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“Maternal Well-Being Beyond Delivery: A Comprehensive Review of Psychological Outcomes Following Water Birth”

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Abstract: Water birth, defined as the process of labor and/or delivery occurring in a water-filled birthing pool, has gained increasing popularity as a woman-centered approach to childbirth. While considerable research has explored the physiological benefits of water immersion during labor, the psychological outcomes associated with water birth remain an emerging area of interest. Maternal psychological well-being during the perinatal period significantly influences childbirth satisfaction, maternal-infant bonding, breastfeeding success, and long-term mental health. This review examines current evidence regarding maternal psychological outcomes following water birth, including maternal satisfaction, perceived control, anxiety reduction, pain perception, emotional well-being, postpartum depression risk, birth trauma experiences, and maternal self-efficacy. Evidence from observational studies, systematic reviews, qualitative investigations, and comparative analyses suggests that water birth is associated with enhanced maternal satisfaction, reduced childbirth-related anxiety, improved sense of autonomy, and more positive birth experiences. The supportive environment created by warm-water immersion may contribute to neuroendocrine responses that facilitate relaxation and emotional comfort. Despite encouraging findings, limitations such as methodological heterogeneity, limited randomized controlled trials, and variations in water birth protocols necessitate cautious interpretation. Future research should prioritize longitudinal studies and standardized psychological outcome measures to establish stronger evidence regarding the mental health benefits of water birth. Understanding the psychological implications of water birth may assist healthcare professionals, particularly nurses and midwives, in providing evidence-based, woman-centered maternity care.

Keywords: *Water birth, maternal psychological outcomes, childbirth satisfaction, postpartum mental health, anxiety, birth experience, maternal well-being, midwifery care, maternal self-efficacy, postpartum depression.*

Introduction

Childbirth is a profound life event that encompasses not only physiological processes but also significant psychological experiences. The quality of a woman's birth experience can influence her emotional well-being, maternal identity, relationship with her infant, and future reproductive decisions. Contemporary maternity care increasingly emphasizes woman-centered approaches that support autonomy, comfort, and emotional well-being throughout labor and delivery. Among these approaches, water birth has emerged

as a popular option for women seeking a less medicalized and more natural birthing experience.

Water birth generally refers to labor, delivery, or both occurring in a specially designed birthing pool filled with warm water. Since its introduction into modern maternity practice during the latter half of the twentieth century, water birth has attracted growing attention from healthcare professionals and expectant mothers. While earlier research primarily focused on physical outcomes such as pain management, labor duration, and obstetric interventions, recent investigations



have increasingly explored the psychological effects associated with water birth.

Maternal psychological health during childbirth is a critical determinant of overall maternal and neonatal outcomes. Positive childbirth experiences are associated with increased maternal confidence, improved mother-infant bonding, successful breastfeeding initiation, and lower risks of postpartum depression. Conversely, negative birth experiences may contribute to anxiety disorders, post-traumatic stress symptoms, postpartum depression, and reluctance toward future pregnancies. Therefore, understanding factors that influence maternal psychological outcomes is essential for optimizing maternity care.

Water birth is hypothesized to promote positive psychological experiences through multiple mechanisms. Warm water immersion may induce relaxation, reduce stress hormone levels, enhance comfort, and provide a sense of privacy and control. These effects may collectively contribute to improved emotional well-being and greater satisfaction with childbirth. This review critically examines current evidence regarding maternal psychological outcomes following water birth and explores implications for clinical practice and future research.

Historical Development of Water Birth

The concept of water-assisted childbirth is not entirely new. Historical records indicate that various cultures utilized water during labor and childbirth centuries ago. However, modern water birth practices gained recognition during the 1960s and 1970s through the work of physicians and midwives who advocated natural childbirth approaches. French obstetrician Michel Odent played a pivotal role in popularizing water birth by introducing birthing pools into maternity units and documenting positive maternal experiences.

