Clinical and Experimental Health Sciences

The Effects of Prenatal Optimism and Spiritual Intelligence on Childbirth Attitudes

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ABSTRACT

Objective: This study was conducted to determine the effects of prenatal optimism and spiritual intelligence on childbirth attitudes in pregnant women.

Methods: This cross-sectional study was completed with the participation of 288 pregnant women. The data were collected using a Personal Information Form, the Childbirth Attitudes Questionnaire, the Life Orientation Test, and the Scale for Spiritual Intelligence.

Results: The mean total score of the Scale for Spiritual Intelligence, Life Orientation Test, and Childbirth Attitudes Questionnaire of the participants were determined to be 47.95±7.81, 18.43±4.85, and 39.26±10.89, respectively. It was determined that while spiritual intelligence levels did not have a significant effect on the childbirth attitudes variable, prenatal optimism levels had a significant effect on childbirth attitudes, where the former explained approximately 5% of the variance in the latter (R^2=0.047, p=.001).

Conclusion: According to the results of this study, an increase in the prenatal optimism of pregnant women helps their fear of childbirth decrease.

Keywords: Prenatal, pregnancy, optimism, spiritual intelligence, childbirth attitude

1. INTRODUCTION

The prenatal period is a period of getting physically and psychologically prepared for the changes to be experienced along with the transition to motherhood. Pregnancy is accepted as a stressful life event that necessitates coping strategies and adaptation in women (1). The health condition of the fetus, the fear of childbirth, physical changes, and increased healthcare needs make pregnant women more prone to depression, anxiety, and stress (2). Stressful life events such as the perinatal period can erode the individual's coping resources and cause increased use of ineffective coping strategies under continuous stress. As a personality trait, optimism plays a significant role in the self-management of behaviors and serves an important function in terms of adaptation to various stressors in life (3). As individuals with high levels of optimism will make more efforts to manage a stress factor, it is believed that optimism can play a protective role against negative health outcomes (3,4). In the relevant literature, it is seen that high levels of optimism have been associated with positive childbirth outcomes and lower levels of stress, anxiety, and peripartum depression (4,5).

A coping mechanism against depression, anxiety, and stress in pregnancy is to turn toward faith and values that involve one's spirituality and ethical, cultural, and world views (6). Spiritual intelligence is a form of adaptation and problem-solving behaviors that help the individual adapt to internal and external integrity. An increase in spiritual intelligence is aimed at increasing the spiritual well-being and adaptation levels of pregnant women (7). Recent research has shown that spiritual intelligence is positively related to increasing spiritual well-being and resilience against stress (8), and if spirituality is considered, the fears and psychological anxieties of pregnant women can be alleviated (6,7,9).

Childbirth-related attitudes refer to tendencies, emotions, and behaviors developed about labor. These attitudes, which are particularly developed towards the unknown in one's first pregnancy, usually take the form of fear. Statistics show that 10-15% of pregnant women experience the fear of childbirth (7). The fear of childbirth is an emotional stressor that affects the mental health and well-being of the mother-to-be throughout the pregnancy period (10). Excessive fear of childbirth puts the pregnant woman at risk of emotional imbalance, and this negatively affects the relationship between the mother and her baby (7). This situation also brings along interventional labor and an

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increased risk of C-section requirements (10). Therefore, the care provided to the pregnant woman experiencing fear of childbirth is important in terms of increasing her motivation and power to manage problems related to her pregnancy (7). As optimism and spirituality may be an alternative mechanism of coping with stress and fear in this period, this study was conducted to determine the effects of prenatal optimism and spiritual intelligence on childbirth-related attitudes in pregnant women.

2.METHODS

2.1. Design

This study was designed as a cross-sectional study and was conducted between February 2022 and July 2022.

2.2. Setting and Participants

The population of the study consisted of pregnant women who presented to the pregnancy outpatient clinic of a Medical Faculty Hospital between the dates when the study was conducted. The sample size of the study was calculated to be 278 individuals using the G*Power 3.1.9.2 software with a two-point deviation from a known mean childbirth attitudes score, which was 39.90±11.36 (11), 0.05 margin of error, 0.17 effect size, and 90% power. The study was completed with 288 pregnant women. Pregnant women who were 18 years old or older, literate, could communicate in Turkish, agreed to participate in the study voluntarily, did not experience any complications related to the prenatal period, and had a healthy fetus were included in the study.

