Original Articles

Prenatal Attachment Among Thai Pregnant Adolescents: A Qualitative Study

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Abstract

Prenatal attachment positively influences maternal-fetal health and the well-being of the child after birth. However, seldom are studies describing prenatal attachment among Thai pregnant adolescents found. This study aimed to explore the composition of prenatal attachment among Thai pregnant adolescents. A qualitative approach was employed. Thirteen in-depth interviews and a focus group interview (n = 3) were conducted with Thai pregnant adolescents, 15 – 19 years of age, attending routine care at the antenatal care (ANC) clinic between September 2016 and January 2017. Data were transcribed verbatim and analyzed using a content analysis method.

Three categories emerged from the data: cognitive attachment, affective attachment, and behavioral attachment. Cognitive attachment consisted of 'accepting the baby', 'being curious and imagining the baby', 'being concerned about the baby's health', and 'wanting to be a good mother'. Affective attachment consisted of 'feeling glad to have the baby', 'loving, attaching, and 'having a sense of ownership', and 'feeling connected to the baby'. Behavioral attachment consisted of 'communicating and interacting with the baby', 'taking good care of self for the well-being of the baby', and 'preparing for the baby's arrival'. These findings provide a better understanding of the composition of prenatal attachment among Thai pregnant adolescents.

Keywords: prenatal attachment; qualitative study; Thai pregnant adolescents

Introduction

Adolescent pregnancy is a global problem. It is a major contributor to maternal and child mortality, social and economic exclusion, and cycles of poverty. World health statistics for 2014 estimated that the average pregnancy rate in every 1,000 girls aged 15 to 19 years was 49 globally.[1] The adolescent pregnancy rate in Thailand continues to be the highest in South-East Asia. Eighty percent of adolescent pregnancy was unintended, and nearly one third turned to abortion.[2]

Adolescent pregnancy is also a major problem in Thailand. For Thai adolescent mothers who do marry, the marriage is often unstable. Most of them will either divorce or separate from the baby's father.[3,4] Additionally, in Thai culture, adolescents who become pregnant out of wedlock can be commonly stigmatized by their families and communities.[4-6] Pregnant adolescents may be afraid of others' reactions, and fear the effects of the pregnancy on their lives and relationships, and they may not be prepared physically, psychologically, or economically for becoming a mother. Most of them frequently have negative feelings or emotional distress toward their pregnancy[5-7] and tend to be less responsive, less sensitive, and more detached with regard to their unborn babies.[8]

Because of the pregnancy being unintended and the immaturity of the growth and development of the adolescent, health problems regarding adolescent pregnancy found in Thailand include: high abortion rates,[6] late and inadequate prenatal care,[3,9] poor maternal and child health,[10,11] more detachment, abuse, abandonment, and neglect of the babies, and even the killing of the babies.[6] For a safe pregnancy and postnatal experiences, adolescent mothers and their babies need a continuum of care.

Prenatal attachment has been demonstrated to positively influence the pregnant women's adherence to healthier behaviors,[12,13] positive pregnancy outcomes, successful maternal-newborn adaptation, and the well-being of the child, both during pregnancy and after birth.[14-16] This relationship is also important to the mother in maintaining maternal health,[12,13] adaptation to pregnancy, and for achieving maternal self-actualization.[14] Ineffective prenatal attachment can exacerbate the negative outcomes for both mother and her baby, and lead to fetal abuse, child neglect, and increase the child's risk of psychological and behavioral problems.[14,17] Prenatal attachment involves maternal love, which protects the baby from harm[17,18] and improves both maternal and fetal health.[12,13] One possible way to reduce the negative outcomes of adolescent pregnancy is to promote prenatal attachment. However, little is known about prenatal attachment among pregnant adolescents. Importantly, no previous studies in the south of Thailand have explored the concept of prenatal attachment among Thai pregnant adolescents. The majority of studies were conducted in Western countries,[19-21] while prenatal attachment is considered contextual and culturally embedded. Cultural differences may affect prenatal attachment and the ways in which it is expressed.[22,23]

Objectives

The aim of this study was to explore the composition of prenatal attachment among Thai pregnant adolescents.

Methods

Study Design: A qualitative study was employed to explore the composition of prenatal attachment among Thai pregnant adolescents.

