Research Journal of Medical Sciences 11 (4): 191-197, 2017
ISSN: 1815-9346

Childbirth Expectations and Pain Perception in Labor in Primiparas and Multiparas Women with Normal Vaginal Delivery

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Abstract: Maternal childbirth expectations play an important role in determining a woman's response to her childbirth experience. A women's attitude toward labor pain is influenced by various factors. One of the most important psychological factors influencing labor pain is realistic and unrealistic expectations of mother regarding the labor pain. A proper understanding of factors involved in labor pain paves the way for women's higher adaptability to pain and proper use of pharmacologic and non-pharmacologic interventions to relieve pain. In this descriptive-comparative study 600 primiparas and multiparas women who had vaginal deliveries were randomly selected and interviewed. The data was collected by questionnaire and the intensity of pain was determined using Visual Analogue Scale (VAS). Data was analyzed using Student's t-test and Pearson's correlation. Comparison of the means of mother's expectation of labor between the two groups demonstrated a statistically significant difference ($t = 4.47$, $p<0.003$). Most primiparas and multiparas women had negative expectations toward labor experience. In the two groups, there was a significant relationship between expectation and intensity of labor pain experienced. primiparas women expected and experienced more negative emotion about labor pain.

Key words: Childbirth expectation, pain perception, labor pain, primiparous, multiparous

INTRODUCTION

Giving birth is a complex event (Blaaka and Eri, 2008). Labor pain describes as a ''perfect model of acute pain" being both somatic and visceral in nature (Gibson, 2014). Having a relatively long time in the pregnant women from conception to delivery can cause expectations about the birth experience (Beaton and Gupton, 1990). The word expectation is defined as "an expectant mental attitude". It includes the positive and negative beliefs, attitudes and perceptions (Highsmith, 2006).

It has been suggested that the similarity between a woman's expectations and her experience of childbirth may affect their wellbeing and satisfaction of childbirth. The desire for caesarean section in subsequent pregnancies may be attributed to a negative previous birth experience (Green, 1993; Hodnett, 2002; Oweis, 2009; Ulfsdottir *et al*., 2014; Bhatt *et al*., 2014). Studies showed both positive and negative expectations of birth can influence the birth experience (Slade *et al*., 1993; Fenwick *et al*., 2005). It has been examined whether expectations differ for primiparas and multiparas women. It seems that multiparas women would viably have different expectations due to previous experience of birth as compared to primiparas women (Ayers and Pickering, 2005).

A women's attitude toward labor pain is influenced by various factors (Lowe, 2002; Pirdel and Pirdel, 2009). One of the most important psychological factors influencing Labor pain is realistic and unrealistic expectations of mother regarding the labor pain and the sense of losing control during pain intensity (Waldenstrom *et al*., 1996; Chang *et al*., 2002; Hodnett, 2002; Oweis and Abushaikha, 2004).

It has been showed that mothers who have more Realistic expectation may experience less labor pain, diminished disappointment and the sense of failure than mothers who have unrealistic expectations (Fridh and Gaston-Johansson, 1990).

Labor pain is one of the most important differences observed while comparing women's expectations and the actual experience of childbirth. Studies have indicated that women usually predict labor process very painful. Moreover, childbirth expectations play a role in the establishment and development of women's coping with labor (Beaton and Gupton, 1990; Hodnett, 2002; Oweis and Abushaikha, 2004; Hauck *et al*., 2007).

Women choose to give birth in most hospital because they believe it is "safer" than birth outside the hospital. In fact, laboring and giving birth in most hospitals create a set of physiologic responses that actually occur when we feel unsafe and unprotected. Intervention for pain and discomfort during labor and birth is a major part of modern obstetric care of laboring women. It is important for midwifes to explore various strategies for diminishing or managing the pain of labor and birth. Many strategies

may be used to alleviate pain and a major responsibility of the midwife is promoting and using nonpharmacological techniques to minimize labor pain (McCrea and Wright, 1999).

