

Development of a Birthing Class Model for Prenatal Couple Education Program in Indonesia

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ABSTRACT

Objective: Participation in antenatal classes prepares the mother and her partner for childbirth. Research to develop a birthing class learning design for pregnant women and partners carried out in 2022. This research aims to obtain a birthing class model for pregnant women and partners.

Methods: The design of this research is research and development. The product that was developed is birthing class model. Study conduct in Bali Province-Indonesia. The limited model testing stage was attended by 6 pregnant women and their partners. All participant and facilitator birthing class, selected as samples. Data collection used focus group discussion (FGD) and in depth interview. Data analysis using a qualitative method.

Results: The Birthing Class model consist of two training courses: Childbirth concept and Birth plan. Birthing Class held in three days and average meeting time for each meeting is 120 minutes. Results of qualitative analysis of user opinions on the model birthing class found 5 themes: learning materials, learning activities, learning media, learning time and class arrangements. Informants think there are too many meetings in childbirth classes.

Conclusion: The birthing class model needs to be improved in terms of the learning time. One evening meeting per week for three consecutive weeks is recommended for improving the birthing class model. Learning materials, learning activities, learning media, and classroom arrangement in the birthing class model are acceptable.

Keywords: Prenatal education, couples, childbirth



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Introduction

Pregnancy and childbirth is an important period in a woman's life. Women will remember this experience throughout their lives. Anxiety about childbirth may be experienced by pregnant women (Arfaie, Nahidi, Simbar, & Bakhtiari, 2017; Molgora et al., 2018; Rondung, Thomtén, & Sundin, 2016). This condition can develop into stress and depression which will affect a woman's life (Erkaya, Karabulutlu & Çalık, 2017; Wallace & Araji, 2020).

Antenatal classes can prevent and reduce anxiety about childbirth. Antenatal classes are an educational program to increase community empowerment and improve health status, especially for pregnant women. The aim of this activity is to increase knowledge, change the attitudes and behavior of pregnant women about pregnancy, childbirth, postpartum, postpartum contraception and newborns (Hassanzadeh, Abbas-Alizadeh, Meedy, Mohammad-Alizadeh-Charandabi & Mirghafourvand, 2020).

Antenatal classes provide many benefits. Participation in antenatal classes is not only beneficial for the mother but also her partner. Research in various countries around the world shows that participation in antenatal classes can increase self-confidence in facing childbirth, reduce anxiety (Erkaya et al., 2017), facilitate the closeness of the baby and parents as well as partner involvement (Gümüşsoy, Dönmez & Alp Dal, 2023) reduce the intensity of pain during the first and second stages (Douglas & Bateson, 2017; El-Kurdy, Hassan, Hassan, & El-Nemer, 2017; Hassanzadeh et al., 2020; Timmermans, 2019)

Preparation for childbirth for fathers is also very important. Fathers who are less prepared for childbirth tend to have negative experiences (Johansson, Wells & Thies-Lagergren, 2021; Moran, Bradshaw, Tuohy & Noonan, 2021). Being in an unfamiliar environment and the uncertainty of the birth process causes insecurity for fathers (Ledenfors & Berterö, 2016), there are reports of anxiety and posttraumatic stress disorder symptoms (PTSS) (Zerach & Magal, 2017). Childbirth preparation classes are not only important for mothers, but also fathers (Ghaffari, Elyasi, Mousavinasab & Shahhosseini, 2021).

The maternal class education program has been implemented in primary health facilities initiated by the Indonesian government since 2009. There are 4 meetings with the duration of each meeting being 2 hours. Education about childbirth and postpartum is provided at the 2nd meeting. The study material related to childbirth provided are signs of labor and the labor process (Kemenkes, 2014). Study material about childbirth is very limited.

