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Childbirth self-efficacy and fear of childbirth and their predictors in adolescent and adult pregnant women referring to health centres of Urmia-Iran: a cross-sectional study

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ABSTRACT

Objective Adolescent pregnancy as a growing phenomenon in the world has been investigated from different aspects. However, the examination of childbirth fear and self-efficacy has received less attention. Therefore, this study was conducted to compare the self-efficacy and fear of childbirth and to determine their predictors in adolescent and adult pregnant women.

Design In this comparative cross-sectional study, participants were selected through two-stage cluster sampling method. Data were collected using the Childbirth Self-Efficacy Inventory and Wijma Delivery Expectancy/Experience Questionnaire. The Pearson correlation test, independent t-test, and general linear model were used for data analysis.

Setting Urmia health centres, Iran in 2020.

Participants Three hundred and sixty adults and adolescent pregnant women.

Results The mean (SD) of fear of childbirth was 114.7 (14.1) and 108.1 (23.1) in adolescent and adult pregnant women, respectively. The mean (SD) of childbirth self-efficacy in the active phase and the second stage of labour respectively were also obtained 208.8 (28.6) and 203.5 (32.1) for adolescent pregnant women and 213.8 (25.7) and 212.0 (26.5) for adult ones. There was a significant difference between adolescent and adult pregnant women in fear of childbirth (p=0.001), self-efficacy expectancy (p=0.003) and total childbirth self-efficacy (p=0.008) in the second stage of labour. After adjusting the sociodemographic characteristics, the mean score of fear of childbirth was significantly higher in adolescent pregnant women than in adult ones whereas the mean total self-efficacy score in the second stage of labour was significantly lower in adolescent pregnant women than in adult ones.

Conclusion This study showed that adolescent pregnant women had more fear of childbirth and low self-efficacy than adult mothers, and there was also a relationship between fear of childbirth and self-efficacy. Paying more attention to fear and self-efficacy in childbirth and their predictors by health providers can improve pregnancy and childbirth outcomes.

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ The use of valid and standard instruments.
⇒ Random sampling.
⇒ The use demographics as independent variables affecting both fear of childbirth and childbirth self-efficacy.
⇒ The lack of causal conclusions due to the cross-sectional design.

INTRODUCTION

Fear of childbirth is one of the most common problems of pregnant women, especially during adolescence.[1] One in every five pregnant has a fear of childbirth, and 6%–13% of pregnant women experience a severe and debilitating level of fear of childbirth.[1] Among Iranian pregnant women fear of childbirth is common.[2] In the study of Soltani *et al* in Iran, the fear of childbirth was reported to be about 89%.[3] Women who have no history of childbirth experience greater fear of vaginal delivery and caesarean section compared with those with a history of childbirth.[4 5] Severe fear of childbirth may disrupt the normal activities of life.[6] The experience of fear of childbirth increases the possibility of using surgical interventions and causes very negative and damaging childbirth consequences.[7] One of the most common surgical interventions performed for pregnant women is the caesarean section.[5] Some studies have also reported fear of childbirth as the most common reason why primiparous women prefer caesarean section.[8 9] In a study conducted on Swedish women, 36% of them stated that fear of pain was the main reason for choosing caesarean section.[10] In Iran, the most common reason for primiparous women to request a caesarean section is the fear of childbirth.[11] Studies have also shown that the possible complications of fear of childbirth include abnormal fetal heart rate patterns, low Apgar score,[12] increased risk of death at birth and low birth weight following increased uterine artery resistance due to maternal anxiety,[10] psychological disorders

such as depression, anxiety and eating disorders.[5] Studies show that there is a relationship between fear of childbirth and self-efficacy.[13 14]

Self-efficacy is a dynamic cognitive process that involves assessing one's abilities to cope with stressful situation and perform the necessary behaviours.[15] In a sample of 100women with fear of childbirth, the second major reason cited by 65% of them is feeling unable to give birth.[16] Low childbirth self-efficacy makes women less likely to resort to pain-reducing behavioural strategies during childbirth, and therefore, it is likely that their prediction of the terrifying pain of childbirth will come true.[17] It seems that increased self-efficacy can make one more adhered to therapies and reduce the physical and possibly psychological symptoms of illnesses, such as depression.[18 19] Since labour is categorised under stressful situations of women's lives, this new situation may change women's childbirth self-efficacy and fear of childbirth especially in primiparous and adolescent mothers. Women who have a favourable level of self-efficacy have less fear and pain of childbirth.[20]