The purpose of this study was to determine what aspects of labor and delivery women describe as different from or the same as their expectations. This study explored expectations that were outside women own ability to control the childbirth situation. It also investigated specifically the relationship between childbirth expectation and pain perception. Women need to be helped to develop realistic and positive expectations and prepare for unexpected events. It is hoped that this research will help women to meet the challenges of childbirth with positive expectations and to be more satisfied with their childbirth experiences. Also, the results might help medical staff adopt proper measures to greatly alleviate labor pain in all the pregnant women.

MATERIALS AND METHODS

The present descriptive-comparative study was carried out on 300 primiparous and 300 multiparous women who had vaginal deliveries. The subjects were selected using a simple random sampling method. The inclusion criteria included having gestational ages of 37-42 weeks the absence of any verbal communication limitations no history of psychological problems, the absence of fast (rapid delivery refers to combined first and second stage duration is <3 h) or prolonged (i.e., labor that lasts more than 18-20 h) delivery, the presence of a live and healthy fetus no need for the use of auxiliary instruments such as forceps or vacuum extraction no analgesic intake and singleton pregnancy. The data were collected qestionnaires which had the data was collected by two questionnaires. The demographic questionnaire consisted of 40 questions on personal, social and obstetric particulars that had been tailored for the study after an extensive review of the literature. To assess childbirth expectations and experiences, the Expectations of Childbirth Experience questionnaire (ECBE) was used. This questionnaire asked about the possible events that women think might happen during their labor and birth and subsequent experience of birth on the same scale. The worded either as “do you expect your labor to be...” or “was your labor...”.

The Expectations of the Childbirth Experience (ECBE) is a 36 item, 4 point Likert scale that ranged from strongly agree 4 to strongly disagree 1 among which 17 items were negatively worded and required reverses scoring. Each participant received a total score on the questionnaire ranging from 36-144. High scores (>90) indicated positive expectations and experiences of labor and birth process. The instrument consisted of five sections: women’s expectations of the overall childbirth experience, expectations of the woman’s emotional feelings during the first stage of labor, expectations of the birth, expectations related to the baby and expectations related to women’s behavior when labor intensified.

Content and construct validity methods were used to validate the questionnaires. The reliability of questionnaires was tested using test-retest, yielding the following results. A reliability coefficient for the Expectations of the Childbirth Experience questionnaire was 0.83. Visual Analog Scale (VAS) was used to evaluate the intensity of pain. VAS is a 10 cm straight line that represents a continuum of pain intensity. Subjects place a mark on the line that represented their level of pain intensity. The distance from the left hand-side quantifies pain level. The test-retest reliability of VAS was high ($r = 0.95$) (Revill *et al*., 1976).

The parturient women were interviewed by researcher during the first and second stages of labor and then after giving birth during 24 h of postpartum when their physical and emotional condition allowed an interview. Therefore, the data were collected before and after giving birth. Interview was done after signing an informed consent form.

The data were analyzed by WIN/SPSS 16 statistical software. Descriptive statistics such as frequency, mean and standard deviation were used to analyze the data. In addition, independent sample t-test was used to compare the means. The relationship between expectations and pain were expressed using Pearson’s correlation coefficient. The level of statistical significance was set at $p<0.05$.

RESULTS

In the present study (78.7%) of primiparous and (76.7%) of multiparous women reported delivery pain scores of ≥8 which indicates the most severe pain experienced by an individual (Table 1). The means of pain scores in primiparous and multiparous women were 8.41±0.99 and 8.36±1.17, respectively. Comparison of pain scores between the two groups using Student’s t-test did not demonstrate any statistically significant differences ($p = 0.631$).

