

## Agreement, Adjustment and Satisfaction of Wives with Husbands' Participation During Pregnancy: Causality Network Analysis

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### Abstract

This research project aims to study three aspects namely, Wives' agreement, satisfaction and adjustment and focuses on the background factors affecting this phase in women's life. In this analytical cross-sectional study, there were 340 pregnant participants who had referred to health centers in three districts in the city of Urmia, Iran. The questionnaire was used to collect data. Then SPSS (version 19) and Mplus 5 statistical tools were used to obtain association of variables. Significance level was 0.05. Women's satisfaction with husbands' participation during pregnancy was positively affected by the last pregnancy age: ( $\beta=0.892$ ), husbands' education: ( $\beta=0.144$ ), mother's ethnicity: ( $\beta=0.183$ ), and wanted pregnancy: ( $\beta=0.278$ ), but it was negatively affected by sufficiency of income: ( $\beta=-0.164$ ) and husbands' support to the wives at hospital: ( $\beta=-0.160$ ). The agreement parameter had a direct significant relationship with wives' satisfaction with husbands' participation during pregnancy and so did agreement parameter along with adjustment. Among the effective variables in these three dimensions, the variable of mother's education was the only effective common variable. It can be concluded that the higher rate of satisfaction relates to educated women and as agreement increases, the general health of the spouses and improvement in their married life take place.

**Keywords:** Agreement; Adjustment; Satisfaction; Husbands' participation during pregnancy.



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### 1. Introduction

One of the most important phases in any woman's life is pregnancy and her physical, mental and psychological health noticeably affects the health of the fetus, natural delivery and breastfeeding (Shojaie *et al.*, 2017). One of the outstanding strategies to keep pregnant women safe is through their husbands' participation and support in this phase (Kaye *et al.*, 2014). This participation can play a useful role in strengthening the marital connection, better understanding of pregnancy and delivery, reducing the side effects of pregnancy and delivery labor, and increasing husbands' accountability. It also has a positive effect on the child's health and the woman's health behavior (Alio *et al.*, 2013).

In recent years, in most countries there has been an increase in the presence of fathers during pregnancy and delivery (Molzan Turan *et al.*, 2001; Shefner-Rogers and Sood, 2004). As the study conducted by Carter and Speizer in El Salvador showed, 90% of the fathers had a significant role in mother's pre-delivery care and discharge from hospital and childcare after delivery (Carter and Speizer, 2005). Most women like their husbands to pay attention to their health and stay with them during delivery. Chan *et al.* suggested that women appreciated their husbands' attendance at delivery and both spouses admitted that their relationship improved after their common experience during delivery irrespective of the type of delivery (Chan and Paterson-Brown, 2002).

On the other hand, husbands' role has been effective in adoption and continuation of their wives' health behavior during pregnancy and husbands also expressed their preference for the type of delivery (Olayemi *et al.*, 2009). In this regard, a study in 2005-2015 showed that husbands liked to help during and after pregnancy, but there were some serious obstacles to their participation like lack of information in supporting the wife, attitudes towards husbands' roles, quality of marital relationship, relationship with their parents and social factors (Xue *et al.*, 2018). Similarly, a study in Turkey showed that a short-term training could place positive effects on husbands' awareness, attitude and performance when they help during pregnancy. This can result in family regulation, infant's health, training, child nutrition and support to wives (Molzan Turan *et al.*, 2001; Sahip and M., 2007).

Husbands have shown interest in the health of wives and babies and this can improve care and strategies related to homecare and support to married life. It can also help make fair decisions for the health of wives and babies (Tokhi and Comrie-Thomson, 2018). However, it seems that for preparing the condition for the husbands'

participation in improving the health of wives during pregnancy it will be efficient if there is awareness about the extent of wives' agreement, adjustment and satisfaction. This is because these feelings vary during different phases of life, but there is no doubt that these are the most critical in any woman's pregnancy (Mangeli *et al.*, 2008).

