Clinical and Experimental Health Sciences

The Relationship of Mental Health and Cognitive-Emotional States with Family Planning Attitudes in Young Women with Chronic Diseases

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ABSTRACT

Objective: The aim of this study was to determine the relationship of mental health and cognitive emotional states with family planning attitudes in young women with chronic diseases.

Method: This cross-sectional and descriptive study was conducted between 12 January 2022 and 01 April 2022. The study included a total of 410 young women with chronic diseases who were hospitalized in the internal medicine clinics of a university hospital or presented to the internal medicine clinics for examination. Data were collected using a Personal Information Form, the Mental Health Continuum–Short Form (MHC–SF), the Cognitive Emotion Regulation Questionnaire (CERQ), and the Family Planning Attitude Scale (FPAS).

Results: It was found that 20.2% (n=83) of the young women with chronic diseases had scores below the FPAS (135.5±22.1) cut-off point (<119). Women with a poor mental health, those using maladaptive cognitive coping strategies (self-blame, rumination, catastrophizing, other-blame), and those using compatible cognitive coping strategies less (acceptance, refocusing on planning, positive refocusing, positive reappraisal, and putting into perspective) had a negative family planning attitude (p<.05). In addition, the followings were found to be important associated risk factors for family planning attitude: poor mental health, self-blame (CERQ sub-dimension), use of maladaptive cognitive coping strategy, and decreased use of adaptive positive refocusing (CERQ sub-dimension) (p< 0.5).

Conclusion: It was determined that young women with chronic illness with a poor mental health, who use adaptive cognitive coping strategies less, and who use maladaptive cognitive coping strategies more have negative family planning attitudes.
Keywords: Young women, chronic disease, mental health, cognitive psychology, family planning

1. INTRODUCTION

Chronic diseases, including physical and mental illnesses, are a significant burden for both patients and the health system (1). Chronic diseases constitute an important part of the deaths in the 20-64 age group, covering the reproductive period and beyond, and the number of deaths due to chronic diseases is globally increasing. Due to the increase in the incidence of chronic diseases at early ages, the reproductive health of women of reproductive age may be adversely affected (2-4). One in 10 reproductive age women between the ages of 18 and 44 has a chronic illness, including hypertension, diabetes, high cholesterol, arthritis, asthma, or other respiratory diseases. Five of the top 10 diseases that are among the causes of death of women in Türkiye are chronic diseases (hypertension, diabetes, cardiovascular diseases, etc.) (5). In addition, one in 10 women experiences major depression or anxiety disorder in a year.

Every pregnancy and birth carries a health risk for women, and pre-existing chronic medical conditions can further increase this risk in women (3,4,6). In addition, reproductive health problems in the pre-pregnancy period and physical changes caused by pregnancy can significantly affect chronic diseases. This situation increases hospitalization during pregnancy and the postpartum period and leads to restrictions in daily activities (3,6). The risk of experiencing complications such as pre-eclampsia, congestive heart failure, arrhythmia, preterm birth, intrauterine growth retardation, growth retardation, preterm birth, and miscarriage varies between 40% and 70% in women with chronic diseases (4,7,8). Despite all these risks, the desire for pregnancy is not affected by chronic diseases (9). However, women with chronic diseases are more likely to have an unwanted pregnancy than women without chronic diseases (7,10). While common chronic diseases and mental health problems are recognized as leading causes of morbidity and mortality, less attention has been paid to their impact on women's reproductive health and family planning (FP). Studies have reported that chronic diseases, depression, anxiety, and stress are associated with decreased fertility,

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increased perinatal and infant morbidity, "risky" sexual and contraceptive behaviors, and increased rates of unwanted pregnancy and sexually transmitted infections (11). Women older than 20 years with chronic diseases are less likely to want to conceive and use postpartum contraception than women with no chronic disease (12).