2.3. Data Collection Instruments

The data were collected using a "Personal Information Form", the "Childbirth Attitudes Questionnaire", the "Life Orientation Test", and the "Scale for Spiritual Intelligence."

2.3.1.Personal Information Form: The 16-item form was prepared by the researchers by reviewing the literature to determine the sociodemographic characteristics of the participants (e.g., age, education level, employment status) and factors that could potentially affect their optimism, spiritual intelligence, and childbirth attitudes in the prenatal period (12-14).

2.3.2.Childbirth Attitudes Questionnaire (CAQ): The scale was developed by Lowe (2000) to measure pregnant women's fears of childbirth (15). The Turkish validity and reliability study of the scale was conducted by Dönmez et al. (2014). It is a 16-item 4-point Likert-type scale. There are no inversely scored items on the scale. The total score of the scale is calculated by taking the average of the scores of 16 items. The minimum and maximum scores to be obtained from the scale are 16 and 64. A high score indicates high levels of anxiety and fear. The Cronbach's alpha coefficient of the scale was reported as .82, while this value was found to be .91 in our study (12).

2.3.3.Life Orientation Test (LOT): The scale was developed by Scheier and Carver (1987) to evaluate the optimism levels of individuals (16). The Turkish validity and reliability study of the scale was conducted by Aydın and Tezer (1991). It is a 12-item 4-point Likert-type scale. Items 3, 8, 9, and 12 on the scale are coded in reverse, and items 2, 6, 7, and 10 are filler questions that are not included in the scoring of the scale. The minimum and maximum scores to be obtained from the scale are 0 and 32. A high score suggests a high level of optimism. Cronbach's alpha coefficient for the scale was reported as .77, while this value was found to be .77 in our study (13).

2.3.4.Scale for Spiritual Intelligence (SSI): The scale developed by Kumar and Mehta (2011) aims to determine the spiritual intelligence levels of individuals (17). The Turkish validity and reliability study of the scale was conducted by Tekin and Ekşi (14). The 5-point Likert-type scale consists of 20 items. There are 9 inversely coded items on the scale (items 1, 4, 7, 9, 13, 14, 15, 16, and 17). The scale has four subscales (understanding self, human values, compassion, and conscience). The total score is obtained by adding the scores of all subscales. The minimum and maximum scores are to be obtained on a scale of 20 and 100. A high score shows a high level of spiritual intelligence. Cronbach's alpha coefficient for the scale was reported as .85, while this value was found to be .71 in our study (14).

2.4. Ethics

An explanation about the study was made to potential participants, they were informed about the informed consent text, and the consent of those who agreed to participate was obtained. Additionally, the participants were informed that they were free to quit the study at any step. Ethical approval for the study was obtained from the Non-Invasive Clinical Research Ethics Committee of Selcuk University, Faculty of Health Sciences. (Decision No.: 2022/58).

2.5. Research Questions

1. Do the socio-demographic characteristics of pregnant women affect their prenatal optimism scores?
2. Do the socio-demographic characteristics of pregnant women affect their spiritual intelligence scores?
3. Do the socio-demographic characteristics of pregnant women affect their childbirth attitudes?
4. Do the prenatal optimism and spiritual intelligence scores of pregnant women during pregnancy affect their childbirth attitudes?

2.6. Data Analysis

The data collected in the study were analyzed using the SPSS 25.0 statistics software. Skewness and kurtosis values were calculated for the normality test. The skewness values were observed to vary between – 0.094 and 0.014, while the kurtosis values ranged from – 0.739 to 0.186. When skewness and kurtosis values are between – 1.5 and +1.5, it is considered that the data are normally distributed (18). In the analyses of the data in this study, frequencies, percentage distributions, mean, and standard deviation values were used, and independent-sample t-test, ANOVA, linear regression analysis, and Tukey's test were employed as parametric methods. The level of statistical significance was set at p< .05.

3. RESULTS

The mean total SSI, LOT, and CAQ scores of the participants were determined to be 47.95±7.81, 18.43±4.85, and 39.26±10.89, respectively (Table 1).