Sample and Setting: Purposive sampling was used to recruit pregnant adolescents by collaborating with nurses at a pregnant adolescent ANC clinic at a health promotion hospital in the south of Thailand.[24] Participants were thirteen

pregnant adolescents who willing to take part in this study with the following inclusion criteria: age 15-19 years, attending a routine care at the ANC clinic, gestational age 24 weeks or greater, no complications or high risk during pregnancy, no disabilities, and able to understand and speak Thai. The reason for excluding the participants who have disabilities, complications, or high-risk conditions during pregnancy was to avoid both physical and psychological worry affecting their thoughts, feelings, and behaviors regarding attachment to their unborn babies. Based on information needs, thirteen Thai pregnant adolescents were recruited.

Ethical considerations: Protecting the human rights of the subjects in this study is a strong concern since the participants are adolescents and pregnancy at this age is a very sensitive issue in Thai society. This study was conducted after approval from the Institutional Review Board of the Faculty of Nursing, Prince of Songkla University (No. 0521.1.05/1660), and the Hospital Institutional Review Boards of the Health Promotion Hospital Center 12 (No. 0521.1.05/852).

All participants were informed about the objectives, requirements, confidentiality, anonymity, and their rights. The participants took part voluntarily. As pregnancy at this age is a sensitive issue, the participants were assumed that should they become upset, they could stop or leave the study at any time with no repercussions; however, none chose to withdraw. All details about their rights were explained to the participants before conducting the study. The individual interviews and focus group interview were carried out after participants agreed to participate in the study and had signed the consent form. All information in the study would be kept confidential and anonymous. Confidentiality was maintained by assigning a number to each participant from one to thirteen. Personal anonymous data were disaggregated.

Instrument: Open-ended and semi-structured questions addressing the thoughts, feelings, and behaviors regarding prenatal attachment based on the literature review were employed. In the first few cases, the researcher found that participants had difficulty describing their thoughts and feelings regarding prenatal attachment. Describing attachment behaviors was more comfortable for them. Following this, the order of the interview questions was changed with behaviors preceding questions about feelings, and then thoughts in order to make participants feel more comfortable to respond. Examples of interview questions are: 1) What are your behaviors during pregnancy related to taking care of your unborn child? 2) How and why are you doing that? 3) How do you feel about your unborn child? 4) When did you start feeling love your child? 5) What are your thoughts about your unborn child? 6) What else can you tell me about your thinking about your child? Probing questions were used to gather more information such as "Could you tell me more about your feeling or your behaviors? As you said, what do you mean about being a good mother?

Data Collection: Thirteen in-depth interviews and one focus group interview (n = 3) were conducted to collect data between September 2016 and January 2017. The pregnant adolescents who met inclusion criteria were invited and signed up to participate voluntarily in the study. The researcher met the participants on 2-3 occasions at the ANC clinic reception in order to establish rapport with them before gaining permission to interview.

The duration of the in-depth interviews was approximately 30 to 45 minutes and ended when target data were acquired or the participants wanted to stop the interview. Since concealment and emotional distress was frequently found in this group of participants, using an individual in-depth interview was more suitable to obtain information in the first stage. After in-depth interview, each

participant was invited to give more information in a group. Four participants who were willing to participate in the second stage were invited to participate in a focus group interview. The rest were not available and did not want to share their experiences in a group. However, one invited participant did not come the appointment date. Three participants were asked to allow for tape recording. The focus group discussion was performed with the researcher acting as the moderator, and a research assistant who had graduated from a master degree in nursing and was well-trained to give counselling to the pregnant adolescent acting as the note taker. The research assistant was informed about the study, the subjects' right protection, and her role as a note taker. The length of the focus group was 90 minutes and ended when target data were acquired.

Data Analysis: Data from the in-depth interviews and focus group were transcribed verbatim and analyzed using a content analysis method.[25] The data were analyzed by reading several times to gain a sense of the young women's experiences. Each line of transcript was analyzed and coded, and assigned to sub-categories and then categories, consistent with qualitative data analysis methods. In order to confirm the results of the analysis, the sub-categories and categories were discussed in relation to the data with the study supervisors and experts in adolescent qualitative research. To maintain the requirements of qualitative methodological approaches and establish the trustworthiness of the data, credibility, dependability, confirmability, and transferability were considered.