Over subsequent decades, water birth gained acceptance in several countries, including the United Kingdom, Australia, New Zealand, Canada, and parts of Europe. Professional organizations such as the Royal College of Midwives and the Royal College of Obstetricians and Gynaecologists have acknowledged the potential benefits of water immersion during labor for low-risk pregnancies. The increasing integration of water birth into maternity services has

generated interest in understanding not only physical but also psychological outcomes associated with this birthing method.

Physiological Basis of Psychological Benefits in Water Birth

Several physiological mechanisms may explain the psychological benefits associated with water birth. Warm water immersion promotes peripheral vasodilation and muscle relaxation, reducing physical tension and discomfort during labor. These physiological changes may influence emotional responses by decreasing stress and promoting relaxation.

Immersion in warm water has been associated with reduced secretion of catecholamines, including adrenaline and noradrenaline. Elevated catecholamine levels during labor can interfere with uterine contractions and contribute to heightened anxiety. Reduction in stress hormone levels may facilitate emotional calmness and enhance coping abilities during childbirth.

Furthermore, water immersion may stimulate the release of endorphins, naturally occurring opioids that reduce pain perception and promote feelings of well-being. Oxytocin secretion may also be enhanced in relaxed and supportive birth environments, contributing to emotional bonding, satisfaction, and positive birth experiences.

Table 1. Proposed Mechanisms Underlying Psychological Benefits of Water Birth

Mechanism	Physiological Effect	Psychological Outcome
Warm immersion	water Muscle relaxation	Reduced tension and anxiety
Reduced catecholamine secretion	Lower stress response	Enhanced emotional calmness
Increased endorphin release	Natural pain relief	Improved comfort and well-being
Enhanced oxytocin production	Improved labor progression	Positive emotional experiences
Increased buoyancy	Easier movement	Greater autonomy and control
Reduced environmental stimulation	Increased privacy	Enhanced emotional security



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Maternal Satisfaction Following Water Birth

Maternal satisfaction represents one of the most consistently reported psychological benefits associated with water birth. Childbirth satisfaction encompasses perceptions of care quality, pain management, autonomy, emotional support, and overall birth experience.

Numerous studies have reported significantly higher satisfaction levels among women who experience water birth compared with conventional land birth. Women frequently describe water birth as empowering, comfortable, and emotionally fulfilling. The warm-water environment often creates a sense of safety and privacy that enhances positive perceptions of childbirth.

Qualitative investigations have revealed that women who undergo water birth commonly report feeling respected, listened to, and actively involved in decision-making processes. Such experiences align with principles of woman-centered care and contribute to enhanced childbirth satisfaction.

Additionally, water birth may reduce reliance on pharmacological pain relief and invasive interventions, factors frequently associated with greater satisfaction. Women often perceive their ability to manage labor naturally as a source of personal achievement and empowerment.

Anxiety Reduction and Emotional Well-Being

Anxiety during labor can negatively influence both physiological and psychological childbirth outcomes. High anxiety levels have been associated with prolonged labor, increased pain perception, elevated intervention rates, and negative birth experiences.

Current evidence suggests that water immersion may effectively reduce labor-related anxiety. The sensory properties of warm water provide a soothing environment that promotes relaxation and emotional comfort. Women frequently report feeling calmer and more emotionally secure while immersed in water.

The reduction in anxiety may result from multiple factors, including decreased pain intensity, increased privacy, freedom of movement, and enhanced perceptions of control.

Some studies have demonstrated significantly lower self-reported anxiety scores among women utilizing water birth compared with those receiving conventional obstetric care. Furthermore, qualitative research has highlighted the psychological significance of the water environment. Women often describe feeling protected, supported, and emotionally connected to the birthing process. Such experiences may foster resilience and emotional well-being throughout labor and delivery.

Sense of Control and Autonomy During Childbirth

A perceived sense of control is a critical determinant of positive childbirth experiences. Women who feel actively involved in decision-making and capable of influencing their labor experience generally report greater satisfaction and lower psychological distress.

