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Low birth weight and preterm infants nursing care: An updated review

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***Abstract*---Background**: Low birth weight (LBW) and preterm infants face significant challenges due to their underdeveloped systems. These fragile infants require specialized nursing care to optimize their outcomes, yet the literature lacks high-quality, evidence-based guidelines for their management. This review highlights the nursing interventions crucial for supporting extremely low gestational age infants, emphasizing family-integrated care (FICare) and optimal environmental management. **Aim**: The purpose of this review is to synthesize current evidence and provide updated recommendations for nursing care in LBW and preterm infants, focusing on family involvement, skin barrier management, temperature regulation, and minimizing pain and stress. **Methods**: This mini-review synthesizes existing literature on the nursing management of preterm and LBW infants. It includes studies on family-integrated care, skin barrier function, heat and humidity management, pain minimization, and routine caregiving interventions. Key themes were identified, and evidence supporting clinical practices was examined to provide updated care recommendations. **Results**: Family-integrated care (FICare) was found to significantly improve infant outcomes by enhancing parental involvement, promoting early skin-to-skin contact, and fostering shared decision-making. Skin barrier management, including minimizing insensible water loss (IWL) through environmental control such as incubator humidification, was shown to be critical for reducing fluid loss and supporting skin integrity. Temperature regulation through the use of radiant warmers and incubators was identified as essential to prevent hypothermia, especially in extremely preterm infants. Pain and stress minimization strategies, such as clustering care and minimizing painful procedures, were found to improve neurodevelopmental outcomes. **Conclusion**: Nursing care for LBW and preterm infants requires a multifaceted approach that involves family-centered care, precise environmental controls, and pain management. Interventions such as FICare, careful temperature regulation, and minimizing invasive procedures can significantly improve infant health outcomes. Further research is needed to solidify these interventions with robust clinical evidence to standardize care across neonatal intensive care units (NICUs).

***Keywords*---**Low birth weight, preterm infants, nursing care, family-integrated care, skin barrier management, temperature regulation, pain management, neonatal care.

Introduction

At the earliest gestational stages, an increasing number of mother-infant pairs are receiving care aimed at achieving optimal outcomes [[1], [2], [3]], with numerous institutions consistently reporting survival rates exceeding 50% for live-born infants, even at 22 weeks of gestation [[4], [5], [6], [7]]. While the challenges of providing care for these fragile and vulnerable infants, along with their families, are evident, there is a notable absence of knowledge derived from high-quality trials in this population. This gap significantly limits the potential to establish an evidence-based framework from which management strategies can evolve and be fine-tuned to meet the specific needs of individual patients. As a result, practices vary considerably, even among centers with similar (and relatively favorable) outcomes [8], and the best outcomes to date likely stem from an indistinct combination of attitude, commitment, and experience [9]. Such experience largely depends on locally developed regimens, honed over time, which sometimes involve extrapolation from slightly larger and more mature infants. The nursing aspects of care for these infants are intricately linked with medical treatments and procedures, and the specifics of bedside nursing likely influence outcomes at least as much as the medical management. Numerous examples illustrate how quality improvement initiatives in nursing routines (e.g., management of intravenous lines) have led to significant improvements in care quality (e.g., reduced rates of late-onset sepsis) and patient outcomes. This mini-review aims to highlight crucial areas of nursing management that are considered critical for the care of infants born at extremely low gestational ages.

Family Integrated Care (FICare): Parental Involvement, Non-Restricted Access, and Shared Decision-Making:

It is well-established that preterm birth and/or the subsequent hospitalization [10], as well as the physical separation from the infant, induce stress and anxiety in parents, and experimental evidence suggests that the separation itself is also a source of stress for the infant [11]. The concept of family-centered/integrated care [12] is designed to promote skin-to-skin contact, involve parents in decision-making, and provide both educational and psychological support. By emphasizing the role of parents as their infant’s primary caregivers [13], FICare encourages parental involvement from birth or admission through to discharge, and even beyond. Parents are entrusted with various caregiving tasks, such as monitoring vital signs, tube feeding, and diaper changes, which, together with measures like minimizing painful procedures and exclusively providing breast milk, help create a "healing" environment [14]. A fundamental aspect of this concept is to avoid separating parents from their newborn, with every effort made to establish skin-to-skin contact as early as possible, ideally within the delivery room [15]. While the NICU staff assumes a supervisory and supportive role, they retain medical responsibility and oversight. Both the staff and the design of the NICU environment play crucial roles in enabling and encouraging parents to actively participate in their infant’s care. For instance, studies have shown that the presence of a parental bed next to each infant's care space promotes more frequent and earlier bedside participation by parents, compared to when care spaces are equipped with an armchair [16]. Other factors, such as visitation policies, are also essential in fostering parental involvement [17]. Parents should