The involvement of fathers or partners in maternal class programs in Indonesia is still low. In the program, the father or partners are expected to be present at least once during the class (Kemenkes, 2014). The presence of fathers or partners in maternal class programs in Indonesia is only 20.2% (Kemenkes, 2016). There is a growing assumption that maternal classes are only intended for mothers and not fathers or partners.

Research to develop a learning design for birthing classes for pregnant women and couples (prenatal couples) was carried out in 2022. The research aims to develop a learning design based on the needs of couples and testing internal validity. Research needs to be continued to develop birthing class models in prenatal couple education programs and test the product on a limited group (Easterday, Rees Lewis & Gerber, 2018; Gustiani, 2019).

This research purpose is to develop birthing class models that can be applied to prenatal couple education programs. The stages that are carried out in this research are to develop the birthing class model, test the model in a limited group, find out the opinions of pregnant women, fathers and facilitators about the model and make improvements to the birthing class model according to the trial results.

Methods

This research design is research and development with 10 steps by Borg and Gall (Borg & Gall, 1984). The product that developed is a birthing class model for the prenatal couple education program. A qualitative research approach was used to test the birthing class model. The research stages that conduct are as follows: 1) Develop preliminary form of product, 2) Preliminary field testing, 3) main product revision. The birthing class model was developed from a design that had been prepared in 2022. Meanwhile, the model testing stage for a wider group could not be implemented in this research. The model development and testing was carried out at Griya Kamini, a non-government health facility, which is located in Bali Province, Indonesia. The limited model testing stage was carried out in 1 class. Birthing classes model participants consisting of 6 pregnant woman and partners, in accordance to the results of previous research (Purnamayanti & Dewi, 2023). Birthing Class invitations are distributed via social media. Pregnant women and partners who responded to the invitation were selected by researchers as birthing class participants. The criteria for model birthing class participants are: at least secondary education level, maternal age 20-35 years, first pregnancy, gestational age ≥ 28 weeks, single pregnancy. Participants were given an explanation of the stages of the research and signed an informed consent. The birthing class

participants who had completed all meetings were selected as respondents. Participants (pregnant women and partners) and birthing class facilitator give opinions after attending birthing classes. Data collection on informants' opinions used focus group discussion (FGD) and in-depth interviews. All data was recorded. Researchers used qualitative analysis with thematic analysis as proposed by Clarke and Braun (Braun & Clarke, 2006; Clarke & Braun, 2017). This analysis has been widely used including in health and wellbeing qualitative research (Braun & Clarke, 2019; Vaismoradi, Jones, Turunen & Snelgrove, 2016). This method uses 6 systematic steps to obtain themes in data related to what informants opinion about birthing classes model; 1) more familiar with the data, including transcribing data, reading and re-reading data, and finding initial ideas; 2) Compiling initial codes that are relevant to what informants opinion about birthing classes, and collecting data related to each code; 3) codes are sorted into potential themes; 4) compiling a thematic map; 5) defining the name of each theme (5 themes are found: learning materials, learning activities, learning media, learning time and class arrangements) and compiling the whole story from the results of the analysis; 6) re-linking the results of the analysis to the research questions, providing examples of quotes that strengthen the themes that have been compiled (Braun & Clarke, 2006). The research has received ethical approval from the Health Research Ethics Commission Poltekkes Kemenkes Denpasar, Ethical Approval No: LB.02.03/EA/KEPK/ 0584 /2023.

Results

The development of the birthing class model in this research is based on the class design from previous research in 2022 (Purnamayanti & Dewi, 2023). There are 2 training courses, birth concepts and birth plans. Materials, methods, media, time, and evaluation of each training subject were developed in this research. The learning plans for the two training courses are explained in Table 1.