Results

1. Demographic characteristics of pregnant adolescents

The mean age of the 13 pregnant adolescents was 17.62 years (SD = 1.61) ranging from 15 to 19 years. Most of them were 19 years old (n = 6), Buddhist (n = 7), and not married (n =8). One Buddhist pregnant adolescent and one Muslim pregnant adolescent married after their parents found out about the pregnancy to avoid social stigmatization. Nearly half of them lived with their husband or boyfriend independently (n = 5), three lived with their own parents, and three lived with husband or boyfriend and his family. Twelve pregnant adolescents were primigravida. One was pregnant for the second time but with a new partner. Six pregnant adolescents had to drop out of school because of their pregnancy. The mean gestational age of the 13 pregnant adolescents was 32 weeks (SD = 4.24) ranging from 24 to 38 weeks. The pregnancy of all pregnant adolescents was unplanned or unintended. However, all of them were still in an involved relationship with father of the baby and had family support.

2. The composition of prenatal attachment among Thai pregnant adolescents

Analysis of the data led to the construction of three categories, namely: cognitive attachment, affective attachment, and behavioral attachment (Table 1).

Table 1 Categories and sub-categories of prenatal attachment among pregnant adolescents

Categories	Sub-categories
1. Cognitive attachment	1.1 Accepting the baby
	1.2 Being curious and imagining the baby
	1.3 Being concerned about the baby's health
	1.4 Wanting to be a good mother
2. Affective attachment	2.1 Feeling glad to have the baby
	2.2 Loving, attaching, and having a sense of ownership
	2.3 Feeling connected to the baby
3. Behavioral Attachment	3.1 Communicating and interacting with the baby
	3.2 Taking good care of self for the well-being of the baby
	3.3 Preparing for the baby's arrival

Category 1: Cognitive attachment

Four sub-categories of cognitive attachment emerged from the data analysis and included: 'Accepting the baby', 'Being curious and imagining the baby', 'Being concerned about the baby's health', and 'Wanting to be a good mother'. All participants reported that they thought about the baby most of the time. When they saw other babies or baby pictures, they would think about their baby.

Sub-category 1.1: Accepting the baby

Participants felt that there is a life living in their body. They wanted to have a baby. Although most of the participants did not think about naming the baby, they called their baby "Look" which means "son" and "daughter", or called "Nong" or "Dae" which means little baby and demonstrates their acceptance. Some participants thought about naming the baby, and accepted the baby as their child by giving a name which was related to herself or the baby's father.

"I will name my baby 'Hawatiff' because my name is Hawatee." (Participant 4)

"I call my baby 'Man U'...his father loves this team." (Participant 13)

Some thought about a name with a good meaning for their baby because they wanted their baby to be a good person like the meaning of that name.

"The name that I want...if she's a girl, her name will be 'Alam'...if he's a boy, his name will be 'Firuth'. The meaning of 'Alam' is a tender woman. The meaning of 'Firuth' is the clear cleaning water...Because I want my baby to be a good person, to be soft and gentle...I want my baby to be a gentle person." (Participant 9)

Sub-category 1.2: Being curious and imagining the baby

Most of the participants reported that they were curious about the baby and at the 20 weeks ultrasound wanted to know the baby's gender if possible. When not possible, they reported that they had some sense that their baby would be a girl. Most participants wanted to know the characteristics of the baby. They imagined what their baby would look like. Some wanted the baby to look like his/her father. Some wanted the baby to look like them, because he/she is their baby. Some wanted the baby to look like both his/her father and mother. They also wanted their baby look 'lovely' or look good.

"When I see the other babies, I imagine about my baby. I think about what my baby will look like. My baby will look like this baby or not. Will he/she be cute or

handsome or beautiful? ...and will he/she have white skin or not?" (Participant 10)

"I want my baby to look like his father, his father is lovely." (Participant 1)

"I want my baby to look like me…." (Participants 2, 3, 12)

Sub-category 1.3: Being concerned about the baby's health

Most of the participants were concerned about the baby's health. They wanted their baby to be healthy and not disabled. They worried about having small size baby, low birth weight, premature birth, and the baby having a disability because the doctors, nurses and adults always warned them about this. This raised their concern and they thought about how to make their babies healthy.