Spouses' general satisfaction mainly depends on their common standards and the extent that their own satisfaction criteria are met. Studies show that spouses who observe their partners' standards and exert extra energy to this aim are more satisfied (Miri *et al.*, 2014). However, marital satisfaction is affected by pregnancy in one way or another especially if it is the first pregnancy. This satisfaction can be increased if the spouses are given awareness and their adaptability to the new condition is improved (Mangeli *et al.*, 2008). Therefore, adjustment is regarded as one important factor in marital relationship for life satisfaction. Research also shows that marital adjustment by each partner can increase this satisfaction (Be *et al.*, 2013). One study in Turkey emphasized that various demographic factors can have an effect on marital adjustment and as this adjustment increases, the degree of dependence of pregnant women increases (Mutlu *et al.*, 2018).

Another factor dealing with the prediction of satisfaction and adjustment between the spouses is arriving at an agreement. Different authors admit that participation in sexual relationship, regulation of family, and consultation about the issues related to pregnancy can affect agreement in the partners about wanted pregnancy and other related issues. Lack of agreement may hinder decision-making about pregnancy. Having recently conducted an international study in Asia, Mason *et al.* found out that in communities where women make decisions about pregnancy, there is a higher rate of bilateral agreement about the aims of pregnancy. However, lack of such an agreement is a main concern to the researchers (Williams and Sobieszczyk, 2003).

This research, therefore, made an attempt to find answers to the following questions:

- 1) Regarding husbands' participation during pregnancy, is there a relationship between wives' satisfaction and the spouses' adjustment?
- 2) Regarding husbands' participation during pregnancy, is there a relationship between wives' satisfaction and the spouses' agreement?
- 3) Regarding husbands' participation during pregnancy, is there a relationship between wives' satisfaction and the spouses' demographic-social features?

## 2. Methods

This analytical case study received its permission (No. IR.umsu.rec.1396.380- 96.11.18) from the Ethics Committee of Urmia Medical University. It also secured letters of consent from the study pregnancy-prone women in the city of Urmia. To collect the data, first, from each district, three centers were randomly selected and then regarding the population ratio, the study samples were randomly chosen from each center and then the questionnaires were completed.

### 2.1. The Study Sample

For the calculation of size of the sample population, this research made use of the ratio formula and determined 340 subjects for the study. Considering the assumptions and following earlier studies, the P-value was 0.75, the probability was 0.05 and the confidence level was 0.95 with regard to the corrected values and cluster sampling with coefficient 1.5.

$$n = \frac{Z_{1-\alpha/2} \cdot P(1-P)}{d^2}$$

The instrument used in this research was a questionnaire whose content validity was determined by giving it to ten people including a health center employee, an academic gynecologist, and a health center midwife. The reliability of the questionnaire was confirmed by means of statistical indices that took place after the pilot study on 30 people. Then after some modifications as suggested by some experts, the data were collected.

The data were collected through a questionnaire that had two parts: one was the demographic information and the other was a questionnaire that included questions targeting husbands' participation for healthcare during pregnancy and the expectations of mothers of their husbands in terms of satisfaction, agreement and adjustment. This was completed by having interviews with the study mothers. This descriptive case study made use of 1. A questionnaire comprising 33 question items on a visual scale having a range of 0-100 to assess satisfaction. 2. A questionnaire with 9 items on a 5-point Likert scale (very much, much, average, little, very little) to assess the spouses' satisfaction. 3. A questionnaire with 9 four-choice items for the assessment of the spouses' adjustment. Then SPSS (version 19) and Mplus 5 statistical tools were used to obtain the mean for the three variables at the significance level of 0.05 and to make an inferential analysis. Then descriptive statistics was used to analyze the qualitative nominal variables.