The birthing class participants consisted of 6 pregnant women and their partners. Data on the characteristics of birthing class participants are as in table 2. From table 2 it can be seen that all of participants are worker and most of them have higher education. The classroom measures are 7 x 8 m (56 m²). The classroom facilitates learning activities for 6 pregnant women and their partners. Lighting uses natural sunlight as well as artificial lighting. The room temperature is set at 20-22°C with air conditioning. The room arrangements for practical learning are arranged in a circle as shown in Figure 1. The distance between participants is set to allow movement of pregnant women and their partners. The classroom arrangement for theoretical learning is in a half circle.

Facilitator and participants face each other. The distance between the facilitator and participants is 2 meters. Participants occupy a mat or sitting pillow. Learning media is use in theory and practical session. Learning media is provided for each participant during practical learning. Classes start at 10.00 local time. The average meeting time for each meeting is 120 minutes, as shown in table 3.

Table 1. <i>Learning Plan for Birthing Class model in Prenatal Couple Education Program</i>	
Training Courses	Childbirth concept
Time	90 Minutes
Description	The training course provides knowledge for mothers and partners regarding the philosophy of childbirth, preparation for labor starting during pregnancy, signs of labor, stages and mechanisms of labor, monitoring and examinations required during the labor process, as well as various aspects related to early initiation of breastfeeding. This training course also builds a couple's self-confidence to go through childbirth.
Learning objectives	<p>Learning Outcome Mothers and partners build confidence in being able to go through the birthing process.</p> <p>Learning Outcome Indicators After following the training courses, mothers and partners are able to:</p> <ol style="list-style-type: none"> 1. Understand the philosophy of childbirth 2. Know the preparation for childbirth during pregnancy 3. Recognize the signs of labor 4. Explain the stages and mechanisms of labor 5. Know the various examinations and monitoring during the birthing process 6. Realize the importance of first contact between mother and baby through early breastfeeding initiation
Study Materials	<ol style="list-style-type: none"> 1. Childbirth philosophy 2. Preparation for childbirth during pregnancy 3. Signs of labor 4. Stages and mechanisms of labor

	5. Examination and monitoring during the birthing process 6. Early breastfeeding initiation
Method	Interactive lecturer Brainstorming
Media	Laptop and projector Model of the pelvis and fetal head Model of the uterus Cervical dilation model
Evaluation	Written test
Reference	JNPKKR (2017) Asuhan Persalinan Normal. 5th edn, Asosiasi Unit Pelatihan Klinik Organisasi Profesi. Jakarta: Perkumpulan Obstetri dan Ginekologi Indonesia.
Training Courses	Birth plan
Time	180 Minutes
Description	This training course provides mothers and partners with the ability to understand the mother's needs during the birth process, to be able to practice various skills to meet the mother's physical and psychological needs during birth assisted by a partner, including various methods of labor pain management, as well as various complementary methods that can be applied at the birthing process. In this training course, couples will also be guided to be able to make a birth plan.
Learning objectives	Learning Outcome Mothers and partners can practice how to meet the mother's needs during labor and can prepare a birth plan. Learning Outcome Indicators After participating in this training course participants will be able to: 1. Understand the mother's needs during the birthing process 2. Understand the role of the partner during the birthing process 3. Demonstrate various techniques to reduce labor pain 4. Demonstrate complementary techniques in childbirth 5. Develop a birth plan
Study Materials	1. Mother's needs during the birthing process a. Physical (nutrition, elimination, position and movement, personal hygiene, comfort) b. Psychological 2. The role of the husband during the birthing process 3. Techniques to reduce labor pain a. Masses b. Breathing techniques 4. Complementary techniques in childbirth a. Birthing ball b. Spinning baby 5. Develop a birth plan
Method	Interactive lecturer Role play Practice Coaching
Media	Laptop and projector Practice guide Block Peanut ball Ice block Scenario role play Mattress Birthing ball (size 65 cm) Balance ball (9 inch size) Diffuser and essential oil
Evaluation	Written test Observation of performance
Reference	JNPKKR (2017) Asuhan Persalinan Normal. 5th edn, Asosiasi Unit Pelatihan Klinik Organisasi Profesi. Jakarta: Perkumpulan Obstetri dan Ginekologi Indonesia. Ekajayanti, Parwati, Astiti, Lindayani (2021) Pelayanan Kebidanan Komplementer, Aceh: Syiah Kuala University Press