Adolescent pregnancy is on the rise in all countries.[21] Although the average of adolescent pregnancy in Iran (7%) is lower than the world average (11%), it is increasing due to the change in Iran's policies and the encouragement to have children. More than 75% of adolescent pregnant women report fear of childbirth.[22] Adolescent pregnancy is a challenge of human communities, and each country may deal with this challenge based on its culture, traditions and rituals.[23] Although adolescent pregnancy has been viewed and discussed from different aspects, this issue usually evokes negative social reactions in many communities. Nevertheless, the improvement of the health status of mothers and infants is one of the international commitments of countries in line with the Millennium Development Goals.[24]

It is necessary to reduce maternal and infant mortality rates due to complications of pregnancy and childbirth, reduce the number of caesarean sections without medical indications, and promote vaginal delivery.[25] The identification of the factors affecting fear and self-efficacy childbirth in pregnant women can greatly help the health system of countries to plan to improve the quality of pregnancy and childbirth services. According to the above, factors affecting childbirth self-efficacy and fear of childbirth may vary in different societies and cultures. The literature review also indicated that few studies have been conducted on this subject in Iran.[2 26] The present study aimed to compare the childbirth self-efficacy and fear of childbirth and to determine their predictors in adolescent and adult pregnant women referring to Urmia health centres.

METHODS

Patient and public involvement

Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

Study design

This is a comparative cross-sectional study.

Participants

This study was conducted on 360 primiparous women (120 adolescents (15–19years old) and 240 adults (20 years old and more)) with gestational ages equal to 28 weeks or more (the third trimester of pregnancy) who visited health centres and bases in Urmia-Iran in 2020.

The inclusion criteria consisted of having singleton pregnancy, living with one's husband during the study, absence of contraindications to vaginal delivery. The exclusion criteria included having a multiple pregnancy, pregnancy with fetal abnormalities, history of depression during non-pregnancy period (psychological problems may negatively affect mothers' fear of childbirth and self-efficacy[27]), having infertility history, record of visiting a physician for mental problems, history of taking medicines or hospitalisation and medical problems during pregnancy. These criteria were the same for adolescent and adult pregnant women.

Study procedure

To perform two-stage cluster sampling, 22 out of 61 health centres of Urmia were randomly selected using the random numbers site (www.random.org) and then the appropriate number of samples for each centre was determined proportionally to the total sample size. A list of pregnant women visiting these health centres, including their contact information, was extracted from the Iranian integrated health system (SIB system). Then some pregnant women were randomly selected for each centre by using the random numbers site (www.random.org). The selected women were contacted via telephone calls to explain the research objective and procedure and also to ensure that their information would be kept confidential. Likewise, we used to ask pregnant women about some inclusion criteria that were not accessible from the SIB system. The women who met the inclusion criteria and were willing to participate in the study were invited to attend the health centre. When the participants visited the health centres, they were declared on the research objective and procedure once again and written informed consent was obtained from them before completing the questionnaires. The study instruments were completed through interviews with participants in a separate room intended for this purpose. This room was a quiet place for mothers to answer the questionnaires carefully.

Study instruments

Data collection tools were the sociodemographic and obstetrics characteristics questionnaire, the Wijma Delivery Expectancy/Experience Questionnaire (W-DEQ) and the Childbirth Self-Efficacy Inventory (CBSEI). These tools were completed through interviews with participants.

Obstetrics and sociodemographic questionnaire was developed based on related articles,[13 14 28] that included

items about age, educational level, job, educational level and the job of spouse, income adequacy, place of residence, sex of fetus (based on ultrasound report), satisfaction with the current pregnancy, and maternal and paternal satisfaction with the fetus's gender. The face and content validity of the questionnaire was evaluated qualitatively by the faculty members of Tabriz, Tehran and Urmia University of Medical Sciences.

