



ISSN: 2230-9926

Available online at <http://www.journalijdr.com>

IJDR

International Journal of Development Research
Vol. 15, Issue, 01, pp. 67589-67593, January, 2025
<https://doi.org/10.37118/ijdr.29196.01.2025>



REVIEW ARTICLE

OPEN ACCESS

EVIDENCE BASED COMPARISON OF MERITS AND DEMERITS OF DIFFERENT BIRTHING POSITIONS AND PRACTICES- NARRATIVE REVIEW

*Jissa Donel and Anuchitra, S.

Nursing Tutor, College of Nursing, All India Institute of Medical Sciences (AIIMS), G.E Road, Tatibandh, Raipur, Chhattisgarh (C.G) 492099

ARTICLE INFO

Article History:

Received 17th November, 2024
Received in revised form
19th December, 2024
Accepted 28th December, 2024
Published online 30th January, 2025

Key Words:

Birthing Positions, Upright Positions,
Birth Experiences.

*Corresponding author: Jissa Donel

ABSTRACT

Birth position can be influenced by many different factors including setting, mother's choice, caregiver preference, or medical intervention. The position assumed by women during birth is influenced by several complex factors. Historically, mothers used physiologically appropriate labor positions such as squatting, sitting up right, and even standing in the birthing process. Currently in obstetric practice, these alternative positions infrequently are used during labor while the supine position has come to be accepted as 'best practice' in hospital-based deliveries. Over the past century western medicine has designated pregnancy as a medical diagnosis, along with technology have led to replacing more natural obstetrical positions with the reclining lithotomy position during labor. Many caregivers around the world still prefer non-upright positions today, even though current obstetric textbooks state that it is beneficial, especially for first-time mothers, to push in upright positions.⁽¹⁵⁾ Since no much evidence exists to support the most ideal maternal positions for every woman, the maternal position has been controversial over a long period. Although many researches have shed light on the use of different maternal position during the second-stage of labor, but the pros and cons of each position might not be apparent. This review aims to review and compare common positions during this stage of labour with recent research evidences to get the full picture of the benefits and risks of these positions, which might support optimal labor and improve midwifery practice.

Copyright©2025, Jissa Donel and Anuchitra, S. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Citation: Jissa Donel and Anuchitra, S. 2025. "Evidence Based Comparison of Merits and Demerits of Different Birthing Positions and Practices- Narrative Review". *International Journal of Development Research*, 15, (01), 67589-67593.

INTRODUCTION

Evidences from other Systematic Reviewes & Metaanalyses

Jing et al (2019) published a review that compared the benefits and risks of common maternal positions during the second-stage of labor, thereby to provide midwives evidence-based practical guidelines.⁽¹⁾

Main study findings quoted in the review are

Accelerating the progress of labor: Squatting position, which is commonly used every day, is effective in shortening the second-stage of labor.

A observational study found that the duration of the second-stage of labor decreased by 9 min in both primiparas and multiparas in squatting position when compared with supine position (dorsal recumbent) These findings are in line with those of Moraloglu et al., whose study was based on Turkish primiparas . By evaluating the maternal and neonatal outcomes between squatting position with hand bar and supine position modified to semi-fowler (45 degree to the

horizontal) during the second-stage of labor, they demonstrated that the mean length of the second-stage of labor was 34 min shorter in the squatting group than in the supine group (21.02 ± 5.60 min versus 55.40 ± 6.91 min; $P < 0.001$), and the difference was statistically significant. A recent randomized controlled trail revealed that an ergonomic ankle support aid for squatting position can reduce pushing times. Women adopt squatting position with ankle support during childbirth have better pushing experience than those without. Sitting position, the same as squatting position, belongs to upright position and may serve as a non-medical intervention to facilitate labor progress. Accordingly, when there is a prolonged labor, sitting position may be beneficial. Thies-Lagergren et al. conducted a randomized controlled trail evaluating sitting position with birth seat, they found that women allocated to birth seat had a significantly shorter the second-stage of labor in comparison with other positions such as lateral position with or without stirrups, supine position, and standing position (95%CI: 0.96-0.98; $P < 0.01$), and was likely to receive less synthetic oxytocin for augmentation. In a Chinese study, researchers modified supine position by elevating the head of bed to 60 degree, which possibly promotes an optimal drive angle to aid the descent of fetal head through the passage, thereby shortening the second-stage of labor.