Water birth may enhance perceptions of autonomy through several mechanisms. The buoyancy provided by water facilitates movement and allows women to adopt comfortable labor positions independently. This freedom of movement contrasts with traditional obstetric settings where mobility may be restricted by monitoring equipment or medical interventions.

Women frequently report that water birth enables them to remain connected with their bodies and instincts during labor. Such experiences contribute to feelings of competence, empowerment, and self-determination. Enhanced autonomy may subsequently reduce fear, anxiety, and emotional distress associated with childbirth.

Research indicates that women who perceive greater control during childbirth are less likely to develop postpartum psychological complications, including depression and post-traumatic stress symptoms. Therefore, the autonomy-promoting characteristics of water birth may contribute significantly to maternal psychological well-being.

Pain Perception and Psychological Outcomes

Pain is a multidimensional experience influenced by physiological, psychological, and social factors. Maternal perceptions of pain during labor can significantly affect emotional responses and overall birth satisfaction.



Water immersion has consistently been associated with reduced labor pain perception. The buoyancy of water decreases gravitational pressure, while warm temperatures promote muscle relaxation and comfort. Reduced pain perception may subsequently decrease fear and anxiety, creating a positive feedback loop that enhances coping abilities.

Importantly, psychological interpretations of pain may be as influential as pain intensity itself. Women who perceive labor pain as manageable and meaningful often report more positive birth experiences. Water birth may facilitate such perceptions by providing an environment that promotes comfort, confidence, and emotional support.

Table 2. Psychological Outcomes Associated with Reduced Pain Perception During Water Birth

Reduced Pain Perception Leads To	Psychological Benefit
Increased comfort	Enhanced satisfaction
Reduced fear	Improved emotional stability
Better coping ability	Greater confidence
Lower stress response	Reduced anxiety
Positive labor memories	Improved birth experience
Enhanced self-efficacy	Greater maternal empowerment

Childbirth Experience and Birth Trauma

The subjective experience of childbirth has lasting psychological implications. Positive birth experiences can strengthen maternal confidence and psychological resilience, whereas traumatic experiences may contribute to long-term emotional distress.

Birth trauma encompasses emotional reactions resulting from perceived threats, loss of control, inadequate support, or distressing obstetric events. Water birth has been proposed as a protective factor against birth trauma due to its emphasis on comfort, autonomy, and individualized care. Women frequently describe water birth experiences using terms such as "peaceful," "gentle," "empowering," and "transformative." Such positive perceptions may reduce the likelihood of traumatic interpretations of childbirth. Several studies have reported lower rates of negative birth memories among women who experienced water birth.

However, it is important to recognize that water birth does not guarantee a positive psychological outcome for all women. Individual expectations, support systems, labor complications, and interpersonal interactions with healthcare providers continue to influence childbirth experiences significantly.

Postpartum Depression and Water Birth

Postpartum depression remains a major public health concern affecting maternal functioning, infant development, and family well-being. Researchers have increasingly explored whether positive childbirth experiences may reduce the risk of postpartum depressive symptoms.

Although evidence remains limited, emerging studies suggest a potential association between water birth and lower rates of postpartum depressive symptoms. Women who report positive birth experiences, high satisfaction levels, and greater feelings of control may demonstrate better emotional adjustment during the postpartum period.

The psychological benefits associated with water birth, including reduced anxiety, enhanced self-efficacy, and positive birth memories, may collectively contribute to lower vulnerability to postpartum depression. However, causality remains difficult to establish due to the multifactorial nature of postpartum mental health.

Longitudinal investigations with standardized assessment tools are needed to determine whether water birth independently influences postpartum depression risk or whether observed benefits reflect broader characteristics of woman-centered maternity care.