This section presents some characteristics of the participants and a comparison of the mean scores on the total scale and the subscales according to these characteristics. Statistically significant differences were found in the mean SSI 'understanding self' subscale scores of the participants based on their age group, family type, employment and educational status (p< .05) This result showed that the levels of understanding self among the participants in the age group of 36-41 were higher compared to the levels among those in other age groups. Similarly, the levels of understanding self among the participants residing in districts were determined to be significantly higher compared to those residing in provinces. The mean total SSI score and the mean understanding self and conscience subscale scores of the participants with extended families were determined to be significantly higher compared to the mean scores of those with nuclear families. The understanding self and conscience subscale scores of the participants varied significantly based on the education levels of their spouses (p< .05). The mean understanding self and conscience subscale scores of the participants whose spouses had university or higher degrees were significantly lower in comparison to the scores of those in the other groups. The mean compassion subscale score of the participants with low levels of income was found to be significantly lower than the mean score of those in the other income groups. Statistically significant differences were also observed the mean total LOT scores of the participants based on their age groups, where the life orientation scores in the 18-23 age group were observed to be significantly lower. The mean total LOT scores of the participants were found to vary to a significant extent based on the education levels of their spouses (p< .05). Accordingly, as the education levels of their spouses increased, the optimism levels of the participants also increased. Regarding the family types of the participants, there was a statistically significant difference in their mean total CAQ scores (p< .05). It was seen that the CAQ scores of the participants with nuclear families were significantly higher (Table 2).

Statistically significant differences were found in the mean SSI 'understanding self' subscale scores of the participants based on their attendance at prenatal follow-ups (p<.05). The mean human values subscale scores of the participants were determined to significantly differ based on their parity and whether they were having a planned pregnancy (p< .05) (Table 3).

Table 4 presents the results of the multiple linear regression analysis of the factors affecting the mean total SSI, LOT, and CAQ scores of the participants. Accordingly, the spiritual intelligence scores of the participants did not have a significant effect on their childbirth attitudes (p> .05). The life orientation scores of the participants had a negative and significant effect on their childbirth attitudes (p<.001). As the life orientation (optimism) scores of the participants decreased, their anxiety and fear levels increased. The variable of life orientation explained 5% of the total variance in childbirth attitudes (R^2=.047) (Model 1). It was seen that having an extended family positively and significantly affected the childbirth attitudes of the participants (p< .01, R^2=.035) (Model 2). In Model 3, it was determined that the educational levels of the spouses of the participants had a positive and significant effect on the life orientation scores of the participants (p< .01, R^2=.031). In Model 4, the family type variable was determined to be a significant factor affecting the spiritual intelligence statuses of the participants (p< .01, R^2=.050) (Table 4).

***Table 1**: SSI, LOT, and CAQ scores and cronbach's alpha values*

Scales	Mean±SD	Minimum-Maximum	Cronbach's alpha
Scale for Spiritual Intelligence (SSI)	47.95±7.81	21-67	.714
Life Orientation Test (LOT)	18.43±4.85	7-32	.778
Childbirth Attitudes Questionnaire (CAQ)	39.26±10.89	16-64	.915

SSI: Scale for Spiritual Intelligence, LOT: Life Orientation Test, and CAQ: Childbirth Attitudes Questionnaire

Table 2. *Some sociodemographic characteristics of the participants and comparisons of their SSI, LOT, and CAQ scores based on these characteristics*

