The Effect of Hypnobirthing Method to Prevent Imminent Prematural Delivery Through Reducing Stress Levels in Factory Working Mothers

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KEYWORDS
Hypnobirthing, Imminent Premature Parturition, Stress Level, Factory Working Mothers.

ABSTRACT
Every day, a total of 800 women die from complications that occur during pregnancy and childbirth. Preterm birth is a major challenge in perinatal health care. In the United States, one in eight babies (12%) is born prematurely; of these, 80% are born at 32-36 weeks of gestation and 20% are born at 22-32 weeks. Premature babies (<32 weeks) are at increased risk of neonatal mortality and morbidity. One of the factors causing premature birth is antenatal depression. A systematic review of studies conducted in developed and low-income countries reported the prevalence of antenatal depression in the range of 5% to 30% and 15.6% to 31.1%). Increased risk of premature birth 1.2 times premature birth and 1.3 times risk of low birth weight. Sociodemographic factors play a major role in the incidence of imminent premature labor. The results of a study in 2014 showed that 54.8% of mothers giving birth at Sidoarjo Regional Hospital had a heavy workload. The results of the study showed that there was a relationship between the workload of pregnant women and the incidence of preterm labor with a p value = 0.008 (P <0.05). Pregnant women with heavy workloads are caused by mothers having jobs with a shift work system, long working hours >7 hours/day or >49 hours/week, working in factories with an average break time of 1 hour and activities such as lifting or pushing goods. In addition, after working outside the home, mothers still do household chores such as cooking, sweeping, washing without the help of others. The reason mothers work on average is to help the family economy. Other factors are anxiety in pregnancy, health risks, domestic violence, length of work per day, nutritional factors during work, length of rest at work, partner support, household income, mother's education level, mother's age, parity Hypnobirthing relaxation provides positive suggestions to the mother. This suggestion changes beta brain waves (conscious mind) into alpha waves (unconscious mind) in the cerebral cortex, then a sensory association process occurs which causes stimuli to be analyzed, understood and arranged into an object and the meaning of the stimulus. The provision of one hypnosis session referring to The Creative Psychosocial Genomic Healing Experience protocol can significantly increase immediate-early gene expression (Zif-268), increase stem cell activity, reduce stress and inflammation at the cellular level. This study aims to explain the effectiveness of the influence of hypnobirthing on reducing the scale of depression in Partus Prematurus Imminens. The expected benefits in this study are to develop the potential for preventing premature labor with the hypnobirthing method.

1. Introduction

Imminent premature labor (IPP) is a threat to pregnancy where signs of labor appear at a gestational age that is not yet term (20 weeks - <37 weeks) and the baby's birth weight is less than 2500 grams. Imminent premature labor (IPP) is a high-risk complication in pregnancy that not only has a negative impact on the health of the pregnant mother, but can also cause impacts on the baby, including neonatal death, cerebral palsy, cognitive impairment, blindness, deafness, respiratory disease, and neonatal complications (Purwoko et al., 2023). The incidence of prematurity and premature infant mortality in Indonesia are still relatively high. Indonesia is ranked in the top 10 out of 184 countries with a high incidence of prematurity, namely 15.5 premature births per 100 live births. Judging from the number of babies born prematurely, Indonesia is the fifth country with the largest number of premature babies in the world, namely 675,700 babies (Rizqiani & Yuliana, 2014). In terms of the number of deaths, Indonesia is ranked 7th out of 10 countries with a high number of premature infant deaths, which is 25,800 deaths (Naufal et al., 2021). In Sidoarjo Regency in 2018, the infant mortality rate was 6.27 per 1000 live births with 60% caused by prematurity (Ministry of Health, 2018). Based on the results of a study at Sanglah Hospital, Denpasar, the prevalence of PPI was 4.1%. Most PPI patients are between 20-35 years old, 76.19%, although age is not a risk factor but many other factors play a role. The largest occupation of PPI patients is housewives at 45.24% and the lowest is students at 2.39%, heavy work and tiring work conditions can increase the risk of premature birth. Most PPI patients are nulliparous (64.29%), because the pregnancy that occurs in nulliparous patients is the patient's first pregnancy so that there is minimal experience, readiness, and knowledge in dealing with pregnancy and how to maintain pregnancy. This can cause several pregnancy complications such as premature rupture of membranes, infection, and stress during pregnancy so that PPI can occur (Widiana, 2019).