No	Pregnant mother				Husband/Partner		
	Age	Education	Work	GA	Age	Education	Work
1	29	Bachelor	employee	36 w	30	Bachelor	employee
2	27	Bachelor	employee	32 w	31	Bachelor	employee
3	28	Bachelor	employee	30 w	28	Bachelor	employee
4	24	Senior high school	Civil servants	28 w	26	Bachelor	Police
5	23	3 years Diploma	Civil servants	32 w	36	Bachelor	employee
6	34	Bachelor	employee	28 w	33	Bachelor	employee

	Time	Activity
Day 1	10.00 - 10.05	Opening
	10.05 – 10.10	Pretest
	10.10 – 10.40	Yoga
	10.40 – 12.00	Childbirth concept
Day 2	10.00 – 10.30	Yoga
	10.30 – 12.00	Birth Plan
Day 3	10.00 – 10.30	Yoga
	10.30 – 12.00	Birth Plan
	12.00 – 12.05	Post test and evaluation
	12.05 – 12.10	Closing



Figure 1. Classroom arrangement

Informant opinions on the model birthing *class* are outlined below.

Informants perceive learning materials as things that are listened to, discussed, understood, and carried out during birthing class activities to achieve certain goals. The informant stated that the reason for joining the birthing class program was because he wanted to know what happened during the birthing process.

"A friend who just gave birth said the process took two days, is that true? How long has it taken?" (I.2)

"...what I read on the internet is that the process can vary. Just want to know how the process works, don't end up making the wrong decision because you don't know." (S.1)

"I was worried that I wouldn't be able to go through labor smoothly. I often hear that labor is very painful. Other people can do it, are there any tips to make it less painful during childbirth? Want to know more." (I.3)

"...We are far from our parents, so we want to make good preparations." (S.6)

The content of promotional media used to invite class participants also influences the expectations of prospective participants. The use of class names became a concern for informants and short descriptions were added to promotional media. Terms such as "active birth class" or "positive birth class" can be used and provide an overview of class activities.

"Pregnant women and partners, especially those in their first pregnancy, generally cannot imagine the birth process. The use of class names is important to build participant expectations. "The term active birth or positive birth has a good impression and can attract participants' interest." (F.1)

The informant shared the material studied in birthing *class* and provided an overview of the birthing process encountered. The breadth and depth of learning material is stated in the study materials. The birth concept training course provides training participants with an understanding of the philosophy of childbirth, signs of labor, stages and mechanisms of labor, monitoring and examination during the labor process, as well as early initiation of newborns with the mother and family. Birth planning courses train pregnant women and their partners to have the ability to meet the mother's physical and psychological needs during birth assisted by a partner, including various methods of dealing with labor pain, as well as various complementary methods that can be applied to assist the birth process and comprehensively develop a birth plan.

"The explanation is complete. Some have read about it on the internet, such as labor pain as a sign that labor has started. But here it is explained in more detail how it hurts, where, how often. So you are more confident that you will be able to differentiate them..." (R.11)

"Actually, I don't know what else I want to learn about...because of my first experience. But from taking this class I feel more confident about childbirth." (R.S6)

The total time used in training activities was 6 hours in 3 meetings. The material delivery time is 90 minutes per meeting and 30 minutes are filled with physical exercise. Time is important to ensure learning objectives can be achieved. Informants felt that the time allocated for learning activities is too long. The reason given by the informant was because it was difficult to arrange time to attend the next class. Informants prefer one meeting even though the meeting time is longer.

