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Original Article

Support and control during childbirth and attachment after birth in mothers referring to comprehensive health centers in Bijar, 2019

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ABSTRACT

Childbirth is one of the most important experiences in the life of mothers, which can bring tensions and worries due to physical and psychological changes. Therefore, the present study was conducted to determine the amount of support and control during childbirth and attachment after birth in mothers who were referred to comprehensive health centers in Bijar County, in 2019. In this descriptive-analytical study, the studied population consisted of all the mothers who were referred to the comprehensive health centers of Bijar, who had passed 28 days after giving birth. The participants in the study were available to choose and completed the questionnaires for support and control during childbirth and attachment after birth. The collected data were analyzed using SPSS statistical software version 22 and multiple regression statistical tests, and a significance level of $p<0.05$ was considered. The results of the study showed that the level of support and control during childbirth was 83.32±17.038 and the level of attachment after birth was 47.70±4.688. Also, the results of the study showed that none of the investigated demographic variables were related to support and control during childbirth. The type of delivery (vaginal delivery with episiotomy $r=-2.226$, $p=0.012$) and the baby's gender ($r=9.927$, $p=0.047$) were related to support and control during delivery. Also, the results showed that among the demographic variables examined with attachment after birth, the variable of income (equal to monthly expenses $r=6.307$, $p=0.01$) had a positive and significant relationship with attachment after birth. The findings showed that support and control are at a moderate level and attachment after birth is at an average level, so it seems that with the necessary training on the importance of mother and child attachment to medical personnel, an effective step can be taken to improve these two factors and their consequences.

1. Introduction

The process of childbirth is a complex, multidimensional and mental experience that is explained by the two consequences of safe delivery and the physical/cognitive processes uniquely experienced by women during labor and delivery [1]. The process of childbirth with psychological and physical effects can cause numerous short and long-term consequences [2], the experiences that women gain from the process of childbirth are

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considered as one of the important consequences of childbirth [3]. Reproductive health services traditionally focus their efforts and resources on reducing perinatal mortality and pay less attention to the mother's experiences of childbirth and her beliefs about motherhood and the birth process [4, 5].

Support and control during childbirth are of great importance and cause satisfaction with birth and as a result the physical and mental health of the mother and the ability to accept the role of a mother [6]. Proper support and control are associated with fewer birth interventions, spontaneous births, short labor, and increased mother-baby attachment, thus strengthening the bond of mothers' emotional feelings towards the baby [7]. Lack of adequate support and control is associated with post-traumatic stress disorder, depression, anxiety, dissatisfaction with birth, and reduced attachment after birth (Figure 1) [8, 9]. Supportive care during childbirth and giving peace and reassurance during birth and loving behavior and expressing the love of the birthing agent can prepare the mind and turn a dangerous situation into a lasting one [10].

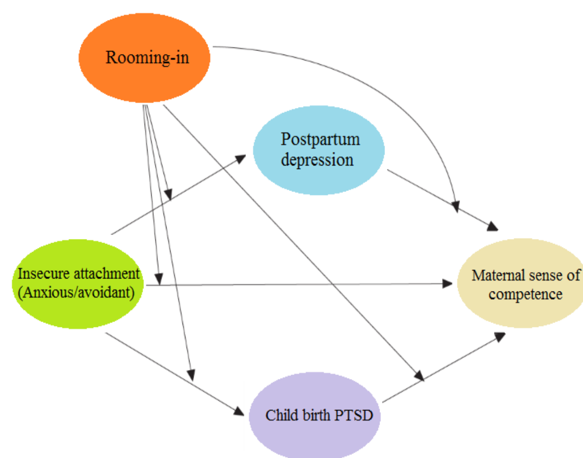

Fig. 1. Attachment styles and maternal sense of competence: the factors predicting maternal sense of competence; postnatal post-traumatic stress disorder (PTSD), a type of anxiety disorder (drawn with adaptation from [8]).

In a meta-analysis study that was conducted on 12 clinical trials, shorter labor length, need for oxytocin, instrumental delivery, analgesia, caesarean section, and less pain were observed in groups supported by trained and professional doulas, while support by the wife did not have the above benefits. Psychosocial benefits such as reduced situational anxiety, positive experience of childbirth and increased breastfeeding cases, more self-confidence, reduced cases of depression and increased mother's sensitivity towards the child were also more in the supported group [11]. It has also shown that support and control during childbirth are effective in creating high satisfaction with birth and, as a result, greater attachment to the baby after birth [9].