Alleviating maternal pain: A randomized trial from Iran evaluated the influence of lithotomy, sitting and squatting position on pain intensity using visual analogue scale and verbal scale of McGill during the second-stage of labor. In this trial, they found that the mean pain severity in lithotomy (2.27) and squatting positions (2.48) was significantly less than that in sitting (5.33) position ($P < 0.001$) during the latent phase of the second-stage of labor. While in the active phase of the second-stage of labor, pain severity was significantly less in squatting position (6.14) compared to the other two positions (7.59 and 7.41 in sitting and lithotomy positions, respectively) ($P < 0.024$). Their findings revealed that squatting position may be conducive to less labor pain. Similarly, Moraloglu et al. found that healthy primiparas allocated to squatting position had lower level of labor pain and more satisfaction than those in supine positions. A possible explanation for the mitigated labor pain in squatting position may be the shortened labor. When the duration is reduced, consequently, less pain was felt by women, this can also be applied to interpret the reduced pain in other upright positions. A Indian study indicated that a semi sitting position was correlated with less labor pain. In this study, they compared pain level using visual analogue scale among primiparas, the authors found that the mean value of pain level in semi-sitting group (3.4) was lower than the supine group (7.86) ($P < 0.05$), and the difference was statistically significant. Another Chinese study focused on maternal outcomes of supported sitting position with leaning forward manner at the end of active stage and the beginning of the second-stage of labor, their findings showed that women assuming sitting position had less labor pain than those in supine position. Another study stated that Supine positions and lithotomy positions, are devoid of the favorable psychological and physical mechanisms to reduce labor pain. In addition, there may be more direct pressure from the fetal head on the vaginal wall in supine position, and this can increase pain.

Reducing perineal trauma: Maternal positions known to preventing perineal trauma include certain kinds of upright positions and lateral position, whereas lithotomy and supine position are regarded as risk factors for severe perineal trauma. Elvander et al. examined the association between maternal positions and OASIS based on 113,000 spontaneous births. In their study, they found a twofold higher risk for OASIS (RR:2.16, 95%CI:1.15-4.07) in multiparas adopting squatting position as compared to those in sitting position through the second-stage of labor. These results are consistent with those of another study, in which women have a greater risk of OASIS in squatting position (OR 2.92, 95%CI 1.04-8.18) during childbirth compared with reference group on bed (woman lies on bed with the trunk position at 45 to 60 degree to the horizontal or in a lateral-recumbent position) or water births. Overall, it could conceivably be hypothesized that women assume squatting position during the second-stage of labor are more likely to suffer from OASIS. The possible reason for increased perineal trauma in squatting position may be the difficulty for midwives in controlling extension of fetal head. In a Swedish study conducted by Thies-Lagergren et al., they noted that birth seat did not entail increased risk of adverse perineal outcome in primiparas and it may even be protective against episiotomies. With regard to kneeling position, midwives favor the all-fours position for preserving the perineum intact at birth, for both greater visualization of and reduced pressure on the perineum. Further, kneeling position enables the woman to move more freely and there is no external pressure on the pelvis. Several studies offered some important insights into the effects of kneeling position on perineal outcomes. In a study from Norway, kneeling position was associated with the lowest risk of OASIS (adjusted OR: 0.15; 95% CI: 0.03 to 0.70) when compared with semi-recumbent positions (includes birth seat squatting position) [43]. A randomized controlled trial conducted in China which compared maternal and neonatal outcomes between hands-and-knees position and supine position, the authors found that the women giving birth in hands-and-knees position had lower rates of episiotomy and second-degree perineum laceration (including episiotomy), and higher rates of intact perineum and first-degree perineal tears when compared with those in supine position.