Characteristics	n	%	Understanding self subscale Mean±SD	Human values subscale Mean±SD	Compassion subscale Mean±SD	Conscience subscale Mean±SD	SSI Mean ±SD	LOT Mean±SD	CAQ Mean±SD
Age group			17.98 ±2.99	11.50±2.58	12.15±3.13	6.70±2.90	48.35±7.32	17.57±4.10	37.95±11.48
18-23 (1)	77	26.7	17.58±3.01	11.30±2.91	12.60±3.29	6.36±2.11	47.85±7.28	18.31±4.41	40.38±3.63
24-29 (2)	129	43.8	16.41±3.62	10.96±2.49	12.78±3.68	6.38±2.79	46.55±9.14	19.88±5.90	38.25±11.50
30-35 (3)	60	20.8	18.60±3.14	12.12±3.16	12.76±3.47	7.12±2.90	50.60±8.14	18.16±5.75	40.20±13.28
36-41 (4)	25	8.7	F=3.993/**p= .008**	F=1.121/p= .341	F=0.492/p= .688	F=0.796/p= .497	F=1.684/p= .171	F=2.694/**p= .046**	F=1.059/p=
p*			**Difference 1,2,4>3**					**Difference 3>1,2,4**	.367
Family type			17.32± 3.13	11.30±2.78	12.44±3.24	6.33±2.42	47.41±7.62	18.59±4.92	40.06±10.70
Nuclear family	249	86.5	18.89±3.34	11.69±2.68	13.07±3.92	7.71±3.04	51.38±8.28	17.35±4.27	34.15±10.84
Extended family	39	13.5	**p= .004**	p= .418	p= .277	**p= .002**	**p= .003**	p= .138	**p= .002**
p**									
Employment status			16.64±2.88	11.71±2.49	13.03±3.53	6.50±2.36	47.89±7.10	19.05±5.76	37.89±12.02
Employed	56	19.4	17.75±3.24	11.27±2.83	12.41±3.29	6.53±2.60	47.96±7.99	18.28±4,60	39.59±10.60
Unemployed	232	80.6	**p= .020**	p= .284	p= .212	p= .937	p= .947	p= .353	p= .293
p**									
Educational status			17.68±3.28	10.96±3.06	11.61±3.72	6.81±2.48	47.08±8.05	17.73±4.66	40.15±12.23
Primary School (1)	60	20.8	17.95±3.35	11.51±2.70	12.79±3.42	6.69±2.76	48.95±8.23	18.46±4.86	39.14±10.21
Secondary/High School (2)	146	50.7	16.68±2.70	11.36±2.66	12.74±2.77	6.01±2.15	40.80±6.66	18.85±4.96	38.84±11.12
University and above (3)	82	28.5	F=4.332**/p= .014**	F=0.828/p= .438	F=2.898/p= .057	F=2.368/p= .096	F=2.489/p= .085	F=0.939/p= .392	F=0.268/p=
p*			**Difference 2>3,1**						.765
Spousal educational status						6.81±2.83			41.28±10.48
Primary School (1)			17.75± 3.07	11.08±2.71	11.90±3.41	6.74±2.59	47.55±7.73	17.63±4.18	39.00±11.16
Secondary/High School (2)	60	20.8	17.91±3.18	11.47±2.83	12.70±3.43	5.78±2.09	48.82±7.80	18.16±4.93	38.15±10.52
University and above (3)	157	54.5	16.53±3.19	11.33±2.68	12.70±3.04	F=3.990/**p= .020**	46.36±7.75	19.69±5.01	F=1.450/p=
p*	71	24.7	F=4.786/**p= .009**	F=0.426/p= .653	F=1.368/p= .256	**Difference**	F=2.552/p= .080	F=3.497/**p= .032**	.236
			Difference 2>3,1			**1,2>3**		**Difference 3>2,1**	
Income level			17.40±4.32	11.02±3.12	11.48±3.36	6.84±3.20	46.74±8.80	17.62±5.22	39.48±11.97
Less than expenses (1)	50	17.4	17.62±2.86	11.44±2.73	12.54±2.99	6.38±2.37	48.00±7.52	18.44±4.46	39.47±10.50
Equal to expenses (2)	206	71.5	17.18±3.31	11.31±2.41	14.12±4.68	6.90±2.54	49.53±8.02	19.62±6.35	37.62±11.77
Higher than expenses (3)	32	11.1	F=0.314/p= .731	F=0.480/p= .619	F=6.328/**p= .002**	F=1.028/p= .359	F=1.260/p= .285	F= 1.676/p= .189	F=0.408/p=
p**					**Difference 3>2,1**				.666

**One-Way ANOVA, **Independent-Samples t-Test, p<0.05. Note: p-values indicating significant differences are shown in bold.*

Table 3. *Some obstetric characteristics of participants and comparison of SSI, LOT and CAQ scores based on these characteristics*

