

# Hypnobirthing and Prenatal Yoga on Pain and Labor Duration: Literature Review

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## ABSTRACT

**Background:** Pregnancy and childbirth are natural processes expected to become subconsciously-recorded experiences, which affects the pain and duration of labor. Hypnobirthing and prenatal yoga as alternative non-pharmacological methods for a complementary alternative for pregnant women holistically (body, mind, soul) are considered adequate to reduce pain and duration of labor. However, few have adopted and researched the combination of the two methods.

**Aim:** To examine research articles on the effectiveness of hypnobirthing and prenatal yoga on pain and duration of labor.

**Methods:** This study used a literature review using journals or articles selected based on predetermined criteria. Eight out of 11 reports concluded that hypnobirthing effectively reduced pain and duration of labor, while three articles had the opposite result. Ten articles on prenatal yoga discovered its effectiveness in reducing pain and time of labor. Meanwhile, one combined report on hypnobirthing and prenatal yoga showed their efficacy to reduce labour duration.

**Conclusion:** Hypnobirthing and prenatal yoga effectively reduce pain and duration of labor for the first, second, and third stages mothers with appropriate application standards. The combination of Hypnobirthing and Prenatal Yoga is necessary to obtain maximum results.

**Keywords:** Hypnobirthing, hypnosis, prenatal yoga, labor pain, duration of labor, length of labor.

## INTRODUCTION

Pregnancy and childbirth are priceless blessings in a family. The period of pregnancy and childbirth is a natural or normal physiological process. Both should be a pleasing spiritual event and become a positive experience recorded in the subconscious and not vice versa into a negative and very traumatic experience. That is in line with previous research, which shows that must create a positive childbirth experience in various ways and practices of care and preparation from the start of pregnancy and during delivery. Negative experiences will impact the emergence of multiple complications during pregnancy and childbirth. It will further increase maternal morbidity and mortality.

The maternal mortality rate in Indonesia is still high in 2018 – 2019 at 305 per 100,000 live births(1). The Maternal Mortality Rate in South Kalimantan Province itself tends to experience ups and downs in achievements over the last four years, and in 2019 it was 92 per 100,000 live births<sup>2</sup>. It illustrates the need for better performance from professionals, especially midwives, as the front line to reduce maternal morbidity and mortality in Indonesia, especially in South Kalimantan.

Various studies have been conducted to examine the methods practised during pregnancy and childbirth to prevent negative labour experiences caused by pain and length of labour. Health professionals need to pay attention to this. One of them is the CAM (Complementary and Alternative Medicine) method as a non-pharmacological therapy used as an adjunct to pharmacological treatment. Several CAM methods that are widely used to treat pain and length of labour are commonly developed in Indonesia are hypnobirthing, prenatal yoga, aromatherapy, acupressure. Many other procedures are being developed, and research continues.

Research about the effectiveness of complementary hypnobirthing methods has been widely carried out, like in a study in Turkey on labour pain and anxiety conducted at Adana Maternity and Children's Hospital. The results showed that the experimental group had low pain and stress and a short duration of labour in the

2nd and 3rd stages of labour(3). In research by Mooventhan's (2019)(4), this method effectively reduces pain in the second and third stages of labor and the total time of delivery. It is also reported to keep pregnant women healthy and relaxed, make the fetus position optimally during labor, and provide mental focus to assist delivery.

Although researches on these two methods have developed, both in national and international journals, found only one study in Devi *et al.* (2018)(5) which analyzes the effectiveness of the hypnobirthing and prenatal yoga methods together, which have a positive impact on the length of labour and has not yet expanded to reduce labour pain.

## MATERIALS AND METHODS

The research used the method literature review through electronic-based searches such as Google Scholar, Biomed Central, Pubmed, Pubmed Central equipped with DOI. The article used the exact keywords as the research topic, full paper and is not limited to specific research methods, up to date and comprehensive articles published in Indonesian and English with a maximum of the last five years.

