

REVIEW ΑΝΑΣΚΟΠΗΣΗ

Methods to promote a natural birth

The World Health Organization (WHO) published a report in 1996 about the definition of a normal birth and recommended certain methods to support the physiological processes of labour. The WHO definition further stated that the aim of care in normal birth is to achieve a healthy mother and child with the least possible level of interventions, and in every case, there should be a valid reason to interfere with the natural process. Since this initial report, childbirthing around the world has become heavily medicalised with high rates of interventions and increasingly high rates of operative births. Over the past few years, there has been a renewed interest worldwide to support normality at childbirth and the term “natural birth” has re-appeared in the literature and is used interchangeably with the term “normal birth”. At present, there is a consensus in the literature and the majority of professional societies refer to “natural birth” or “normal birth” as the birth achieved with no medical interventions and with no pharmacological means of pain management. In order to promote “normality” and “naturalness” at childbirth with minimal or no interventions and to enhance the birthing experience of women, it is now accepted that we need to revisit our intrapartum care practices, embrace a respectful and woman-centred birthing philosophy, utilise the appropriate clinical skills and tools, and adopt a new organizational model of midwife led care.

1. INTRODUCTION

The World Health Organization (WHO) in 1996 published a report about the definition of a normal birth and recommended certain methods to support the physiological processes of labour.¹ WHO defined normal birth as spontaneous in onset, with a gestational age between 37 and 42 completed weeks of pregnancy, and the baby being born in a vertex position. The WHO definition further stated that the aim of care in normal birth is to achieve a healthy mother and child with the least possible level of interventions, and in every case, there should be a valid reason to interfere with the natural process.¹ In the same WHO report of 1996, there was a list of practices recorded that were at that time common in the conduct of a normal childbirth and they were classified according to their benefits versus harmfulness. Practices that were quoted as useful and should therefore be encouraged involved respecting the right of women to privacy when birthing, the use of non-pharmacological methods of pain relief during labour such as massage, freedom in position and movement in labour, and the encouragement of a non-supine position in labour. Practices that were suggested to be eliminated involved

the routine use of enema and pubic shaving, the routine use of lithotomy position at childbirth, and the routine manual exploration of the uterus after delivery.

Since this WHO report on the definition of a normal birth in 1996, childbirthing in both developed and developing countries around the world has become heavily medicalised with high rates of intrapartum interventions and increasingly high rates of operative births.² This change in the pattern of childbirthing over the past decades has negatively affected the women’s birthing experience and has increased the health costs of a birth due to the multiple interventions taking place.^{3,4} Moreover, the increased rates of cesarean section (CS) have led to increased rates of placenta accreta spectrum disorders with a high percentage of women ultimately losing their womb at a young age.⁵

In the past few years, there has been a renewed interest worldwide to support normality at childbirth and the term “natural birth” has re-appeared in the literature and is used interchangeably with the term “normal birth”. The term “natural birth” is not new, but was first introduced in the literature in the 1930’s by Dr Grantly Dick-Read, who referred to a childbirth without medical interventions, especially

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Μέθοδοι προαγωγής του φυσικού
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anesthesia.⁶ Over the years, there has been an evolution of the term “natural birth” with widely different meanings for different professional societies.^{7,8} The National Institute for Health and Care Excellence (NICE) in the United Kingdom (UK) in its clinical guideline of 2014, entitled “Intrapartum care for healthy women and babies”, does allow for the use of regional analgesia and is therefore supportive of some deviation from a physiological birth.⁹ On the other hand, the National Institutes of Health (NIH) in the United States of America (USA) stated in 2017 that the term “natural childbirth” refers to the many different ways of giving birth without using pain medication, but other natural ways to ease pain such as emotional support, birthing balls, the use of water immersion, and hypnosis.¹⁰ At present, the majority of the current literature refers to “natural childbirth” or “normal birth” as the birth accomplished with no medical interventions and with no pharmacological means of pain management.^{7,8}

In order to promote normality at childbirth with minimal or no interventions and to enhance the birthing experience of women, it is now accepted that we need to revisit our intrapartum care practices.¹¹ In 2018, the WHO issued an intrapartum care model that gives priority to the implementation of fifty-six evidence-based recommendations that are acceptable to women and lead to a positive childbirth experience.¹² It has been reported, however, that it is unlikely that any of these recommended intrapartum practices can individually achieve the overall goal of normality at childbirth and a positive birthing experience.¹¹ What is further required is to embrace the philosophy and provision of a woman-centred, respectful and individualised intrapartum care alongside the use of the various evidence-based clinical tools to support a “normal” or “natural” birth.¹²

In the next sections, we will provide a review of the evidence-base on clinical tools that promote normality and naturalness at birth.