On the other hand, it has showed that mothers' knowledge and awareness of support and control during childbirth is low and has led to complications such as depression, anxiety, dissatisfaction with birth, and decreased attachment after birth [6]. Various supports can be granted by the spouse, friends, trained and professional supporters, and parturient family [12]. Therefore, in European countries, efforts are being made to change prenatal care towards women-centered care by maintaining the quality of care by creating the necessary conditions for mothers to participate in pregnancy classes to obtain relevant information and skills and to familiarize themselves with The delivery environment and the delivery agent, having professional caregivers, knowing about the childbirth experiences of others, and adapting the content of the training classes during pregnancy with the care system in the delivery room have been done [13, 14].

Investigating mothers' experiences of childbirth makes caregivers better understand the needs and expectations of mothers and provide effective interventions based on the client's needs to increase mothers' satisfaction [1, 15]. On the other hand, adverse experiences of childbirth can affect breastfeeding [16], post-traumatic stress disorder, acute stress reactions and postpartum depression [17], the decision to get pregnant again [18], the type of delivery in The next pregnancy [19, 20]and mother-infant attachment [21] are effective.

Attachment is a sincere, warm and stable relationship between a mother and a child, and in other words, the connection of mothers' emotional feelings and attitudes

toward loving the baby [22]. Attachment is a set of behaviors that cause a close relationship between a child and his mother or guardian [23]. Attachment leads to a strong relationship between mother and child, brings health, and child development is important not only for the child but also for the mother [24]. Attachment includes touching, kissing, talking, laughing, and eye contact between mother and child [25], which begins before birth and continues until after birth [26], but gradually increases from the time of birth onwards. And the most important time is the first 45-60 minutes after birth [27], if this time is lost, the relationship between mother and child will be disrupted [28]. The attachment is strengthened during pregnancy and develops with contact between mother and child during infancy. Attachment is an invisible connection between mother and child and a regulatory system in the individual, whose purpose is to regulate behaviors that bring the mother and child closer together [29].

The attachment has been effective in the normal development and emotional and physical development of the child and personality development such as curiosity, socialization, increasing self-confidence, independence, cooperation, and honesty [30] and reduces tension and anxiety and feelings of hopelessness in the mother [31]. Disturbance in this relationship can affect the child's neurological and behavioral development and cause anxiety and lack of maternal feelings in the mother [32]. It has concluded in their study that various factors influence attachment and significantly have a significant relationship with maternal and infant factors [33]. Additionally, it has shown that mother-baby attachment is an important and influential factor in childhood and adulthood mental health [29]. Factors such as age, education level, job, income, place of residence, psychosocial support, marital satisfaction, number of children, number of pregnancies, unwanted pregnancy, high-risk pregnancy, type of delivery, infant factors such as prematurity, infant gender, and infant health in creating attachment have a role [33]. Another influential factor in this is support and control during childbirth [34]. The performance of caregivers in the postpartum care department can be effective in mother-baby attachment and strengthening the role of the mother, interacting with mothers and helping them reduce their anxiety and cause more interaction with the child and increase their self-confidence [35]. Also, continuous support of the mother during childbirth has a significant effect on reducing her fear, pain, and anxiety [36]. Reducing tension causes a decrease in the level of catecholamines (hormones made by your adrenal glands and derived from the amino acid tyrosine), and as a result, it leads to the improvement of uterine contractions, increase in uterine-placental blood flow, and reduction in the duration of labor [37].

Considering the importance of the level of support and control during childbirth and attachment after birth in mothers, this study was conducted to determine the level of support and control in mothers referring to comprehensive health centers in Bijar in 2019.

2. Materials and Methods

2.1. Data Collection

This descriptive-analytical study was carried out by available sampling method on 195 mothers, 28 days after giving birth who visited comprehensive health centers in Bijar County from Kurdistan province of Iran in 2019. Study criteria were the desire to participate in the study, having literacy, healthy singleton pregnancy with the cephalic presentation, absence of medical diseases (cardiac, vascular, pulmonary, renal, infectious), mental disorders, depression, anxiety, the absence of all kinds of drugs by the mother (sedatives, anti-anxiety and depression drugs), the absence of pregnancy and childbirth complications (preeclampsia, gestational diabetes, absolute rest, placental abruption, placenta or umbilical cord, dystocia, 3rd degree and higher tears), the absence of disease,s and abnormalities of the newborn, the absence of hospitalization of the mother or the newborn during 28 days after delivery, and the study criteria included the incomplete completion of the questionnaire and checklist, and the sampling was done as available.