### 2.2. Statistical Analysis

To determine the relationship between demographic variables and the three factors of adjustment, agreement and satisfaction, this research has used the path analysis by means of the application Mplus5. First, the main model including all respective paths were tested. In the second stage, all the predictive paths that had no role in the general model fitting were considered fixed. To assess the model, one-way paths moved from the demographic variables to satisfaction and so did the one-way paths for adjustment and agreement. The relationship between demographic

variables and the three factors was also taken into consideration. The model fitting presented in Figure (1) shows a review of the Confirmatory Fit Index, Tucker and Lewis index, root mean square error of approximation and Standardized root mean residual. Value less than 0.05 represents a suitable fitting. It should be noted that the indirect effects of the demographic variables on wives' satisfaction were studied through the variables adjustment and agreement. It should also be stated a comparison was made between the severity of the direct and indirect effects and Pearson Coefficient correlation was used to determine the relationship between the variables.

### 3. Results

The findings generally show that the final model can fit the data very well: (CFI=0.993, SRMR=0.013, TLI=0.997 REMSE=0.027)

And Table (1) shows the age mean for men and women as  $27.74 \pm 5.57$  and  $31 \pm 86 \pm 6.07$ , respectively. Table (2) shows that the variable agreement has a significant relationship with gender ( $P < 0.005$ ) and mother's education ( $P < 0.001$ ). In addition, the variable satisfaction had a significant relationship with the husband's education ( $P < 0.001$ ), sufficiency of monthly income ( $P < 0.001$ ), mother's occupation ( $P < 0.001$ ), planning for the last pregnancy ( $P < 0.016$ ), and husband's support to the wife at delivery ( $P < 0.001$ ).

There was also a significant relationship between the variable adjustment and other variables such as mother's education ( $P < 0.001$ ), and father's education ( $P < 0.023$ ), sufficiency of monthly income ( $P < 0.03$ ), and type of delivery ( $P < 0.009$ ). Satisfaction was also significantly affected by mother's education, sufficiency of monthly income and husband's support to the wife during delivery. Table (3) shows the correlation matrix for satisfaction with some demographic variables.

Table (4) shows wives' satisfaction with husband's participation during pregnancy which was positively affected by the last pregnancy age ( $\beta = 0.892$ ), husband's education ( $\beta = 0.144$ ), mother's ethnicity ( $\beta = 0.183$ ), and wanted pregnancy ( $\beta = 0.278$ ), and it was negatively affected by sufficiency of income ( $\beta = 0.164$ ) and husband's support to the wife at hospital ( $\beta = 0.160$ ).

Figure (1) shows the direct relationship between wives' agreement, adjustment and satisfaction with each other and the direct and indirect relationship that exists between these three variables and the independent demographic variables. The variable husband's age had a positive relationship with marital satisfaction and the wanted children and the husband's support to his wife had a direct negative relationship with marital satisfaction. In addition, the variable wife's age had a positive direct relationship with adjustment and the variables wife's age, sufficiency of income and the last pregnancy age had an indirect relationship with the spouses' adjustment. The husband's education and sufficiency of income had an indirect negative effect on the spouses' adjustment, but the variables mother's ethnicity and the number of wanted children had a direct positive effect on the spouses' adjustment during pregnancy.

Regarding the spouses' agreement during pregnancy, the wife's occupation was a variable that had a direct positive effect, but the wife's education had an indirect negative effect.

Table-1. Demographic specifications for the study spouses

Variables	Minimum	Maximum	Mean	Std. Deviation
Wife's age	17	45	27.74	5.570
Husband's age	18	60	31.86	6.079
Wife's marriage age	2	37	20.99	4.369
Husband's marriage age	15	87	25.40	5.469
First pregnancy age	14	38	22.75	4.420
Last pregnancy age	17	45	27.11	5.572
Number of pregnancies	1	10	2.02	1.169
Number of deliveries	0	8	1.75	.918
Number of abortions	0	4	.28	.621
Number of live girls	0	6	.97	.880
Number of live boys	0	4	.80	.809
Number of wanted children	0	4	1.41	.912