W-DEQ-version A was designed by Wijma *et al*.[6] In this study, we used the Farsi version of the W-DEQ-version-A questionnaire, which has been psychometric by Mortazavi. This author has obtained permission from the tool's developer for the psychometric test in the Farsi language.[28] The tool has 33 items, of which 17 items are positive[1 4 5 9 10 13 14 16–18 21–23 26 28 29] and 16 items are negative. It is a self-report questionnaire that is completed by the individual in the 6-point Likert scale from 0 to 5. The score is 0–165, and a total score greater than or equal to 85 indicates fear of childbirth and more than or equal to 100 indicates severe fear of childbirth. The results of Mortazavi,[28] study showed that the version of W-DEQW is a valid and reliable tool for measuring the fear of childbirth, thus the tool is recommended to be used for measuring fear of childbirth for Iranian women.

CBSEI—a maternal perception self-report questionnaire—has been developed on the ability to adapt to labour pain, which measures the expectancy outcome and the expectancy self-efficacy. This tool has 64 questions and consists of two parts: the active phase and the second stage of labour. Each section has two parts (outcome expectancy and self-efficacy expectancy). Each part of this questionnaire contains 16 questions, the total score will be between 16 and 160. Thus, by adding the self-efficacy expectancy scores of the active phase and the second stage of labour, the total self-efficacy expectancy score is obtained. Also, by adding the outcome expectancy scores of the active phase and the second stage of labour, the total score of the outcome expectancy is obtained. The overall childbirth self-efficacy score is the sum of two (outcome expectancy and self-efficacy). A higher score indicates a higher level of self-efficacy.[29] This tool is also used in Iranian pregnant women and has acceptable validity and reliability (Cronbach's alpha between 0.84 and 0.91).[30] Also, in this study, Cronbach's alpha (internal reliability) was 0.829 for W-DEQ and 0.776 for the CBSEI.

Sample size

Sample size was estimated as 61 individuals with considering 95% CI (Z=1.96) and the prevalence of fear of childbirth 20%,[2] α=0.05 and with considering d (precision)=0.1 (acceptable error around the ratio). Final sample size was calculated as 120 participants with respect to the design effect of 2.0. One hundred and twenty adolescent pregnant women and two times that number, 240 adult pregnant women (due to more adult pregnant women than adolescent pregnant women), therefore, 360 women were studied.

Data analysis

Data were analysed using SPSS (V.24.0, SPSS Inc., Chicago, IL). Descriptive statistics including frequency, percentage, mean and SD were used to describe the sociodemographic characteristics and medical and obstetric history of individuals, fear of childbirth score and childbirth self-efficacy. Normal distribution of quantitative data was examined using skewness and kurtosis and all data had normal distribution. Independent t-test was used to compare the fear of childbirth and childbirth self-efficacy between adolescent and adult pregnant women and Pearson correlation test to evaluate the correlation between childbirth self-efficacy and fear of childbirth. General linear model (GLM) (adjusted and unadjusted) was used to determine the relationship between sociodemographic and obstetrics characteristics with the fear of childbirth score, and the total self-efficacy score of the active phase and the second stage of delivery. P value less than 0.05 was considered significant.

RESULTS

A total of 360 pregnant women participated in this study from November 2021 to March 2022. The mean (SD) age of participants was 17.45 (1.59) in adolescent and 29.16 (4.95) in adult pregnant women. About one-third of participants and their spouses had diploma (31.1% and 35.6%, respectively). The ultrasound results also showed that half of the participants were carrying a male fetus (51.9%). More than three-quarters of the participants (85.6%) were housewives, and the spouses of about half of them (43.3%) were shopkeeper. About half of the participants were living in their personal house (53.9%) and reported relatively adequate income levels (50.6%). Most women (89.7%) were interested in their current pregnancy and most of them stated that they (93.9%) and their husbands (90.3%) were interested in the sex of the fetus (table 1).

Fear of childbirth in adolescent and adult pregnant women

The mean (SD) score of total fear of childbirth was 114.7 (14.1) and 108.1 (23.1) in adolescent and adult pregnant women, respectively (attainable score: 0–165).

Childbirth self-efficacy in adolescent and adult pregnant women

In the active phase of labour and the second stage of delivery, the mean (SD) of outcome expectancy and self-efficacy expectancy (dimensions of childbirth self-efficacy), and total childbirth self-efficacy score in adolescent pregnant women were 115.1 (17.7), 93.7 (15.0), 208.8 (28.6), 111.8 (17.8), 91.7 (17.1) and 203.5 (32.1), respectively. Also, these scores in adult pregnant women were 117.3 (14.1), 96.6 (15.7), 213.8 (25.7), 114.7 (14.5), 97.3 (16.5) and 212.0 (26.5), respectively.