Contrary to these positive findings, Haslinger et al. noted an increased risk of perineal trauma in kneeling position (OR 2.14, 95%CI:1.05-4.37) compared with the reference group on bed. In Haslinger's study, delivery in the kneeling position was performed on the bed, which may influence the tension in the thighs and buttocks to stay balanced, and kneeling on bed also affect the relaxation of the pelvic floor muscles and limits woman's freedom to move. Lithotomy position has been identified as a risk factor for severe perineal tears. A Western Australian retrospective cohort study reported that the women who sustained severe perineal trauma during childbirth are more likely to give birth in lithotomy position. The prevalence of OASIS is relatively high among women who give birth in lithotomy position. In a population-based study of 113000 spontaneous births, the prevalence of OASIS among 850 primiparas assuming lithotomy position was 7.1%, whereas in 194 multiparas, the prevalence was 2.6%, both were the highest when compared with other positions. Another study from French involved 3717 births, the rate of OASIS among 28 women who adopted lithotomy position was 32.1%, which was the highest one. The increased risk of OASIS under lithotomy position may due to the stress and tension on the perineum with one's leg abducted in an exaggerated manner.

Decreasing blood loss: A randomized controlled trial from Sweden confirmed that the women giving birth with birth seat had blood loss greater than 500 ml when compared with birth in any other position (RR1.20, 95% CI 1.03-1.41), but there was no difference in bleeding over 1000 ml (RR1.13, 95%CI 0.94e1.47). Other two studies examined the hands and knees position and squatting position respectively, they did not find any difference in the amount of postpartum bleeding.

Promoting fetal and newborn well-being: Promoting fetal and newborn well-being are essential components of midwifery management, which are paramount for women and their families. In order to improve neonatal outcomes, Midwives should avoid unfavorable maternal positions that may jeopardize fetal or newborn well-being in their efforts. It is suggested that upright positions and lateral position may potentially be conducive to improved neonatal outcomes, whereas lithotomy and supine position should be avoided for their possible deleterious effects. In a study which concerned the labor augmentation and fetal outcomes in relation to maternal positions, albeit the transfers to the neonatal intensive care unit (NICU) did not differ statistically significant among various maternal positions (RR:0.94; 95%CI 0.64-0.36), the authors noted that among two-thirds of the infants who were transferred to the NICU, 70% of their mothers were either in a semi-recumbent position ($n = 5$) or in supine with stirrups ($n = 17$) during the childbirth. Moreover, the results from an Australian study indicated women who gave birth in semi-recumbent position, their babies had more Apgar scores. Another systematic review and meta analysis was conducted by Berta et al (2019), to determine the effect of maternal flexible sacrum birthing positions on duration of second stage of labor in comparison with supine position, Cross sectional, observational, cohort studies and RCT studies comparing flexible sacrum (standing, kneeling, sitting, squatting and birthing ball and lateral positions) against supine position, were peer-reviewed and reported in original research articles were considered for the present review. All pregnant women with normal labor at health facility, the main comparison was the use of any upright or lateral position during the second stage of labor compared with supine or lithotomy/recumbent/semi-recumbent positions. The primary outcome was duration of second stage of labor. The research searched articles using bibliographical Databases: Medline/PUBMED, SCOPUS, Google scholar and Google. A total of 1985 women were included in the reviewed studies. Study included both qualitative and quantitative analysis. Results showed that, the second stage duration was reduced in cases of a flexible sacrum birthing position. Even though the reduction in duration varies across studies with considerable heterogeneity, laboring women should be encouraged to choose her comfortable birth position. (2) The Effect of Alternative Labor Positions Versus the Lithotomy Position on Birthing Outcomes: An Integrative Literature Review" was conducted by Gaffka, Kelsey et al (2016) Literature review examined the

differences in maternal and neonatal outcomes when alternative labor positions are used. Implications for future use of alternative labor positions were explored. Peer reviewed, English-language research articles published from 2009 to 2015 were included for synthesis. Study results revealed that the lithotomy position is linked to multiple negative maternal outcomes. Birthing in a water pool or in a lateral position has been linked to more optimal maternal and neonatal outcomes compared to other positions. Study recommended that Health care providers, and nurses in particular, should be educated on the benefits and consequences of both the lithotomy position and alternative labor positions.⁽³⁾