The data collection tool was a four-part questionnaire, the first part related to personal characteristics (age, spouse's age, education level, spouse's education level, occupation, spouse's occupation, income level, and place of residence), and the second part related to obstetric characteristics (number of pregnancies current type of pregnancy, participation in childbirth preparation classes, delivery method, use of oxytocin, delivery agent and gender of the baby), the third part related to the questionnaire of support and control during childbirth (33 questions) and the fourth part related to the attachment questionnaire after It was a birthday (19 questions).

The questionnaire on support and control during childbirth has 33 items with three subscales (support, internal control, and external control), which was developed by Ford in 2009. This questionnaire includes three scales of support (questions 1-12), internal control (questions 13-23), and external control (questions 24-33) in a five-point Likert scale (completely agree to completely disagree) with the range of scores It is between 33-165 and higher scores indicate more support and control. In Ford et al.'s study (2009), the reliability of this tool was confirmed with Cronbach's alpha score (0.86-0.93) [9].

The postnatal attachment questionnaire has 19 items and was designed to measure mother-child attachment after birth by Condon Corkindale in New York City. This questionnaire includes three subscales (quality of attachment, absence of hostility, and satisfaction with interaction). The total attachment score is obtained from the sum of the scores of all three subscales. The range of scores is between 19-95. In the study of Zeinali et al., (2011) its validity and finality were determined. The reliability of the questionnaire was obtained by Cronbach's alpha method for the whole scale and its factors as 0.69, 0.45, 0.56, and 0.23, respectively [38].

2.2. Statistical analysis

Data analysis was done using descriptive statistics (prevalence, percentage, central and dispersion indices) and inferential statistics (multiple regression analysis) in SPSS software version 21. A significance level of less than 0.05 was considered.

3. Results

The results of the study showed that most of the participants in the study (48.2 percent) in the age range of 31 years and older and spouses with the age range of 31 years and older (75.4 percent), have university education (32.3 percent) with their spouses, having diploma education (32.3 percent), housewives (88.2 percent) with self-employed spouses (51.8 percent), income level equal to monthly expenses (51.8 percent), and living in the county (98.5 percent). Moreover, most of the participants in the study (36%) experienced one pregnancy, (84.1%) wanted pregnancy, (68.7%) attended childbirth preparation classes, (50.3%) experienced vaginal delivery with episiotomy, (62.6 percent) delivery using oxytocin, (60.5 percent) with midwife delivery agent, (51.3 percent) with the gender of the baby were boys (Tables 1 and 2).

The results of the investigation showed the mean and standard deviation of support and control of the studied units (83.323±17.038) and attachment after birth (47.70±4.688) (Table 3). The results of multiple linear regression showed that none of the studied demographic variables were related to support and control during childbirth, but among obstetric variables, the type of delivery and gender of the baby was related to support and control during childbirth (Table no. 4). Among the demographic variables examined, the income variable had a positive and significant relationship with attachment after birth, and among the obstetric variables, the type of pregnancy had a negative relationship and the type of delivery had a significant and negative relationship; Also, postpartum attachment had a significant and positive relationship with the factor of childbirth and the baby's gender (Table 5).

Table 1. Frequency distribution of the demographic characteristics of the participants in the study

Variable		Number	Percentage
Age (years)	19-24	28	14.4
	25-30	73	37.4
	≥31	94	48.2
Spouse's age (years)	25-30	48	24.6
	≥31	147	75.4
Education	Elementary	27	13.8
	Middle	34	17.5
	High school	16	8.2
	Diploma	55	28.2
	University	63	32.3
Spouse's education	Elementary	19	0.7
	Middle	33	17
	High school	22	11.3
	Diploma	63	32.3
	University	58	29.7
Job	Housewife	172	88.2
	Employed	23	11.8
Spouse's job	Manual worker	46	23.6
	Employee	48	24.6
	Free	101	51.8
Income level	Less than monthly expenses	82	42.1
	Equal to the monthly expenses	101	51.8
	More than monthly expenses	12	6.2
Residence	County	192	98.5
	Village	3	1.5

