



Research Article

Basic Social and Psychological Determinants of Infertile Couples Health in Greece during the COVID-19 Pandemic

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Abstract

Introduction: COVID-19 as an illness and a pandemic has had important repercussions at the individual, family, and social levels. We aimed to investigate basic social and psychological determinants of health in infertile couples in Greece during the Covid-19 pandemic such as the fear of Covid, the social relationships and the social support.

Methods: The survey was conducted in a Greek private Fertility Center in Heraklion of Crete from April of 2022 to May 2022 after institutional ethics approval. A total of 75 infertile persons (men and women) participated in the study. Data were obtained through a questionnaire with socio-demographic characteristics of infertile couples, a Covid-19 fear assessment questionnaire (FCV-19 Scale) and one aimed at approximating participants' social relationships and social support during the Covid-19 pandemic.

Results: The research showed that the more a) the social difficulties that an infertile person may face in trying to communicate and the b) the lack of support for his problem, the greater the fear of Covid-19. At the same time, the endurance of the social relations that he maintained until then, either with his family or with his friendly environment is decreasing. In addition, when the resilience of social relationships is strengthened, the fear of the virus is reduced, communication with other people is improved and the lack of support for the health problem in the infertile woman is reduced.

Conclusion: That fear of Covid-19, the social relationships and the social support constitute basic determinants of infertile couple's health affecting their physical, mental and social health and finally their decision to obtain a child.

Keywords: Infertility; Pandemic Covid-19; Fear; Stress; Depression; Social Relationships; Social Support

Introduction

According to the World Health Organization, infertility is a disease of the reproductive system defined by the failure to achieve a clinical pregnancy after 12 months or more of regular, unprotected sexual intercourse. This definition refers to both male infertility (complications of male reproductive function) and female infertility (complications of female reproductive function divided into primary when an infertile woman has not completed a live birth of a child without a previous live birth in her history and secondary infertility [1]. Infertility is a worldwide health issue that affects millions of people of reproductive age. According to available data, infertility affects 48 million couples and 186 million individuals worldwide [2]. It is estimated that 16-26% of European women who are trying to get pregnant, experience infertility. In Greece, one in six couples in the reproductive phase of their lives face this health problem. According to Eurostat, our country has one of the lowest fertility rates in the EU and a Greek woman gives birth to 1.35 children on average according to 2017 data. In the same year for the rest of EU women, the corresponding figure is 1.59 children / woman [3], while in 2005 it was 2.1 children / woman. Infertility can be attributed to various causes such as biological (inability to ovulate, fallopian tubes obstruction, endometriosis or adhesions in the pelvis, infections of the reproductive tract or immune problems, abnormalities of the endometrial, quality and Sperm abnormality, etc [4], psychological causes (anxiety, stress, disappointment, depression, low self-confidence) [5], social causes (age [6,7], modern lifestyle with diet [8,9], obesity [10,11], smoking [12], physical activity [13,14]) and environmental conditions [15]. Infertility can affect a couple physically, psychologically, emotionally and financially. A couple's quality of life is affected as negative reactions and low life satisfaction are observed [16,17]. When seeking help initially, the couple shows disbelief in the new information they receive from the health professional, where this disbelief is expressed by expressing shock, discomfort, frustration and loss of control [18]. Women with infertility have negative emotions during diagnosis. The couples' lifestyle is significantly affected [19]. The transition from the normal mode of conception to the technical one, the intrusion of third parties into the sexual and reproductive life of the couple is a version of infertility that does not enhance their good psychology. Depression, anxiety, sexual dysfunction, mental disorders are consequences of infertility [20]. The couple's mental health is also affected by the progress of the treatment, their willingness to make extra efforts and the satisfaction or lack of satisfaction that the success or failure of the treatment gives them each time. Anxiety and depression act as a depressant in dealing with the problem. The couple's sex life is adversely affected, as