Comparison of the fear of childbirth and self-efficacy in adolescent and adult pregnant women

The independent t-test results indicated that there was a significant difference between adolescent and adult

Table 1 Socio-demographic characteristics of the pregnant women (n=360)

Characteristics	Adolescent	Adult	Total
Age (years)	Mean (SD)		
	17.45 (1.59)	29.16 (4.95)	25.26 (6.91)
	Number (%)		
Educational level			
Primary school	6 (5)	7 (2.9)	13 (3.6)
Secondary school	32 (26.7)	36 (15)	68 (19.9)
High school	40 (33.3)	58 (24.2)	98 (27.2)
Diploma	35 (29.2)	77 (32.1)	112 (31.1)
University	7 (5.8)	62 (25.8)	69 (19.2)
Job			
Housewife	115 (95.8)	193 (80.4)	308 (85.6)
Employed	5 (4.1)	5 (19.6)	52 (14.5)
Spouse's educational level			
Primary school	5 (4.2)	17 (7.1)	22 (6.2)
Secondary school	16 (13.3)	20 (8.3)	36 (10)
High school	23 (19.2)	55 (22.9)	78 (21.7)
Diploma	49 940.8)	79 (32.9)	128 (35.6)
University	27 (22.5)	69 (28.8)	96 (26.7)
Spouse job			
Clerk	16 (13.3)	62 (25.8)	78 (21.7)
Worker	30 (45)	39 (16.3)	69 (19.1)
Shopkeeper	57 (47.5)	99 (41.3)	156 (43.3)
Other*	17 (14.2)	40 (16.7)	57 (15.8)
Residence			
Personal	46 (38.3)	148 (61.7)	194 (53.9)
Rental	20 (16.7)	54 (22.5)	74 (20.6)
Other†	54 (45)	38 (25.8)	92 (25.5)
Income sufficiency			
Sufficient	3 (2.50	37 (15.4)	40 (11.1)
Fairly sufficient	59 (49.2)	123 (51.3)	182 (50.6)
Insufficient	58 (48.3)	80 (33.3)	138 (38.3)
Satisfaction with the current pregnancy			
Yes	111 (92.5)	211 (87.9)	323 (89.7)
No	9 (7.5)	29 (12.1)	37 (10.3)
Fetal sex based on ultrasound			
Female	57 (47.5)	106 (44.2)	173 (48.1)
Male	60 (50)	127 (52.9)	187 (51.9)
Paternal satisfaction with the fetus's gender	108 (90)	217 (90.4)	325 (90.3)
Maternal satisfaction with the fetus's gender	115 (95.8)	223 (92.9)	338 (93.9)

*Others includes occupations such as construction, painter, agriculture, etc.
†Others indicate residence in parents' house, relatives' house and corporate house.

pregnant women in the mean score of fear of childbirth (p=0.001), self-efficacy expectancy (p=0.003) and total score of self-efficacy (p=0.008). In the second stage of delivery, adult pregnant women gained higher scores on self-efficacy expectancy and total self-efficacy.

Correlation between fear of childbirth and childbirth self-efficacy

Based on the Pearson's correlation test, there was a significant reverse correlation between the total score of fear of childbirth and the total score of childbirth self-efficacy

Table 2 Fear of childbirth and childbirth self-efficacy in adolescent and adult pregnant women referring to Urmia health centres (n=360)