Table 2. Frequency distribution of obstetric characteristics of study participants

variable		Number	Percentage
Number of pregnancies	One	70	36
	Two	66	33.8
	Three	41	21
	More than four	18	9.2
Type of current pregnancy	Wanted	164	84.1
	Unwanted	31	15.9
Participating in childbirth preparation classes	Yes	61	31.3
	No	134	68.7
Method of childbirth	Vaginal delivery with episiotomy	98	50.3
	Vaginal delivery	22	11.3
	Vaginal delivery and rupture	23	11.8
	Cesarean section	52	26.6
Use of oxytocin	Yes	122	62.6
	No	73	37.4
Birth agent	midwife	118	60.5
	Doctor	77	39.5
Gender of the baby	Girl	95	48.7
	Boy	100	51.3

Table 3. Mean and standard deviation of support and control during childbirth and attachment after birth with its dimensions in the research units

Variable		Mean	Standard deviation
Support and control during childbirth	Protection	29.794	6.676
	Internal control	27.866	8.199
	External control	25.661	6.547
	General support and control	83.323	17.038
Attachment after birth	Quality of attachment	27.80	3.025
	No hostility	6.55	1.797
	Satisfaction with balance	13.35	2.829
	General attachment after birth	47.70	4.688

Table 4. The relationship between support and control during childbirth with the studied variables using the multiple linear regression models

Variable	Parameter	Beta coefficient	Standard error	The lower limit of the confidence interval	The upper limit of the confidence interval	p.value
Age (Year)	Fixed value (width from origin)	81.015	7.913	65.505	96.525	p<0.0001
	19-24	6.115	4.579	-2.860	15.090	0.182
	25-30	5.617	3.144	-0.545	11.779	3.191
	≥31	–*	–	–	–	–
Type of childbirth	Vaginal delivery with episiotomy	-10.237	4.087	-18.247	-2.226	0.012
	Vaginal delivery	-6.715	5.099	-16.710	3.280	0.188
	Vaginal delivery and rupture	-7.658	4.565	-16.605	1.290	0.093
	Cesarean section	–*	–	–	–	–
Gender	Girl	4.999	2.514	0.071	9.927	0.047
	Boy	–*	–	–	–	–

* Reference category

Table 5. The relationship of attachment after birth with the studied variables using the multiple linear regression models

Parameter	Beta coefficient	Standard error	The lower limit of the confidence interval	The upper limit of the confidence interval	p.value
Fixed value (width from origin)	47.960	2.018	44.004	51.915	p<0.0001
19-24	0.334	1.167	-1.955	2.623	0.775
25-30	0.790	0.801	-0.781	2.362	0.324
≥31	–*	–	–	–	–
Less than monthly expenses	1.573	1.505	-1.377	4.524	0.296
Equal to the monthly expenses	3.587	1.387	0.868	6.307	0.010
More than monthly expenses	–*	–	–	–	–
Wanted	-2.889	0.927	-4.707	-1.071	0.002
Unwanted	–*	–	–	–	–
Vaginal delivery with episiotomy	-3.066	1.042	-5.109	-1.023	0.003
Vaginal delivery	-3.564	1.3005	-6.113	-1.015	0.006
Vaginal delivery and rupture	-2.609	1.164	-4.890	-0.327	0.025
Caesarean section	–*	–	–	–	–
Girl	1.609	0.641	0.352	2.865	0.012
Boy	–*	–	–	–	

* Reference category

4. Discussion

The present study was conducted to investigate the level of support and control during childbirth and attachment after birth in mothers who were referred to comprehensive health centers in Bijar County, in 2019. The findings showed that the level of support and control during childbirth was moderate, which was consistent with the results of previous study [6]. This shows that it is necessary to provide an environment for women to feel supported and in control and to be sure of the care provided [9]. But the findings of this study were different from the previous studies [9, 39] who reported this rate high. The reason for this difference in the first study can be pointed to the type of instrument used and the difference in the statistical population and the cultural status of Pennsylvania. The reason for this difference in the second study was the difference in the mothers' point of view and the cultural difference of the research population. In fact, in some cultures, giving birth is considered as a transition to adulthood and an experience to showcase women's life. They are expected to bear the pain of childbirth and show positive behavior during the childbirth process.