**Table-2.** Relationship between independent variables and agreement, adjustment and satisfaction with husband's participation during pregnancy

variables		Number %	Satisfaction	p-value	Agreement	p-value	Adjustment	p-value
Child gender	girl	171 (%51)	245.6±49.91	0.613	38.18±4.79	0.005	21.05±2.72	0.841
	boy	167(49)	248.42±51.04		39.63±4.71		20.99±2.64	
Mother's education	illiterate	20 (5.8)	254.80±42.15	0.007	41.50±4.42	<0.001	21.10±1.99	0.05
	primary	74(21.5)	242.66±50.38		40.55±4.80		21±2.51	
	secondary	48(14)	237.38±53.35		39.33±4.50		20.67±2.64	
	high school	119(34.6)	240.16±52.01		37.59±5.09		20.66±2.94	
	University	83(24.1)	263.89±45.38		38.39±4.09		21.76±2.49	
Father's education	illiterate	8(2.3)	223.13±62.54	0.001	38.88±4.94	0.909	19.88±2.17	0.023
	primary	44(12.8)	233.45±58.02		39.09±5.61		21±2.61	
	secondary	74(21.5)	243.07±49.68		39.32±5.18		20.42±2.66	
	high school	125(26.3)	241.56±49.10		38.63±4.80		20.96±2.84	
	University	93(27)	265.46±43.83		38.84±4.22		21.7±2.42	
Sufficiency of monthly income	Yes	245(71.4)	254.77±42.50	<0.001	39.18±4.46	0.138	21.24±2.62	0.031
	No	98(28.6)	227.91±62.67		38.33±5.51		20.55±2.72	
other's occupation	Yes	30(8.7)	277.66±41.35	0.001	38.77±3.66	0.893	21.37±2.82	0.464
	No	313(91.3)	243.91±50.47		38.89±4.93		20.99±2.67	
Last wanted pregnancy	Yes	266(75.6)	250.73±48.22	0.016	38.96±4.75	0.670	21.12±2.62	0.224
	No	84(24.4)	235.36±55.76		38.70±5.11		20.71±2.84	
Type of delivery	natural	165(48)	243.10±51.87	0.180	38.97±5.16	0.790	20.63±2.83	0.009
	Caesarian	179(52)	250.51±49.15		38.83±4.52		21.39±2.48	
Familial relationship	Yes	72(20.9)	242.61±52.63	0.427	39.89±4.72	0.050	21.04±2.61	0.948
	No	272(79.1)	248.05±50.03		38.63±4.84		21.02±2.70	
Accompanying the wife during pregnancy	Yes	327(95.1)	249.09±49.32	0.001	39.04±4.76	0.017	21.08±2.69	0.106
	No	17(4.9)	206.35±57.36		36.18±5.59		20.00±2.15	
Reference to Counselor	Yes	52(15.1)	250.38±51.36	0.601	38.98±4.46	0.893	20.56±3.10	0.174
	No	295(84.9)	246.32±50.47		38.88±4.90		21.11±2.59	
Mother's ethnicity	Turkish	178(51.7)	245.63±54.11	0.884	37.69±5.05	<0.001	20.79±2.96	0.215
	Kurdish	161(46.8)	248.36±46.20		40.27±4.25		21.26±2.32	
	Persian	5(1.5)	245±67.88		37±2.55		21.8±2.59	
Father's ethnicity	Turkish	181(52.6)	249.22±3.91	0.390	37.83±4.84	<0.001	20.95±2.92	0.585
	Kurdish	163(47.4)	244.47±49.56		40.07±4.56		21.10±2.39	