"I try to do everything for making my baby healthy...He is in tummy, I don't know how he is...I am concerned about him." (Participant 9)

"I don't mind what the baby will look like...just healthy, not disabled...just has no abnormality...that's enough." (Participant 10)

"After giving birth, I will take my baby back to my mother's home...and raise him there...because there are many dogs at my boyfriend's home, the dogs' hair may bite enter to my baby's throat..." (Participant 10)

Sub-category 1.4: Wanting to be a good mother

Most participants wanted to be a good mother and thought how they would raise the baby to be happy, to be a good person, and to have a good future. Some participants described that they wanted to take good care of the baby. They wanted their baby to study in higher education and get a good job in the future. They did not want their babies to be like them.

"I will be a good mother. I will make my baby happy...I will play with him to make him have a good mood." (Participant 12)

"When I think of my baby, I always think about her future. I imagine what I should do to make her happy. How should I raise my baby? How should I teach her to be a good person? Because I'm not good... something like that...I always think like this...sometime, I cry...I don't know what I should do. I had more bad experiences...I don't want my baby to be like me...like me." (Participant 9)

Moreover, most of participants described that they thought about how they would raise the baby. They planned where the baby should live after the birth, that they were going to breastfeed sometimes because of the benefits of breastfeeding but also because of their economic situation, and overall how to nurture the baby. They also thought about who would help them raise the newborn during the first few months and how they would take care of the baby themselves.

"I will raise the baby myself...but my parents will help me during the first few months... because I have no experience. I don't know how to do that. For baby milk, I want to give breastfeeding to my baby. I read from brochure...It said that breastmilk is useful for the baby...so I will give breastfeeding... and... I will raise the baby myself. My boyfriend will go to work to get more money. And both of us will go to study further, too. When the baby is around two

years old, I plan to send him school...pre-school ...something like that...Then, we, [my boyfriend and I] and my boyfriend, can go to work...to get more money, so that we can take good care of the baby to build good future for the baby..." (Participant 11)

Category 2: Affective attachment

'Feeling glad to have the baby', 'Loving, attaching, and having a sense of ownership' and 'Feeling connected to the baby' emerged in this category. 'Loving, attaching, and having a sense of ownership' was described as the major feeling among all pregnant adolescents. Most participants reported that their love increased over the pregnancy especially after feeling fetal movement and/or seeing the baby's ultrasound image.

Sub-category 2.1: Loving, attaching, and having a sense of ownership

All participants explained that they loved their baby. Some only knew that they loved their baby very much, but could not explain their thoughts and feelings in words. Three participants who married before pregnancy stated that they felt love for their baby as soon as they found out that they were pregnant. Others explained that they felt love for their baby as soon as they felt the baby move or saw the baby's ultrasound image. They felt like they had a friend who lives with them. Most of them described feeling that the baby belongs to them. They felt love and attachment, and wanted to see and to hold the baby. They did not want to have an abortion, abandon, or have their baby's adopted. One participant gave her reason for not having an abortion stating that she felt the baby wants her mother as she always wanted her mother.

"I want my baby to look like me...." (Participants 2, 3, 12)

"I love my baby very much. I think that she is mine. She is alive in my body. I feel attached to her very much." (Participant 1)

"I love my baby. He's mine. Someone asked me about adoption. I will not give him to the others...and at first, someone asked me to do abortion. I didn't...He's my baby. I love him." (Participant 10)

"I want to hold, to hug my baby, something like that...And I feel that...I have to take good care of him...I want to take good care of my baby...I know...in fact, I'm still young. I'm not ready to have baby. I don't know how to raise the baby, but...the god (Allah) gave him to me, he's mine...I have to take good care of him. I will not make him thinking that why he was born. I will try my best." (Participant 9)

"I felt that the baby wants her mother... the same as me... as I want my mother... The baby maybe wanted to live with her mother, doesn't want the mother to leave her." (Participant 5)

Sub-category 2.2: Feeling glad to have the baby

Some participants who married before pregnancy reported that when they knew they were pregnant, they felt happy to have the baby. One reported that she felt confused and then started to love the baby when he started to move. For the participants who got pregnant before marrying or for those who were unmarried, all felt stress and fear regarding their parents' reactions and the negative effects of pregnancy. At the time they found out about their pregnancy, they did not think about the baby. They thought about how they could solve the

problem. After the pregnancy was accepted, then they felt more relaxed and began feeling happier to have their baby.