According to the results obtained from the present study, there was no significant

relationship between the amount of support and control during childbirth with any of the demographic characteristics, these results are in agreement with the previous studies which showed a significant relationship between age and education with the amount of support and control, it is inconsistent [6, 39, 40]. The reason for this discrepancy can be due to the difference in treatment and care staff dealing with patients of different ages, in such a way that the age has created a preference in terms of receiving services and facilities, also the staff can establish a better relationship with the patients who had higher education.

Also, there was a significant relationship between the overall amount of support and control during childbirth the type of delivery and the gender of the baby. Similar studies showed a significant relationship between the type of delivery and the amount of support and control [6, 9, 40, 41].

Proper support during childbirth causes the mother to have better control over the process of childbirth and increases her satisfaction with childbirth [42]. Therefore, the existence of a trained individual under the title of the doula to support women during childbirth is included in the health program of many developed countries [43, 44]. Surveys have shown that personal control is one of the factors that are very influential in women's judgment of their childbirth experience and is considered one of the strongest predictors of childbirth satisfaction [45, 46].

The findings showed an average level of attachment, which was consistent with the results of the previous study, who reported an average level of attachment [47]. But the findings of this study are in agreement with the results of the previous studies [28, 34, 48, 49] and the reason for this difference could be that the care and education that mothers receive, as well as the massage of the baby's body by the mother, have an impact on the increase of mother-baby attachment. Karbandi et al. (2015) in their research reported a low attachment rate after birth [27], which was not consistent with the results of the present study. The reason for this disparity can be due to the type of tool used in their study, which is different from the tool used in the present study.

This study showed there is a positive and significant relationship between the overall level of attachment with the income variable, but it did not show a relationship with other demographic characteristics, which is consistent with the previous researches that they showed a significant relationship between income and attachment [7, 50, 51]. It has showed that there is no relationship between job and attachment [29, 52], but it has found a relationship between education and attachment, which the results of the research are not consistent [7, 53]. One of the reasons for justifying this result is the difference in the level of education of the statistical population of this research compared to the aforementioned studies.

In addition, there was a negative and significant relationship between the general level of attachment with the variable of the type of pregnancy and the type of delivery, also a positive and significant relationship was observed between attachment and the factor of childbirth and the gender of the baby, which these results are similar with the previous studies [53, 54]; But the findings of this study are not consistent with the previous researches [29, 51, 52]. Based on this finding, it can be said that one of the most important strategies for improving mother-baby attachment is targeted and effective family planning counseling.

Factors such as the mother's mental-psychological problems, mother's sleep problems, relationship with her husband, the level of social support of the people around the mother, and the level of education of the mother are effective on mother-infant attachment [55, 56]. Moreover, choosing the baby's gender, preparing for the baby's death, resisting the baby's visit, refusing to touch and support the baby, lack of support or little support for the mother by the staff, marital status, the amount of mother's attachment to the fetus during pregnancy and unpleasant experience. They play a role in creating attachment toward pregnancy [57-59].

According to the research, there was no statistically significant relationship between

the amount of support and control during childbirth and attachment after birth. It has shown that there is a correlation between the overall score of mother-infant attachment and the overall score of maternal satisfaction [60]. It has shown a significant and positive effect on mother-infant attachment, based on the research results on empowerment showed [61]. Also, it has shown that empowerment had a significant and positive effect on mother-infant attachment [27], which is contrary to the results of the present study. Among the reasons for the difference in the results of the present research with the aforementioned studies, we can mention the difference in the type of study and the research method.

5. Conclusions

Based on the results of the study, the level of support and control of the participants was at an average level, and factors such as the type of delivery and the gender of the baby are influential for this level. The level of attachment of the participants was moderate, and factors such as income, type of pregnancy, delivery method, and gender of the baby are related to it, so it seems that by providing better economic conditions, emphasis can be placed on naturally giving birth and the training of midwives increased the level of attachment. Considering the effect of the role of midwives in childbirth, more importance should be given to the role of midwives and in the emotional support of mothers during childbirth, as well as planning for the mental health of mothers and more training in this regard. He especially emphasized, increasing the amount of mother-baby attachment.

Conflict of Interest

The authors hereby declare that they have no conflict of interest.

Author's contributions

All authors equally participated in designing experiment analysis and interpretation of data. All authors read and approved the final manuscript.

Consent for publications

All authors have read and approved the final manuscript for publication.

Availability of data and material

The authors have embedded all data in the manuscript.

Ethics approval and consent to participate

The authors did not use human or animals in the research

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