Maternal Self-Efficacy and Confidence

Maternal self-efficacy refers to a woman's confidence in her ability to manage childbirth and fulfill maternal responsibilities. High self-efficacy is associated with improved coping skills, successful breastfeeding, positive parenting behaviors, and better psychological adaptation. Water birth may enhance maternal self-efficacy by promoting active participation in labor and supporting natural physiological processes. Women often describe feelings of accomplishment and pride following successful water births.



These positive experiences can reinforce confidence in maternal capabilities.

The supportive and non-threatening environment associated with water birth may encourage women to trust their bodies and abilities during labor. Such empowerment may extend into the postpartum period, positively influencing maternal adjustment and parenting confidence.

Maternal-Infant Bonding

The establishment of early maternal-infant bonding represents a critical aspect of postpartum psychological well-being. Positive birth experiences may facilitate emotional connection between mother and infant during the immediate postpartum period.

Some researchers suggest that water birth may support maternal-infant bonding by promoting calm and gentle transitions from intrauterine to extrauterine environments. Women who experience positive emotions during childbirth may be more receptive to early skin-to-skin contact and responsive caregiving behaviors.

Additionally, reduced stress and anxiety levels may facilitate oxytocin release, a hormone strongly associated with maternal attachment and bonding. Although direct evidence remains limited, the psychological environment created by water birth may contribute positively to early mother-infant relationships.

Role of Nurses and Midwives in Supporting Psychological Outcomes

Nurses and midwives play a central role in facilitating positive psychological experiences during water birth. Their responsibilities extend beyond physical monitoring to include emotional support, advocacy, education, and reassurance.

Effective preparation for water birth begins during antenatal care. Healthcare professionals should provide accurate information regarding benefits, risks, eligibility criteria, and expectations. Informed decision-making promotes confidence and reduces uncertainty.

During labor, nurses and midwives create supportive environments that encourage autonomy, respect individual preferences, and promote emotional comfort. Continuous

emotional support has been consistently associated with improved psychological outcomes and increased maternal satisfaction.

Postpartum follow-up provides opportunities to assess maternal emotional well-being, reinforce positive experiences, and identify women who may require additional psychological support.

Table 3. Nursing Interventions Supporting Positive Psychological Outcomes During Water Birth

Nursing Intervention	Expected Outcome	Psychological
Antenatal education	Reduced fear and uncertainty	
Continuous emotional support	Increased confidence	
Encouraging autonomy	Enhanced control and empowerment	
Effective communication	Improved trust and satisfaction	
Respectful maternity care	Positive birth experiences	
Postpartum emotional assessment	Early identification of distress	

Limitations of Current Evidence

Despite growing interest in psychological outcomes following water birth, several limitations characterize the existing literature. Many studies employ observational designs, limiting causal inferences. Randomized controlled trials remain relatively scarce due to ethical and practical challenges associated with childbirth research.

Variability in definitions of water birth, participant selection criteria, outcome measures, and clinical protocols complicates comparison across studies. Furthermore, psychological outcomes are inherently subjective and influenced by cultural, social, and personal factors.

Selection bias may also affect findings because women choosing water birth often possess distinct attitudes toward childbirth and natural birth practices. Consequently, positive psychological outcomes may partially reflect preexisting preferences rather than water birth itself.

Future research should incorporate standardized psychological assessment tools, larger sample sizes, and longitudinal follow-up to strengthen the evidence base.

Future Directions for Research



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Future investigations should prioritize comprehensive evaluations of maternal mental health outcomes beyond immediate postpartum experiences. Long-term studies examining postpartum depression, anxiety disorders, post-traumatic stress symptoms, maternal-infant attachment, and parenting confidence would provide valuable insights.

Researchers should also explore neurobiological mechanisms linking water immersion with psychological well-being. Understanding hormonal responses, stress regulation pathways, and emotional processing during water birth may clarify underlying mechanisms.

Additionally, culturally diverse studies are needed to determine whether psychological benefits observed in specific populations are generalizable across different healthcare systems and sociocultural contexts.