"When I found out I got pregnant...I felt pleased...I was happy." (Participant 12)

Sub-category 2.3: Feeling connected to the baby

Most of the participants felt connected to the baby. They felt that there was a connection between them as mothers and their baby. Some participants described that they felt the baby could hear and understand what happened outside the womb, and could understand his or her mother.

"I feel that the baby and I have connection... at first, someone asked me to do abortion... while I was thinking, the baby moved...I think that he knew..." (Participant 2)

"My baby can understand. When I and his father had an argument, he moved. It may be...didn't want his parents to behave like that." (Participant 1)

"When the baby didn't move, I felt nothing... When the baby moved, I felt that I touched him, and he touched me...I love him...and think about him most of the time. Whatever I do, I think of him, I'm concerned about him, and take good care of myself for him...I feel that I and my baby...we can communicate..." (Participant 11)

Category 3: Behavioral attachment

The finding sub-categories in the behavioral attachment category comprised 'Communicating and interacting with the baby', 'Taking good care of self for the health of the baby', and 'Preparing for the baby's arrival'.

Sub-category 3.1: Communicating and interacting with the baby

Most of the participants reported that they always communicated with their baby by talking, singing/playing songs, and reading out loud as well as non-verbal communication such as touching/ stroking abdomen. They liked playing with the baby and thought that the baby also liked to play with them. They felt happy and believed that the baby could understand and responded to them by moving or kicking in return. When their baby moved, they always responded to their baby by rubbing their tummy or talking to the baby.

"When my baby moves, I always stroke tummy." (Participants 1, 5, 6)

"I always talk to my baby in the evening, he knows...when I talk to him, he moves...I play with him by moving fingers around on tummy...my baby likes it...he moves." (Participant 13)

"I always stroke my tummy. If my baby doesn't move, I will tilt my body together with stroking tummy...on the left side, on the right side to stimulate him to respond. I feel that my baby knows that I want to play with him. Then he moves...I feel happy. It's like...my baby knows that I want to play with him, and he play with me." (Participant 11)

Sub-category 3.2: Taking good care of self for the well-being of the baby

Most of the participants described that they took good care of themselves for sake of the baby's health by eating well, taking vitamins and iron supplements, and doing exercise. Even though some participants did not like to eat some kinds of food, take medicine, or do exercise, they did it for the

benefit of their baby. Their reasons were that they wanted their baby to be strong and healthy. They also avoided eating 'junk' food or doing harm to the baby. Some participants used to hang out at night and drink alcohol. They stopped these risky behaviors for the baby.

> *"When I found out I was pregnant, I nourished myself...I don't like vegetables, but I try to eat...I drink two glasses of milk a day...I try to eat more useful food. I want my baby to be strong." (Participant 3)*

> *"I am a small woman. I eat a little bit of food...when I knew that I had baby. I tried to drink milk, tried to eat useful food...eat fruit or rice...tried to eat more...tried to do so...for my baby to be healthy."*
> *(Participant 9)*

> *"I worry about my baby...Right now, I don't eat 'MAMA' (instant noodle). I used to like eating 'MAMA' so much. I stopped eating salted food as well...In fact, I love eating salted food... Someone told me that it is not good for the baby...so I try to drink milk, eat vegetable, fruit, take care of myself, exercise...when I watch TV, I try to raise hands and legs..." (Participant 1)*

> *"I take medicine (vitamins and iron supplement for pregnant women) as doctor suggested...previously, I don't like taking medicine at all...but right now, I try to take medicine for my baby." (Participant 6)*

> *"I think that I take care of myself...I used to drink alcohol...right now...I quit." (Participant 2)*

Interestingly, some pregnant adolescents behaved as their religion required, such as doing meritorious acts or praying because they believed that they had done bad things by getting pregnant, and they did not want the sin to transfer to the baby. They also believed that the meritorious acts would help their baby to be a good baby.

> *"I faced many things, so I try to make merit. When I saw beggar, I gave him money...I do it for my baby. It's like...we used to do many wrong things. I don't want it to transfer to my baby...so I make merit for my baby." (Participant 11)*

> *"I always pray Al-Quran for my baby. I want him to be a good person."*
> *(Participant 12)*

Sub-category 3.3: Preparing for the baby arrival

All participants prepared for the baby's arrival. They sought out a 'good' ANC clinic, moved to stay with a relative closer to the hospital, prepared essential baby items, searched knowledge about the baby from the internet and asked how to raise the baby from their family and friends. They also prepared themselves for giving birth by doing exercises because someone had told them that this would help them give birth easily. However, some participants did not prepare layettes because they could not afford to do so. Some reported that their parents were superstitious about preparing the baby items before the birth because this would be not good for the newborn's health.