A systematic review and meta-analysis on effects of flexible sacrum positions during the second stage of labour on maternal and neonatal outcomes was conducted by Yu Zang et al (2020). Randomised controlled trials (RCTs) comparing any flexible sacrum position with non-flexible sacrum position in the second stage of labour were included. PubMed, EMBASE, Cochrane Library, CINAHL, CNKI (China National Knowledge Infrastructure), SinoMed and Wanfang databases were searched from inception to 11 March 2019 for published RCTs. Sixteen studies (3,397 women) published in English were included. Study concluded that Flexible sacrum positions in the second stage of labour could reduce the incidence of operative delivery, instrumental vaginal delivery, caesarean section, episiotomy, severe perineal trauma, severe pain and shorten the duration of active pushing phase in the second stage of labour. However, flexible sacrum positions may increase the incidence of mild perineal trauma. There was no significant difference in the duration of the second stage of labour, maternal satisfaction and other outcomes.⁽⁴⁾ Effects of upright positions during the second stage of labour for women without epidural analgesia: A meta-analysis was conducted in 2020. The Cochrane Library, PubMed, Embase, CINAHL and ProQuest databases were systematically searched from inception to 17 June 2019. Overall, 12 studies including 4,314 women were included. Upright positions significantly decreased the rate of instrumental vaginal delivery (risk ratio [RR] = 0.74, 95% CI 0.59-0.93), shortened the active pushing phase (mean difference [MD] = -8.16 min, 95% CI -16.29 to -0.02), decreased the rate of severe perineal trauma (RR = 0.35, 95% CI 0.14-0.87) and episiotomy (RR = 0.52, 95% CI 0.29-0.92), but significantly increased the rate of second-degree perineal trauma (RR = 1.45, 95% CI 1.10-1.90). However, there was no significant difference in the duration of the second stage of labour or postpartum haemorrhage.⁽⁵⁾ An overview of systematic reviews on Benefits and risks of upright positions during the second stage of labour was published in February 2021. This overview demonstrates that upright positions have both benefits and risks but the quality of the current evidence is relatively low. It is necessary for the researchers to conduct robust studies to provide stronger evidence. In addition, upright positions are recommended to be used depending on women's preferences and labour progress, but should also be carefully monitored especially in women with epidural analgesia. A systematic review and meta-analysis on Squatting position in the second stage of labor was published in 2020 November. Seven randomized controlled trials (n=1219) were included. Contrary to the above stated evidences this review concluded that, the available evidence does not show the squatting position during childbirth to be beneficial. As there is no evidence for or against squatting, women should be able to choose the position they prefer.⁽⁷⁾

Evidences from Cochrane Library: For centuries, there has been controversy around whether being upright (sitting, birthing stools, chairs, squatting, kneeling) or lying down (lateral (Sim's) position, semi-recumbent, lithotomy position, Trendelenburg's position) have advantages for women giving birth to their babies. Birth position can be influenced by many different factors including setting, mother's choice, caregiver preference, or medical intervention. To determine the possible benefits and risks of the use of different birth positions during the second stage of labour without epidural anaesthesia, on maternal, fetal, neonatal and caregiver outcomes, Cochrane has conducted and published systematic reviews in this topics in 1999,2004 & 2012.⁽⁸⁾

Updated systematic review on this is available in Cochrane Database of Systematic Reviews in 2017. This Cochrane review assessed the possible benefits and risks to the mother and baby, by giving birth in upright positions compared with supine positions and also looked at some individual upright positions for benefits and harms. Cochrane systematic review included 32 individual RCTs conducted in low-, middle- and high-income countries .Thirty trials involving 9015 women contributed data on upright compared with recumbent positions. Trial participants were nulliparous and/or parous women with uncomplicated singleton pregnancies at more than 36 weeks of gestation, except in two trials that included earlier gestations. Ten trials compared a birthing/squat stool, nine trials compared a birthing chair, and three trials compared a birth cushion with recumbent controls. This review found that there could be benefits for women who choose to give birth in an upright position. The length of time they had to push may be reduced but the effect was very small and these women might lose more blood. The results should be interpreted with caution because of poorly conducted studies, variations between trials and in how the findings were analysed. More research into the benefits and risks of different birthing positions would help us to say with greater certainty which birth position is best for most women and their babies. Overall, women should be encouraged to give birth in whatever position they find comfortable.

