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**From Discharge to Competence:
A Conceptual Review of Postnatal Care
Education, Knowledge, and Practice among
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Abstract

The postnatal period from the immediate postpartum period to six weeks postpartum is a physiologically and psychologically challenging time in the reproductive life of a woman and a time when a significant proportion of maternal and neonatal morbidity and mortality can be prevented. In spite of efforts to increase global and national funding for antenatal and intrapartum care, postnatal care has been relatively under-resourced and mothers are often discharged within 24 hours to 48 hours after birth with little formal education on newborn danger signs, breastfeeding, mental health, and family planning. This chapter is a conceptual overview of the evidence supporting the provision of structured, hospital based postnatal care education for mothers. It discusses the worldwide and regional prevalence of poor postnatal care, the variation in maternal knowledge across different areas of postnatal care, the lack of knowledge that mothers have of the care they receive, and the evidence supporting structured educational interventions around the time of discharge. The chapter focuses especially on the Kerala context, where relatively good health indicators are accompanied by low levels of formalised, non-standardised post-natal education and where a significant level of psychological distress during the post-natal period can be measured, and places this evidence within a planned programme of post-natal care education research conducted in the district hospitals of Kollam. The conceptual basis used for structuring the programme of postnatal care education is that of General System Theory, conceptualizing the programme as a system of input (the mother and her socio-demographic context), throughput (structured, multi-domain education) and output (improved knowledge and practice), supported by an ongoing feedback process. The chapter concludes that postnatal education must be structured, multi-domain and reinforced through multiple encounters beyond the hospital stay, and includes implications for nursing practice, nursing education, and health policy and a case for rigorously evaluated, comprehensive postnatal education programmes of the kind proposed for Kollam district.

Keywords: Postnatal Care, Postpartum Education, Maternal Knowledge, Maternal Practice, Structured Teaching Programme, Nursing Intervention.

Introduction

Women play a pivotal role in the health of families and communities, and this is most clearly seen during the pre-conception, antepartum and postpartum periods. Postnatal period (puerperium) starts from the moment of delivery and lasts for about six weeks as the mother's body realigns to its physiological and psychological needs and her new-born baby learns to adjust to life outside the womb. This is a critical time for initiation of breastfeeding, recovery from birth and prevention of complications to the mother and infant, and yet it remains significantly under-studied and under-researched compared to the antepartum and intrapartum period preceding it

This imbalance is not theoretical; it has real implications! An estimated high percentage of maternal and neonatal deaths happen during the first days and weeks after childbirth — the time when PNC should be working (World Health Organization, 2022). Meanwhile, the post-natal care services in many places continue to be lacking in consistency, are under resourced, are poorly standardised, and mothers are often discharged home within a day or two of birth with only informal verbal advice.

This chapter provides a conceptual overview of the evidence for structured education for postnatal care, consolidating the literature pertaining to the global and regional burden of poor postnatal care, the nature of maternal knowledge and practice in the main areas of postnatal care, and the evidence for structured education delivered around the time of discharge. It focuses particularly on Kerala and on Kollam district in particular as the context for a programme of research in the field of postnatal care education which is planned to be carried out, and it suggests the General System Theory as a framework for conceptualizing the operation of such a programme.

The Postnatal Period: Physiological, Psychological and Public Health Significance

Postnatal is not a recuperation time but an active period of change for two individuals simultaneously. For the mother, it means uterine involution, return to a stable hormonal state, and establishment of lactation and psychological adaptation to a new identity and responsibilities. For the newborn, it means the shift to self-regulated breathing, thermoregulation, feeding, and early development of immunity—a large part of which is in response to maternal care.

As both happen at once, and they depend on each other, the postnatal period is a particularly vulnerable time of sensitivity to the quality of care and information a mother receives. When a mom has no idea where to put her baby for breastfeeding, or doesn't know the signs of a sick baby, or doesn't listen to her own alarms of a problem, she and her baby are needlessly in danger. Motherhood itself is another major life transition and during the post natal period, a woman's confidence in her ability to care for others is tested and developed for the first time (United

Nations Population Fund, 2020). Postnatal care, well delivered, is thus not only a clinical undertaking, it is also a chance to develop knowledge, skill and confidence which the mother will need for months after the birth.

Persistent Gaps in Post Natal Care; Global and Regional Burden

International evidence suggests that coverage and quality of postnatal care are less consistent than in some countries, despite the improvements in coverage and quality of antenatal and delivery care. While Kenya has a relatively high proportion of births taking place in a facility, the proportion of women receiving all the recommended components of post-natal care was only 39%, and this was lower for women who gave birth in private facilities or in some regions (Nuwabaine et al., 2024). This is important as it shows that a facility delivery is not, in itself, sufficient to ensure good levels of postnatal care; what actually happens before leaving the facility is of independent importance.