Premature births cannot be separated from various influencing factors. There are many factors that cause premature birth. These factors include lifestyle such as late or never having a pregnancy check-up, smoking, drinking alcohol, using illegal drugs, domestic violence (including physical, sexual, or emotional violence), lack of social support, high stress, and work that requires long standing hours. Various medical conditions can also cause premature birth, namely pelvic inflammatory disease, sexually transmitted diseases, urinary tract infections, high blood pressure, diabetes, blood clotting disorders, underweight or overweight conditions before pregnancy, too close a gap between pregnancies, abnormalities in the baby, vaginal bleeding, weak cervix, premature rupture of membranes, history of previous premature birth, uterine abnormalities, malnutrition, pregnancy at age >35 years or <19 years, twin, triplet or more pregnancies, and uterine or cervical abnormalities, can also increase the risk of premature birth (Tri, 2022).

The results of the study obtained socio-demographic data of women, older couples have more life experience and coping skills to face challenges such as Partus Prematurus Imminens (PPI). Couples with high socio-economic status will have a positive perception of themselves compared to couples with low socio-economic status. The study showed that the level of depression in PPI women was 27.7% for women with high family support and 50% for women with low family support. Found exclusively in PPI women, social support was positively associated with resilience, active coping, and positive affect, and negatively associated with stress, passive coping, negative affect, and depression (Pramudyaningrum et al., 2019). The results of a study in 2014 showed that 54.8% of mothers giving birth at Sidoarjo Hospital had a heavy workload. The results showed that there was a relationship between the workload of pregnant women and the incidence of preterm labor with a p value = 0.008 (P <0.05). Pregnant women with heavy workloads are caused by mothers having jobs with a shift work system, long working hours >7 hours/day or >49 hours/week, working in factories with an average break time of 1 hour and activities such as lifting or pushing goods. In addition, after working outside the home, mothers still do household chores such as cooking, sweeping, washing without help from others. The reason mothers work on average is to help the family economy (Sitio & Widyastuti, 2019).

Pregnant factory workers reported that they felt stressed because of work and panicked about losing their jobs if they could not meet production quotas due to pregnancy. They did not get enough rest or sleep. Factory doctors reported that pregnant women experienced hypertensive disorders due to the nature of their work such as working long hours in one position, and that work-related stress can cause hypertensive disorders during pregnancy.

Stress in humans can occur acutely and chronically, acute stress is related to immediate danger that appears quickly which stimulates the sympathetic nervous system's fight response. Biochemical variations play an important role in influencing changes in neurophysiological reactions to stress in adults and children. These chemical changes can result in psychosomatic disorders. Most of the neuro-biochemical variations associated with stress are a consequence of stimulation of the sympathetic nervous system, specifically: the fight-or-flight response. In acute stress, this response triggers the release of substances such as catecholamines, including epinephrine, norepinephrine (NE) and cortisol, from the adrenal glands. A number of neurotransmitters, neuropeptides and hormones have been associated with long-term psychiatric outcomes in psychosomatic disorders (Illie, 2020).

In terms of psychological factors, numerous studies have linked cortisol to stress, anxiety and mood in pregnancy. Specifically, higher pregnancy anxiety has been associated with a steeper trajectory of cortisol increases during pregnancy. Based on these findings, the higher cortisol observed in first-time pregnant women (primiparas) compared to those who have previously given birth (multiparas) during pregnancy is partly mediated by higher pregnancy-specific anxiety among primiparous women.

Cortisol dysregulation in preterm infants has been associated with maternal cortisol levels during pregnancy. Excess maternal cortisol may be associated with maternal stress from a variety of social variables. Specifically, socioeconomic status, financial stress and exposure to negative life events have been found to increase individual stress and may be predictive of poor health outcomes in these individuals.

Significant associations between adverse maternal psychosocial factors and disturbances in the HPA axis hormones, adrenocorticotropic hormone (ACTH), corticotropin-releasing hormone (CRH) and cortisol; and the correlation between CRH and preterm birth, have been demonstrated in previous studies. These findings suggest a complex relationship between maternal stress, the HPA axis, and preterm birth. Although excessive prenatal exposure to maternal cortisol in the intrauterine environment has been associated with adverse outcomes for

infants later in life, little research has examined the relationship between maternal stress and cortisol and complications in the first few weeks of life. Hypnosis is a procedure involving cognitive processes (such as imagery) in which the subject is guided by a hypnotist to respond to suggestions for changes in sensations, perceptions, thoughts, feelings, and behaviors. Hypnosis can alter and eliminate the psychological experience of pain as well as the neurophysiological processes of pain in the brain. Medical hypnotherapy involves teaching patients to enter a trance state of self-awareness, focused attention, selective wakefulness, and reinforced suggestions for specific purposes such as relaxation, pain or anxiety, or psychological symptom relief (Stewart, 2005).