Table 1: Literature Review Search Database

Data Based	Findings	Selected Literature
Biomed Central	10	1
Google Scholar	100	13
Pubmed	11	3
Pubmed Central	62	5
Total	183	22

## RESULTS

The results of the review of 21 selected articles by the topics studied are hypnobirthing and prenatal yoga on pain and labour duration can see in table 2.

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Table 2: Results of article analysis using the literature review method

Author (year)	Language	Article Source	Aim	Research Methods	Output
Moovenanth (2019)(4)	Inggris	Elsevier	To find out the evidence-based effects, including the side effects of all kinds of research on yoga.	Narative Review	Yoga is effective in reducing pain and length of labor in stages I, II, III and the total time of delivery.
Atis & Rathfisch (2018)(3)	Inggris	Elsevier	This randomized controlled study aims to determine the effect of hypnobirthing training given during pregnancy on the fear and pain of childbirth.	RCS/ Randomized Controlled Study)	Yoga is effective in reducing pain and duration of labor in the second and third stages of labor.
Devi et al., (2018)(5)	Indonesia	Midwife Jurnal	This study aims to determine the relationship between prenatal yoga and hypnobirthing on the first stage of labor in women giving birth at BPS Restu Depok for the period January-June 2017	Experimental design	There is an effect of prenatal yoga and hypnobirthing on the length of the first stage of labor (prenatal yoga and hypnobirthing reduce the length of the first stage of labor).
Widiawati, (2019)(7)	Indonesia	Jurnal Ilmiah Ilmu Kesehatan	The purpose of the study was to analyze the relationship between hypnotherapy and the duration of the active phase I.	Desain eks-perimental semu (Quasi Eksperimen)	There is an effect of hypnotherapy (hypnobirthing) on the duration of the first stage of labor in the active phase. Hypnotherapy reduces the length of the active phase I.
Pujianti, et al., (2018)(8)	Indonesia	Jurnal Kebidanan	The purpose of knowing the relationship between yoga exercise and the duration of labor in the first stage of the active phase	Correlational descriptive research design with cross-sectional approach	There is a significant relationship between yoga exercise and the duration of labor in the active phase of the first stage. Yoga exercise accelerates labor in the active phase of the 1st stage.
Azizmohammadi & Azizmohammadi, (2019)(9)	Inggris	Eur Transl Myol	The study aimed to investigate the effects of hypnosis when applied to reduce pain during childbirth and labor	Literature Review	Auto hypnosis (hypnotherapy) method reduces the length of labor in the first and second stages of primigravida, and reduces the length of labor in the first stage of multigravida. In addition, the use of epidurals and pain relief is lower in this method.
Downe et al., (2015)(10)	Inggris	BJOG An International Of Obstetrics and Gynecology	The main objective of the study was to determine the effect of self-hypnosis in the nulliparous antenatal group on the use of intra-partum epidurals.	Multi- RCT (Multi- Uji Coba Kontrol Acak)	The results of this study do not support the primary hypothesis that self-hypnosis reduces the use of epidural analgesia to relieve labor pain.
Smith, C.A et al., (2018)(11)	Inggris	Cochrane Library	To examine the effect of mind-body relaxation techniques (relaxation, yoga, music, audio analgesia and mindfulness) for pain management in labor on the well-being of mothers and babies during and after labour.	Review	Yoga is effective in reducing pain intensity and labor duration.
Madden et al., (2016)(12)	Inggris	Cochrane Library	To test the effectiveness and safety of hypnosis for pain management during labor and delivery.	Review	Hypnosis is not effective in reducing pain and labor duration.
Rong et al., (2020)(13)	Inggris	Elsivier	To determine the effectiveness of prenatal yoga on delivery outcomes.	Meta-Analysis	Yoga is effective in shortening the duration of labor in the I and II stages.
Bolanthakodi et al., 2018)(14)	Inggris	The Journal Of Alternative and Complementary Medicine	Testing the hypothesis that prenatal yoga exercises are effective in relieving labor pain and improving labor outcomes.	Single blinded parallel randomized control trial	Yoga is effective in reducing labor pain and shortening the duration of labor in the I, II and III stages.