Characteristics	n	%	Understanding self subscale Mean±SD	Human values subscale Mean±SD	Compassion subscale Mean±SD	Conscience subscale Mean±SD	SSI Mean ±SD	LOT Mean±SD	CAQ Mean±SD
Parity									
Primiparous	123	42.7	17.43±3.01	11.85±2.56	12.75±3.09	6.36±2.48	48.40±7.38	18.36±4.44	40.03±11.26
Multiparous	165	57.3	17.61±3.35	10.98±2.86	12.36±3.52	6.64±2.61	47.61±8.13	118.47±5.14	38.69±10.60
p**			p= .625	**p= .008**	p= .333	p= .365	p= .398	p= .845	p= .304
Current pregnancy									
Planned	251	81.2	17.51±3.10	11.17±2.70	12.49±3.22	6.42±2.51	47.60 ±7.41	18.62±4.73	38.91±10.89
Unplanned	37	12.8	17.70±3.87	12.62±2.89	12.81±4.08	7.21±7.76	50.35±9.92	17.08±5.46	41.67±10.71
p**			p= .778	**p= .003**	p= .654	p= .078	p= .113	p= .070	p= .151
Attends regular prenatal follow-ups	244	84.7	17.36±3.07	11.33±2.75	12.43±3.40	6.43±2.53	47.56±7.52	18.42±4.80	39.06±10.99
Yes	44	15.3	18.47±3.74	11.50±2.90	13.06±2.97	7.04±2.64	50.09±9.09	18.47±5.18	40.38±10.33
No			**p= .035**	p= .712	p= .211	p= .143	p= .088	p= .948	p= .460
p**									
Preference of mode of delivery									
C-section	73	25.3	17.68±3.39	11.24±3.02	12.32±3.84	6.38±2.39	47.64±8.60	18.38±4.92	40.86±10.85
Vaginal delivery	215	74.7	17.48±3.14	11.39±2.68	12.60±3.16	6.57±2.61	48.06±7.55	18.44±4.83	38.72±10.87
p**			p= .652	p= .693	p= .582	p= .587	p= .695	p= .924	p= .148

**One-Way ANOVA, **Independent-Samples t-Test, p<0.05. Note: p-values indicating significant differences are shown in bold.*
SSI: Scale for Spiritual Intelligence, LOT: Life Orientation Test, and CAQ: Childbirth Attitudes Questionnaire

Table 4. *Evaluation of factors affecting SSI, LOT, and CAQ scale scores by multiple linear regression-analysis*

	B	t	p	95% CI	
				Lower	Upper
Model 1: The effects of spiritual intelligence and life orientation on CAQ scores					
SSI Total Score	0.049	0.820	.413	-0.095	0.230
LOT Total Score	-0.202	-3.416	**.001**	-0.716	-0.192
R=.218 R^2=.047 Durbin-Watson=1.809 (p= .001)					
Model 2: The effect of family type on CAQ scores					
Family Type	-.186	-3.204	**.002**	-9.548	-2.281
R=.186 R^2=.035 Durbin-Watson=1.913 (p= .002)					
Model 3: The effects of age and spousal education status on LOT scores					
Age	0.091	1.716	.087	-0.013	0.196
Spousal Education Status	1.123	2.665	**.008**	0.293	1.952
R=.177 R^2=.031 Durbin-Watson=1.666 (p= .011)					
Model 4: Some sociodemographic and obstetric variables on SSI scores					
Age	0.77	0.554	.580	-0.196	0.349
Family Type	-7.879	-3.958	**.000**	-11.798	-3.960
Educational Status	-0.856	-0.717	.474	-3.207	1.495
Spousal Education Status	-1.017	-0.855	.393	-3.359	1.325
Employment Status	1.777	0.946	.345	-1.921	5.474
Social Security Status	2.774	1.596	.112	-0.648	6.196
Income Level	0.063	0.051	.960	-2.391	2.518
Parity	-2.759	-1.857	.064	-5.685	0.167
Pregnancy Planning Status	2.961	1.488	.138	-0.957	6.880
Attending Regular Prenatal Follow-Ups	2.012	1.077	.282	-1.666	5.960
R=.299 R^2=.050 Durbin-Watson=1.896 (p= .010)					

B: regression coefficient, t: test statistic, p: statistical significance,
Note: p-values indicating significant differences are shown in bold.
SSI: Scale for Spiritual Intelligence, LOT: Life Orientation Test, and CAQ: Childbirth Attitudes Questionnaire

4. DISCUSSION

The results obtained in this study provide information about the effects of prenatal optimism and spiritual intelligence on childbirth attitudes in pregnant women.