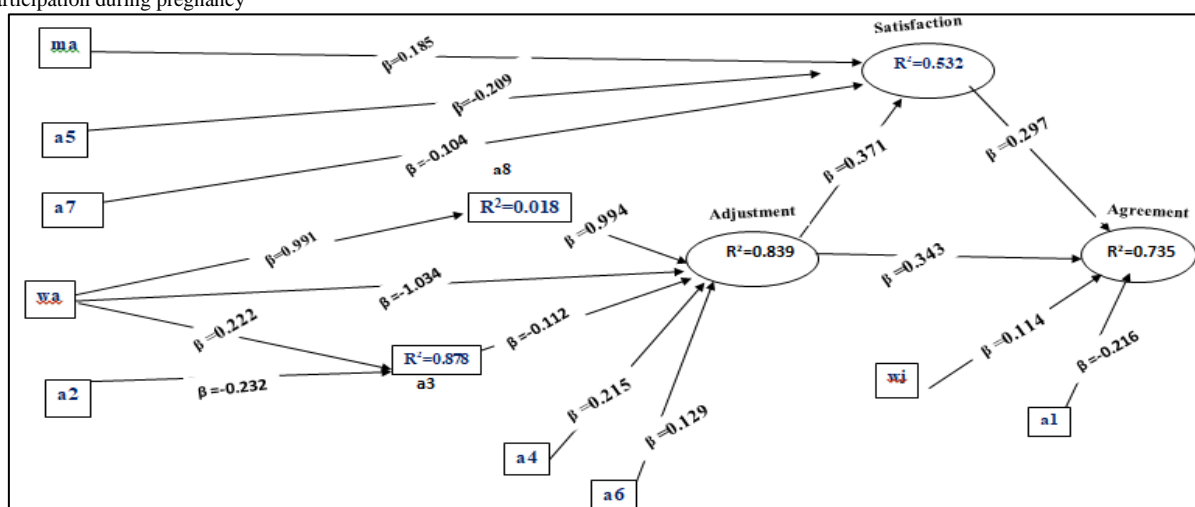
**Table-3.** The correlation matrix for independent variables for the prediction of factors affecting wives' agreement, adjustment and satisfaction with husbands' participation during pregnancy

		1	2	3	4	5	6	7	8	9	10	11	12	12	14
1	Satisfaction	1													
2	Agreement	.462**	1												
3	Adjustment	.523**	.396**	1											
4	Wife's age	-.030	-.006	.013	1										
5	Husband's age	-.049	-.033	-.052	.756**	1									
6	Mother's marriage age	.076	-.053	.120*	.486**	.131*	1								
7	Father's marriage age	.015	-.024	.080	.226**	.461**	.342**	1							
8	first pregnancy age	.107*	-.040	.145**	.485**	.154**	.916**	.332**	1						
9	last pregnancy age	-.014	.010	.028	.991**	.749**	.483**	.222**	.484**	1					
10	Number of pregnancies	-.094	.064	-.060	.544**	.566**	-.184**	.004	-.238**	.546**	1				
11	Number of delivery	-.165**	.079	-.051	.545**	.583**	-.228**	.022	-.284**	.545**	.869**	1			
12	Number of abortions	.054	.011	-.018	.228**	.212**	.028	.008	.012	.230**	.551**	.163**	1		
13	Number of live girls	-.133*	-.040	.014	.285**	.343**	-.146**	-.01	-.175**	.298**	.477**	.567**	.029	1	
14	Number of live boys	-.034	.156**	-.054	.305**	.286**	-.103	.037	-.136*	.292**	.445**	.486**	.124*	-.407**	1

**Table-4.** Direct and indirect effects of analytical variables on wives' satisfaction with husbands' participation during pregnancy