Ellahe et al., (2020)	Inggris	Journal of Complementary and Integrative Medicine	To test the effectiveness of prenatal yoga on the length of labor, anxiety and pain.	RCT (Randomized Controlled Trial)	Yoga is effective in reducing pain at the opening 4-5 cm and 2 hours after the first measurement. And effective for shortening the duration of the first stage of labor and the total duration of the first and second stages.
Evrianasari & Yantina, 2020)(15)	Indonesia	Jurnal Kesehatan	The purpose of this study was to determine the effect of prenatal yoga on labor outcomes which include: labor pain in the first stage, duration of the second stage and rupture of the perineum in women giving birth at BPM Yuli Artika	This type of qualitative research with Quasi Experimental research design with post test only non-equivalent control group design group.	Yoga is effective in reducing the pain of the first stage of labor and the length of the second stage of labor.
Wadhwa et al., (2020)(16)	Inggris	International Journal Of Environmental Research And Public Health	To evaluate antenatal practice, including yoga during labor, delivery, and outcome in pregnancy.	Retrospective Study	Yoga is effective in reducing labor duration and labor pain scores.
Linda et al., (2017)(17)	Inggris	Health Notions Research Article	This study aims to determine the effectiveness of the physical exercise method between prenatal yoga and pregnancy exercise in primigravida on the length of labor.	Quasi Eksperiment Study	Prenatal yoga is more effective than pregnancy exercise in shortening the duration of labor in the I, II and III stages.
Catsaros & Wendland (2020)(18)	Inggris	Midwifery	To investigate the use and effects of hypnosis-based interventions during pregnancy and childbirth on women's childbirth experiences.	Systematic Review	Pregnancy hypnosis (hypnobirthing) is effective in shortening the duration of the second and third stage of labor and is effective in scoring significantly lower pain scores during labor.
Anita, (2017) (19)	Indonesia	Jurnal Endurance	To see an effective method to reduce pain in labor so that it can be used as an alternative method of reducing pain in patients who are about to give birth.	Systematic Review	Hypnobirthing is effective in reducing the scale of labor pain in active phase I in partum mothers.
Wardah et al., (2019)(20)	Inggris	International Respati Health Conference (IRHC)	This study aims to determine the effect of hypnosis on labor pain in Tangjungsari, the working area of the Sumedang District Health Center.	Quantitative research uses the "saturated experimental research" method or saturated experimental research.	Hypnosis (hypnobirthing) is effective in relieving labor pains.
Beevi et al., (2017)(21)	Inggris	American Journal Of Clinical Hypnosis	To see the effectiveness of hypnosis intervention on childbirth in a teaching hospital in Malaysia, Kuala Lumpur.	Experimental design	The Hypnobirthing method did not have a significant impact on the duration of the second stage of labor with $p = 0.611$ and the third stage with $p = 0.219$ , and was not effective in reducing labor pain.
Finlayson et al., (2015)(22)	Inggris	BMC Pregnancy and Childbirth	To explore the views and experiences of those who use self-hypnosis as an intervention to help relieve pain during labor and birth.	One to one qualitative interviews	Self hypnosis is effective in reducing labor pain by finding 5 unexpected experiences. The first is "calmness in a climate of fear". The second is "from sceptic to believer" (from doubting to believing). Third "Finding my space" (finding imagination in mind). The four "delays and disappointments" (delays and disappointments). Fifth "personal preference" (personal taste).
Dewi, et al., (2016)(23)	Inggris	Asian Academic Society International Conference (AASIC) 2016	This study proposes pregnant yoga to shorten the duration of the I and II stages	Experimental study used desain quasi-experimental	Pregnancy yoga shortens stage I and II in primigravida long labor.
Dona, et al., (2016)(24)	Indonesia	Dinamika Kesehatan	This study aims to analyze the differences in the duration of labor using hypnobirthing and without hypnobirthing techniques at BPM Lasmitasari, SST Banjarbaru.	This type of research uses True Experiment using Post-test-Only Control Design.	There was a significant effect $p=0.037$ ( $p<0.05$ ) with a difference of -2.133 for mothers who were given hypnobirthing techniques and $p=0.041$ for mothers who gave birth without hypnobirthing with a difference of -2.133 on the length of labor. Hypnobirthing technique shortens the length of labor.