Hypnobirthing is a form of hypnotherapy known to have a very important role in preventing premature birth. The cause of premature birth is generally due to pregnancy complicated by higher levels of psychosocial stress. Hypnobirthing combined with conventional pharmacological therapy can significantly extend the duration of pregnancy threatened by premature birth, which is an average of 18.8% longer than patients treated with drugs alone (Brown, 2007).

Several things that affect hypnobirthing can extend the duration of pregnancy imminent premature birth include first, patients learn to control stress in psychosocial changes in pregnancy. Second, hypnobirthing can be used to teach patients to be more aware of contractions, and therefore start pharmacological therapy at an earlier and more effective point in pregnancy. Third, the relaxation effect of hypnobirthing not only makes the tolerance of pharmacological therapy that functions to relax the uterine muscles, directly reducing the possibility of premature birth. Hypnobirthing can also increase patient motivation to continue the pregnancy to completion through increased self-efficacy. The extra attention and social support provided to patients taught hypnobirthing may also contribute to a reduced incidence of prematurity (Brown, 2007).

Hypnobirthing helps relax the uterine muscles and improves placental circulation and overcomes psychosocial stress during pregnancy, which can produce good outcomes. Clinical hypnobirthing is a method that intentionally induces a hypnotic state in patients through verbal guidance, and utilizes its properties and characteristics for targeted therapeutic purposes. It appears that the increased suggestibility in this altered state of consciousness provides an opportunity to change a mother's behavioral and emotional patterns regarding childbirth (Shah et al, 2011).

The novelty in this study is that hypnobirthing has not been widely applied to the prevention of imminent premature labor by measuring stress levels in working mothers as well as the presence of contractions and threats of cervical dilation. This study is needed because of the need to prevent premature labor, so that the application of hypnobirthing in cases of imminent premature labor can be used as one of the prevention efforts. The novelty in sociodemographic factors in this study is focused on sociodemographic factors in mothers working in factories that are associated with the prevention of imminent premature labor through the provision of hypnobirthing.

2. Research Methods

This study uses a quasi-experimental research design, which is an experimental study that controls the research situation using a non-randomized method. Quasi-experiments are conducted if the allocation of research factors to research subjects is impossible, unethical, or impractical to do randomly. This research design uses a non-equivalent control group design, where the effect of treatment is determined by comparing changes in the values of the outcome variables in the treatment group with changes in the values in the control group (Ball, 2021). This study used a quasi-experiment because it used respondents of pregnant women with imminent premature labor which would be unethical if randomized.

The research location for taking respondents was carried out at Bhayangkara Porong Hospital and Jasem Hospital, Sidoarjo Regency. The research time was carried out in 2023 with a research period of 6 months. The source population (accessible population) in this study were all female factory workers who experienced imminent premature labor at Bhayangkara Porong Hospital and Jasem Hospital, Sidoarjo Regency. The sample in this study were eligible participants who agreed to participate in this study, which would be randomized to enter the experimental/treatment group and the control group with the inclusion criteria of participants working in factories experiencing imminent premature labor and participants not experiencing other disease complications. The collected data were analyzed univariately, bivariately and multivariately.

3. Result and Discussion

The Effect of Hypnobirthing on Stress Levels

This study shows that there is an effect between hypnobirthing on stress levels between the treatment group and 2 control groups, where in the treatment group there was a significant decrease in stress levels compared to the control group. The average in the hypnobirthing group decreased by about 6 points for stress levels after hypnobirthing treatment. The results of the study indicate that hypnosis techniques can reduce fear and anxiety about childbirth, change the way people view pain, and have a better childbirth experience. Hypnosis techniques have also been shown to produce a sense of being able to overcome problems through a strong sense of control and greater self-confidence. Childbirth is a mental challenge for a woman in addition to physical. It requires an environment that is friendly to the individual and supports good mental health. The psychological components of maternal care are not well integrated during this process.

Emotional stress activates the autonomic nervous system, which then suppresses the hypothalamus. Through the frontal, parietal, occipital, and temporal lobes of the brain, emotional stress messages are sent to the amygdala. There, emotional messages are processed and sent to the hippocampus, which functions as a channel. From the hippocampus, emotional signals are sent to the hypothalamus to initiate chemical reactions that correspond to the signals. The hypothalamus functions as a center and sends messages to the right brain, which is responsible for the subconscious, and the left brain, which is responsible for consciousness (Hernawati, 2013).