2. LABOUR PROGRESS ASSESSMENT

There are reports that almost half of the cases of CS births performed nowadays are conducted with the indication of abnormal progress of labour.¹³ The definition of normal or abnormal progress of labour, however, still remains a debate and is determined according to national guidance and local protocols. There has been a recent change in the value of cervical dilatation for the onset of active first stage of labour from 4 cm to 6 cm, and in the acceptable cervical dilatation rate in active labour from 1 cm/hour for nulliparae and 1.2 cm/hour for multiparae

to 0.5 cm/hour for all women.^{9,12,14,15} These changes mean that the benchmark against which the progress of labour is compared to and measured with is less strict, thus allowing more time for women to be in labour without deeming their progress as abnormal and therefore resorting to an intervention. Nevertheless, their cervical dilatation does need to be measured and the gold standard at the moment for cervical assessment is the performance of vaginal examinations.¹⁶

Vaginal examinations are invasive and may cause embarrassment, discomfort and may even lead to infection and chorioamnionitis.^{17,18} In addition, there is inconsistency in measurements between different healthcare providers with a report that two clinicians differed in cervical dilatation measurements by 2 cm or more in 11% of occasions.¹⁶ Moreover, the accuracy has been quoted to be reduced with the increase in cervical dilatation as we approach full-dilatation in the second stage of labour.¹⁹ Despite these disadvantages of digital vaginal examinations, they have become so routine in intrapartum care that they are no longer considered an intervention.²⁰ A study in 2008 showed that although the mean number of vaginal examinations was three in an average length of labour of eight hours, nevertheless this ranged from 0 up to 11 vaginal examinations.²¹

In order to support normality at childbirth, the WHO and the NICE have made the recommendation that a vaginal examination should be performed every four hours during the first stage of labour.^{9,12} Moreover, there is a growing body of evidence that there might be other non-invasive methods to monitor cervical dilatation that could serve as an adjunct and therefore reduce the number of vaginal examinations.¹⁸ These methods include identifying and measuring the purple line discolouration at the maternal buttock cleft, the sonographic assessment of various fetopelvic parameters to quantify and predict labour progress, or even maternal vocalisations when we approach full dilatation. Nevertheless, the certainty of the evidence for these alternative methods is low and further research is required.²²

3. WATERBIRTHING

Water immersion during labour and childbirth is a practice that is becoming increasingly popular in an international level.^{23,24} It is widely regarded that the seminal moment that established waterbirthing in the academic community was the article published by Michel Odent in *Lancet* in 1983 describing the maternal and neonatal

outcomes of 100 waterbirths.²⁵ A decade later in 1993, the Department of Health in the United Kingdom (UK) issued the “Changing childbirth” report which recommended that all maternity units should provide women with access to a birthing pool facility. In 1994, the Royal College of Midwives published a statement that highlighted the role of the midwife in supporting and facilitating water immersion in women during labour. Ever since water immersion during labour and childbirth is a standard option available to women in all maternity units.²⁶ Waterbirthing rates in England have risen from 3% in 2007 to 9% in 2015, and the use of water during labour and birth is currently integrated within the UK clinical guidelines.⁹