Evidences from Randomized Controlled Trials on birthing Positions (Indian Studies): A pilot study on Upright kneeling position during second stage of labor was conducted in Vardhman Mahavir Medical College and Safdarjung Hospital, New Delhi in 2017. Study findings were:- The mean duration of second stage of labour in kneeling group was shorter by 14.901 minutes. The rate of vaginal delivery was comparable for both primigravidas and multigravida in kneeling and supine groups, RR: 2.275, 95% CI (0.7872-6.5831) and RR: 1.633, 95% CI (0.393-6.775). Primigravidas had more 2nd degree perineal tears in kneeling group as compared to supine, RR 4.191, 95% CI (1.54 to 11.41). No difference in Apgar scores >7 at 5 minutes was observed in both groups, however, significantly lesser babies in kneeling group were admitted in NICU, RR 0.246, 95% CI (0.079 to 0.761). There was no difference on comparing satisfaction scores of primigravidas and multigravida in both supine and kneeling position. Study concluded stating that , Kneeling position reduces the duration of second stage of labour and NICU admissions.⁽⁹⁾ A Hospital-Based Randomized Controlled Trial—Comparing the Outcome of Normal Delivery Between Squatting and Lying Down Positions During Labour was conducted in in tertiary care centre in Maharashtra, carried over a period of 18 months . 212 female patients in labour assigned in Group A squatting position and Group B lying down position .The mean duration of second and third stages of labour in both multigravida and primigravida patients was significantly lower in Group A ($p < 0.05$). The mean amount of blood loss in Group A was significantly higher compared to Group B ($p < 0.05$). The mean VAS score assessing severity of pain at second stage and third stage of labour was significantly lower in Group A compared to Group B ($p < 0.05$). Study concluded that Squatting position was found much convenient for mothers in terms of less duration of second stage of labour, less number of patients administered oxytocin, lesser extension of episiotomy and greater maternal satisfaction on severity of pain.⁽¹⁰⁾

To compare outcome of labor among primigravidae in supported sitting versus supine-lithotomy position during the second and third stages of labor, Randomized two group post interventional study conducted at the Municipal Maternity Corporation Hospital Labor room , Bangalore from April-2008- September 2009. A total of 200 normal low risk term primigravidae with single vertex fetus in anterior position, adequate pelvis, in active labor were included. Group A assumed supported sitting posture while group B remained in routine supine-lithotomy position. The third stage of labor was conducted in their allotted positions. Supported sitting position compared with supine- lithotomy position was associated with reduced duration of second , third stages of labor, reduction in instrumental deliveries, reduced reporting of severe labor pain, fewer abnormal fetal heart rate patterns, higher Apgar scores of the

newborns, and insignificant difference in the amount of blood loss and application of episiotomies. ⁽¹¹⁾ A Prospective study of different postures during the second stage of labour and their outcome was carried out in Chennai, Tamil Nadu in December 2020. Pain perception using the visual analog scale was found to be more in supine, knee elbow position. Overall satisfaction was found better in squatting position than sitting, knee-elbow position in decreasing order. Multigravida patients preferred squatting posture than any other postures, due to their previous birth experience in the supine position. Primigravida patients preferred the supine position mostly. Blood loss in each posture compared by using under buttock drape. No one presented with postpartum haemorrhage. Duration of the second stage of labour is reduced in squatting and sitting position. ⁽¹²⁾ A quasi experimental research study on Effectiveness of Semi-Fowler's Position on Maternal Parameters and Fetal Heart Rate in Primigravid Women during Second Stage of Labour was carried out in Mangalore, Karnataka. Study findings were the Mean duration of second stage of labour in the semifowler position group was significantly lower than the dorsal recumbent position group. (t=13.03, p<0.05). ⁽¹³⁾