Variables	Direct effects $\beta_1$	P- Value	Indirect effects $\beta_2$	P- Value	Total effects $\beta_t$	P- Value
Last pregnancy age	0.265	0.405	0.627	0.004	0.892	0.018
Spouse's education	0.041	0.452	0.103	0.009	0.144	0.026
Sufficiency of income	-0.087	0.055	-0.077	0.014	-0.164	0.002
Mother's ethnicity	0.052	0.482	0.131	0.010	0.183	0.039
Wanted pregnancy	0.018	0.067	0.099	0.139	0.278	0.018
Husband's age	0.185	0.047	-0.061	0.353	0.125	0.271
Wife's age	-0.377	0.251	0.208	0.525	-0.169	0.258
Wife's occupation	-0.120	0.188	0.008	0.904	-0.112	0.310
Mother's education	-0.025	0.673	-0.045	0.302	-0.070	0.331
Type of last delivery	-0.026	0.566	0.055	0.073	0.029	0.588
Husband's support to wife at hospital	-0.104	0.012	-0.056	0.048	-0.160	0.001

**Figure-1.** Relationship between the variables of the structural model of wife's agreement, adjustment and satisfaction with husband's participation during pregnancy



**Note1:** ma= Men's age; wa=Women's age; wj= Women job; a1=Women's level of education; a2=Men's level of education; a3=Monthly income; a4=Ethnicity of women; a5=wanted kids; a6= Type of delivery; s7=Support to the wife at hospital; a8= Last pregnancy age;  $\alpha < 0.05$

### 4. Discussion

This research project made an investigation into the relationship between demographic factors and the three variables of agreement, adjustment and satisfaction of wives with their husbands' participation during pregnancy. In this research, there is a direct relationship between the education of the spouses and the wife's satisfaction with the husband's participation during pregnancy. This relationship is statistically significant. It seems that if the spouses have a high level of education, there is better preference for the husband's participation during pregnancy, which will in turn affect their satisfaction (Mangeli et al., 2008). In addition, high education can lead to improvement in social skills and reduction in problems related to marital relationship (Jamali, 2014). Findings obtained by a systematic review showed that there is a statistically significant relationship between marital satisfaction and education for pregnant wives. In addition, those women who have a higher level of education are more satisfied with their married life (Zaheri et al., 2016).

This research also showed that there is a significant relationship between wanted pregnancy and satisfaction. Similarly, these findings are in line with the results achieved by Lawrence et al., who found that wanted pregnancy had a significant positive relationship with marital satisfaction (Lawrence et al., 2008b). It can be said that women who have a plan for pregnancy could overcome the hardships of pregnancy with the participation of their husbands, but in their unwanted pregnancy the condition was reverse and they suffered stress and worry and hence the extent of marital satisfaction decreased (Randall and Bodenmann, 2009).

Other variables studied in this research included the occupation of pregnant wives. This variable had a significant relationship with their satisfaction during pregnancy and this finding is in line with some studies (Motavalli et al., 2009; Taghipour et al., 2016). This may be one of the reasons for satisfaction in this respect as some pregnant working wives differently take sick leave or pre-delivery leave. On the other hand, because of their special condition, people around, husband and colleagues at work notice them. And as they are financially independent, they can easily pay for the expenditures in this period, and before and after delivery. This resulted in marital satisfaction despite their various preoccupations (Gourounti et al., 2014). On the contrary, results obtained by Jamali et al. showed that pregnant working women compared to pregnant housewives had a lower marital satisfaction. That is to say that

occupation had a negative effect on marital satisfaction in pregnant women. They added that changes in temper during pregnancy could be augmented when women work and this can result in marital dissatisfaction, which will eventually affect husband's participation (Jamali, 2014).