be included in all relevant decision-making processes regarding their infant, including participation in medical rounds, staff handovers, and care planning meetings [18]. Research suggests that FICare can enhance infant weight gain and breastfeeding rates, alleviate parental stress and anxiety, reduce length of stay, and lower rates of nosocomial infections and re-hospitalization [19].

The Infant-Environmental Interface:
Skin Barrier Function and Insensible Water Loss (IWL):

The barrier properties of the epidermis are contingent upon the integrity of the stratum corneum, which begins to form a thin keratin layer (only a few microns in thickness) around 20-24 weeks of gestation [20]. However, this layer remains largely non-functional during this period [21]. In contrast, the skin of a 30-week fetus exhibits greater structural maturity, sharing several characteristics with the skin of a term infant, albeit still fragile. Correspondingly, skin barrier function varies between these gestational ages, ranging from nearly absent to approaching competence, which holds significant clinical implications. Firstly, the rate of water loss through the skin is inversely related to gestational age at birth, with neonates born at 22 weeks gestation experiencing significantly higher IWL compared to those born just a few weeks later [22]. Secondly, the lack of barrier integrity poses substantial risks for percutaneous absorption of harmful substances, microbial invasion, further barrier disruption, and discomfort or pain [23]. Fortunately, immature skin begins to respond to the relatively dry extrauterine environment. As with any barrier disruption (e.g., skin abrasions or wounds), increased transepidermal water flux serves as a primary signal for epidermal proliferation and subsequent keratinization [24]. A few days post-extremely preterm birth, this hyperproliferation often results in the skin appearing scaly and cracked, a condition colloquially referred to as "skin breakdown." This process, while often prompting various unproven treatments, is, in fact, part of a misinterpreted developmental phase. The skin's proliferative response enhances barrier function at a faster rate than fetal skin formation in utero [22]. In fact, extremely preterm infants often experience a reduction in IWL by 30-50% within the first week of life [21].

IWL in Relation to Ambient Relative Humidity (RH):

The extent of water loss from the skin is inversely proportional to the vapor pressure of the microenvironment surrounding the skin. This relationship has been well-documented in neonatal studies, with direct measurements of evaporation [21] and estimations based on fluid intake, weight changes, and urine output [25]. These findings suggest that IWL can be effectively managed through incubator humidification. By increasing the vapor content of the ambient air in modern neonatal incubators to high RH levels (>80%), IWL can be reduced to levels comparable to that of a more mature infant (approximately 3-4 weeks older) housed at medium RH (40-50%). This adjustment helps reduce fluid requirements and simplifies overall management. Furthermore, because evaporation leads to heat loss, maintaining high humidity in the incubator also minimizes heat loss, provided the care environment remains undisturbed [26].

Routes of Heat Exchange and Choice of Care Environment:

Heat exchange between the infant and its environment primarily occurs through the skin, with respiratory losses being negligible when heated and humidified gas is used. A fundamental understanding of the four modes of heat exchange—convection, radiation, conduction, and evaporation—allows for optimal tailoring of the care environment to meet the specific clinical needs of extremely preterm infants. The general features of different care environments and their recommended use can be described as follows. For initial management in the delivery room, a radiant warmer is essential due to the rapid heat loss from the infant's wet skin, which can result in hypothermia. Immediately placing the infant in a plastic bag to reduce convective and evaporative heat loss, or on the mother's chest for conductive heat gain, or under a radiant warmer for radiative heat gain, can help prevent hypothermia [27]. Upon NICU admission, for procedures like umbilical catheter placement or X-rays, either radiant warmers or closed incubators are reasonable options. Although it might seem beneficial to care for the smallest infants in high RH environments exclusively through the use of humidified closed incubators, these incubators present practical challenges, including limited access for both parents and staff, as well as poor visibility, which can contribute to microbial growth due to condensation (i.e., "rain-out"). In cases where frequent nursing interventions disrupt the care environment and result in thermal instability, radiant warmers have been shown to maintain fluid homeostasis more effectively for this group of infants [6,28]. Furthermore, studies suggest that the skin barrier develops more quickly in extremely preterm infants in lower ambient RH conditions [29]. As postnatal age and thermal stability increase, the level of humidification can be reduced, and care outside the incubator or radiant warmer can be promoted.

Temperature Monitoring:

Rectal temperature measurements are not reliably indicative of core body temperature and carry associated risks, including discomfort and potential trauma to the rectal mucosa, thus their use should be avoided. A combined feeding tube and thermometer system is considered an optimal solution for accurately monitoring body temperature and for controlling heat delivery in neonatal care. Such systems should be widely available within neonatal care settings. Body temperature can also be inferred from measurements taken at the body surface. By insulating the measurement probe, a "zero-heat-flux" condition is established between the core of the body and the probe, which enables an estimation of the central body temperature. Trunk skin temperature measurements, such as those taken from the back to mattress or abdomen to insulated pad, rely on this principle and provide readings closely resembling core body temperature. Similarly, axillary temperature, using the same zero-heat-flux principle with insulation provided by the arm or shoulder, can serve as a proxy for core temperature when intermittent measurements are deemed adequate. However, this method is occasionally associated with discomfort and may differ from esophageal temperature readings. While the normal range for central body temperature in infants is considered to be between 36.5–37.5 °C, this range is applicable even for preterm infants, it is evident that some infants within this range may still experience cold stress, characterized by an elevated metabolic rate

due to thermogenesis. In line with fetal thermal equilibrium and to minimize the risk of cold stress, slightly higher core temperatures should be targeted for preterm infants.

Nursing Care Recommendations:
Minimizing Pain and Stress:

The first 14 days of life represent the period of greatest exposure to pain and stress, particularly in extremely immature infants, which has been associated with suboptimal brain development and poorer long-term neurodevelopmental outcomes [30]. Given the high sensory load these infants experience during such a vulnerable period, interventions designed to create a less harmful environment should intuitively offer positive outcomes, though evidence for such benefits remains inconclusive [32]. Additionally, from a humane perspective, every effort should be made to minimize noxious stimuli and environmental stress, and to critically evaluate existing care routines such as the frequency of procedures, blood sampling, and other care intervals [33].

Care Planning, Handling, and Positioning:

Even routine caregiving tasks, such as diaper changes, are associated with fluctuations in cerebral circulation [34] and cardiovascular instability [35], particularly when combined with disruptions to sleep patterns [36]. Grouping care activities together has been suggested to promote neurodevelopment by allowing longer periods of uninterrupted rest [37]. However, bundling complex caregiving tasks may result in more pronounced hemodynamic changes [34, 35] and should be halted if the infant shows signs of distress or instability. In practice, an interval of 4–6 hours between care activities is a reasonable compromise that balances the need for routine caregiving and monitoring with the requirement for undisturbed sleep. Vital signs can generally be monitored visually in most clinical situations. Many neonatal centers have implemented "IVH prevention-bundles" aimed at reducing the risk of intraventricular hemorrhage during the early days of life. These bundles universally include the strict positioning of the infant's head in a midline position, although solid evidence supporting this practice is limited [39]. Some studies support the use of a flexed positioning approach, such as placing the infant in a nest [40], with caregiving performed by two persons, ideally including a parent, who can provide comfort and assist with positioning [41].

Skin Care:

Nurses who care for extremely preterm infants often report a range of skin-related injuries, including those caused by adhesives, friction, pressure sites, perineal skin breakdown, chemical burns from antiseptic solutions, and diaper dermatitis [42]. While the evidence regarding the most effective prevention and management strategies for these injuries is weak or inconclusive, several well-supported recommendations can be made.