There is now clear evidence through large population-based studies and systematic reviews and meta-analyses that the use of water during labour and birth leads to fewer interventions and increases the incidence of normal birth.^{27–29} Waterbirthing has been reported to significantly reduce the need for epidural analgesia by 83% (odds ratio [OR]=0.17; 95% confidence interval [CI]: 0.05–0.56) and for this reason it is often referred to as “aquadural” or “wet-epidural”.^{29,30} There have been many physiological mechanisms that have been proposed to explain this significant pain-relief effect of water. The counter-stimulation by the warm water and the hydrostatic pressure on the pregnant woman’s body that is immersed in the water has been postulated to modify the pain perception at the level of the spinal cord and to inhibit or delay the ascending nerve transmissions of pain, thus “closing the gate to pain”. According to the “gate control theory”,^{28,31} when multiple nerve impulses enter the spinal cord at the same time, not all of them ascend simultaneously and usually the pain-related impulses are the ones that are delayed and blocked, allowing for the others, such as the nerve impulse of “touch” and “warmth”, to ascend first. Moreover, the buoyancy offered by the water allows the women to move freely in the birthing pool and improves the uterine perfusion making uterine contractions less painful.²⁸ In addition, the increased mobility of women in the birthing pool has been reported to facilitate fetal head flexion and thus leading to shorter labour times. It has been calculated that water immersion may shorten the duration of the first stage of labour by a mean time of 42 minutes (95% CI: 3.4–89.9 min).²⁸

Other benefits of waterbirthing that have been reported involve a reduction in the rates of CS births and an increase in the odds for intact perineum. There are large observational studies which report high rates of normal births with the use of water that exceed 90%,²³ whereas other studies report a decrease in CS births by 20%.³² Despite earlier reports that a waterbirth may increase the rates of perineal

trauma due to the time-dependent “water-logging effect” of prolonged water exposure of the perineal skin, thus predisposing to first degree lacerations,^{33,34} a meta-analysis in 2022 showed that waterbirthing increases the likelihood of an intact perineum.²⁹ Finally, waterbirthing is a simple and cost-effective way to promote less interventions at birth, to support naturalness and to increase maternal well-being and satisfaction.^{35,36} It has been calculated that the use of water during labour and birth increases maternal satisfaction by 95% (OR=1.95; 95% CI: 1.28–2.96).²⁹

Despite the evidence about the benefits of waterbirthing in promoting natural births, some controversy still remains in the literature as to the possible risks associated with both the mother and the neonate. In the most recent systematic review and meta-analysis on this matter, there was no evidence of increased adverse effects to the fetus/neonate or woman from labouring or giving birth in water.²⁹ The only clear risk identified but of a small magnitude was the risk of cord avulsion. Waterbirth was associated with increased odds of cord avulsion (OR=1.94; 95% CI: 1.30–2.88), although the absolute risk remained low (4.3 per 1,000 versus 1.3 per 1,000).²⁹ Other than this, there was no difference in outcomes noted with regards to perinatal mortality or morbidity.

4. HYPNOBIRTHING

As described earlier, the essential element of a natural birth is the use of non-pharmacological methods of pain management. A method to achieve this naturalness at birth that is gaining increased popularity over the past twenty years is the use of hypnosis during labour and childbirth. This method which is otherwise known as “hypnobirthing” has been recognised by several scientific societies such as the Australian and New Zealand College of Anaesthetists, the British Medical Association, the American Medical Association, the British Psychological Society, and the NICE institute.^{9,37}

According to the 2014 definition from the American Psychological Society, hypnosis is a “*state of consciousness involving focused attention and reduced peripheral awareness, characterized by an enhanced capacity for response to suggestions*”.³⁸ These suggestions are verbal and non-verbal communications that may influence perceptions, sensations, thought, mood or behaviour. Hypnosis during labour can be used to promote relaxation, to reduce the perception of pain, to reframe the birthing experience from one of pain to achievement, and to change the parturient’s perception so as to perceive the painful contractions as a

way to getting closer to birthing their baby rather than an experience of debilitating pain. Pregnant women can be guided into hypnosis by a practitioner during labour or they can learn self-hypnosis during their antenatal classes in preparation for childbirth.