Outcome	Total Mean (SD)†	Adolescent Mean (SD)†	Adult Mean (SD)†	P value*	Correlation with fear of childbirth: Adolescent r (p value‡)	Correlation with fear of childbirth: Adult r (p value‡)
Fear of childbirth (score range: 0–165)	110.3 (20.7)	114.7 (14.1)	108.1 (23.1)	0.001	–	–
Childbirth self-efficacy						
Active phase of labour						
Outcome expectancy (score range: 16–160)	116.5 (15.4)	115.1 (17.7)	117.3 (14.1)	0.208	0.56 (>0.001)	0.57 (>0.001)
Self-efficacy expectancy (score range: 16–160)	95.6 (15.5)	93.7 (15)	96.6 (15.7)	0.103	0.56 (>0.001)	0.73 (>0.001)
Total score (score range: 32–320)	212.1 (26.7)	208.8 (28.6)	213.8 (25.7)	0.094	0.64 (>0.001)	0.76 (>0.001)
Second stage of delivery						
Outcome expectancy (score range: 16–160)	113.7 (15.7)	111.8 (17.8)	114.7 (14.5)	0.101	0.57 (>0.001)	0.67 (>0.001)
Self-efficacy expectancy (score range: 16–160)	95.45 (17.1)	91.7 (17.1)	97.3 (16.5)	0.003	0.61 (>0.001)	0.69 (>0.001)
Total score (score range: 32–320)	209.2 (28.7)	203.5 (32.1)	212 (26.5)	0.008	0.65 (>0.001)	0.79 (>0.001)

*Independent t-test.
†Mean (SD).
‡Pearson's correlation test.

(and its dimensions) in the active phase of labour and the second stage of delivery (table 2).

Predictors of fear of childbirth and childbirth self-efficacy

According to the unadjusted GLM, there was a significant relationship between the mean score of fear of childbirth and age group, participant's education level and spouse's education level (p<0.05). According to the adjusted GLM, and by adjusting other variables, age group, participant's education level and spouse's education level were significantly statistically correlated with the fear of childbirth and they were able to predict 8.7% of the variance of fear of childbirth score in pregnant women. The mean score of fear of childbirth in adolescent pregnant women was significantly higher than in adult participants (β=5.6, 95% CI 1.0 to 10.2, p=0.018). Also, participants with secondary school (β (95% CI): 10.1 (3.0 to 17.3); p=0.006) and diploma (β (95% CI): 8.0 (1.8 to 14.2); p=0.012) educational level obtained a significantly higher fear of childbirth score than the participants with university educational level. Also, the participants whose spouses had primary school educational level showed a significantly higher level of fear of childbirth score than the participants whose spouses had university educational level (β (95% CI): 17.1 (7.7 to 26.5); p<0.001) (table 3).

According to the unadjusted GLM, there was a significant relationship between the total self-efficacy score in the active phase of labour and participant's educational level, spouse's educational level, income adequacy, satisfaction with the current pregnancy and paternal satisfaction with the fetus's gender (p<0.05). According to the adjusted GLM, and by adjusting other variables, participant's education level, spouse's education level and paternal satisfaction with the fetus's gender were significantly related to the self-efficacy score in the active phase of labour and could predict 13.2% of the variance of this variable. Although the mean total childbirth self-efficacy score in the active phase of labour in adolescent pregnant women was significantly lower than in adult women, there was no significant difference between them in this regard (β=−2.5, 95% CI −8.5 to 3.5, p=0.411). Participants with primary school educational level (β (95% CI): −15.2 (−30.2 to −0.1); p=0.048) obtained a significantly lower childbirth self-efficacy score in the active phase of labour than the participants with university educational level. Also, the participants who satisfied with the fetus's gender showed a significantly higher level of childbirth self-efficacy score in the active phase of labour than the participants who were unsatisfied (β (95% CI): 13.6 (3.1 to 24.1); p<0.011) (table 4).

Based on the unadjusted GLM, age, participant's education level, spouse's educational level, income adequacy and paternal satisfaction with the fetus's gender were significantly related to the mean score of childbirth self-efficacy in the second stage of delivery. After adjusting other sociodemographic characteristics, it was shown that age, participant's educational level and spouse's education level were significantly related to the mean score of childbirth self-efficacy in the second stage of delivery and could predict 12.8% of the variance of this variable. Finally, the result indicated that the mean score

Table 3 Predictors of fear of childbirth based on general linear model in pregnant women referring Urmia health centres (n=360)