Adhesive Use:

The use of adhesives and their subsequent removal carries the risk of skin stripping, and as such, their application should be minimized. When adhesives are necessary, silicone adhesives are preferable to acrylate-based ones, as they tend to cause less damage to the skin [43]. Removal of adhesives should be performed gently, by pulling in a horizontal plane after moistening the adhesive. Adhesive removers, such as mineral or petrolatum oils, or silicone-based wipes, offer convenience and effectively reduce adhesion. However, these products have not been extensively evaluated for safety, and their use should be highly restricted during the first 1–2 weeks after birth. Silicone and hydrocolloid-based dressings should ideally be placed beneath tapes to prevent pressure trauma from devices such as endotracheal and nasogastric tubes. Polyurethane adhesives, commonly found in transparent dressings, are non-occlusive, allowing for skin inspection while providing coverage.

Wound Management:

In the event of an injury, conservative management is supported by evidence, involving saline cleansing and dry care. Antiseptic skin cleansers, which can delay the healing process, are best avoided unless signs of infection are present [44]. While topical emollients are frequently used in neonatal care, their benefit for extremely preterm infants remains unproven [45]. For skin disinfection prior to the insertion of vascular access devices, there is evidence supporting the use of 2% chlorhexidine gluconate over 0.5% chlorhexidine gluconate in 70% alcohol, as it is associated with fewer skin lesions and similar rates of central-line-associated bloodstream infections [46, 47]. There is general consensus that skin-to-skin care (SSC) provides the optimal environment for newborns, particularly for preterm infants. However, in extremely preterm infants, some experts argue that SSC should be delayed in the early days of life due to a perceived increased risk of intraventricular hemorrhage (IVH) [38], though no specific studies have yet addressed this concern. While challenges exist in introducing SSC during the first days of life, existing studies support the safe introduction of SSC by the end of the first week, even for the smallest infants, and confirm that normal body temperature can be maintained during the procedure [48, 49]. A standardized SSC method for transferring infants from incubators, including proper positioning, coverage, and a minimum duration of 2 hours, has been previously proposed [50]. After the second week of life, maintaining thermal homeostasis becomes easier (authors' unpublished data), and SSC should generally be unrestricted from that point onward.

Agenda for Nursing Research and Quality Improvement:

After birth, extremely preterm infants are exposed to a range of stimuli vastly different from those encountered in the womb, and their maturation, development, and growth must occur in the context of an intensive care unit environment. Achieving optimal outcomes requires the development of standardized nursing protocols that integrate with medical management and focus on minimizing harm while promoting parental involvement. Based on our experience, every aspect of nursing care needs to be meticulously tailored and

taught to the nursing staff to minimize the number of interventions and care activities. While non-invasive methods like skin-to-skin care are likely beneficial for extremely preterm infants, the best practices regarding timing, positioning, care space organization, and staff ergonomics remain undefined. Additionally, there is limited knowledge on the most effective approaches to caring for immature skin to maintain barrier integrity. Until evidence from clinical trials is available, a conservative approach to the use of skin ointments, dressings, and adhesive removers appears prudent. Given the challenges of conducting randomized controlled trials in this relatively small population, the sharing of experiences and comparison of care strategies across centers is expected to provide valuable insights that could significantly improve outcomes for these infants.

Other Nursing Interventions for Extremely Preterm Infants

Nursing interventions for extremely preterm infants require a multifaceted, evidence-based approach to ensure their survival and support their growth and development in the neonatal intensive care unit (NICU). These interventions must be tailored to meet the unique needs of preterm infants who face a higher risk of complications due to their immature organ systems, particularly their respiratory, cardiovascular, and neurological functions. Effective nursing care strategies are critical to optimizing outcomes, minimizing harm, and supporting the infant's transition from the neonatal period into early childhood.