The literature reports that hypnotic analgesia is effective in reducing acute pain across a range of clinical settings, such as in the case of burns treatment and other invasive medical or surgical procedures.³⁷ A meta-analysis involving experimentally-induced pain and clinical pain found that hypnotic analgesia provided a moderate to large analgesic effect for both types of pain.³⁹ In another report, the use of hypnosis reduced pain perception by approximately 50%.⁴⁰ It has been suggested that hypnosis does not inhibit the nerve transmissions of pain stimuli within the nervous system in the way that waterbirthing does and is explained through the "gate control" theory at the level of the spinal cord, but it works differently by altering the perception of pain within the higher cortical processing areas of the brain.⁴¹

Labour pain, unlike other types of acute pain, does not indicate harm or pathology, but is part of the normal physiological process of birth.⁴² The physiological mechanisms that generate the nerve transmissions of pain in the first stage of labour involve the uterine contractions and subsequent ischemia of the uterus along with the dilatation of the cervix, and in the second stage of labour the stretching of the vagina and pelvic floor as the fetus descends in the birth canal.³⁷ When the nerve impulses reach the cortical areas of the brain, they are then further processed to create the perception of pain, and this is where hypnosis can be used to modify these perceptions.³⁷ There are several neuroimaging studies that lend support and provide evidence that hypnotic analgesia is not a placebo-based effect, but hypnosis actually leads to neurophysiological alterations and brain perfusion changes during hypnotic-induced analgesia.^{43,44}

There are reports that approximately 37% of pregnant women and 28% of postpartum women in the USA use non-pharmacological methods of pain management with hypnosis being the most popular.⁴⁵ The current literature reports that hypnosis during labour and birth is safe and effective for both mothers and babies.^{37,46,47} It has been demonstrated that the use of hypnosis may reduce the need of pharmacological pain relief or analgesia by approximately 30% to 50%,^{37,46,47} whereas it decreased the need for an epidural by 70%.⁴⁷ Moreover, the use of hypnosis at birth increased the rates of a normal vaginal birth by 70% and led to a better birthing experience and to fewer days

of hospitalisation for the women.^{37,47} In addition, hypnosis during labour and birth resulted in higher Apgar scores of the neonates at five minutes in comparison to the control groups.⁴⁷

5. UPRIGHT AND MOBILE POSITIONS DURING LABOUR AND BIRTH

The current clinical practice in most developed countries is for women to labour and give birth in a recumbent position (lying down on bed) with restricted or almost no mobility of the parturient since this allows easy access to the healthcare providers for regular vaginal examinations, easier abdominal palpation, continuous fetal heart rate monitoring and the capacity for obstetric interventions at childbirth if necessary, such as an episiotomy or an instrument-assisted delivery.⁴⁸ Moreover, the increasing use of epidural analgesia and the continuous intravenous infusions during labour represent further reasons that preclude the mobilisation of women during labour and birth.

There is evidence that if women were to be given the freedom to assume any position during labour they desired without interference or instructions, then they would opt for a high degree of ambulation and position change with an average of 7.5 positions per woman.^{49,50} Moreover, it has been reported that 99% of women that mobilized during labour and birth would choose this option again to mobilize in a future labour.⁵¹ In another report, it has been contemplated that movement during labour and birth is implicit to the definition of normal birth as it represents or should represent one of its basic features.⁵² In countries that are not influenced by Western culture and in developed countries where women are given freedom of choice, it has been reported that the majority of women prefer and assume upright and mobile positions but not recumbent positions during labour and birth.⁴⁸

Other than women's preference for mobilization during labour and to assume upright positions, there are certain physiologic advantages on the process of labour that are brought about by these intrapartum movements and positioning. In the first stage of labour, when a pregnant woman mobilizes and chooses upright positions, then gravity helps with the descent of the fetal head into the pelvis and aids the more proper and even application of it on the cervix. This results in stronger and more effective uterine contractions, thus leading to efficient cervical dilatation and fetal descent and a reduction in the likelihood of a slow progress of labour.⁴⁸ Moreover, in an upright position it is less likely for the pregnant uterus to compress the maternal

abdominal blood vessels, and therefore the blood flow to the placenta is improved during labour.⁴⁸ In the second stage of labour and at childbirth, there is evidence that different birthing positions reduce the risk of obstructed labor and the development of several dysfunctions. More specifically, positions such as kneeling, standing, squatting and sitting are more beneficial for the bone structure of the pelvis as they allow a higher coccyx movement and a lower widening of the pubic symphysis which facilitates the birthing process.⁵³

In a systematic review and meta-analysis from the Cochrane database,⁴⁸ it was shown that the first stage of labour was approximately one hour and 22 minutes shorter for women randomized to upright as opposed to recumbent positions. Moreover, women who were upright were 29% less likely to have a CS (risk ratio [RR]=0.71; 95% CI: 0.54–0.94), and 19% less likely to have an epidural (RR=0.81; 95% CI: 0.66–0.99). In addition, the babies of mothers who were upright were 80% less likely to be admitted to the neonatal intensive care unit (RR=0.20; 95% CI: 0.04–0.89). Finally, there were no significant differences in the outcomes related to the wellbeing of the mothers and babies.