The mean ages of primiparous and multiparous women in the present study were 23.7±3.99 and 28.67±6.64, respectively. Approximately (33.7%) of primiparous women and (23%) of multiparous women had attended elementary schools only. Almost (51.3%) of primiparous women were 37-38 weeks pregnant and

Table 1: Cross-tabulation between reported pain level and parity of the sample

Pain level	Primiparas	Multiparas
6	3 (1)*	8 (2.7)
7	61 (20.3)	62 (20.7)
8	101 (33.7)	92 (30.7)
9	90 (30)	65 (21.7)
10	45 (15)	73 (24.3)
Total	300 (100)	300 (100)
Mean±SD	8.41±0.99	8.36 ±1.17

*Numbers in parentheses indicate percent. Pain scores of 0-5 were not reported in the present study

(66.7%) of multiparous women were 41-42 weeks pregnant. Approximately (97%) of primiparous women and (94.7%) of multiparous women had planned pregnancies. For (81.3%) of primiparous women and for (69%) of multiparous women pregnancy was a pleasant experience. Almost, 22 and 37% of women had spontaneous onset of labor, respectively (Table 2).

Finding of the study indicated that most primiparas and multiparas women had negative expectations toward labor experience. The 84% (252) of the primiparas and 75% (225) of the multiparas women scored <90 with a score range of 71-111 and 72-110, respectively. Comparison of the means of mother's expectation of labor between the two groups using Student's t-test demonstrated a statistically significant difference ($t = 4.47$, $p<0.003$) (Table 3).

In the two groups, there was a significant relationship between expectation and intensity of labor pain experienced. The results showed that between negative expectation and pain there were a positive correlation ($r = 0.48$, $p<0.001$) and ($r = 0.50$, $p<0.001$), respectively. When relationships were calculated for the positive expectation and pain, there were negative correlation ($r = -0.46$, $p<0.001$) in primiparas and positive correlation ($r = 0.44$, $p<0.003$) in multiparas women. It shows that primiparas women expected and experienced more negative emotion about labor pain. The study showed that expectations of birth in primiparas were different from multiparas women.

It is evident that of the items that primiparas women expected to happen, most were related to overall birth experience included fearful, very long, painful in first stage of labor will be in pain, baby will be in room with mother and when labor intensify give in and in multiparas women overall birth experience will be painful and most items in first stage of labor will be very week, depressed and in pain. Delivery will be dangerous for the baby, after delivery baby will be in room with mother and tolerate the intensity of labor pain (Table 4).

The observation from this research showed that 54.3% (164) of primiparas and 50.7% (178) of multiparas women before delivery didn't have enough information

Table 2: Frequency distributions of characteristics of Participant (n = 600)

Variables	Primiparas N (%)	Multiparas N (%)
Age (years)		
15-19	46(15.3)	1 (5.7)
20-25	185 (61.7)	73 (24.3)
26-30	5 (16.7)	111 (37)
31-35	19 (6.3)	90 (30)
36-40	-*	9 (3)
Level of education		
Illiterate	21 (7)	59 (19.7)
Primary	10 (33.7)	69 (23)
Secondary	64 (21.3)	59 (19.7)
High school diploma	46 (15.3)	5 (15)
Above diploma	53 (17.7)	53 (17.7)
University and higher	15 (5)	15 (5)
Gestational age (weeks)		
37-38	154 (51.4)	200 (66.7)
39-40	100 (33.3)	45 (15)
41-42	46 (15.3)	55 (18.3)
Birth weigh (g)		
<2500	-	11 (3.7)
2500-3500	250 (83.3)	199 (66.3)
3500-4500	50 (16.7)	90 (30)
Planned pregnancy		
Yes	291 (97)	284 (94.7)
No	16 (5.3)	9 (3)
Birth attendant		
Midwife	59 (19.7)	117 (39)
Obstetrician	119 (39.6)	139 (46.3)
Obstetrician and Midwife	84 (28)	15 (5)
Episiotomy		
Yes	255 (85)	213 (71)
No	45 (15)	87 (29)
Induction of labor		
Yes	234 (78)	189 (63)
No	66 (22)	111 (37)
Source of information for childbirth		
Reading book, internet, television	33 (11)	25 (8.3)
Family and friends	42 (14)	38 (12.7)
Mothers	84 (28)	56 (18.7)
Family history of birth	43 (14.3)	57 (19)
Antenatal classes	29 (9.7)	29 (9.7)
Obstetricians	15 (5)	32 (10.7)
Women's knowledge and beliefs	27 (9)	31 (10.3)
Age life experience	16 (5.3)	19 (6.3)
Midwives	11 (3.7)	13 (4.3)
Ability to copewith labor pain		
Coped very well	85 (28.3)	56 (18.7)
Coped well	124 (41.4)	155 (51.6)
Did not cope at all	91 (30.3)	89 (29.7)
Expected place of birth	245 (81.7)	232 (30.3)
Public hospital	55 (18.3)	68 (22.7)
Private hospital		