Eliminating inequality in health-related issues for pregnant women, understanding their beliefs and attitudes regarding the childbirth process, and increasing their access to quality childbirth services have been the focus of international maternal health policies. Besides, to optimize a woman's childbirth experience and outcomes, it is considered important to evaluate her psychological and psychosocial aspects in addition to the physiology of pregnancy and childbirth (19). In this study, it was determined that as the optimism levels of the participants increased, their anxieties and fears regarding childbirth decreased. In the relevant literature, some studies have shown that optimism and fear of childbirth are negatively and significantly correlated (20,21). Optimism helps individuals believe in their skills and make positive inferences from society and their environment, and thus, it enables them to encounter more positive outcomes (22). This situation shows that optimists have a higher chance of adopting active coping strategies and reevaluating a situation positively when a significant target for them is obstructed. Moyer reported that in comparison to pessimistic pregnant women, pregnant women who had higher levels of optimism during labor could be relieved more easily, and as a result, the probability of non-progressing labor could be reduced (4). In another study, it was stated that optimism in pregnancy was related to a better quality of life (23). The results of this study were consistent with those in the literature. These results show that an emotional state such as optimism can improve psychological and physical well-being and strengthen the individual's capacity for overcoming unexpected situations.

Spiritual intelligence refers to a series of skills, capacities, and spiritual resources that can enhance individual adaptation in daily life (7). Individuals with higher spiritual intelligence levels have a holistic attitude towards the difficulties of life, and they are more flexible and self-conscious individuals (24). However, the findings obtained in this study showed that spiritual intelligence did not affect the childbirth attitudes of the participants significantly. In the study conducted by Hatami et al., which revealed similar results to those in this study, the relationship between spiritual intelligence and childbirth attitudes was not found to be statistically significant (7). Likewise, in the study carried out by Mokhtari et al., no significant relationship was found between fertility factors and spiritual intelligence and resilience (25). On the other hand, Mohammadi Rizi et al. found a negative and significant relationship between spiritual intelligence and childbirth attitudes in pregnant women (26). Similarly, in another study, a statistically significant relationship was reported between spiritual intelligence and fear of childbirth in pregnant

women, and mothers with no fear of childbirth had higher levels of spiritual intelligence (24). The results of this study differed from those obtained in the relevant literature. It is thought that this difference may have stemmed from the fact that all participants in this study were predominantly Muslims, and therefore, they may have similar endurance, tolerance, and mental skills.

4.1. Limitations

This study was conducted at a single center, so the results cannot be generalized to all pregnant women. The results of this study should only be used to inform the practices in this province. However, it is thought that this study, which is considered noteworthy in terms of the effects of affirmations in the prenatal period on childbirth-related attitudes, will contribute to the literature.

5. CONCLUSION

The findings of this study showed that an increase in the optimism levels of pregnant women is an effective factor in reducing their fears of childbirth. However, it was also determined that the spiritual intelligence levels of the participants did not affect their fears of childbirth.

Childbirth is a stressful event that requires mental adjustment. Pregnant women who experience anxiety and fear of childbirth need relatively more support than other pregnant women. It is important that when healthcare professionals encounter women who experience the fear of childbirth during pregnancy, they approach them from an individualized and biopsychosocial perspective. Optimism is one of the psychological determinants necessary for the formation of positive childbirth attitudes. For this reason, interventions aimed at providing accurate information about childbirth, increasing the optimism levels of individuals, reducing their stress, and eliminating their anxiety will contribute to the process of developing childbirth-related coping strategies and increasing positive childbirth outcomes among pregnant women.

Optimism is a potentially promising variable that could help protect women from the development of fear of childbirth in an easily accessible, acceptable, and effective way. In this context, it is believed that increasing optimism levels in pregnant women will contribute to their experience of a positive labor process.

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