Characteristic	Unadjusted		Adjusted	
	β (95% CI)	P value	β (95% CI)	P value
Age (reference: adult)				
Adolescent	6.6 (2.1 to 11.1)	0.004	5.6 (1.0 to 10.2)	0.018
Educational level (reference: university)				
Primary school	12.7 (1 to 24.5)	0.034	9.1 (–2.6 to 20.8)	0.127
Secondary school	13.5 (6.7 to 20.4)	<0.001	10.1 (3.0 to 17.3)	0.006
High school	4.9 (–1.4 to 11.2)	0.131	4.1 (–2.6 to 10.7)	0.228
Diploma	8.2 (2 to 14.3)	0.009	8 (1.8 to 14.2)	0.012
Spouse's educational level (reference: university)				
Primary school	18.6 (9.2 to 28)	<0.001	17.1 (7.7 to 26.5)	<0.001
Secondary school	9.5 (1.6 to 17.4)	0.019	7.3 (–0.7 to 15.3)	0.072
High school	0.6 (–5.9 to 7)	0.864	0.4 (–7 to 6.1)	0.893
Diploma	0.4 (–4.8 to 5.6)	0.881	1.5 (–6.9 to 3.9)	0.590

Adjusted R^2=0.087.

of childbirth self-efficacy in the second stage of delivery was significantly lower in adolescent pregnant women than adult ones (β=–8.7, 95% CI –14.60 to –2.9, p=0.004). Also, participants with secondary school educational level (β (95% CI): –13.9 (–23.9 to –3.8); p=0.007) obtained a significantly lower childbirth self-efficacy score in the second stage of delivery than the participants with university educational level. Also, the participants whose spouses had primary school (β (95% CI): –23.7 (–37.0 to –0.4); p=0.001) and secondary school (β (95% CI): –12.5 (–24.1

Table 4 Predictors of childbirth self-efficacy of the active phase of labour in based on general linear model in pregnant women visiting Urmia health centres (n=360)

Characteristic	Unadjusted		Adjusted	
	β (95% CI)	P value	β (95% CI)	P value
Age (reference: adult)				
Adolescent	5.0 (–10.9 to 0.9)	0.094	2.5 (–8.5 to 3.5)	0.411
Educational level (reference: university)				
Primary school	19.9 (–35 to –4.7)	0.01	15.2 (–30.2 to –0.1)	0.048
Secondary school	15.4 (–24.3 to –6.5)	0.001	9 (–18.4 to 0.4)	0.060
High school	8.9 (–17 to –0.7)	0.033	6.2 (–14.9 to 2.4)	0.159
Diploma	6.4 (–14.4 to 1.5)	0.114	5.8 (–13.8 to 2.1)	0.152
Spouse's educational level (reference: university)				
Primary school	28.5 (–40.5 to –16.5)	<0.001	21.9 (–34.2 to –9.5)	0.001
Secondary school	15.8 (–25.9 to –5.7)	0.002	9.8 (–20.5 to 0.9)	0.073
High school	2.9 (–11.1 to 5.2)	0.483	1.5 (–7.3 to 10.4)	0.729
Diploma	4.3 (–10.9 to 2.3)	0.205	0.6 (–7.8 to 6.6)	0.871
Income sufficiency (reference: insufficient)				
Sufficient	14.7 (5.5 to 23.9)	0.002	7.7 (–2.5 to 17.9)	0.139
Fairly sufficient	8.6 (2.7 to 14.4)	0.004	4.4 (–1.7 to 10.6)	0.156
Satisfaction with the current pregnancy (reference: no)				
Yes	10 (0.1 to 20)	0.048	6.2 (–3.5 to 15.9)	0.207
Paternal satisfaction with the fetus's gender (reference: no)				
Yes	16.9 (6.1 to 27.6)	0.002	13.6 (3.1 to 24.1)	0.011

Adjusted R^2=0.132.

Table 5 Predictors of childbirth self-efficacy of the second stage of delivery in based on general linear model in pregnant women visiting Urmia health centres (n=360)