"..I think three meetings is too many." (S.3)

"At first I was hesitant about joining. But because I was curious, I finally joined in. Afraid of not being able to come as scheduled. Even though the schedule is Saturday, xxx (my husband)'s holiday schedule doesn't fit on Saturday..." (I.1)

"I prefer one meeting, even if the meeting time is longer". (Q.4)

"It seems that if you do a lot of practice like yesterday's class, it's okay to take a long time. It's hard to find holidays together again" (S.2)

"In my opinion, theory learning time can be cut. Participant were less interested in listening for long periods of time. With visual media it will be easier to provide understanding so there is no need for a lot of explanation. Here the time can be shorter." (F.1)

The learning activities designed are related to learning methods. The learning method for the birth concept training course is implemented using interactive lectures, case simulations and brainstorming. Learning methods for childbirth planning courses are practice using role play and coaching methods. Suitability of learning methods and materials is important so that it can facilitate the learning process so as to obtain optimal learning results. An interesting learning atmosphere is needed to increase participants' desire to learn.

"It suits the learning activities and is not boring, especially practice session" (S.6)

"I like explanations accompanied by demonstrations. Like explaining the birth process, it makes it easier to understand how the baby is born" (I.2)

"Practice is also interesting. So you can imagine what the birthing process is like. With this practice, I understand what to do during the birthing process." (S.5)

"I like the relaxed learning atmosphere. Maybe because not many people take the class so you can freely ask questions. But the midwife is also good at carrying it." (I.4)

"As much as possible, bring a relaxed learning

atmosphere during theory and practicum. Visualization is really necessary, especially for certain materials such as the birthing process. However, other material is more suitable for case simulations, such as signs of labor and when it is best to come to the birth center. For practical work, you have to try. So every pair should try as much as possible. Sometimes you can't succeed in one try so you have to repeat it. Here you can also see the couple's mastery of skills. So the number of participants is not large." (F.1)

Learning media make it easier for participants to understand learning material. Learning media is adapted to learning methods and materials. Some learning media are shared but some media are provided for each participant. The suitability and availability of these learning aids ultimately makes it easier to achieve learning goals.

"There is a lot of equipment provided. At first I was a bit confused too. But later found out...oh this is used too. It's really good... it makes it easier to understand." (I.5)

"Thankfully, there were reading materials to take home. It would be better if it were in book form. The birth is still a few months away." (S.3)

"For training we are given one piece of equipment. So you can try it straight away as soon as it's demonstrated." (I.6)

"Most of the learning media are appropriate. It's just that when preparing a birth plan and simulating cases you may need media to visualize. So it can describe the journey to the birthing place at each stage of labor and what the mother and partner can do. It looks like it could be cooler." (F.1)

The arrangement of the study room is also important to maintain a learning atmosphere. Several important things that need to be considered in arranging a study room are light, temperature and circulation, distance between participants, cleanliness of the room and supporting suggestions such as toilets, pillows/sitting mats.

"I like the classroom" (I.2)

"The room is bright enough, not hot, the situation is good, clean" (S.4)

"Toilets are also close by. Lately I often urinate so I don't have to go far to look for a toilet" (I.1)

"There are sitting cushions so it's quite comfortable." (I.3)

"I think the distance between the participants is sufficient. It's not too tight either." (S.6)

Results of qualitative analysis of user opinions on the model birthing class found 5 themes; learning materials, learning activities, learning media, learning time and class arrangements, as show in Figure 2.

Discussion

The results of the research found that the breadth and depth of learning material could meet the informants' expectations. The informant believes that the learning objectives can be achieved.

Learning material is the knowledge, attitudes and skills needed to achieve learning goals (Sabarudin, 2018). Learning material consists of a set of facts, concepts, principles, values/attitudes and certain procedures (Sabarudin, 2018). The breadth and depth of learning material is reflected in the study material contained in the learning plan (Kementerian Pendidikan dan Kebudayaan Republik Indonesia, 2020). The study materials formulated in the birthing class model consist of 11 study materials summarized in two training courses; birth concepts and birth plans (Purnamayanti & Dewi, 2023).