## DISCUSSION

### Physiological and Characteristics of Maternity in Facing Pain and Length of Labor

**Age:** Most of the respondents are in the adult age range of 20-40 years with a well-developed mindset. Mothers have matured both physically and psychologically in dealing with pregnancy and childbirth and in thinking and working. Andarmoyo & Suharti (2013)(25) even revealed that too young age is one of the factors that influence labor pain which will trigger severe pain because the young generation tends to be associated with unstable psychological conditions that trigger anxiety.

**Education:** Based on the findings in the article, the respondent's education is in the range of high school education level to university. Education plays a vital role for pregnant women and birth attendants because it relates to the knowledge factor. The higher the level of education, the more knowledge to deal with pain and the duration of labor increases.

**Employment status and economic status:** On average, the respondent's employment status was working and in the middle economic class. Employment status is closely related to the financial situation, and a person's behaviour is also influenced by socioeconomic status. When someone has a job, it will inevitably meet economic needs. That includes determining the availability of facilities and an excellent environment to overcome the problem of

pain and length of labor. Hypnobirthing and prenatal yoga methods are still rare and relatively expensive, so it costs quite a bit to access them. Even in Andarmoyo & Suharti (2013)(25) it is revealed that economic problems are related to the cost of preparation for childbirth and often cause anxiety in their own right in facing childbirth.

**Parity:** Most of the respondents were nulliparous/primigravida mothers and a small proportion were multipara/multigravida mothers. This is in line with Wijayanti's research article (2015)(26), that mothers with low parity have a 2.1 times risk of prolonged labor compared to high parity mothers. The reason is as stated in(25) that primiparous and multiparous mothers are likely to respond differently to pain even though they face the same conditions in childbirth, because multiparous mothers have had previous childbirth experiences.

**Place of Birth:** Two places of birth of the respondents were found, namely the hospital and the Midwife's Independent Practice. The hospital uses obstetrics and obstetric care units. Place of birth is part of the support system as an environment that has an impact on the delivery process. The presence of health workers, both doctors and midwives, who accompany, give positive suggestions, build self-confidence, emotional support, provide standardized delivery assistance, are basic needs for maternity mothers that must be met in reducing pain (27) (28) (29).

In addition, the length of marriage in (6) article is very closely related to the support system or the supporting environment in childbirth. The psychological needs of the mother during childbirth, such as support from the closest person, namely the husband who has long been associated with the marriage bond, really helps to increase the comfort of the mother and reduce the stimulation of pain experienced during labor which has an impact on the length of labor.

**Clinical Parameters:** Based on the article, it was found that the respondents' clinical parameters included height, weight, BMI and systolic and diastolic blood pressure. In (30) During labor, there are physiological changes in the mother's body, including blood pressure (systole and diastolic). Excessive pain, fear, worry and fatigue can increase blood pressure. So that during pregnancy, pregnant women must have normal blood pressure numbers in order to balance the process of physiological changes in childbirth. Meanwhile, height, weight, and BMI according to (31) (32) (33) (34) is part of the physiological changes that must be measured during pregnancy. Pregnant women are advised not to overeat and keep control of weight gain in accordance with the stage of pregnancy. Nutritional consultation and regular exercise are necessary during pregnancy to prepare for delivery. The better the nutritional status, the healthier the body and can work with good functions. So that the mother in labor will be able to adapt to the physiological changes in labor.

In addition, according to (35) that pregnant women who have a height of less than 150 cm have a 7.2 times risk for prolonged labor, compared to mothers whose height is more than 150 cm. This is in line with (30) cited by (35) that women with a height of less than 145 cm are considered to be at risk of experiencing CPD (Cephalo Pelvic Disproportion) which is an imbalance between the size of the baby and the mother's pelvis which tends to cause prolonged and obstructed labor.