Mental health is recognized as an integral part of general health. Mental health is the state of "being at peace with oneself, with other people, and with the society, and being able to maintain the required effort to maintain a constant balance, order, and harmony" (13). Mental health is an important component of women's health but is often overlooked. One in ten women (11%) is diagnosed with psychology disorders (14). People with mental health problems usually show varying degrees of inconsistency, inappropriateness, and inadequacy in their emotions, thoughts, and behaviors (13). There are many factors that affect women's mental health. Women are exposed to more risk factors than men throughout their life, starting from intrauterine life and during childhood, adolescence, adulthood, and old age. Women are more exposed to stress due to negative experiences such as violence, poverty, excessive workload, learned helplessness, powerlessness, and being obedient, altruistic, and passive; thus, they experience psychological problems more (14). These risks that women are exposed to during their lifetime may affect the mental health of women with chronic diseases more negatively. Women with depression and stress use contraceptives less (15). Young women with depression and stress symptoms experience more unwanted pregnancies, and increased stress is associated with an increase in conception (16).

Cognitive emotion regulation means that when we acquire information that affects us emotionally, we cope with this information cognitively (17). With the use of cognitive processes, negative emotions caused by distressing life events can be controlled. Emotion regulation processes involves both internal and external processes. Emotion regulation includes cognitive, behavioral, and physiological processes that people use to regulate their negative and positive emotions, which are revealed as a result of life experiences (18). There exists no study in the literature on cognitive-emotional sensations of women with chronic diseases. We think that the cognitive-emotional states of women with chronic diseases, depending on their chronic illness, and their living conditions may affect their family planning attitude. Therefore, this study aimed to examine the relationship between the mental health and cognitive emotional states of women with chronic diseases and their family planning attitude.

Research questions;

1. Is there a relationship between the mental health status of young women with chronic illness and their family planning attitude?

2. Is there a relationship between the cognitive emotional states of young women with chronic diseases and their family planning attitude?

2. METHODS

2.1. Study Design

This is a descriptive cross-sectional study.

2.2. Study Setting

The study was carried out between 12 January 2022 and 01 April 2022 in the internal medicine in-patient units and out-patient clinics of a Faculty of Medicine Hospital in Konya in the Central Anatolian Region of Turkey. This hospital was chosen because it has the largest capacity (approximately 2000-3000 patients per month) in the province.

2.3. Study Participants

Sample Size

The sample of the study was based on the FPAS mean score (Mean: 131.4 ± 14.3), as reported by Erenoglu and Sekerci (2020). It was calculated using the G*Power-3.1.9.2 program that 410 women should be included in the sampling to achieve a 2-point deviation, 5% margin of error, and 80% power (19). At the beginning of the study, 490 women were reached. However, the data of women who did not want to participate in the study (60) and who filled out the forms incompletely (10) were excluded from the study. Data were collected from women who met the inclusion criteria using a means of convenience sampling method.

Inclusion and exclusion criteria of the participants

Young women with chronic diseases who were hospitalized in the internal clinics of the hospital or applied to the internal polyclinics for examination were included in the study. Young women who were of reproductive age (18-45 years old), married/living with a partner, sexually active, with chronic diseases (hypertension, diabetes, heart, thyroid diseases, etc.), can communicate in Turkish, and volunteered to participate in the research were included in the study. Young women who were under the age of 18 or over the age of 45, menopausal women, those who had alcohol/substance abuse, and those who did not have a partner were not included in the study.

2.4. Data Collection

Data were collected using a Personal Information Form, the Mental Health Continuum–Short Form (MHC–SF), the Cognitive Emotion Regulation Questionnaire (CERQ), and the Family Planning Attitude Scale (FPAS).