Similar messages are also activated in the right and left brain if they occur in previous experiences. The anterior pituitary efferently receives chemical signals from it. After being sent to the anterior pituitary, GnRH released into the blood decreases, LH and FSH released from the anterior pituitary decrease, and estrogen and progesterone release from the ovaries decreases. Corticotropin Releasing Hormone (CRH) is also released when stimulation moves from the hypothalamus to the anterior pituitary. This results in the release of Adrenocorticotropic Hormone (ACTH) and endorphins from the anterior pituitary. In addition, b-endorphins increase the release of cortisol.

Anxiety, which is common in pregnant women and is defined as fear caused by circumstances that can significantly change a person's life. Pregnancy and childbirth, although a natural and important phase for women, involve many experiences and problems that can cause anxiety and stress. These experiences have significant cultural, emotional, and psychological implications for women and their families. Psychological and emotional stress during pregnancy can be caused by many things, such as cesarean section, painful labor, high blood pressure, infection, stillbirth, gestational diabetes, digestive problems, miscarriage, and preeclampsia. Psychological stress is closely related to such complications, which cause anxiety, stress, and depression in pregnant women (Marwah et al., 2023). The impact of pregnancy-related anxiety is not only felt by the mother, but also the fetus and family, with anxiety associated with various maternal health conditions such as preeclampsia, depression, nausea, and vomiting. In addition, pregnant women who face anxiety are more susceptible to stress, depression, sleep disturbances, difficulty staying calm, anxiety, and ongoing negative thoughts. In addition, children born to mothers who experience stress are at risk of giving birth prematurely, losing weight, requiring a cesarean section, and experiencing complications during labor (Aisyah & Prafitri, 2024).

Hypnobirthing relaxation techniques offer a combination of relaxation techniques, self-hypnosis, and body relaxation that are specifically designed for use during and before childbirth. Empirical evidence shows that hypnobirthing is effective in reducing maternal pain, anxiety, and dissatisfaction during pregnancy. This method is praised for preparing women physically, emotionally, and psychologically for childbirth and producing a calm and pleasant birth. This technique emphasizes the process of introspection, breathing and gradual release, and the art of experiencing childbirth in a calm and peaceful manner. Instructing women to relax their bodies, uterine muscles, and perianal area to allow for a controlled birth, this method is also very important for increasing women's confidence, belief, and optimism about the possibility of a successful birth (Putra, 2016).

Gestational age contributes to increased levels of anxiety among pregnant women, underlining anxiety as a common psychological problem among pregnant women, with reported rates as high as 50.4% (Aulia, 2024). Hypnobirthing therapy, the intervention in this study, showed a significant reduction in anxiety levels in the experimental group; they achieved normal anxiety levels in 67% of participants, while a significant difference in mean anxiety levels between the experimental group (7.67) and the control group (12.07) indicated that this

intervention was not only effective but also correlated with research findings on abnormal pregnancies.

Hypnobirthing therapy has emerged as an important way to relieve anxiety in pregnant women about childbirth complications. We found results that are in line with previous studies showing a significant decrease in fear of childbirth among the experimental group compared to the control group. These results also indicate that hypnobirthing is very effective in relieving psychological anxiety and increasing tolerance to pain during childbirth (Lubis, 2022).

Effect of Hypnobirthing on Uterine Contractions

This study shows that there is an effect between hypnobirthing on uterine contractions, uterine contractions seen from the number of contractions and the duration of contractions in the treatment group and 2 control groups. The effect between at least 2 groups was analyzed using the Friedman test and the Wilcoxon post hoc test was carried out to determine the differences between the 3 groups. Preterm labor or PPI occurs when uterine contractions occur before the pregnancy reaches 37 weeks. WHO states that around 10-11% of preterm births occur worldwide each year. In Indonesia, WHO states that around 16% of preterm births occur, placing Indonesia in fifth place in the world in terms of the number of preterm births. Tocolytic therapy is used to suppress uterine contractions in the treatment and prevention efforts (Nurhikma et al., 2017).