The learning activities designed are related to learning methods. The learning method used in the birthing class model developed is adapted to the characteristics of the learning material. Learning methods are a way to achieve learning objectives (Jeronen, Palmberg & Yli-Panula, 2017). Learning methods are chosen according to the characteristics of the learning material to facilitate learning outcomes (Kementerian Pendidikan dan Kebudayaan Republik Indonesia, 2020).

The results of this research show that the method chosen for learning activities is appropriate and meets the informants' expectations. The methods used in the birthing class model are summarized in theoretical learning, namely interactive lectures, discussions and brainstorming. Meanwhile, in practical learning, the methods used are simulation and coaching.

Lectures are a method that has been applied for a long time in learning. Even though it is a method that is more centered on teachers/lecturers/facilitators, it is still implemented to introduce new concepts to students. The lecture method is the delivery of information orally using language. The effectiveness of the lecture method can be increased by using appropriate learning media (Wirabumi, 2020).

The discussion and brainstorming method is a student-centered method. This method encourages students to express opinions and look for solutions or problems according to the topic raised in the lesson. Because it encourages participants to actively express opinions, this

can be a theoretical learning method of choice (Trinidad, 2019).

The simulation or role play method is a method for achieving attitudes and skills. Students will be given certain scenarios that are appropriate to everyday conditions or that they may experience. This method develops students' ability to make decisions regarding the situations they experience and take appropriate action (Hidayati & Pardjono, 2018; Moreno-Guerrero, Rodríguez-Jiménez, Gómez-García, & Navas-Parejo, 2020).

The results of this research show that the media used in the birthing class model is appropriate to the material being studied, with sufficient amounts to facilitate learning outcomes. Learning media is related to learning methods and activities. The media used for theoretical learning consists of broadcast media and demonstration models (pelvic and fetal models, uterus models and cervical models). The use of this model makes it easier to convey concepts with visualization (Fleming, Sadaghiani, Stellon & Javan, 2020; Marpanaji, Mahali & Putra, 2018). Learning media for simulation and performance methods uses a set of equipment that supports activities according to the learning material. The availability of sufficient media is also a concern considering that performance simulation activities are carried out by each participant. The availability of sufficient media will also have an impact on the success of the learning process. Class settings that received attention from informants in implementing the birthing class model was room temperature, lighting, air circulation, participant distance, supporting facilities and room cleanliness. The room temperature is set to 20-22°C and received a good response from the informant. Room temperature increases students' comfort during learning. In accordance with Indonesian National Standard (SNI 03-6572-2001), the appropriate room temperature in Indonesia is 20.5-22.8°C. The temperature is in the comfortably cool category (Sarinda, Sudarti & Subiki, 2017). Study room facilities are one of the supporting factors for learning that need attention. Appropriate facilities and physical environment can support a better learning atmosphere (Andrianto, Helmi, Purwantono & Indrawan, 2020; Asmara & Nindianti, 2019). Learning time of childbirth classes are various, between 2-4 meetings (Gluck et al., 2020; Hands, Clements-Hickman, Davies & Brockopp, 2020; Mueller, Webb & Morgan, 2020).