In this research the variable sufficiency of income had a significant relationship with satisfaction. This was not in line with Lee's findings (Lee, 1977), but consistent with the study conducted by Yanikkerem et al, who worked in Turkey (Yanikkerem et al., 2016). The reason for similarity in findings in Turkey and Iran may be traced back to the subjects' shared cultures and beliefs in these countries in addition to similar age means in the pregnant women. On the other hand, husbands with reasonable income had more time to accompany and cooperate with their wives, which naturally affected the wives' marital satisfaction

Another variable related to the satisfaction of the study pregnant wives was the husband's support to the wives during pregnancy. A supportive relationship during pregnancy may help accelerate recovery after delivery. This represents the potential role of the spouse in interventions related to mental health. This probably benefits the babies, too. In this regard, Hobfoll quotes Røsand as saying that social support can be provided to pregnant women from any source, but the support provided by the marital partner is more important and effective during pregnancy and delivery (Røsand et al., 2011). The current study has come to a conclusion that husband's support during pregnancy has a significant relationship with pregnant women's satisfaction as confirmed by earlier findings in literature (Mangeli et al., 2008; Røsand et al., 2011; Stapleton et al., 2012).

The variable gender of the child with the spouses' agreement had a significant relationship with the husband's participation during pregnancy. Guo et al. reported that in many cases gender and number of children could have positive effects on marital satisfaction, as well Guo and Huang (2005). And so their findings confirm the present results.

In the present study, the factors of ethnicity and agreement of the spouses had a significant relationship with the pregnant wife's marital satisfaction. This is not, however, in agreement with the findings Fathi et al. obtained in their work on the relationship between ethnicity and marital satisfaction (Fathi and Azadian, 2017). On the contrary, other researchers have concluded that there is an obvious relationship between ethnicity of the spouses and the extent of their marital satisfaction (Mustafa et al., 2013; Zang, 2005).

The variable of the husband's support to the pregnant wife together with the spouses' agreement was another factor that had a significant relationship with the pregnant wife's satisfaction. Studies show that women who are highly supported by their marital partner have more satisfaction than those women who were less supported by their husbands. Lack of husband's support is said to be one main reason for dissatisfaction with married life (Lawrence et al., 2008a; Mangeli et al., 2008; Røsand et al., 2011; Stapleton et al., 2012). Additionally, the wives who were more effectively supported by their husbands experienced less anxiety from the mid to end of the pregnancy and this could help with future pregnancy with a stronger bond (Rini et al., 2006).

As the last factor considered in this study, women's education along with spouses' agreement showed a significant relationship with the pregnant wives' marital satisfaction. This factor and husband's education as well as the variable adjustment played a significant role in pregnant wives' marital satisfaction, as well. These findings are in agreement with other similar results (Heshmati et al., 2016).

Sufficiency of income not only with the variable adjustment but also by itself could be significantly related to wives' marital satisfaction during pregnancy. This is in line with earlier studies. One study also indicated a better level of marital adjustment in people with a high level of education and income. In addition, a high level of education and income can promote the extent of economic, social and cultural status and hence this can improve the level of adjustment in the couple (Mutlu et al., 2018).

However, Besharat et al. found no significant relationship between the amount of income and the degree of marital satisfaction as well as marital adjustment. This difference may be attributed to the lack of social and economic differences between the participants and this relationship can become significant only when there is an income difference between the subjects (Besharat and Rafiezadeh, 2016).

The type of the last delivery was a variable that with adjustment could show a significant relationship with the spouses' marital satisfaction during pregnancy. This finding was in line with that achieved by Boroumandfar et al. (2010), However, the study conducted by Mutlu et al. showed no significant statistical difference between marital adjustment and type of delivery (Mutlu et al., 2018).

## 5. Conclusion

The result of the current research project showed that agreement both alone and with adjustment had a direct relationship with the consent of women about men's participation during pregnancy. The most effective variable in the three dimensions was mother's education, which was the only effective common variable. It can be concluded that when the women have a higher level of education, their satisfaction increases and this satisfaction can affect the general health of the spouses and improve the quality of their life.

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## Authors' Contributions

Authors JR, JAI and HE designed the study. First author JA performed the statistical analyses with assistance from JAI and third author JAI drafted the manuscript in collaboration with JR and HE. Forth author, FM, is responsible for data gathering. All authors have read and approved the final manuscript.

## Conflict of Interest

The authors declare that they have no competing interests.

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