Socio-Demographic Form: A 29-item structured questionnaire prepared by the researchers in line with the relevant literature was used (5,20) to question age, education, work, spouse's/partner's age, income perception, family type, marriage year, marriage decision, BMI (Body mass index), chronic illness, duration of the chronic illness, age at first pregnancy, number of births, number of living children, miscarriage and abortion

status, knowing and using family planning (FP) methods, receiving FP counseling, source of FP counseling, if sexual life was adversely affected in chronic illness, considering having a child in the future, the state of wanting to get pregnant after the diagnosis of the illness, and the state of experiencing baby loss due to the chronic disease.

The Mental Health Continuum–Short Form (MHC–SF): The Mental Health Continuum–Short Form was developed by Keyes et al. and its Cronbach's alpha internal consistency reliability coefficient was found to be 0.74 (21). Its Turkish validity and reliability were established (22) with internal consistency reliability coefficients of 0.84, 0.78, and 0.85 for the three sub-dimensions, and 0.90 for the scale. It has 14 items and 3 subscales. Items 1, 2, and 3 are in the sub-dimension of emotional well-being; items 4, 5, 6, 7, and 8 are in the sub-dimension of social well-being; and items 9, 10, 11, 12, 13, and 14 are in the sub-dimension of psychological well-being. The scale starts with this question: "how often have you felt the following emotions during the last month?". The MHC-SF is a 6-point Likert scale (0-Never/5-Everyday) with a score range of 0-70. There is no reversely scored item. The total score is obtained by summing the 14 items. In addition, emotional, social, and psychological well-being subscales can be scored. High scores obtained from each sub-dimension of the scale indicate better well-being in that area. "Flourishing" is defined as those who marked the expressions "almost every day" or "every day" in one of the three statements in the emotional well-being dimension of the scale, and those who marked the statements "almost every day" or "every day" in six of the eleven statements in the psychological and social well-being dimensions. "Languishing", being not well, is defined as those who marked "never" or "once or twice" in one of the three statements in the emotional well-being dimension of the scale, and those who marked the expressions "never" or "once or twice" in six of the eleven statements in the psychological and social well-being dimension. Others are considered to be in normal mental health. In this study, the internal consistency reliability coefficient was 0.95 for the entire scale.

Cognitive Emotion Regulation Questionnaire (CERQ): The scale was developed by Garnefski, Kraaij, and Spinhoven based on a 36-item form evaluating the cognitive aspects of emotion regulation (23), and then this short 18-item form was created by Garnefski and Kraaij (24). Its Turkish validity and reliability were established (25). This 18-item scale is a five-point Likert type scored between 1 and 5. It has 9 sub-dimensions that include adaptive and maladaptive cognitive coping strategies, namely, adaptive coping strategies – acceptance, refocusing on planning, positive refocusing, positive reconsideration, putting into perspective; and, maladaptive coping strategies – self-blame, rumination, catastrophizing, and other-blame. The score of each sub-dimension ranges from 2 to 10. A high score from a sub-dimension indicates that the strategy determined by that sub-dimension is used more. Cronbach's alpha reliability coefficients obtained from the scale ranged from 0.63 to 0.74. In this study, the Cronbach's alpha internal consistency coefficient for the nine sub-dimensions of the scale ranged between 0.94 and 0.70. Cronbach's alpha internal consistency coefficient for the whole scale is 0.78.

Family Planning Attitude Scale (FPAS): The FPAS was developed by Örsal and Kubilay in 2007 to measure people's attitudes towards FP (26). This 34-item scale is a 5-point Likert type (strongly agree=1-totally disagree=5). The scale has three sub-dimensions, namely, "Attitude of the Society towards Family Planning", "Attitude towards Family Planning Methods", and "Attitude towards Pregnancy". The score range is 34-170. A higher score indicates a positive FP attitude. The cut-off point of the scale is 119. Örsal and Kubilay reported the Cronbach Alpha of the scale as 0.90, and in this study, the Cronbach Alpha internal consistency coefficient was found to be 0.92.