Conclusion

Water birth represents a promising woman-centered approach that may positively influence maternal psychological well-being. Current evidence suggests that water birth is associated with enhanced childbirth satisfaction, reduced anxiety, greater perceived control, improved emotional comfort, and increased maternal confidence. These benefits appear to result from a combination of physiological relaxation, supportive care environments, and opportunities for greater autonomy during labor and delivery.

Although emerging evidence indicates potential protective effects against birth trauma and postpartum psychological distress, methodological limitations necessitate cautious interpretation. Further high-quality research is required to establish definitive relationships between water birth and long-term maternal mental health outcomes.

For nurses, midwives, and maternity care providers, understanding the psychological dimensions of water birth is essential for delivering holistic, evidence-based care. By supporting women's preferences and promoting positive childbirth experiences, healthcare professionals can contribute significantly to maternal psychological well-being and family health.

References

1. Cluett ER, Burns E. Immersion in water during labour and birth. *Cochrane Database of Systematic Reviews*. 2018;5:CD000111.
2. Nutter E, Meyer S, Shaw-Battista J, Marowitz A. Waterbirth: An integrative analysis of peer-reviewed literature. *Journal of Midwifery & Women's Health*. 2014;59(3):286–319.
3. Vanderlaan J, Hall PJ, Lewitt MJ. Neonatal outcomes with water birth: A systematic review and meta-analysis. *Midwifery*. 2018;59:27–38.
4. Ulfsdottir H, Saltvedt S, Georgsson S. Women's experiences of waterbirth compared with conventional childbirth. *Midwifery*. 2019;79:102547.
5. Odent M. *The Scientification of Love*. London: Free Association Books; 2001.
6. Bovbjerg ML, Cheyney M, Brown J. Maternal and newborn outcomes following waterbirth. *Birth*. 2016;43(1):3–14.
7. Burns E, Boulton M, Cluett E, Cornelius V, Smith L. Characteristics, interventions, and outcomes of women who used a birthing pool. *Birth*. 2012;39(3):192–202.
8. Taylor H, Kleine I, Bewley S, Loucaides E, Sutcliffe A. Neonatal outcomes of waterbirth. *Archives of Disease in Childhood*. 2016;101(9):824–829.
9. Garland D. *Waterbirth: Supporting Practice with Clinical Audit*. 3rd ed. Cheshire: Books for Midwives Press; 2017.
10. Shaw-Battista J. Systematic review of water immersion during labor and birth. *MCN American Journal of Maternal Child Nursing*. 2017;42(5):291–300.
11. Dekker R. Evidence on waterbirth and hydrotherapy during labor. *Journal of Perinatal Education*. 2020;29(4):215–223.
12. Feeley C, Thomson G. Why do women choose water birth? A qualitative exploration. *BMC Pregnancy and Childbirth*. 2016;16:15.



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13. Finigan V, Davies S. Water immersion for labor and birth. *British Journal of Midwifery*. 2019;27(6):364–370.
14. Stark MA. Outcomes of women planning water birth. *Journal of Obstetric, Gynecologic & Neonatal Nursing*. 2020;49(5):415–424.
15. American College of Nurse-Midwives. Hydrotherapy during labor and birth. *Journal of Midwifery & Women's Health*. 2024;69(1):120–126.
16. World Health Organization. *WHO Recommendations: Intrapartum Care for a Positive Childbirth Experience*. Geneva: WHO; 2018.
17. Royal College of Midwives. *Evidence-Based Guidelines for Midwifery-Led Care in Labour*. London: RCM; 2022.
18. Royal College of Obstetricians and Gynaecologists. *Immersion in Water During Labour and Birth*. London: RCOG; 2021.
19. Simkin P, Ancheta R. *The Labor Progress Handbook*. 4th ed. Oxford: Wiley-Blackwell; 2017.
20. Nilsson C. Positive birth experience: Review of influencing factors and outcomes. *Women and Birth*. 2022;35(1):1–10.