Respiratory Support and Monitoring

Respiratory care is one of the most critical aspects of nursing intervention for extremely preterm infants. Due to their underdeveloped lungs, these infants are at risk of respiratory distress syndrome (RDS) and require various forms of respiratory support. The administration of exogenous surfactant is a key intervention to improve lung compliance and reduce the risk of RDS. Nurses play an essential role in the administration of surfactant therapy and the management of mechanical ventilation, continuous positive airway pressure (CPAP), and high-frequency ventilation. Monitoring oxygenation and ensuring appropriate ventilation settings are crucial, as excessive oxygen can lead to retinopathy of prematurity (ROP), while inadequate oxygenation can result in tissue hypoxia and organ damage. Nurses are also responsible for assessing the infant's respiratory status, monitoring vital signs, and interpreting clinical data to ensure timely interventions. Use of pulse oximetry and capnography provides continuous feedback on the infant's respiratory function, helping to detect early signs of oxygen desaturation or respiratory distress. Regular assessment of arterial blood gases (ABGs) and chest X-rays allows nurses to evaluate the effectiveness of respiratory interventions and adjust treatment as needed.

Thermoregulation

Maintaining a normal body temperature is another fundamental nursing intervention for extremely preterm infants. These infants are highly vulnerable to temperature instability due to their limited subcutaneous fat, large body surface area relative to weight, and immature thermoregulatory control. Hypothermia can

lead to increased metabolic demands and further compromise organ function, while hyperthermia can exacerbate cellular damage. Nurses must employ strategies such as skin-to-skin care (SSC), use of incubators or radiant warmers, and monitoring of body temperature through appropriate means, such as rectal, axillary, or skin probes. The use of a "zero-heat-flux" probe is recommended for non-invasive temperature monitoring, which provides reliable estimations of core temperature. Nurses must continuously assess the infant's thermal status and adjust the environmental conditions, such as the incubator temperature or humidity, to prevent fluctuations that could cause harm. Additionally, during any procedures or transfers, nurses must ensure that the infant is adequately insulated to avoid temperature loss.

Nutritional Support

Nutritional support is critical for the growth and development of extremely preterm infants, who are unable to consume adequate quantities of breast milk or formula by mouth. Due to their immature digestive systems, they often require parenteral nutrition (PN) in the initial stages of life. Nurses are responsible for the careful preparation and administration of PN, ensuring the correct mixture of fluids, electrolytes, and macronutrients, as well as monitoring for complications such as sepsis or electrolyte imbalances. As the infant's gastrointestinal function matures, enteral nutrition via nasogastric (NG) tubes or orogastric (OG) tubes is introduced. Nurses monitor the infant's tolerance to feeding, adjusting the volume and rate of enteral feedings based on the infant's gastrointestinal status and tolerance. Breastfeeding is highly encouraged as it provides the ideal nutrition for pre-time infants, offering immunological protection, promoting neurodevelopment, and reducing the risk of infections. However, due to challenges in initiating breastfeeding, nurses support the mother with lactation, providing guidance on expressing breast milk and helping with feeding techniques. In cases where direct breastfeeding is not feasible, expressed breast milk can be administered via NG or OG tubes.

Neurological and Sensory Care

The neurological development of extremely preterm infants is particularly vulnerable during their stay in the NICU. Studies have shown that painful stimuli, frequent disruptions to sleep, and environmental stressors can negatively affect brain growth and long-term neurodevelopment. Nurses play an essential role in minimizing sensory overload, pain, and stress during the NICU stay. This involves the careful handling and positioning of infants, limiting exposure to bright lights and loud noises, and ensuring that the infant is in a comfortable, safe, and calming environment. Pain management is particularly important in this population, as preterm infants may have an underdeveloped pain response, leading to the potential underestimation of discomfort. Nurses must be vigilant in assessing for signs of pain and intervening with appropriate analgesics or non-pharmacological methods, such as non-nutritive sucking or gentle touch. Routine procedures, including heel sticks and blood sampling, should be minimized when possible, and when necessary, should be performed with the utmost care and the use of analgesia to reduce the potential for pain or distress.