A prospective cohort study of women and infants in southwestern Uganda found that a statistically significant proportion of women and infants were readmitted or died within six weeks following discharge and explicitly attributed this to low levels of postnatal care contact after discharge (Pillay et al., 2024). These complications and readmissions often can be avoided if mothers can learn to identify signs early on and understand where and when to seek assistance.

The longer term implications support this image. A large systematic review in The Lancet Global Health identified that complications of childbirth that persist beyond the immediate postpartum period, such as pelvic floor disorders, chronic pain, sexual dysfunction and mental health disorders, are more prevalent and longer-lasting than is typically recognised in clinical practice and/or public health planning, and are often not screened for or managed during standard postpartum follow-up (Vogel et al., 2024). All this evidence suggests that the postnatal period is indeed a 'blind spot' in maternal and newborn health services, but not a problem that is limited to any single country or health system.

Comprehensive Postnatal Care Consists of the Following Components

Postnatal care is so much more than one clinical examination before leaving hospital. The World Health Organization's (WHO) latest guidance on a positive postnatal experience outlines a schedule of postnatal contacts and care content, which includes assessment and recovery of the mother, support with breastfeeding, newborn assessment and care, danger sign counselling, nutrition, hygiene, immunisation guidance, family planning, and psychological well-being of the mother (World Health Organization, 2022).

This content cannot be detached from it being well delivered; a checklist of topics discussed once during a busy ward round is far less than structured teaching in which the mother is given the chance to ask questions and practise a skill and to

which the presenter explains and demonstrates. There is evidence later in this chapter to suggest that it is not only the content of postnatal education that has a significant impact on the retention and application of information given, but also the way and the structure in which information is provided. This distinction is between postnatal care as a list of topics covered and postnatal care as a structured educational process and is at the heart of the argument for multi-domain education programmes in this chapter.

An Inequal Maternal Knowledge of Postnatal Care

The evidence regarding mothers' knowledge of postnatal care is also consistent in revealing that mothers know a lot of information about the most visible and more widely promoted aspects of care while they know less information about equally important and less prominent aspects.

Decades of public health promotion have led to generally high levels of knowledge about breastfeeding. A study on recently delivered mothers in which breastfeeding knowledge was assessed revealed that though the mothers had generally good breastfeeding knowledge, there were some areas where it was not correct, and there was a lack of alignment between the knowledge and practice in some areas, such as positioning and managing common challenges (Srivastava et al., 2024). However, knowledge of newborn danger signs is significantly poorer and less uniform. The great majority of mothers were able to recognize at least one danger sign, including fever, but less-known, but equally serious signs, such as nasal flaring, grunting, and jaundice, were virtually unknown, and chest indrawing and feeding difficulties were recognized by only around a third of mothers, according to the findings of a cross-sectional study conducted among mothers in a rural area of Lucknow, Uttar Pradesh (Pathak et al., 2021).

This "knowledge about familiar and highly marketed topics, and limited knowledge about less well-known but clinically relevant topics" is one of the most apparent and consistent findings in the postnatal care literature and has direct implications for the design of education programmes. The relatively small amount of structured time spent on danger-sign recognition, mental health and family planning compared with the amount spent on the general importance of breastfeeding will leave mothers under-prepared precisely where the evidence indicates they are least prepared.

Maternal Practices and the Knowledge–Practice Gap

Knowledge and practice are different and the postnatal care literature shows mother's who can correctly answer a knowledge question do not necessarily engage consistently in home practice. The literature on breastfeeding tells us this—knowledge of the benefits of breastfeeding and general knowledge about breastfeeding is quite high, but positioning, attachment, and dealing with common

problems like engorgement or pain are not necessarily, or even often, as correct; determinants of breastfeeding practices are not just knowledge, but include family support, workload, experience, etc. (Srivastava et al., 2024).

A number of arguments for this knowledge–practice gap have been repeated throughout the literature. One-off verbal advice is easily forgotten when mothers are taking care of a baby with no professional support or advice. Some skills like proper breast attachment, cord care, and/or positioning the infant for KMC to the mother's skin are skills that are hard to master by verbal instruction alone and gain a lot from demonstration and supervised return demonstration. Family and household pressures at home are other factors that can affect the recommended practices even if a mother understands and wants to adhere to them, especially if the postnatal advice is in conflict with family or cultural practice. For programme design, the implication is that postnatal education is not just an information transfer exercise, but a skill building process that needs to be done with sufficient opportunity for practical application prior to leaving hospital and reinforced afterwards.