**Effectiveness of Hypnobirthing Against Pain and Length of Labor:** In (19), (22), (20) Hypnobirthing method is effective in reducing pain during labor, reducing pain scale in active phase I inpartu mothers and at opening 4 and 5 when measurements are taken. This is in line with the article by (20) that when doing relaxation during hypnobirthing, it will stimulate the body to release endorphins with an effect 200 times stronger than morphine as a pain killer, this condition will make all the muscles in the uterus work automatically. harmonious as it should be. On the other hand, according to Dick-Read in (36) If what happens is the psychological condition of the mother who is tense, afraid, anxious, which causes stress, the body will release catecholamines which result in reduced blood flow to the uterus and cause labor pain.

In contrast, according to (10) found different results that self-hypnosis or hypnobirthing did not reduce the use of epidural analgesia to relieve pain during labor. According to (10) low adherence to the protocol, short training sessions, the absence of control and supervision techniques for the intervention group to measure protocol compliance such as the provision of a pregnant mother's diary that provides a general description of the benefits and techniques of hypnobirthing, and journal reports suggesting routine home self-hypnosis audio activities are suspected to be the cause. Even the exact topic and content of the hypnobirthing class as stated (37) did not appear in the research intervention of (10). Conditions like this, can not change the perception of pain in maternity. This is in line with (36) dan (38) that hypnobirthing is highly recommended to be trained as early as possible from the first trimester of pregnancy in preparation for childbirth. So it is very possible that regular exercise from the beginning of pregnancy will make psychological readiness more established for mothers giving birth.

According to (7) and (24) the hypnobirthing technique affects the length of the first stage of labor in the active phase and the length of the first stage of labor until the delivery of the placenta. This is in line with the literature review that when conditions are calm and relaxed, the mother's subconscious will regulate body alignment and produce natural anesthesia or anesthesia for the mother, namely the endorphin hormone which is able to make the mother feel comfortable during labor without feeling pain (Andarmoyo & Suharti, 2007). 2013), so as to avoid excessive fatigue that causes prolonged labor (39).

According to (6), (9) and (18) hypnobirthing is effective in reducing pain scale and duration of labor in stages II and III. However, in the study of (6) an analysis of the duration of labor was found which showed no difference in the length of the first stage of labor in the experimental and control groups. In addition, the experimental group that received hypnobirthing training was found to be quite high in the number of childbirth interventions compared to the control group. It was found that 73.3% (n=22) of the experimental group participants received an episiotomy and 50% (n=15) of the control group received an episiotomy and fundal pressure. Based on the literature review, that there are several factors that affect the length of labor, not only psychological conditions, but the power and flexibility of the birth canal and the muscles that play a role in labor also greatly affect the delivery process (31) dan (28). One indication of episiotomy intervention is stiffness of the birth canal or perineal muscles or also vaginal muscles that hinder the progress of labor (27). In addition, the first stage which is quite long, apart from being equally caused by power factors (his and mother's energy), psychological, passage (birth canal), can also be caused by a passanger (fetus) such as malpresentation or malposition of the fetus, as well as position (position of the fetus). ) at the time of delivery. From the results of the literature review, these 4 Ps (power, passage, passanger, position) are very closely related to physical activity or forms of routine exercise that mothers usually do during pregnancy. As in research (40) that physical activity in pregnant women has an impact on smooth delivery. Prenatal yoga is a choice of physical activity in complementary midwifery methods to keep the mother fit and strong, optimally position the baby during labor and strengthen and flex the muscles that affect the delivery process (4).

Another finding found in the article (9) that "physical elements such as the position and posture used by women during labor and pregnancy can affect labor pain". According to (25), previous theories about position, posture and ambulation in women during labor were more associated with labor progress, but current theories and findings suggest that positioning, posture and ambulation also contribute to comfort aspects which have an impact on decreased labor pain .