Infection Prevention and Control

Infection prevention is critical in the care of extremely preterm infants, as their immune systems are immature and unable to effectively fight off infections. Nurses must adhere to strict infection control protocols, including the use of sterile techniques during invasive procedures, such as central line insertion, endotracheal intubation, and venipuncture. Hand hygiene is one of the most effective strategies for preventing nosocomial infections and should be emphasized as part of the hospital's infection control practices. Nurses must also be vigilant in monitoring for early signs of infection, including temperature changes, respiratory distress, feeding intolerance, and changes in behavior. Sepsis is a major concern in preterm infants, and nursing staff must ensure the timely initiation of antibiotic therapy when an infection is suspected. The use of prophylactic antibiotics may be indicated in certain situations, such as for infants who are at high risk for developing neonatal sepsis. Furthermore, nurses are responsible for monitoring laboratory values, such as white blood cell counts, C-reactive protein, and blood cultures, to track the presence of infection and guide treatment decisions.

Family Support and Education

The care of extremely preterm infants is not only about medical interventions but also involves emotional and psychological support for the families. Nurses must provide parents with clear, concise, and compassionate information about the infant's condition, treatment plan, and potential outcomes. Family-centered care should be a core principle of nursing practice, ensuring that parents are involved in decision-making and included in the infant's care, when possible. Nurses should provide emotional support to parents, offering counseling and connecting them with resources, such as social work or chaplain services, to help cope with the stress and uncertainty of having an infant in the NICU. The encouragement of parent-infant bonding through SSC, touch, and involvement in care activities is essential in fostering the parent-infant relationship. Nurses should provide guidance and reassurance to parents as they learn how to care for their infant, particularly in terms of feeding, diapering, and providing comfort measures. This holistic approach not only improves infant outcomes but also supports the overall well-being of the family during a challenging time. In conclusion, nursing interventions for extremely preterm infants are integral to improving survival rates, minimizing complications, and supporting healthy development. From respiratory support and thermoregulation to nutritional care and family involvement, nurses play a pivotal role in the care of these vulnerable infants. Evidence-based practices, coupled with a holistic, family-centered approach, are essential to ensuring the best possible outcomes for these infants. Continued research into the optimal timing and methods for various interventions, as well as the sharing of clinical experiences across centers, will further refine nursing practices and enhance the care of extremely preterm infants.

Conclusion

The care of low birth weight (LBW) and preterm infants is complex, requiring an integrative approach that combines medical and nursing interventions. As

preterm infants are at a heightened risk for various complications due to their immature systems, nursing care must focus on creating an environment that supports their growth and development. Family-integrated care (FICare) has proven to be an essential strategy in this regard. By promoting parental involvement and shared decision-making, FICare enhances both infant and parental well-being. Skin-to-skin contact, a cornerstone of FICare, is instrumental in stabilizing the infant's physiological parameters, promoting breastfeeding, and reducing stress levels in both parents and infants. Additionally, skin barrier integrity is crucial for preterm infants due to their high insensible water loss (IWL) and vulnerability to infections. The use of incubators with optimal humidity levels can significantly reduce IWL, helping maintain fluid balance and skin integrity. The findings highlight that preterm infants' skin barriers improve more rapidly when managed in controlled environments, underscoring the importance of carefully monitoring their surrounding conditions. Thermal regulation is another essential aspect of neonatal care. Preterm infants have a diminished ability to regulate body temperature, placing them at risk of hypothermia. Radiant warmers and incubators are critical tools in stabilizing the infant's temperature. The use of these technologies not only prevents hypothermia but also helps maintain an environment conducive to the infant's development. Ensuring the correct use of these tools, such as the optimal placement of the infant within the incubator or warmer, can significantly improve outcomes for extremely preterm infants. Moreover, minimizing pain and stress during the neonatal period is imperative for promoting neurodevelopment. Infants born at extremely low gestational ages are particularly susceptible to the negative effects of pain and stress, which can impair long-term brain development. As such, clustering care tasks to provide longer uninterrupted sleep periods, minimizing invasive procedures, and using less traumatic handling techniques are crucial strategies to reduce unnecessary stress. In conclusion, the nursing management of LBW and preterm infants requires a holistic approach that integrates family involvement, environmental controls, pain management, and careful monitoring of physiological parameters. Evidence from existing studies supports the importance of these interventions in improving neonatal outcomes. While gaps remain in the body of evidence, especially regarding the long-term effects of nursing interventions, the current recommendations offer a solid foundation for enhancing the care provided to this vulnerable population. Future research should focus on refining these interventions and developing standardized protocols across neonatal intensive care units (NICUs) to ensure the best possible outcomes for preterm and low birth weight infants.