Due to the clinical benefits of upright and mobile positions, the WHO in 2018 has hence put forward the strong recommendation of encouraging the adoption of mobility and an upright position during labour in women at low risk for complications.^{9,12}

6. MIDWIFE MODEL OF CARE

The WHO in its 1996 report of the definition of normal birth stated that the midwife appears to be the most appropriate and cost effective type of health care provider to be assigned to the care of normal pregnancy and normal birth, including risk assessment and the recognition of complications.⁷ Nevertheless, since the 1980s, the model of women's healthcare across pregnancy, childbirthing and postpartum has so far been predominantly led by obstetricians and not midwives, it is significantly medicalised in both developed and developing countries and has resulted in high rates of cesarean births and interventions during labour.^{20,54} In 2015, the Cochrane Effective Practice and Organisation of Care Group suggested that if we were to promote normality at childbirth and thus reduce the frequency of interventions and the CS rates then organizational changes need to take place within the healthcare system.⁵⁴ These organizational changes involve "the change in the structure or delivery of health care, a change in who delivers healthcare, how care is organised, and where care is delivered..."⁵⁴

There is currently strong evidence that the midwife model of care, that is the maternity model of care provided by midwives and not obstetricians to a woman throughout the antenatal, intrapartum and postnatal continuum is ideal in supporting normal childbirthing as initially postulated by the WHO report in 1996. A systematic review in 2016 comparing the midwife model of care to other models of care found that these women were 15% less likely to experience regional analgesia (RR=0.85; 95% CI: 0.78–0.92), 10% less likely to have an instrumental vaginal birth (RR=0.90; 95% CI: 0.83–0.97), and 24% less likely to have a preterm birth less than 37 weeks (RR=0.76; 95% CI: 0.64–0.91).⁵⁵ Women who had midwife-led continuity models of care were 21% more likely to experience no intrapartum analgesia/anesthesia (RR=1.21; 95% CI: 1.06–1.37). A more recent systematic review in 2019 showed that women allocated to midwife-led models of care compared with women allocated to usual care were 17% less likely to experience overall CS (RR=0.83; 95% CI: 0.73–0.96), 25% less likely to have a planned CS (RR=0.75; 95% CI: 0.61–0.93), and 16% less likely to have an episiotomy (RR=0.84; 95% CI: 0.74–0.95).⁵⁴ Other reports have further shown that the midwife model of care led to an approximately 79% higher likelihood of achieving a normal vaginal birth (OR=1.79; 95% CI: 1.38–2.32).⁵⁶

This evidence suggesting that the midwife model of care is an ideal clinical and organizational tool to promote normal births has currently been adopted in countries such as Greece with the recent founding of birth centres,⁵⁷ with the expectation of prospectively reducing the nationwide high CS rates and rates of interventions at childbirth. There are other countries like the UK that have a long tradition of birth centres (or midwife-led units) and their local evidence has shown that midwifery settings are the optimal place of birth for low-risk pregnant women and advocate their significant role in supporting normality and naturalness at birth with low rates of intrapartum interventions.⁹