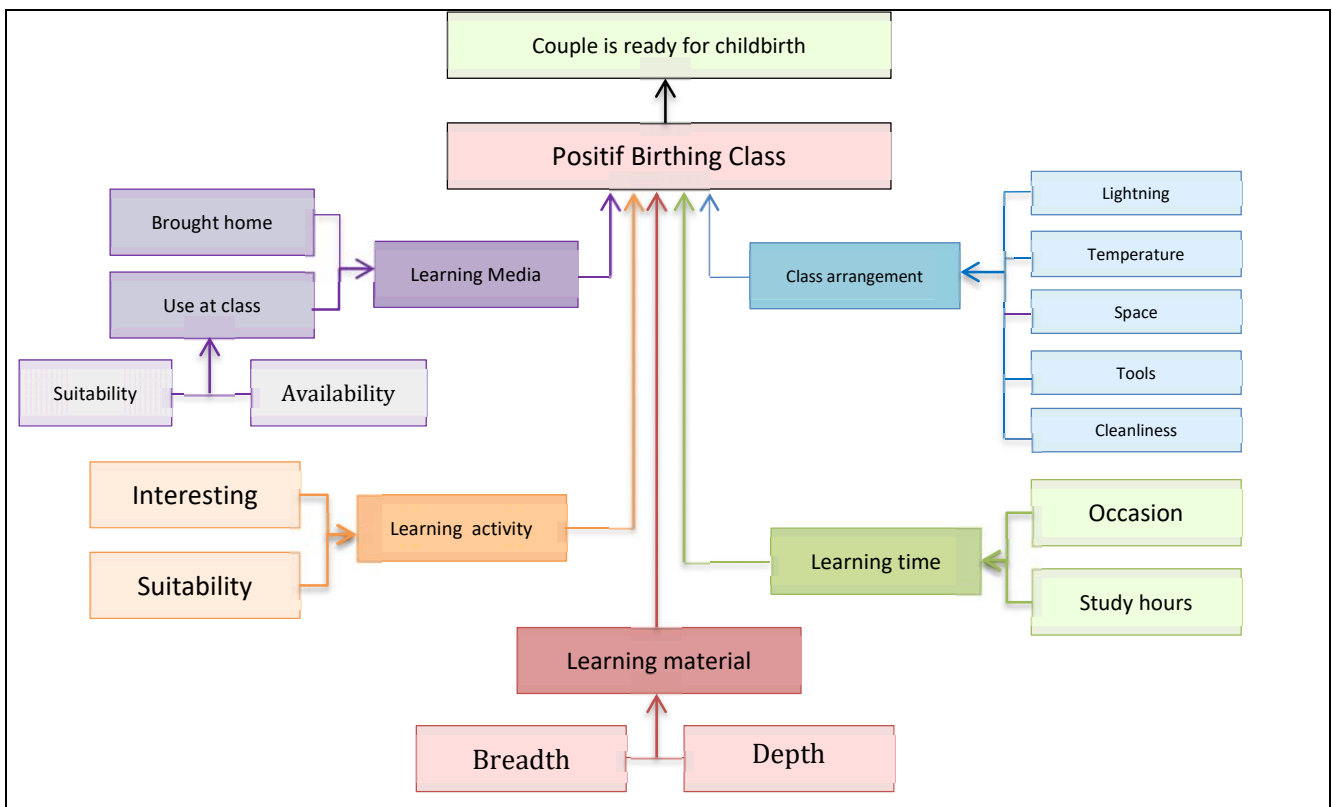


Figure 2. Thematic analysis of informant opinions on the birthing class model

This birthing class model is scheduled in 3 meetings, 2 hours for each meeting. Informants think the learning time is too many. This is related to the opportunity to follow the class schedule because of other responsibilities or activities. Informants find it difficult to follow the schedule of study activities and this can increase the tendency not to attend classes in full.

Conclusion and Recommendations

The birthing class model was formed based on the learning plan prepared in previous research in 2022. The birthing class model needs to be improved in terms of the learning time. Learning materials, learning activities, learning media, and classroom arrangement are acceptable. One evening meeting per week for three consecutive weeks is recommended for improving the birthing class model. Further research is recommended for trials on larger subjects with variety characteristics.

Ethics Committee Approval: Ethics committee approval was received for this study from the Health Research Ethics Commission Poltekkes Kemenkes Denpasar (Date: May 29 2023, Number: LB.02.03/EA/KEPK/0584 /2023)

Informed Consent: Consent was obtained from the participants.

Peer-review: Externally peer-reviewed.

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