> *"Mostly, I searched from webpages which shared mothers' experiences...and in 'Pantip webpage' (popular webpage in Thailand) ...something like that...It's like...when I want to know something about the baby...I search for answers...or learn about being mother from*

the others' experiences...I search every day." (Participant 11)

"My mother told me that after giving birth, she will let me raise the baby myself...I don't know how to do that, so I search from internet." (Participant 10)

"I bought many items for my baby. I and my boyfriend have searched and selected from internet already...I worry about premature labor, most of my friends (teenage pregnant) usually have premature labor...There is someone who had premature labor. She didn't prepare anything. It was a total mess. I don't want to be messy like her." (Participant 2)

"Previously, when I went out, I always rode a motorcycle. When my abdomen is big... my mother frequently asked me to walk to buy something near my house. She told me that this would help me to give birth easily...so I walk." (Participant 2)

Discussion

The three emerged categories extracted from data analysis comprised cognitive, affective, and behavioral attachment. These three categories were identified as the compositions of prenatal attachment of Thai pregnant adolescents. The findings were similar to the results of concept analysis that there were three critical attributes of prenatal attachment, including cognitive, affective, and altruistic attachment.[26] However, some details were different because the maternal age and cultural context differences may affect prenatal attachment and the way in which it is expressed.[23] In addition, these three categories were not reported in previous studies exploring prenatal attachment.[19-21]

In this study, cognitive attachment consisted of 'accepting the baby', 'being curious and imagining the baby', 'being concerned about the baby's health', and 'wanting to be a good mother'. Although the name of sub-categories 'accepting the baby' was similar to 'accepting' of Delahousaye,[19] the details were different. In that study 'accepting' composed of wanting the baby and learning about child-bearing,[19] while in this study 'accepting the baby' was composed of acceptance of the baby as a person living in the mother's body, and calling a baby as her child or naming a baby related to the mother herself or the baby's father. In Thai pregnant adolescents, acceptance of the baby demonstrating prenatal attachment existed after they knew about their pregnancy and their pregnancies were accepted by her boyfriend or her family. In concurrence, Rubin[27] stated that the pregnant woman becomes so aware of the child within her and attaches so much value to her. Brandon et al.[17] also mentioned that the pregnant woman becomes aware of her unborn child as another human being as gestation progresses.

The participants in this study reported the aspect 'being curious and imagining the baby' as early as confirmation of pregnancy, which is consistent with previous studies.[19-21] Curiosity and imagination about the unborn baby is frequently mentioned as an important attribute of prenatal attachment.[7,13,26,28] However, this study found that some participants started thinking about the babies after their boyfriend or husband and/or their own parents accepted the pregnancy. At the beginning, when participants found out that they were pregnant, they did not feel or think anything toward their babies because they felt tension and feared the negative outcomes of pregnancy. It was found that prenatal attachment of pregnant adolescent is influenced by acceptance of the pregnancy[7,16,28]

As in previous studies,[19-21] the perceptions of the baby through the feeling of fetal movement, hearing fetal heartbeat, or seeing the baby's image from ultrasound makes these young mothers create a clearer thought about the unborn baby,[14-16,28] However, some pregnant adolescents both in this study and in a previous study[19] had difficulty to think about and imagine the baby even in the presence of feeling fetal movement. The immaturity in formal operational thought may make it difficult for pregnant adolescents to think abstractly[29] and develop attachment with their unborn babies.[27,28]

The aspect 'wanting to be a good mother' was found to be similar to the description of 'fantasizing about being a mother' in the study of Delahoussaye[19] that the pregnant adolescent fantasized about being a good mother and wanted to raise the baby. The pregnant adolescents in this study wanted to be a good mother and thought that they would raise their babies to be happy and have a good future. Some participants felt that they had done something wrong, and did not want the baby to be like them. Thus, they wanted to do good for their baby. It was found that the adolescent may want to be a good mother without fully understanding the responsibility of childbearing.[19,28] This aspect differed in professionally employed pregnant women. The thought about being a mother overwhelmed them. They mentioned that education and money was not a guarantee that one would be a good mother.[21]