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رعاية التمريض لحديثي الولادة ذوي الوزن المنخفض والمولودين قبل الأوان - مراجعة محدثة

الملخص:

الخلفية :يواجه الأطفال ذوو الوزن المنخفض عند الولادة (LBW) والمولودون قبل الأوان تحديات كبيرة بسبب أنظمتهم غير الناضجة. هؤلاء الأطفال الضعفاء يحتاجون إلى رعاية تمريضية متخصصة لتحسين نتائجهم الصحية، إلا أن الأدبيات تفتقر إلى إرشادات عالية الجودة قائمة على الأدلة لإدارتهم. تسلط هذه المراجعة الضوء على التدخلات التمريضية الأساسية التي تدعم الأطفال المولودين في عمر حمل منخفض للغاية، مع التركيز على الرعاية المتكاملة مع العائلة (FICare) وإدارة البيئة المثلى.

الهدف :تهدف هذه المراجعة إلى تلخيص الأدلة الحالية وتقديم توصيات محدثة لرعاية التمريض للأطفال ذوي الوزن المنخفض والمولودين قبل الأوان، مع التركيز على مشاركة الأسرة، إدارة حاجز الجلد، تنظيم درجة الحرارة، وتقليل الألم والتوتر.

الأساليب :تقوم هذه المراجعة الصغيرة بتلخيص الأدبيات الموجودة حول إدارة تمريض الأطفال المولودين قبل الأوان وذوي الوزن المنخفض. وتشمل الدراسات المتعلقة بالرعاية المتكاملة مع العائلة، وظيفة حاجز الجلد، إدارة الحرارة والرطوبة، تقليل الألم، والتدخلات التمريضية الروتينية. تم تحديد المواضيع الرئيسية، وتم فحص الأدلة التي تدعم الممارسات السريرية لتقديم توصيات رعاية محدثة.

النتائج :تم العثور على أن الرعاية المتكاملة مع العائلة (FICare) تحسن بشكل كبير نتائج الأطفال من خلال تعزيز مشاركة الوالدين، وتعزيز الاتصال المبكر بين الجلد والجلد، وتعزيز اتخاذ القرار المشترك. كانت إدارة حاجز الجلد، بما في ذلك تقليل فقدان المياه غير المرئي (IWL) من خلال التحكم في البيئة مثل ترطيب الحاضنات، أمرًا حاسمًا لتقليل فقدان السوائل ودعم تكامل الجلد. تم تحديد أن تنظيم درجة الحرارة باستخدام أجهزة التسخين الإشعاعي والحاضنات أمر أساسي لمنع انخفاض حرارة الجسم، خاصة في الأطفال المولودين قبل الأوان. تم العثور على أن استراتيجيات تقليل الألم والتوتر، مثل تجميع الرعاية وتقليل الإجراءات المؤلمة، تحسن النتائج العصبية التنموية.

الاستنتاج :تتطلب رعاية التمريض للأطفال ذوي الوزن المنخفض والمولودين قبل الأوان نهجًا متعدد الجوانب يشمل رعاية تتمحور حول الأسرة، وضوابط بيئية دقيقة، وإدارة الألم. يمكن أن تحسن التدخلات مثل الرعاية المتكاملة مع العائلة(FICare) ، وتنظيم درجة الحرارة بعناية، وتقليل الإجراءات الجراحية بشكل كبير من نتائج صحة الطفل. هناك حاجة إلى مزيد من البحث لتدعيم هذه التدخلات بأدلة سريرية قوية لتوحيد الرعاية عبر وحدات العناية المركزة لحديثي الولادة.(NICUs)

الكلمات الرئيسية :الوزن المنخفض عند الولادة، الأطفال المولودون قبل الأوان، رعاية التمريض، الرعاية المتكاملة مع العائلة، إدارة حاجز الجلد، تنظيم درجة الحرارة، إدارة الألم، الرعاية لحديثي الولادة.