The position, posture and ambulation practiced by a pregnant woman during delivery are closely related to the fulfillment of basic needs in aspects of mobilization, body mechanics and exercise during pregnancy. During pregnancy a

woman must stay healthy and fit while still doing proper mobilization and body mechanics. Thus, pregnant women are highly recommended to do pregnancy exercise with regular exercise such as prenatal yoga, pregnancy exercise, pilates or other types of exercise as a very important physical exercise that starts from the second and third trimesters of pregnancy and makes it a lifestyle.

It can be concluded that hypnobirthing cannot stand alone in reducing pain and length of labor, it is necessary to combine other methods that can be adopted as pregnancy care such as prenatal yoga. On the other hand, according to (12) and (21) hypnobirthing is not effective in reducing pain and length of labor. In the article (10) this is because the hypnobirthing training is too short in the second trimester and the training interval is too far and long (weeks 16, 20, 28 and 36 of gestation).

**The Effectiveness of Prenatal Yoga Against Pain and Length of Labor:** According to (8), (13), (41) and (23) prenatal yoga is effective in shortening the length of labor in the I, II and III stages. in primigravida mothers with an exercise duration of 60 minutes per session, performed 3 times a week for 10-12 weeks, or with a duration of 60 minutes per session, performed 3 times a week for 12 weeks, or with a duration of 30 minutes per session, three times a week for 10 weeks.

These four articles are in line with the conclusions of the concepts in that prenatal yoga provides physical and psychological or mental benefits. The benefits that can be taken physically are keeping the body fit, relaxed, improving posture, making optimal fetal position, reducing or even eliminating complaints during pregnancy and helping to prepare for a smooth delivery by exercising the muscles that play a role during labor. Of course, this is related to the factors that influence labor including the fetal factor (passanger) and the birth canal (passageway/passage) which are very closely related and related to the normal delivery mechanism and greatly affect the smooth process.

It is very important for pregnant women to maintain an upright posture following COG (Central Of Gravity) and even be able to realign with natural changes that occur such as spinal lordosis which is typical in pregnancy due to physiological changes in the musculoskeletal system. Prenatal yoga as a physical exercise will maintain the elasticity of the abdominal wall muscles, ligaments and pelvic floor muscles that play a role during the delivery process and maintain good posture which has an impact on the optimal fetal position with the Occiput Anterior (OA) position. The suitability between the birth canal and the position of the fetus greatly determines the smoothness of labor, when the fetal head position is optimal it will make it easier for the baby to make adjustments during the delivery mechanism and shorten the duration of the stages of labor.

According to Moventhan, Smith et al., Bolanthakodi et al., Evrianasari and Yantina, and Wadhwa et al., show that prenatal yoga reduces pain and labor duration. This is in line with (4) research that yoga includes synchronizing breathing awareness and muscle relaxation which reduces tension and pain perception. Both yoga, breathing, and singing can increase circulating endorphins and serotonin, raising the threshold for the mind-body connection to pain. Third, practicing yoga postures over time alters pain pathways through the parasympathetic nervous system, reducing a person's need to actively respond to unpleasant physical sensations. The four yoga practices (pranayama and meditation) by pregnant women have been reported to keep them healthy and relaxed, promote optimal fetal positioning during labor and provide mental focus to assist in labor.

**The Effectiveness of Hypnobirthing and prenatal yoga against pain and labor time:** The lack of finding articles that combine two methods of hypnobirthing and prenatal yoga from both national and international journals is a form of difficulty found in this literature review research. Only one national journal in the (5) article combines these two methods, and shows that hypnobirthing and prenatal yoga reduce the length of the first stage of labor.

## CONCLUSION

Hypnobirthing and Prenatal Yoga effectively reduce pain and duration of labor in the first, second, and third stages of labor in women with the correct standard of exercise application. A combination of Hypnobirthing and Prenatal Yoga is needed to get maximum results.

**Conflict of interest:** Nil

**Author Contribution:** AS is involved in planning, drafted the manuscript and designed the table. RTAR performed the methodology, SSCH in interpreting the results and worked on the manuscript. All authors discussed the results and commented on the manuscript.

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