Effectiveness of Structured Postnatal Care Education Programmes: Evidence Review

A body of intervention research supports the effectiveness of structured postnatal education relative to routine, unstructured advice. A randomised controlled trial of a postnatal psychoeducation programme for first-time mothers found that participants who received the structured programme showed significantly greater maternal self-efficacy and social support, and lower postnatal depressive symptoms, compared with mothers who received routine care alone (Shorey et al., 2015). This trial is particularly relevant to the present chapter because it demonstrates that structured education can improve not only factual knowledge but psychological outcomes and a mother's confidence in her own caregiving competence — outcomes that are difficult to achieve through informal, verbal advice alone.

More broadly, the recurring features of effective postnatal education programmes across the literature include structure and defined content, delivery close to the time it will be needed rather than only once at the point of admission, some element of demonstration or hands-on practice rather than verbal instruction alone, and printed or take-home material that a mother can refer back to once she is at home and no longer in daily contact with nursing staff. Programmes combining several of these features consistently outperform routine ward-based advice in the outcomes measured, whether those outcomes are knowledge scores, practice measures, or psychological indicators such as self-efficacy and depressive symptoms.

The Kerala and Kollam District Context: A Closer Look at a Favourable but Uneven System

Kerala is frequently cited as a model of strong maternal and child health performance within India, with near-universal institutional delivery, high female literacy, and comparatively favourable maternal and infant mortality indicators. These strengths, however, do not automatically extend to the postnatal period, and Kerala-specific evidence indicates that meaningful gaps remain even within this generally favourable system.

A cross-sectional study in Ernakulam district found a postnatal depression prevalence of 20% among postpartum women, with prenatal stress, loneliness, and socio-economic marginalisation identified as significant risk factors (Abraham et al., 2024). A separate study at a Kerala maternity hospital found a comparable burden of depressive symptoms among postpartum mothers, alongside modifiable contributing factors such as inadequate practical support during recovery and marital conflict — factors that routine postnatal ward care rarely addresses directly (Kuriakose et al., 2020). Together, these findings indicate that Kerala's strong structural indicators — high literacy, high institutional delivery — coexist with a psychological and educational dimension of postnatal care that remains comparatively neglected.

Consistent with this pattern, mothers in Kerala, including in Kollam district, commonly report that postnatal education during their hospital stay is verbal, brief, and inconsistent across staff and shifts, rather than structured and standardised. No published intervention study appears to have systematically evaluated a comprehensive, multi-domain postnatal education programme — covering physical recovery, breastfeeding, newborn danger signs, maternal mental health, and family planning together, rather than as isolated topics — specifically within Kollam district hospitals. This is the gap the planned programme of research introduced in this chapter is intended to address, using Kerala's already-strong institutional delivery infrastructure as the platform on which more structured postnatal education can be built, rather than requiring an entirely new system of care.

Theoretical Foundation: General System Theory Applied to Postnatal Education

A system is considered to be anything that is engaged in purposeful activity and includes input, throughput (or process), output and feedback, where the output of the system influences the input and process of the system (Ludwig von Bertalanffy's General System Theory, 1968). This framework is appropriate for postnatal care education, as it recognizes that education is not a one-off event but one that is continually evolving and self-revising; and because it considers mothers' characteristics, as well as the content of education.

Of the variables included in the application of the framework in this chapter, inputs are postal mothers themselves and the socio-demographic and contextual features they bring with them such as age, educational status, occupation, family type, place of residence, family income, parity, mode of delivery, type of hospital, prior exposure to postnatal care education, usual source of health information and the support system available at home. The structured postnatal care education programme itself is 'Throughput' – education on physical recovery and personal hygiene, breastfeeding technique and support, newborn care and danger-sign recognition, maternal mental health and emotional well-being, and family planning and follow-up care, supplemented with personalized guidance and a print information booklet for the mother to keep. Output is the resulting change in knowledge and practice (measured by pre-test and post-test knowledge/practice scores in an evaluation of such a programme) and broader gains in maternal awareness and confidence.

This is unique about the framework, as it creates a feedback loop, and that is why it is not a simple linear teaching model. Feedback enables the throughput process to be adjusted for future mothers (or reinforced with the same mother at a follow-up contact) instead of a single teaching session being a closed intervention. This is illustrated, using a hospital based postnatal care education programme, in figure 1.