To assess the risks and benefits of squatting position during second stage of labour and its comparison with the supine position. study was conducted at the Department of Obstetrics and Gynaecology, Jinnah Postgraduate Medical Centre, Karachi from 1st January 1999 to 31st January 2000. A total of two hundred patients of similar ante partum, intrapartum and socio-economic conditions were selected. Only patients of gestation more than 37 weeks, presenting in active labour with cephalic presentation were included. In second stage, group A adopted the squatting position, while group-B remained supine in lithotomy position. There was no difference in the application of episiotomies in both groups, however extension of the episiotomy occurred in 7% patients of the non-squatting group (P < 0.05). Para urethral tears occurred in 5% patients in squatting group, but all occurred in patients who were not given an episiotomy. Second degree, and third degree perineal tears occurred in 9% patients in the non-squatting group but none in the squatting group (P < 0.05). Forceps application was also significantly less in group-A 11% and 24% in group-B (P < 0.05). There were two cases of shoulder dystocia in group B but none in the group-A. During the Third stage of labour there were no cases of retained placenta in group A but there were 4% cases of retained placenta and 1% case of postpartum haemorrhage of more than 500 ml due to atony of the uterus in group-B. One patient in the non-squatting position had to have a caesarean section due to persistent occipito posterior position. There was no significant difference in the apgar scores, foetal heart rate patterns or requirement of neonatal resuscitation. Study concluded that that squatting position may result in less instrumental deliveries, extension of episiotomies and perineal tears. ⁽¹⁴⁾

Recommendations by World Health Organization on birth Positions (Who) & Organizations Based on Existing Evidences

World Health Organization: In a publication by the World Health Organization (WHO) called "Care in Normal Birth," the WHO concludes that women in labor should adopt any position they like, while preferably avoiding long periods lying supine (WHO, 1996). They recommend that birth attendants need training in supporting births in other positions than supine, since much of the positive effect of upright birthing positions depends on the birth attendant's experience with the position and willingness to support the mother's choice of position. ⁽¹⁵⁾ WHO recommendations on "Intrapartum care for a positive childbirth experience (2018)" ⁽⁵¹⁾ also supports the usage of upright position during labour for women. For women with & without epidural analgesia, encouraging the adoption of a birth position of the individual woman's choice, including upright positions, is recommended. (Recommendations 34 & 35). WHO also recommends that the adoption of upright positions will require additional training arranging necessary equipments and practise as many practising doctors and midwives may not be familiar with conducting deliveries in upright positions. The World Health Organization identifies four care practices that promote, protect, and

support normal birth (Chalmers & Porter, 2001; World Health Organization Department of Reproductive Health and Research, 1999) In that, Care Practice No. 2 recommends Freedom of Movement Throughout Labor ⁽¹⁶⁾

Care Practice No. 2 - Freedom of Movement Throughout Labor ^(17,18): It is stated that Standing, walking, rhythmic swaying, leaning forward, and assuming the hands and knees position are examples of spontaneous movements that women instinctively use in response to pain or other sensations during labor. Labor may progress more efficiently when the woman responds to her own body's cues, assuming upright positions or changing position frequently to find the best "fit" for the fetus through the pelvis. Provider preferences, restrictive hospital policies, and the routine use of intravenous lines and fetal monitors that restrict movement result in the majority of women spending most or all of their labors in bed, often in the supine position. A systematic review of the effects of freedom of movement in labor found that policies encouraging nonsupine positioning or movement, or both, in labor may result in shorter labors, increased uterine contractility, greater comfort, and reduced need for pharmacologic pain relief (Simkin & O'Hara, 2002). ^(19,20) Maternal Positioning can be used to Correct some Complications of Labor. Certain labor complications may be corrected with maternal position changes. These include poor labor progress, "back labor," malposition of the fetus (such as occipitoposterior [OP] position or asynclitism), premature urge to push, persistent cervical lip, and certain fetal heart rate abnormalities. ⁽²⁰⁾ Position changes that are consistent with anatomic principles (such as squatting or kneeling positions to enlarge the pelvis) are generally safe and acceptable to women. Thus, they represent an optimal first-line approach to correcting a complication when the mother and fetus are in stable condition. Most positions are feasible (or may be modified to be feasible) for women with epidurals or electronic fetal monitoring, or both, or who are otherwise confined to the bed for medical reasons.

Recommendations by Lamaze International⁽²¹⁾: One of six care practice papers published by Lamaze International points to the benefit of non-supine positions for birth as evidence based practice that helps promote, protect, and support normal birth. Upright and gravity-neutral positions facilitate rotation and descent of the baby and result in reduced duration of second stage, a reduction in episiotomies, and fewer abnormal fetal heart rate patterns. Lamaze International recommends that laboring women not push until they feel an urge to do so, and that they choose positions for birth that are most comfortable for them.