Partus prematurus imminens (PPI) is a pregnancy risk caused by uterine contractions when the pregnancy has not reached 37 weeks. This is also known as premature labor (Prisca, 2022). Babies with low birth weight are often followed by increased neonatal morbidity and mortality. Worldwide, premature birth is very dangerous for pregnant women. Babies born before 32 weeks or weighing less than 1,500 grams are considered premature (Srimiyati & Ajul, 2021). Every country faces the problem of premature birth. WHO records 10-11% of premature births each year worldwide. However, in Indonesia itself, WHO records 16% of premature births, placing Indonesia in fifth place in the world in terms of the number of premature births. The preterm birth rate in Indonesia was 14 per 1,000 live births in 2016, 13.8 per 1,000 live births in 2017, and 29.5 per 1,000 live births in 2018 (Purwoko et al., 2024).

One of the main symptoms of premature labor is uterine contractions. Uterine contractions are the main symptom of preterm labor, and the use of tocolytic therapy can help stop uterine contractions which aims to prolong the gestational age and delay labor. Babies born prematurely will have a higher risk of death than babies born normally. Tocolytic therapy can stop uterine contractions, which delay labor and prolong the life of the pregnancy (Nurhikma et al., 2017). In addition to giving tocolytics, hypnosis/hypnobirthing can also be added. During hypnosis, the body becomes relaxed and the mind becomes more focused. Like other relaxation approaches, hypnosis lowers blood pressure and heart rate, and modifies brain wave activity. In this relaxed state of consciousness, we can feel fully awake mentally, and may be very responsive to positive suggestions. Hypnosis is a deep mental and physical relaxation, which allows us to access our emotions, memories, and inner self. Hypnotherapy uses this state of relaxation to allow us to tap into our inner resources and gain access to the root cause of the problem, one of which is decreased uterine contractions.

The Effect of Hypnobirthing on Cervical Uterine Dilation

This study shows that there is an effect between hypnobirthing on cervical uterine dilation between the treatment group and 2 control groups, where in the treatment group there was no significant increase in dilation which means that hypnobirthing can prevent imminent premature labor. The myometrium must remain in a still condition during pregnancy to accommodate the growth and development of the placenta and fetus. The myometrium must be a highly coordinated organ at the time of labor with regular contractions. Control of labor time involves complex interactions between the mother, fetus, and placenta. The right time of onset of labor is an important determinant of perinatal outcomes. Both preterm birth (delivery before 37 weeks of gestation) and postmature pregnancy (pregnancy more than 42 weeks) are both associated with significant increases in perinatal morbidity and mortality. There are several paracrine/autocrine events, fetal hormonal changes and overlapping maternal/fetal control mechanisms to trigger the labor process (Middleton et al., 2018).

In pregnancy there is a dynamic balance between the forces that cause uterine quiescence and the forces that produce coordinated uterine contractility. There is also a balance between the forces that keep the cervix closed to prevent uterine emptying and the forces that soften the cervix and allow it to dilate. Term labor is physiologically considered to be the release of the inhibitory effects of pregnancy on the myometrium. Human labor at term is a multifactorial physiological event involving the integrity of endocrine, paracrine, and autocrine

factors that lead to gradual changes in the maternal uterine tissue (myometrium, decidua, and uterine cervix) (Kota et al, 2013).

Hypnosis is known to play a very important role in preventing preterm labor. The cause of preterm labor is generally due to pregnancy complicated by higher levels of psychosocial stress. Hypnosis combined with conventional pharmacological therapy can significantly prolong the duration of pregnancy threatened by preterm labor, which is an average of 18.8% longer than patients treated with drugs alone (Brown, 2007).

Hypnosis in prolonging the duration of pregnancy threatened by preterm labor has several levels. First, patients learn to manage the stress of the psychosocial changes of pregnancy. Second, hypnosis can be used to teach patients to become more aware of contractions, and therefore initiate pharmacological therapy at an earlier and more effective point in pregnancy. Third, the relaxation effects of hypnosis not only make the tolerance of pharmacological therapy that works to relax the uterine muscles, directly reducing the likelihood of preterm labor. Hypnosis can also increase the patient's motivation to continue the pregnancy to completion through increased self-efficacy. The extra attention and social support provided to patients who are taught hypnosis may also contribute to a decreased incidence of prematurity (Brown, 2007).

The Effect of Hypnobirthing Method to Prevent Imminent Premature Labor in Factory Workers

Based on the PLS SEM test, it was found that hypnobirthing had an effect on stress levels and prevention of PPI and stress levels had an effect on prevention of PPI. The R Square value of PPI prevention was 0.315 with a moderate category, where 31.5% of PPI prevention was influenced by hypnobirthing, sociodemographics, environmental stressors, obstetric history, stressor levels. The remaining 68.5% were influenced by factors other than these factors. The R Square value of stress levels was 0.487 with a moderate category, where 48.7% of stress levels were influenced by hypnobirthing, sociodemographics, environmental stressors, obstetric history. The remaining 51.3% were influenced by factors other than these factors.