*Show no frequency for this range

Table 3: Distribution of mothers according to childbirth expectation level in the two group (n = 600)

Childbirth Expectation level	Primiparas N (%)	Multiparas N (%)	p-value
Expectation			
Negative	252 (84)	225 (75)	
Positive	49 (16.3)	75 (25)	p<0.003*
Mean±SD	82.8±7.8	86.5±9.8	

Data are perssented as percentage; data comoared by independent sample t-test; p<0.05

Table 4: Mean and standard deviation of the expectations of the childbirth experience questionnaire (ECBE) (n = 600)

Items	Primiparas (M±SD)	Multiparas (M±SD)
Overall birth experience		
Wonderful	2.21±0.62	2.29±0.78
Fearful	3.32±0.81	1.76±0.70
Normal process	2.09±0.72	2.17±0.69
Very long	3.76±0.46	1.80±0.79
Too difficult	3.83±0.66	2.06±0.77
Safe	2.63±0.62	1.90±0.51
Painful	3.83±0.66	3.05±0.30
Feelings during the first stage of labor		
Expected to be lonely	2.67±0.52	2.72±0.65
Expected to be strong	2.72±0.57	2.62±0.53
Expected to be confident	2.80±0.69	2.66±0.76
Expected to be afraid	1.70±0.75	1.83±0.83
Expected to be very weak	2.37±0.63	3.89±0.31
Expected to be very safe	2.38±0.57	2.72±0.67
Expected to be independent	2.53±0.65	2.02±0.80
Expected to be depressed	1.95±0.75	3.04±0.46
Expected to be tensed	1.19±0.42	2.95±0.81
Expected to be delighted	1.82±0.60	2.27±0.50
Expected to give in	1.78±0.67	1.42±0.52
Expected to be quiet	2.49±0.75	2.86±0.89
Expected to be relaxed	1.49±0.70	1.07±0.43
Expected to be in pain	3.79±0.66	3.88±0.33
Attached to the baby	2.83±0.48	2.49±0.65
Expected to be proud	2.42±0.49	1.63±0.86
Birth experience		
Expected to be enjoyable	2.70±0.89	2.53±0.79
Expected to be natura	2.38±0.71	2.92±0.83
Delivery to be understandable	2.87±0.70	2.63±0.86
Delivery to be dangerous	1.57±0.91	3.95±0.21
Baby delivery		
Baby to be healthy	1.14±0.46	1.63±0.86
Baby to be beautiful	1.32±0.61	1.34±0.53
Baby to stay in the room with me	3.64±0.48	3.59±0.53
Baby to be harmed	2.91±0.43	2.93±0.40
Women's behavior when labor intensifies		
Behave badly	1.31±0.68	1.35±0.78
Lose control	1.22±0.47	1.36±0.57
Cry	1.13±0.36	1.18±0.48
Tolerate the intensity of labor	1.87±0.66	2.48±0.50
Give in	2.55±0.64	1.91±0.64

about the labor and delivery. There was no significant difference between two groups (p = 0.248). Also, only 9.7% (29) participated in antenatal classes in both the groups. The findings of this study also provide information on what influences a woman's beliefs in relation to childbirth and how they prepare for this event. The results showed that 28% (84) of primiparous achieve information through their mothers and in 19% (57) of Multiparous source of information about childbirth was woman's family history of birth.