Recommendations by the American College of Obstetricians and Gynecologists (Acog): In the U.S., the American College of Obstetricians and Gynecologists (ACOG) recommends that, for most people giving birth, "no one position needs to be mandated nor prescribed" (2017). In a Committee Opinion called "Approaches to Limit Intervention During Labor and Birth," ACOG states that it is normal for people in labor to assume many different positions and that no one position has been proven best. They cite the fact that many care providers encourage a supine position during labor even though it has known adverse effects. They suggested frequent position changes during labor to enhance maternal comfort and promote optimal fetal positioning can be supported as long as adopted positions allow appropriate maternal and fetal monitoring and treatments and are not contraindicated by maternal medical or obstetric complications. ⁽²²⁾

Other Evidence Based Recommendations:

- **The Royal College of Midwives (2018):** - The Royal College of Midwives (RCM) in the U.K. recommends the use of active and upright positions to assist with labor and delivery. In their guidelines, they urge midwives to be proactive in demonstrating and encouraging different positions in labor, since women often "choose" to do what is expected of them, and the most common image of the laboring woman is "on the bed." Since the environment is key to freedom of movement, RCM suggests that

there should be a variety of furniture and props available in the room to encourage people to try different positions: bean bags, mattresses, chairs, and birth balls. They recommend that midwives support mothers with suggestions on how to remain upright even if they're in a situation that might limit mobility—such as with traditional EFM, intravenous (IV) fluids, and different medications for pain relief. RCM suggests that midwives should support women to adopt any position they choose during labour and birth and to change positions as and when they want to. Midwives should advise women that upright positions during the second stage of labour may reduce the likelihood of interventions such as instrumental births, episiotomies and concern about foetal heart patterns. . For women with low obstetric risk, the freedom to explore a range of positions during delivery should always be encouraged. It's a core skill for midwives and doulas and a key contribution towards a positive birth experience .⁽²³⁾

- **Care Quality Commission (2018):-** recommend that professionals should encourage and help the woman to move about and adopt whatever positions she finds most comfortable throughout labour.⁽²⁴⁾
- **Midwifery Organizations:** - In 2012, three U.S. midwifery organizations - American College of Nurse Midwives (ACNM), Midwives Alliance of North America (MANA), and National Association of Certified Professional Midwives (NACPM) came together to create a consensus statement on supporting healthy, physiologic childbirth (U.S. Midwives, 2012). They stated that freedom of movement in labor and the woman's choice of birth position are essential to this goal.⁽²⁵⁾