The chance of giving birth prematurely among respondents exposed to domestic violence was 14% greater than respondents who were not exposed (AOR-1.143, 95% CI-0.386-3.384). The odds of having a low birth weight baby among respondents who were not exposed to domestic violence were three times lower than those who were exposed (AOR-0.237, 95% CI-0.093-0.602) and almost neutral to abortion among respondents who were exposed and not exposed to domestic violence (AOR-0.021, 95% CI-0.003-0.175). This finding is consistent with a study conducted in Vietnam which stated that pregnant women who were exposed to physical violence during pregnancy were five times more likely to have a preterm birth and almost six times more likely to have a child with a low birth weight compared to those who were not exposed to physical violence. There was a strong association between exposure to domestic violence and the incidence of preterm and low birth weight babies and it was also found that the risk of poor birth outcomes increased when pregnant women were exposed to more than one type of violence. There was no statistical significance of domestic violence with infant mortality in this study (Rosa, 2008).

When considering prolonged standing at work, previous studies reported a significant increase in risk while more recent studies reported a risk below one. This difference is not due to differences in exposure levels. In contrast to heavy lifting, exposure levels were close to the highest possible levels in all studies (6–8 hours of standing at work per day). However, the reliability of self-reported standing at work is unknown, may be inaccurate, and may not include breaks taken during the workday. The slightly elevated RRs in previous studies may be due to recall bias, and the only study with prospective exposure data did not show an increased risk.

According to the American Society of Clinical Hypnosis, hypnosis is defined as a state of inner absorption, concentration, and focused attention, in which a person is highly responsive to suggestion and is accompanied by various processes (induction, deepening, and closure) and techniques (such as focused attention, metaphors, and suggestions). Hypnosis can help women change their beliefs about childbirth, which can result in greater self-confidence, lower anxiety, lower muscle tension, and ultimately pain. However, the various phases and elements of the intervention, such as the relaxation phase, suggestions, and patient-therapist interaction, are still unclear. The model states that hypnosis directly affects the sensory part of pain. This is achieved through recalibration techniques before pain, increasing the pain threshold and reducing pain.

However, the evaluation of hypnosis during labor and delivery is a methodological problem because it is a complex intervention. First, the way hypnosis reduces pain is still unclear. The ability to cope with pain and its components (affective, sensory) can be influenced by hypnosis using various techniques (focused attention,

metaphors, and suggestions). Second, when studies are combined in meta-analyses, it is noted that interventions are heterogeneous. For example, a practitioner can give you hypnosis directly or a trained expectant mother can do it herself. In addition, self-hypnosis training courses vary from individual to group, with varying numbers of sessions, with or without a partner, and sometimes involve audio recordings for home practice. Third, there is still the problem of assessing the relevant outcomes. The main idea is that hypnosis can enable women to transform labour and birth into a more positive experience for themselves. It appears that women are reluctant to use self-hypnosis during labour because of a lack of support. It appears that support and recognition from partners and medical institutions are essential to support women in their decision to use and benefit from hypnosis. Second, hypnosis may focus more on the affective aspect of pain than the sensory aspect. This suggests that hypnosis may not prevent pain from occurring, but rather help manage it. Techniques to reduce fear and anxiety and strategies to increase self-confidence, encourage active participation and increase inner security for women may have an impact on the affective component of pain. This may result in less discomfort and a more positive birth. The affective component of pain and the sensory component of pain are linked to different cortical areas.

4. Conclusion

Based on the results of the study, it can be concluded that the hypnobirthing technique has a significant effect on various aspects related to the labor process of factory worker mothers. Hypnobirthing has been proven effective in reducing stress levels, increasing the number and duration of uterine contractions, and accelerating cervical dilation. In addition, this technique also plays a role in reducing cortisol levels associated with stress, which in turn helps prevent premature labor imminens (PPI). The effect of hypnobirthing on preventing PPI also occurs indirectly through reducing stress levels in mothers. However, no significant effect was found from obstetric history, sociodemographics, or environmental stressors on stress levels and prevention of PPI. This study confirms the importance of the hypnobirthing technique in supporting the health of pregnant workers, especially in reducing the risk of premature labor due to stress.

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