2.5. Data Collection Procedure

Data were collected from women who met the inclusion criteria using a means of convenience sampling method. Interviews with the women were conducted by the researchers in a private room in inpatient or outpatient clinics and data were collected in these rooms via face-to-face interviews. Before data collection, each woman participating in the study was informed about the purpose and method of the study. They were told that the data obtained would only be used within the scope of the study, that their names would not be included in the questionnaire, and that it was their decision whether or not to participate in the study. Women were not paid any incentive for participating in the study. It took approximately 15-20 minutes to fill out each form.

2.6. Ethical Dimension of Research

Approval of the Selcuk University Faculty of Health Sciences Ethics Committee (29.12.2021/ 1915) was obtained for the study. Institutional permission was obtained from Necmettin Erbakan University Rectorate, Meram Medical Faculty Hospital Chief Physician (12.01.2022/E-14567952.900.141130). An informed consent form was obtained from the women participating in the study before the interview after explaining the research. To ensure privacy, each participant was interviewed in a separate room in this hospital. In addition, the participants were informed that they could withdraw from the study at any time without giving any reason, their participation was completely voluntary, and their identities would be kept confidential. Permissions to use all scales used in the study were obtained from the relevant authors.

2.7. Data Analysis

Data analysis was performed with SPSS 20.0 (SPSS Inc., Chicago, IL, USA). In the normality analysis, since the Skewness and Kurtosis values of all scales were between – 1.50 and +1.50, parametric tests were performed (27). Number, percentage, arithmetic mean, and Standard Deviation (SD) were used for descriptive statistics. The independent-sample t-test was used in the evaluation of the relationship between FPAS cut-off scores (1< 119, 0 ≥ 119) and scale scores. Bivariate (Binary) logistic regression analysis was

performed with the Enter method to evaluate the effects of other categorical and continuous variables on the FPAS. All significant variables were included in the regression analysis. A p-value of <.05 was considered statistically significant.

3. RESULTS

Participants' mean age was 35.1±7.3 years and they had an average of 12.8 ± 8.3 years of marriage. They were all married and had chronic diseases for 7.3 years. Their first gestational age was 22.9 years and they had an average of 2.1 births. On average, the women had 0.2 miscarriages and 0.1 abortions, and 75.6% of the participants used modern FP methods. The women had a mean FPAS score of 135.5 According to the FPAS, 20.2% (n=83) scored below the cut-off point (FPAS < 119) (Table 1).

Table 1. *Socio-demographic, obstetric, and some family planning characteristics of young women with chronic diseases (n = 410)*

Characteristic features	n	(%)
Education		
Primary School	130	31.7
High School	127	31
University and higher	153	37.3
Employment status		
Full-time housewife	240	58.5
Employed	170	41.5
Perceived Income Level		
Good	106	25.9
Moderate	283	69
Poor	21	5.1
BMI		
Poor	28	6.8
Normal weight	253	61.7
Over-weight	129	31.5
Current chronic diseases		
Endocrine system	136	33.2
Cardiovascular system	109	26.6
Respiratory system	70	17.1
Hematological system	47	11.5
Nervous system	48	11.7
Status of knowing FP methods		
Yes	355	86.6
No	55	13.4
Status of current use of FP method		
IUD	78	19
Pills	50	12.2
Condoms	168	41
Injections	14	3.4
Coitus interruptus	64	15.6
How to decide on this method		
I decided myself	49	12
My partner/spouse decided	47	11.5
We decided together	314	76.6
Status of receiving education about the FP method		
Yes	283	69
No	127	31
The state of the chronic disease negatively affecting sexual life		
Yes	96	23.4
No	314	76.6
The effect on the idea of having children in the future		
Yes	138	33.7
No	272	66.3
Pregnancy status after diagnosis of chronic disease		
Yes	203	49.5
No	207	50.5
Wanted pregnancy (n=203)		
Yes	86	42.4
No	117	57.6
Pregnancy loss after diagnosis of chronic disease		
Yes	33	8
No	377	92

It was determined that women with negative FPAS have weaker mental health than women with positive FPAS. In addition, women with negative FPAS use maladaptive cognitive coping strategies more and adaptive cognitive coping strategies less than women with positive FPAS (p < .05) (Table 2).