REFERENCES

- ACOG Committee Opinion No. 766 Summary: Approaches to Limit Intervention During Labor and Birth. *Obstet Gynecol.* 2019 Feb;133(2):406-408. doi: 10.1097/AOG.0000000000003081. PMID: 30681540.
- American College of Nurse-Midwives, Midwives Alliance of North America, National Association of Certified Professional Midwives. Supporting healthy and normal physiologic childbirth: a consensus statement by ACNM, MANA, and NACPM. <http://mana.org/pdfs/Physiological-Birth-Consensus-Statement.pdf>. Published May 14, 2012. Accessed March 2, 2014.
- Berta, M., Lindgren, H., Christensson, K. *et al.* Effect of maternal birth positions on duration of second stage of labor: systematic review and meta-analysis. *BMC Pregnancy Childbirth* **19**, 466 (2019). <https://doi.org/10.1186/s12884-019-2620-0>
- Care Quality Commission 2018, 2017 Survey of Women's Experiences of Maternity Care Statistical Release [online] Newcastle upon Tyne: Care Quality Commission, p.40, viewed 22 November 2019, https://www.cqc.org.uk/sites/default/files/20180130_mat17_statisticalrelease.pdf
- Chalmers B, Mangiaterra V, Porter R. WHO principles of perinatal care: the essential antenatal, perinatal, and postpartum care course. *Birth.* 2001 Sep;28(3):202-7.
- Council LI, Keen R, DiFranco J, Amis D, Albers L. # 5: non-supine (eg, upright or side-lying) positions for birth. *The Journal of perinatal education.* 2004; 13(2):30.
- Dabral A, Pawar P, Bharti R, Kumari A, Batra A, Arora R. Upright kneeling position during second stage of labor: a pilot study. *Int J Reprod Contracept Obst Gynecol.* 2018;7(2):401-7.
- Dokmak F, Michalek IM, Boulvain M, Desseauve D. Squatting position in the second stage of labor: A systematic review and meta-analysis. *Eur J Obstet Gynecol Reprod Biol.* 2020 Nov;254:147-152. doi: 10.1016/j.ejogrb.2020.09.015. Epub 2020 Sep 15. PMID: 32966958.
- Gaffka, Kelsey, "The Effect of Alternative Labor Positions Versus the Lithotomy Position on Birthing Outcomes: An Integrative Literature Review" (2016). Honors Undergraduate Theses. 94. <https://stars.library.ucf.edu/honorstheses/94>
- Gupta, J. K., Sood, A., Hofmeyr, G. J., & Vogel, J. P. (2017). Position in the second stage of labour for women without epidural anaesthesia. *Cochrane Database of Systematic Reviews*, CD002006, <https://doi.org/10.1002/14651858.CD002006.pub4>
- Huang J, Zang Y, Ren LH, Li FJ, Lu H. A review and comparison of common maternal positions during the second-stage of labor. *International journal of nursing sciences.* 2019 Oct 10;6(4):460-7.
- Jose A, Mathias A. Effectiveness of Semi-Fowler's Position on Maternal Parameters and Fetal Heart Rate in Primigravid Women during Second Stage of Labour. *International Journal of Health Sciences and Research (IJHSR).* 2015;5(7):283-9.
- Nasir A, Korejo R, Noorani KJ. Child birth in squatting position. *Journal-Pakistan Medical Association.* 2007 Jan 1;57(1):19.
- Romano AM, Lothian JA. Promoting, protecting, and supporting normal birth: A look at the evidence. *Journal of Obstetric, Gynecologic & Neonatal Nursing.* 2008 Jan 1;37(1):94-105.
- Royal College of Midwives 2018, 'Midwifery Care in Labour Guidance For All Women in all Settings, RCM Midwifery Blue Top Guidance', RCM, pp.16-17.
- Sekar L. Prospective study of different postures during the second stage of labour and their outcome. *International Journal of Clinical Obstetrics and Gynaecology* 2021; 5(1): 234-239
- Shedmake PV, Wakode SR. A Hospital-Based Randomized Controlled Trial—Comparing the Outcome of Normal Delivery Between Squatting and Lying Down Positions During Labour. *The Journal of Obstetrics and Gynecology of India.* 2021 Mar 13:1-6.
- Simkin P, Hanson L, Ancheta R. The labor progress handbook: early interventions to prevent and treat dystocia. John Wiley & Sons; 2017 Feb 13.
- Simkin PP, O'hara M. Nonpharmacologic relief of pain during labor: systematic reviews of five methods. *American journal of obstetrics and gynecology.* 2002 May 1;186(5):S131-59.
- Technical Working Group, World Health Organization. Care in normal birth: a practical guide. *Birth.* 1997 Jun;24(2):121-3.
- Thilagavathy, Ganapathy. "Maternal birthing position and outcome of labor." *RUGHS Journal of Nursing Sciences* : May 2011 / Vol 1 / Issue 1
- World Health Organization. WHO recommendations on intrapartum care for a positive childbirth experience. World Health Organization; 2018 Jun 25.
- Zang Y, Lu H, Zhang H, Huang J, Ren L, Li C. Effects of upright positions during the second stage of labour for women without epidural analgesia: A meta-analysis. *J Adv Nurs.* 2020 Dec;76(12):3293-3306. doi: 10.1111/jan.14587. Epub 2020 Oct 3. PMID: 33009847.
- Zang Y, Lu H, Zhang H, Huang J, Zhao Y, Ren L. Benefits and risks of upright positions during the second stage of labour: An overview of systematic reviews. *Int J Nurs Stud.* 2021 Feb;114:103812. doi: 10.1016/j.ijnurstu.2020.103812. Epub 2020 Oct 29. PMID: 33217662
- Zang Y, Lu H, Zhao Y, Huang J, Ren L, Li X. Effects of flexible sacrum positions during the second stage of labour on maternal and neonatal outcomes: A systematic review and meta-analysis. *Journal of Clinical Nursing.* 2020 Sep;29(17-18):3154-69.