In this study, we also identify the relationship between the sub-items of expectations related to women's behavior when the labor pain intensifies in both groups. The labor pain was positively correlated with the following items: behave in bad way ($r = 0.25$, $p<0.001$) in primiparas and ($r = 0.29$, $p<0.003$) in multiparas, didn't act properly in labor due to unpleasant feeling related to delivery, loss of control ($r = 0.28$, $p<0.001$) and ($r = 0.31$, $p<0.001$), respectively, crying ($r = 0.35$, $p<0.001$) and ($r = 0.36$, $p<0.003$), respectively, give in control over her body ($r = 0.36$, $p<0.003$) in primiparas ($r = 0.21$, $p<0.003$) in multiparas. Also, there was negatively correlated with the tolerance of the labor pain ($r = -0.18$, $p<0.001$) and ($r = -0.35$, $p<0.001$), respectively.

DISCUSSION

The results demonstrated that irrespective of the number of deliveries women consider labor a painful experience and the majority of the subjects in the present study reported a high score of pain during labor (≥8). The results of the present study are consistent with the results of a study carried out by Abushaikha and Arwa (2005).

Finding of the study indicated that that the majority of participants had the negative expectation of childbirth and primiparas negative expectation was more than multiparas. Primiparas expected a painful delivery, very long labor and fear of childbirth while in multiparas women feeling very week during labor and be in pain during labor were more important contributory factors in creating negative childbirth expectations. The results of the present study are consistent with the results of a study carried out by Pirdel and Pirdel (2015). A study conducted in Jordan also found that 92% of the women in the study expected a negative experience of childbirth, either very long, too difficult or painful (Oweis and Abushaikha, 2004). A study by Wijma *et al.* (1997) showed multiparas women expected less negative childbirth experience than primiparas. In contrast, other studies had found that multiparas tended to report less positive expectations than primiparas (Waldenstrom *et al.*, 1996; Green *et al.*, 1998).

Green *et al.* (1998) found that negative expectations were associated with finding birth less fulfilling, being less satisfied with birth and reporting less emotional well-being after birth. In this study, women who were unable to achieve a positive birth experience because of unmet expectations. Also, a negative birth experience may affect of future pregnancies by effecting a woman's future reproductive decisions (Waldentrom *et al.*, 2004; Aasheim *et al.*, 2013; Ulfsdottir *et al.*, 2014).

The potential role of person's individual beliefs, perceptions, attitudes and thoughts should not be ignored in relation to how they feel and behave in labor (Highsmith, 2006). It seems that expectations differences between primiparas and multiparas can be attributed to Multiparous women would have different expectations because they have previous experience of giving birth. this may suggest the effect of parity on the expectations.

Individual women's beliefs and expectations regarding childbirth differ significantly from one another. It was found that a number of differences in expectations exist between both groups. Surprisingly, the evidence to date does not widely support this: both retrospective and prospective studies find no significant differences in the frequency of different expectations between primiparas and mulitparas women except for the variables of "body control in labor", "control of health decisions", "control over staff actions" and involvement in decision making (Green *et al*., 1998) with primiparas women expecting more control. The results are consistent with the results of the study carried out by Ayers and Pickering (2005).

The differences may be related to the maternity care and childbirth preparations between the two groups (Skevington and Wilkes, 1992). Heaman *et al*. (1992) found that women who attended antenatal classes had more positive expectations than those of women who did not attend.

