-value was less than 0.05, the association was statistically significant. This indicates that the level of knowledge regarding weaning practices differed significantly across the different age groups of postnatal mothers. Similarly, religion showed a statistically significant association with the level of knowledge ($\chi^2 = 11.917$, $df = 3$, $p = 0.008$). The p-value was less than 0.05, indicating that knowledge levels differed significantly according to the participants' religious groups.

In contrast, educational status ($\chi^2 = 4.552$, $df = 3$, $p = 0.208$), occupation ($\chi^2 = 1.684$, $df = 3$, $p = 0.640$), husband's occupation ($\chi^2 = 1.259$, $df = 3$, $p = 0.739$), and monthly family income ($\chi^2 = 3.071$, $df = 2$, $p = 0.215$) were not significantly associated with the level of knowledge regarding weaning practices. Likewise, type of family ($\chi^2 = 3.812$, $df = 3$, $p = 0.283$), place of residence ($\chi^2 = 2.423$, $df = 3$, $p = 0.489$), number of children ($\chi^2 = 5.403$, $df = 3$, $p =$

0.145), and age of the baby ($\chi^2 = 1.048$, $df = 3$, $p = 0.790$) did not show statistically significant associations with knowledge level, as their p-values were greater than 0.05. Thus, among the ten socio-demographic variables examined, only age and religion were found to have statistically significant associations with the level of knowledge regarding weaning practices, whereas the remaining eight variables did not show statistically significant associations at the 0.05 level.

IV. DISCUSSION

Ninety-two percent of the postnatal mothers in this hospital sample had good knowledge of weaning, and only eight had poor knowledge. This is likely related to the sample: four in ten mothers were graduates, most were young with one or two children, and all were in repeated contact with antenatal, postnatal and immunisation services. Even so, good knowledge should not be read as good practice. National analyses show that inappropriate complementary feeding persists among mothers who have health information, because of food insecurity, cultural belief, family pressure and limited decision-making power (Patel et al., 2012; Issaka et al., 2015; Dhami et al., 2019). In a community study in Telangana, knowledge that weaning should start at 4 to 6 months did not translate into timely

introduction (Shafee & Firdous, 2013), and hospital attendance alone did not ensure adequate knowledge in another Indian tertiary-care sample (Jabeen et al., 2022).

Age and religion were the only variables associated with knowledge. Older mothers may have had more exposure to feeding advice through previous pregnancies, and younger mothers may have had fewer opportunities to learn; maternal age has been linked to feeding behaviour elsewhere, though the direction varies by setting (Patel et al., 2012; Dhami et al., 2019). The religion finding is more likely to reflect wider cultural, social and service-access differences than a direct effect of faith, and qualitative work would be needed to explain it.

Education, income, residence and the other variables showed no association, although several earlier studies reported these as determinants of feeding behaviour (Dhami et al., 2019; Patel et al., 2012; Saaka et al., 2016). Three explanations are plausible. First, almost every mother had good knowledge, leaving little variation to detect. Second, knowledge can be acquired at no cost through counselling from anganwadi workers, ASHA workers and clinic staff, whereas dietary diversity depends on money and food availability. Third, those studies measured feeding practice rather than knowledge. The comparable knowledge of mothers across rural, semi-urban, urban and metropolitan areas may reflect the reach of national programmes and media.

V. IMPLICATIONS

Nurses in postnatal wards, immunisation clinics and paediatric outpatient departments meet mothers repeatedly in the first year and can confirm knowledge, correct misconceptions and discuss consistency, hygiene, dietary diversity and responsive feeding at each contact. Counselling should include grandmothers and other family decision-makers, particularly in joint and extended families (58.0% of this sample), and should start before the infant reaches six months. Younger mothers and mothers in groups with lower knowledge deserve extra follow-up.

VI. LIMITATIONS

- Single hospital, purposive sampling and n = 100 limit generalizability.
- Knowledge was classed into two levels only, which may hide differences between moderate and high knowledge.
- Only eight mothers had poor knowledge, so many chi-square cells likely had small expected counts; the age and religion findings (and age categories with 10 mothers above 30 years) are therefore unstable. Fisher's exact test or collapsed categories would be more reliable.
- Several categories were small (above 35 years, Sikh, Christian, single-parent families), and no family earned above ₹30,000.
- The study measured knowledge by self-report, not observed weaning practice, and responses may reflect social desirability.

- The cross-sectional design shows association, not causation.

VII. CONCLUSION

Most postnatal mothers in this teaching-hospital sample had good knowledge of weaning, and only age and religion were associated with it. A small group still lacks adequate knowledge. Because knowledge is necessary but not sufficient for optimal feeding, future studies should measure actual weaning practice and infant outcomes in larger, multi-site samples, use a knowledge scale with more than two categories, and test structured or video-assisted teaching for mothers with low knowledge.

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