	Unadjusted		Adjusted	
Characteristic	β (95% CI)	P value	β (95% CI)	P value
Age (reference: adult)				
Adolescent	8.5 (–14.7 to –2.2)	0.008	8.7 (–14.6 to –2.9)	0.004
Educational level (reference: university)				
Primary school	19.8 (–36 to –3.5)	0.017	14.4 (–30.6 to 1.7)	0.080
Secondary school	21.1 (–30.6 to –11.6)	<0.001	13.9 (–23.9 to –3.8)	0.007
High school	9.2 (–17.9 to –0.5)	0.038	5.2 (–14.5 to 4.1)	0.271
Diploma	8.8 (–17.3 to –0.3)	0.041	6.9 (–15.5 to 1.7)	0.112
Spouse's educational level (reference: university)				
Primary school	29.6 (–42.5 to –16.6)	<0.001	23.7 (–37.0 to –0.4)	0.001
Secondary school	18.3 (–29.2 to –7.4)	0.001	12.5 (–24.1 to –1.1)	0.033
High school	6.4 (–15.2 to 2.5)	0.159	2.5 (–12 to 7.0)	0.601
Diploma	7.3 (–14.5 to –0.1)	0.047	4.5 (–12.2 to 3.3)	0.256
Income sufficiency (reference: insufficient)				
Sufficient	13.9 (4 to 23.9)	0.006	3.7 (–7.2 to 14.7)	0.507
Fairly sufficient	10.5 (4.2 to 16.8)	0.001	5.6 (–0.9 to 12.2)	0.095
Paternal satisfaction with the fetus's gender (reference: no)				
Yes	12.4 (0.7 to 24.1)	0.037	8.7 (–2.6 to 20)	0.132

Adjusted R^2=0.128.

to –1.1); p=0.033) educational level showed a significantly lower childbirth self-efficacy score in the second stage of delivery than the participants whose spouses had university educational level (table 5).

DISCUSSION

This study showed that adolescent women were more afraid of childbirth and on the other hand, had lower childbirth self-efficacy. In fact, there was a significant reverse correlation between the fear of childbirth and childbirth self-efficacy. Also, The results showed that participants and their spouses' education levels were predictors of fear of childbirth. The variables of participant's educational level, spouse's educational level and paternal satisfaction with the fetus's gender were predictors of childbirth self-efficacy in the active phase of labour, and age, participant's educational level, spouse's educational level were predictors of childbirth self-efficacy in the second stage of delivery.

The results showed that adolescent pregnant women were more afraid of childbirth compared with adult ones, but both groups reported severe fear of childbirth. The WHO in 2008 announced that adolescent and primiparous pregnancies are risk factors for gestational anxiety,[31] which can reduce self-efficacy and increase fear of childbirth. On the other hand, it has been shown that most women, especially primiparous ones, experience a reasonable and natural fear during pregnancy and childbirth because they are unfamiliar with the delivery process.[1] To explain the study findings, it can be stated that as societies become more developed and more medical, the distance of women in society from the process of childbirth increases and their knowledge about childbirth decreases. The Harsanyi theory claims that differences in individual beliefs and attitudes may be due to differences in information levels. According to this theory, incomplete or incorrect information is one of the main reasons for the fear of childbirth in pregnant women.[32] Therefore, providing education on the causes of fear of childbirth, the consequences of fear and anxiety, the process of childbirth, the benefits and harms of vaginal delivery and caesarean section can improve pregnant mothers' knowledge and skills and reduce their fear of childbirth.

In this study, adult pregnant women exhibited higher levels of childbirth self-efficacy compared with adolescent ones. The study of Schwartz *et al* supports the result of our study; they also found that there is a relationship between age and self-efficacy of mothers in the second stage of delivery but not in its active phase.[33] A possible reason for this may be the way mothers think about childbirth and their attitudes towards their abilities about childbirth self-efficacy. Adolescent women may not have reached social maturity yet and may be weak in this regard, which

can affect their level of self-efficacy. However, our study is not similar to previous studies that found no relationship between age and childbirth self-efficacy.[13 33] Women's childbirth self-efficacy may align more to women's levels of general self-confidence, their existing coping styles and stability of support or role models. Personal factors may be more telling than women's demographic characteristics given the previous finding that prenatal anxiety was strongly associated with lower childbirth self-efficacy.[34]

This study showed that there was a significant reverse relationship between fear of childbirth and childbirth self-efficacy, which is consistent with the findings of Salomonsson *et al*[13], Tanglakmankhong *et al*[35] and Schwartz *et al*[33] who found a negative relationship between self-efficacy and fear of childbirth, that is, childbirth self-efficacy was lower in women who experienced severe fear of childbirth. These results are similar to another study looking specifically at severely fearful women that found W-DEQ scores correlated to low level second stage outcome expectancy and self-efficacy subscales.[13] Considering the definition of outcome expectancy (the belief that an expected behaviour leads to a certain outcome) and self-efficacy expectancy (one's belief in one's ability to perform the necessary behaviour in a particular situation), it may be that the participants in this study did not trust in their abilities to perform these practices, resulting in great fear.