Affective attachment in this study consisted of 'feeling glad to have the baby', 'loving, attaching, and having a sense of ownership', and 'feeling connected to the baby'. The aspect of 'feeling glad to have the baby' was described as 'exciting' or 'excitement' in previous studies.[19-21] The participants in previous findings[19-21] expressed a lot of 'happiness and excitement' or a mixture of feelings of 'excitement and fear', while the participants in this study mentioned briefly that they were happy to have baby. The emotional expression might be different because of the different cultural context.[23] In addition, adolescent pregnancy is a sensitive issue in Thailand.[4-6]

Although the pregnancies were unintended or unplanned, all participants in this study reported that they loved their babies and had a strong sense of ownership of their babies. They thought that the baby belonged to them and wanted to have the baby. They all stayed at home alone while their parents or husband went out to work or their boyfriend went out to study. They felt that the baby was their friend, so they loved and wanted to keep the baby. The study of Delahoussaye[19] also found that the love for the baby in pregnant adolescent was expressed in terms of ownership and wanting the baby regardless of whether or not boyfriend or family accepted the baby. Contrary to the previous studies[7,8] in which adolescents had slow and poor emotional attachment to their baby, the participants in this study reported that they did not think about seeking an abortion or adoption. The reason may be that they all had a good relationship with the father of the baby, and they received acceptance of the pregnancy from their family and/or the boyfriend's family. This finding is in agreement with previous studies[14-16,19-21] that stated a close and satisfying relationship with the father of the baby has a positive influence on prenatal attachment. In addition, parental support is effective in improving feelings of poor attachment.[22]

Behavioral attachment in this study consisted of 'communicating and interacting with the baby', 'taking good care of self for the well-being of the baby', and 'preparing for the baby's arrival'. The aspect of 'communicating and interacting with the baby' was found frequently mentioned as one important attribute of prenatal attachment.[26] The maternal-fetal communication is expressed as a

maternal affiliation behavior toward her unborn child.[30] Similar to previous findings,[19-21] the participants communicated with their babies in many ways, such as talking to, telling love to, reading to, and touching or rubbing the tummy or talking to the baby when the baby moved. The communication and interaction with the unborn child of these participants made them think that the baby can understand and communicate with them by moving or kicking back when they elicited responses. Happiness was derived from their communication and interaction with the baby.[26] Thus, fetal movement was the means of communication between the baby and mother, and increased maternal attachment.[14-16]

The participants in this study wanted to take good care for their baby both during pregnancy and after birth. Most of them worried that their baby would be pre-term and underweight, so they tried to nourish themselves as best they could and stopped risky behaviors that might make their baby unhealthy, which is consistent with the study of Leva-Giroux[21] that the well-educated pregnant women were being protective of the unborn babies and connected their own healthiness to the healthiness of their babies. Their bodies were seen as a source of life for the developing baby. The practices of healthy behaviors for the maternal self and the growing baby made both mother and her baby to be healthy. Thus, strong prenatal attachment can improve both maternal and fetal health.[12,13] However, Delahossaye[19] did not report this aspect of prenatal attachment in pregnant adolescents in her study.

The preparation for safe arrival of the baby in terms of knowledge about taking care of the baby and preparing baby's items were made by most of the participants, which is consistent with the previous findings.[19-21] However, some participants in this study could not afford and had difficulty to prepare for themselves and their babies. This is consistent with previous studies in which the major negative experience of being a young pregnant woman is financial constraint.[3-6] The difficulty forced them become more dependent on their parents. Thus, a supportive family is crucial for pregnant adolescents.[23] Based on these findings, the pregnant adolescents demonstrated attachment toward their unborn baby in terms of cognitive, affective, and behavior attachment.

Limitation and Recommendation

One main limitation of this study is about the sample which was recruited in one urban setting in the southern part of Thailand. Thus, generalization of the findings should be considered. It is recommended that further studies should be conducted in the different settings or different cultures.

Conclusion and Implications

The findings of this study provide more detailed understanding of prenatal attachment among Thai pregnant adolescents. Promotion of prenatal attachment in affective, cognitive, and behavioral aspects should be a routine part of care at an ANC clinic in order to enhance attachment between mothers and infants both during pregnancy and after birth. Further study regarding prenatal attachment promotion in pregnant adolescents should be conducted.

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