Table 2. *Comparison of mental health and cognitive emotion regulation characteristics and sub-dimensions with FPAS in young women with chronic diseases*

Variables that may be associated with FPA	Negative FPA (FPAS < 119) *n* = 83 Mean±SD	Positive FPA (FPAS ≥ 119) *n* = 327 Mean±SD	t	p
MHC–SF	27.6 ± 14.7	41.7 ± 13.2	7.154	**< .001**
CERQ sub-dimension				
Self-blame	7.6 ± 2.8	4.3 ± 1.5	-9.829	**< .001**
Rumination	7.3 ± 2.6	6.4 ± 2	-2.868	**.005**
Catastrophizing	6.8 ± 2.9	4.9 ± 1.9	-5.718	**< .001**
Other-blame	6.7 ± 3	4.1 ± 1.9	-7.382	**< .001**
Acceptance	4.8 ± 2.9	6.3 ± 1.9	4.350	**< .001**
Refocus on planning	4.7 ± 2	6.7 ± 1.9	7.892	**< .001**
Positive refocusing	4.1 ± 2.2	6.5 ± 1.9	8.621	**< .001**
Positive reappraisal	4.2 ± 1.8	5.8 ± 2	6.905	**< .001**
Putting into perspective	5.3 ± 1.9	6.3 ± 1.9	4.377	**< .001**

Independent sample t-test was used.
SD=Standard Deviation, MHC-SF: Mental Health Continuum–Short Form, CERQ: Cognitive Emotion Regulation Questionnaire, FPA: Family Planning Attitude

Variables that were statistically significant according to the AP cut-off score were included in the logistic regression analysis. The regression model was significant for risk factors that may affect FPAS ($\chi 2 = 207.582$, p < .001) and explained 62% of the variance. Based on the findings in our regression analysis, the following factors were important associated risk factors for FPAS: poor mental health (OR=0.959, 95% [CI]= 0.931-0.988); using self-blame maladaptive cognitive coping strategy (CERQ sub-dimension) (OR=1.751, 95% [CI]= 1.456–2.104), and less use of adaptive positive refocusing cognitive coping strategy (p< .05) (Table 3).

Table 3. *Logistic regression analysis according to factors affecting FPAS*

Variables that may affect FPA	FPA (FPAS < 119)					
	B	S.D.	*Odds Ratio (OR)*	*P*	% 95 Confidence Interval (CI)	
					Low Value	High Value
MHC–SF	-0.42	0.015	0.959	**.006**	0.931	0.988
CERQ sub-dimension						
Self-blame	0.560	0.094	1.751	**< .001**	1.456	2.104
Rumination	0.188	0.108	1.207	.080	0.977	1.491
Catastrophizing	1.141	0.094	1.151	.133	0.958	1.383
Other-blame	0.102	0.086	1.108	.237	0.935	1.312
Acceptance	-0.124	0.088	0.883	.158	0.744	1.049
Refocus on planning	-0.141	0.119	0.868	.234	0.688	1.096
Positive refocusing	-0.395	0.103	0.673	**< .001**	0.550	0.824
Positive reappraisal	-0.175	0.104	0.840	.093	0.685	1.029
Putting into perspective	0.152	0.125	1.164	.224	0.911	1.488

Binary Logistic Regression Analysis with Enter Method was used;
Cox & Snell R Square = .397; Nagelkerke R Square = .626
FPA: Family Planning Attitude, MHC-SF: Mental Health Continuum–Short Form, CERQ: Cognitive Emotion Regulation Questionnaire,