Figure 1. General System Theory applied to the postnatal care education programme

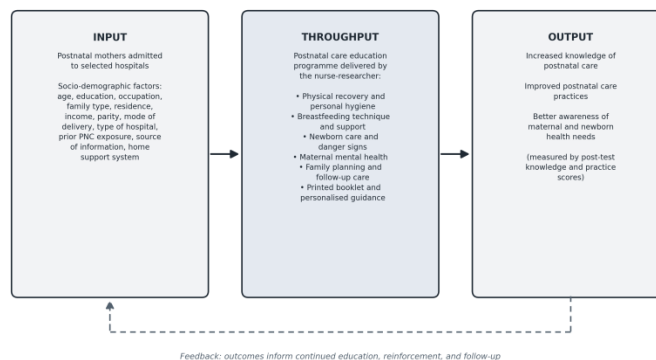


Figure 1: General System Theory applied to the postnatal care education programme

Towards a Structured, Multi-Domain Postnatal Care Education Model

Drawing together the evidence reviewed in this chapter, a structured postnatal care education programme should treat each major content domain as requiring deliberate, planned attention, rather than assuming that time spent on one domain, such as breastfeeding, will generalise to others, such as danger-sign

recognition or family planning. Table 1 summarises five core domains, the teaching content each domain should cover, and the evidence gap the literature suggests is most common in routine, unstructured postnatal care.

Table 1: Core content domains for structured postnatal care education and common evidence gaps in routine care

Content Domain	Core Teaching Content	Illustrative Evidence Gap
Physical recovery and hygiene	Perineal or wound care, lochia, rest, nutrition, resumption of activity	Often taught verbally and inconsistently across shifts
Breastfeeding	Positioning and attachment, frequency, common difficulties, expressing milk	Generally well known, but practice-level difficulties persist
Newborn care and danger signs	Cord care, thermal care, danger-sign recognition, immunization schedule	Less visible danger signs frequently unrecognised
Maternal mental health	Emotional changes, screening for low mood, when and how to seek help	Rarely covered systematically at discharge
Family planning and follow-up	Birth spacing options, resumption of fertility, scheduled follow-up visits	Often deferred to a later, poorly attended visit

Structuring education around these five domains, rather than leaving content to the discretion of whichever staff member is available at a given moment, is consistent with the throughput component of the General System Theory framework described above: a defined, repeatable process is more likely to produce a consistent output across mothers than an unstructured one. Equally important is reinforcement beyond the hospital stay itself; because much of a mother's actual caregiving occurs after discharge, a programme limited to the ward period, however well structured, addresses only the earliest part of the postnatal period it is meant to serve.

Implications for Nursing Practice, Education, and Policy

For nursing practice, the evidence reviewed in this chapter supports moving away from ad hoc, verbally delivered postnatal advice and toward a standardised, multi-domain teaching protocol applied consistently across postnatal wards, incorporating demonstration and supervised practice for hands-on skills such as breastfeeding attachment and newborn handling, and including explicit content on maternal mental health and family planning alongside the more familiar topics of physical recovery and breastfeeding.

For nursing education, curricula preparing nurses and midwives for maternal and newborn care should treat postnatal education as a distinct clinical competency in its own right, with its own teaching methods, materials, and evaluation, rather than

as an informal extension of general communication skill delivered incidentally during other tasks. Simulation and structured practice in delivering postnatal education, including practice explaining danger signs and family planning options in plain language, can strengthen this competency before nurses encounter it in live clinical settings.

For policy, given Kerala's already strong institutional delivery coverage, comparatively modest additional investment in standardising postnatal education content, providing printed take-home material, and organising follow-up contact within the first weeks after discharge could meaningfully close the gap this chapter has identified, without requiring large new infrastructure. Any such programme, including the one proposed for Kollam district, should be evaluated rigorously, with clearly defined pre-test and post-test measures of both knowledge and practice, so that its effectiveness — not only its plausibility — can be established.

Conclusion

The postnatal period remains a comparatively neglected phase of maternal and newborn health care, both globally and within otherwise well-performing health systems such as Kerala's. The evidence reviewed in this chapter indicates that maternal knowledge of postnatal care is uneven across domains, that knowledge does not automatically translate into consistent home practice, and that structured, multi-domain educational programmes — delivered with demonstration and reinforcement, not verbal advice alone — can measurably improve both knowledge and practice, and can extend to psychological outcomes such as maternal self-efficacy and depressive symptoms.

General System Theory offers a useful way of conceptualising such a programme: as a system in which the mother's own characteristics form the input, structured multi-domain teaching forms the throughput, and improved knowledge, practice, and awareness form the output, with feedback sustaining and refining the process over time rather than treating it as a single, closed encounter.

The planned postnatal care education programme for mothers in selected hospitals in Kollam district, Kerala, is directly informed by this evidence base. By addressing physical recovery, breastfeeding, newborn danger signs, maternal mental health, and family planning together, within a structured and evaluable format, such a programme is well positioned to close a gap that current evidence suggests remains open even in a health system with Kerala's overall strengths — helping ensure that mothers are not only informed at the point of discharge, but genuinely prepared for the weeks of caregiving that follow it.

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