The results showed that age group, participant's educational level and spouse's educational level were predictors of fear of childbirth. Accordingly, the adolescent pregnant women and their spouses with lower educational level (compared with university education) experienced higher fear of childbirth. Accordingly, the adolescent pregnant women with less educated spouses experienced more fear expectant mothers with less educated spouses experienced more fear. The study findings regarding the relationship between mother's educational level and fear of childbirth are consistent with the results of Farajzadeh and Kh Shakerian Rostami who found that higher educational level and awareness of women can reduce their fear of childbirth.[36] Also, according to a systematic review by Hosseini Tabaghdehi *et al*,[37] age is an important factor for fear of childbirth that is consistent with our study. In another study by Akhlaghi and Shamsa,[38] there was no significant relationship between the age of pregnant women and fear of childbirth. The possible reason for this inconsistency can be the difference in participants in two studies. Because as people get older, they are more likely influenced by the environment and the cultures.[39] In our study, one-third of the participants were young mothers, but in the Akhlaghi study, all the participants were from the adult age group.

The predictors of childbirth self-efficacy in the active phase of labour in this study were participant's educational level, spouse's educational level and paternal satisfaction with the fetus's gender. It is consistent with the study of Serçekuş and Başkale[40] and Schwartz *et al*[33] who showed that childbirth self-efficacy will increase with increasing awareness and information of mothers. Unfortunately, the correlation between paternal satisfaction with the fetus's gender of self-efficacy has been rarely addressed in previous studies. However, Schwartz *et al* investigated the effects of some demographic variables on childbirth self-efficacy in the active phase of labour and reported that awareness of childbirth and preference for the type of labour were two predictors of self-efficacy in the active phase of labour.[33] This can be probably attributed to the fact that when women are satisfied with their pregnancy and their spouses are satisfied with the fetus's gender, they receive greater support and feel a sense of responsibility for increasing their awareness of the fetus and improve their abilities and self-efficacy. On the other hand, parental satisfaction with pregnancy and fetus's gender can also improve the childbirth self-efficacy of women by reducing their stress.[41]

The results also demonstrated that age, participant's educational level, spouse's educational level were predictors of childbirth self-efficacy in the second stage of delivery. This is not consistent with the findings of Amidimazaheri *et al*[42] and Khorsandi *et al*[43] who showed that there was no significant relationship between demographic characteristics (age, mother educational level) and childbirth self-efficacy. This incompatibility can be attributed to differences in the study population; they studied both multiparous and nulliparous women, whereas the participants in this study all were primiparous. Unfortunately, no similar study was found to address the relationship of childbirth self-efficacy with spouse's educational level. Although the level of education of the spouse was a predictor of childbirth self-efficacy in our study, this finding is not consistent with the results of the study of Shahidi *et al*.[44] A possible reason for this inconsistent could be the different questionnaires used to measure labour self-efficacy in the study and differences in the study population.

Some strengths of this study were the use of valid and standard questionnaires, selection of adolescent mothers as part of the research population, investigation of demographics as independent variables affecting both fear of childbirth and childbirth self-efficacy, and random sampling. However, due to the cross-sectional nature of this study, the relationships are not necessarily of causal type. Another limitation is that the results cannot be generalised to the whole population, because it only surveyed women attending healthcare centres to receive healthcare services, and those women who were not visiting such centres could not be included. The study was also restricted to women with Azeri ethnicity, and its results may not be generalisable to other ethnicities. Since culture and ethnicity differences may affect fear of childbirth and childbirth self-efficacy, researchers are recommended to conduct similar studies on people of different cultures and ethnicity. Moreover, future studies are recommended to address the relationship between demographic variables and self-efficacy in the first and second stages of delivery on similar populations and also people of different cultures.

Conclusion

Based on the study findings, it can be concluded that mothers, especially adolescent ones, experience high fear of childbirth and low self-efficacy in adapting to labour pain. Considering the effect of sociodemographic characteristics factors, such as satisfaction with pregnancy, paternal satisfaction with the fetus's gender, educational level, and income adequacy, on childbirth self-efficacy as well as other aspects of life, the relevant authorities and officials are recommended to pay special attention to these factors in healthcare levels and provide training courses to increase self-confidence, especially adolescent ones.

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