7. CONCLUSIONS

If we are to promote natural childbirthing, then we need to re-introduce in our intrapartum clinical practice the appropriate clinical skills and tools, we need to embrace a respectful and woman-centred birthing philosophy, and a new organizational model of care that is based on midwives. With regard to the clinical skills that promote normality during labour and birth, vaginal examinations for labour progress assessment represent the most frequent intervention. The WHO and the NICE institute recommend that a vaginal examination should be performed every four hours during the

first stage of labour. Moreover, there are other non-invasive methods to monitor cervical dilatation that could serve as an adjunct and reduce the number of vaginal examinations, such as the measurement of the purple line in active labour. If we are to provide drug-free options to manage labour pain and therefore achieve a natural birth, the use of water and hypnosis during labour and birth reduce the need for epidural analgesia by 83% and 70%, respectively, according to Cochrane database systematic reviews and meta-analyses. In addition, the WHO in its 2018 report on intrapartum care strongly recommends that women should adopt upright and mobile positions during labour and birth, as there is clear evidence from Cochrane database systematic

reviews and meta-analyses that this practice shortens the duration of first stage of labour and reduces by 29% the likelihood of a CS and by 19% the need for epidural analgesia. Finally, there needs to be an organizational change within the healthcare system with the promotion of the midwife model of care. As the initial WHO report stated in 1996, the midwife is the “most appropriate and cost effective type of health care provider to be assigned to the care of normal pregnancy and normal birth”. Alongside the use of these various evidence-based clinical tools to support a “normal” or “natural” birth what is ultimately required is the philosophy and provision of a woman-centred, respectful and individualised intrapartum care.

ΠΕΡΙΛΗΨΗ

Μέθοδοι προαγωγής του φυσικού τοκετού

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Ο Παγκόσμιος Οργανισμός Υγείας (ΠΟΥ) δημοσίευσε μια έκθεση το 1996 σχετικά με τον ορισμό του φυσιολογικού τοκετού και συνέστησε ορισμένες μεθόδους για την υποστήριξη των φυσιολογικών διεργασιών του τοκετού. Ο ορισμός του ΠΟΥ ανέφερε περαιτέρω ότι ο στόχος της φροντίδας στον φυσιολογικό τοκετό είναι η επίτευξη υγιούς μητέρας και παιδιού με το λιγότερο δυνατό επίπεδο παρεμβάσεων, και σε κάθε περίπτωση θα πρέπει να υπάρχει έγκυρος λόγος παρεμβολής στη φυσική διαδικασία. Έκτοτε, ο τοκετός έχει γίνει έντονα ιατροκοιμημένος σε παγκόσμιο επίπεδο, με υψηλά ποσοστά παρεμβάσεων στη διάρκεια του τοκετού και αυξανόμενα υψηλά ποσοστά επεμβατικών τοκετών. Τα τελευταία έτη υπάρχει ανανεωμένο ενδιαφέρον σε παγκόσμιο επίπεδο για την υποστήριξη του φυσιολογικού τοκετού, και ο όρος «φυσικός τοκετός (natural birth)» έχει επανεμφανιστεί στη βιβλιογραφία και χρησιμοποιείται εναλλακτικά με τον όρο «φυσιολογικός τοκετός (normal birth)». Αυτή τη στιγμή, στην τρέχουσα βιβλιογραφία και στην πλειονότητα των επιστημονικών εταιρειών γίνεται αναφορά στον «φυσικό τοκετό» ή στον «φυσιολογικό τοκετό» ως τον τοκετό που πραγματοποιείται χωρίς ιατρικές παρεμβάσεις και χωρίς φαρμακολογικά μέσα διαχείρισης του πόνου. Προκειμένου να προωθηθεί η φυσιολογικότητα κατά τον τοκετό με ελάχιστες ή καθόλου παρεμβάσεις και να ενισχυθεί θετικά η εμπειρία γέννησης των γυναικών, είναι πλέον αποδεκτό ότι πρέπει να επανεξετάσουμε τις πρακτικές μας στη διάρκεια του τοκετού, να υιοθετήσουμε μια φιλοσοφία τοκετού με σεβασμό και με επίκεντρο τη γυναίκα, να χρησιμοποιήσουμε τις κατάλληλες κλινικές δεξιότητες και εργαλεία, και, τέλος, να υιοθετήσουμε ένα νέο οργανωτικό μαιο-κεντρικό μοντέλο φροντίδας των γυναικών στη διάρκεια της κύησης και του τοκετού.

Λέξεις ευρετηρίου: Ασφάλεια, Εμπειρία τοκετού, Κλινική αποτελεσματικότητα, Τοκετός, Φυσικός τοκετός

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