4. DISCUSSION

This study revealed that poor mental health, less use of adaptive cognitive coping strategies, and more use of maladaptive cognitive coping strategies negatively affect FPAS in young women with chronic diseases. The mean FPAS score of the women with chronic diseases who participated in our study was found to be 135.5 ± 22.1. Since the FPAS cut-off score is <119, we can say that women's FPAS are positive. In studies conducted with women without previous chronic diseases, FPAS scores ranged from 109.1±18.7 to 134.20±27.34 (28,29). In a study, the FPAS scores of women with chronic diseases were at an appropriate level, nearly half of them used an effective contraceptive method; and, the characteristics of education level, number of pregnancies, desire to have a child in the future, knowing birth control methods, and using any contraceptive method affected their attitudes towards FP (30). The mean FPAS scores of women in these studies were similar to those of previous studies. On the other hand, in a study conducted in Eastern Turkey, the mean FPAS score was found to be lower (31). It is thought that this difference was caused by the differences in the region, clinic, place, and socio-demographic, obstetric, and cultural characteristics of the women.

According to our regression analysis, mental health was found to be a related factor that negatively affects women's FPAs (Table 3). In addition, 49.5% of the women became pregnant after the diagnosis of chronic disease and 57.6% (n=203) did not want pregnancy. A negative relationship was shown between unintended pregnancies and women's psychological health (32). Women with depression and stress use contraceptives less (15). It was stated in a cohort study that unplanned pregnancies were associated with psychiatric illness or psychological distress in women (33). Women who do not plan to become pregnant are more likely to have miscarriages during pregnancy and moderate-to-high levels of stress and depression symptoms are observed in these women (34). There is evidence of an association between adverse pregnancy outcomes in women who experienced stress or stressful life events during pregnancy (35,36). It was noted that women with symptoms of stress and depression experience risky pregnancy more than two-fold compared to those without symptoms, and these increased stress and depression symptoms in women increase further in case of conception (16).

According to the results of the regression analysis, it was determined that the FPAS of women who used self-blaming maladaptive coping strategies and who did not use positive refocusing cognitive coping strategies were negatively affected (Table 3). The literature on the cognitive emotion regulation skills of women with chronic disease and their FPAS is quite limited. However, women with mental disorders such as depression and anxiety use more maladaptive cognitive coping strategies. Women can manage the stressful process they are in through coping (24). Coping is the cognitive and behavioral efforts presented when faced with certain demands that are considered to be difficult or exceed one's resources (37). Stable or 'usual' coping style is one's dispositional coping style (38). Women who cannot cope with stress and use maladaptive coping strategies have a high rate of unwanted pregnancies, and the majority of these pregnancies result in premature birth (34). Women's maladaptive cognitive coping skills may impair their psychosocial adjustment and negatively affect their mental health, which may lead to negative FPAS. Studies indicate that cognitive-behavioral therapy can be used as a treatment option to reduce anxiety, stress, and depression in women (39).

Since the participants were from only one hospital, the results cannot be generalized to the country. However, our results can be generalized province-wide since the hospital is one of the largest hospitals in the province, and many patients visit the internal medicine clinics from surrounding provinces and

districts. It is an important study investigating both mental health and cognitive emotion regulation of young women with chronic diseases, so we think that it will make important contributions to the literature.

5. CONCLUSIONS

One in every five young women with chronic diseases (20.2%) has negative FPAS. It was found that women with poor mental health, who used maladaptive cognitive coping strategies, and who used adaptive cognitive coping strategies less had negative FPAS. In addition, poor mental health, use of "self-blame (adaptive cognitive coping strategy)", and less use of "positive refocus (adaptive cognitive coping strategy)" were found to affect FPAS negatively. In line with the results of the research, health professionals should encourage women to participate in motivational interviewing or intervention programs based on social-cognitive factors for problem resolution by evaluating the mental health and adaptive cognitive coping characteristics of young women with chronic diseases for positive FPAS.

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