According, to the obtained results of our study, there was a significant relationship between woman's expectations and pain perception during labor. Women expressed that their labor pain was not as expected. They described that the pain they experienced was more painful than that anticipated. The degree of pain experienced during labor was unpredictable by both groups which is inconsistent with the studies carried out by Green (1993). The large qualitative study in Australia described women's negative expectations of pain. Women expressed birth as a potentially negative experience that was shaped by their antenatal fear and concern about the anticipated severity of pain (Fenwick *et al*., 2005). One study found no difference in expectation and experience of pain levels (Slade *et al*., 1993). In most studies (Green, 1993; Halldorsdottir and Karlsdottir, 1996; Shapiro *et al*., 1998) women found the pain worse than anticipated in only one study did women report the pain to be better than expected (Gibbins and Thomson, 2001).

Waldenstrom *et al*. (2004) stated that if women expect the worst pain imaginable then they will end up having a painful, negative experience in contrast to women whose view was more optimistic, implying that your expectations shape your experiences. In this study, it was somewhat surprising that multiparas did not have a more realistic expectation of labor pain even though they had previous experience of delivery. It shows that it is necessary to prepare women specifically being more realistic about labor pain.

The behavioral expectations of women during pain intensity play an important role on actual labor pain experience. To control their sense during actual childbirth experience, coping strategies used by women related to labor pain can help. The results of this study indicated that women who had negative expectation related to behaviors during pain intensity feel more severe pain. Insufficient information obtained about labor and behavioral control during labor is one of the important factors that cause a loss of confidence in women about childbirth (Hauck *et al*. 2007).

A woman's expectations arise from her social conditioning her education including her own birth experience, prenatal education programs, the influence of authority figures like her doctor, stories her friends and relatives have told her, media representations that she has seen in movies and on television or read about in books and magazines; indeed, all the childbearing information that she has received throughout her life contribute to her beliefs about and what she expects to have happen when she gives birth (Highsmith, 2006; Klomp *et al*., 2016).

The women in this study prepared for childbirth by gaining knowledge and information from a variety of different sources which they felt helped them to cope with the actual experience and who or what they felt had influenced their childbirth expectations. The findings showed that about childbirth primary sources of information were mothers in primiparas and family history of birth in multiparas. The finding of others studies indicated that family, friends and internet were woman's primary sources of information about childbirth (Abushaikha and Arwa, 2005; Martin *et al*., 2013). Midwives and antenatal classes as excellent sources of information were not considered by women. This finding is in agreement with another study. Other study reported that the majority of women perceived midwifery care during childbirth as a good source of information (Tumblin and Simkin, 2001). Childbirth education classes can prepare women for unpleasant aspects of labor and birth. On the other hand, it can increase the sense of confidence in women for making decision and feeling the control of her labor by providing realistic and accurate information (Ip *et al*., 2003; Gibbins and Thomson, 2001). The women in this study felt that they were unable to control themselves due to inadequate knowledge about the realistic expectations.

CONCLUSION

The majority of women reported that they had a negative childbirth expectation. Furthermore, they experienced more labor pain than expected. In order to develop positive and realistic expectations of the actual childbirth experience, exploring women's expectations and ideas for childbirth are important. To assess childbirth

expectation, we propose that the establishment of childbirth education classes by midwives can be have the positive potential role on the birth experience of women. Education on labour pain management should be introduced early and regularly revisited until delivery so that, women would understand pain management approaches used. Primiparas and multiparas women differ in their expectations and experiences of birth but further studies is required due to limited finding in this area of research.

IMPLICATIONS

The implications from this study support the need for an evaluation of the current preparation of women for childbirth. Women's individual needs can be significantly provided by maternity systems and health-care professionals. Educational programs are a contributory factor in increasing realistic knowledge to expectant mothers about what actually happens during labor.

The findings suggest that assistance strategies may play a major role in alleviate the labor pain in women who are afraid of this pain. Therefore, coping with labor pain in women can be achieved by participating in the childbirth preparation programs and the labor process. To determine what the content of such a program should be and know the content should be presented to the expectant mother is an important area for the future research.

ACKNOWLEDGEMENT

The researcher would like to acknowledge the women for graciously sharing their thoughts and feeling regarding their birthing experiences.

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