sexual intercourse becomes 'scheduled' and loses its spontaneity. Also due to stress, some couples leave the IVF procedure before trying to conceive [21]. On a social level, infertility is often faced as a major crisis in the couple's life, since having children is considered a major part of their adult life. Infertility has been associated with family problems and conflicts. Because of infertility, a couple is pushed into isolation, into the obsession of dealing with this problem, into the disruption of their sex life because of the association of intercourse with fertilization and not with the enjoyment of pleasure [22,23]. The psychological state of the couple is better when there is a high level of education, high income, residence in urban areas, the duration of marriage is shorter and the duration of infertility is shorter [24]. Positive social support contributes significantly to promoting the quality of marriage of an infertile couple. Social support is an important factor in an individual's mental and physical health, and its absence is a stressor in their life and it is more important when it comes from the family environment. It was found that as the positive social support from the couple's family increases, the anxiety and the need to procreate decreases. The family can eliminate feelings of social isolation and reduce the sensitivity created towards malicious comments [25,26]. Family support combined with satisfaction with the sex life, it enhances the good relationship between the couple and the problem they are facing [27]. From the other hand, when the social environment of the couple such as relatives, friends, neighbors, has friction and several demands on the couple, then depression and psychological distress is enhanced in both sexes [28]. Thus, it moves away from seeking for social support. When the pressures from the family environment are suffocating, then guilt, anxiety and depression are created in the couple [29]. Infertility affects not only the couple but also the whole society. Because disclosing the couple's infertility to their social circle can bring about feelings of stigma and embarrassment, disclosure of the problem is avoided. But this can lead to delay in seeking medical help and social support [30,31]. Infertility treatment can be achieved with surgical techniques (surgical intervention to correct the anatomy of the uterus or remove adhesions, assisted reproductive techniques such as insemination (IUI) and in vitro fertilization IVF-In Vitro Fertility) and non-surgical techniques such as laparoscopy and hysteroscopy, psychological support for couples, counseling for lifestyle change. More specifically, before, during and after treatment, specialized psychiatrist, psychologist, social worker it is useful to provide to infertile couples three types of psychological services: a) information and counseling, in which information is offered about medical options, their understanding of treatment and the results of the choices they will make or have already made, b) counseling support that puts more emphasis on emotional support for infertile women, who experience failures, waiting periods, delays and decision conflicts regarding the continuation or termination of

their treatment, c) focusing on the resolution of complex psychological feelings such as grief, acceptance of illness, working out alternative lifestyles [32,33]. In recent two years, Covid-19 pandemic has had a significant impact on infertile couples. This pandemic was a sudden event with relevant emotional consequences, able to aggravate the psychological status of infertile patients, particularly on women with advanced reproductive age or diminished ovarian reserve [34]. Covid-19 pandemic was followed by quarantine periods resulting in the suspension of all family planning efforts for infertile couples. Fertility treatments and in vitro fertilization were postponed (Infertility treatment in the USA and Europe stopped abruptly in mid-March 2020 owing to the COVID-19 pandemic, upon the recommendations of the American Society for Reproductive Medicine and European Society of Human Reproduction and Embryology) and daily habits changed over time. Confinement at home led to changes in eating habits, attitudes towards intimates sometimes, physical activity decreased considerably. These are facts that aggravate the problem of infertility. Research suggests that part of the male population infected with this virus, affects the sperm and there is a decrease in testosterone circulation levels after infection. The quality and quantity of sperm and its motility are reduced. This is of course not absolute but depends on the severity of the disease and its duration [35-37]. The results of researches investigating the psychological impact of the COVID-19 pandemic on infertility patients showed that during global pandemic of COVID-19, causing economic and societal uncertainty, the stress of infertility remains significant and is a comparable stressor to the pandemic itself. With the distancing due to the continuous lockdowns there is no possibility of exchanging experiences, psychological support either from the family, or from the friendly or professional environment. This increases anxiety and discomfort about having a child. A consequence of this psychological state is that some couples give up trying to get pregnant. Another current study suggest that the suspension of fertility treatments during the Covid-19 pandemic have had a significant negative impact on women's mental health and quality of life while others studies underline the protective factors against the negative effects of treatment suspensions on wellbeing such as low defensive pessimism, high-quality social support, greater infertility acceptance and less use of avoidance [38-40]. Based on the aforementioned, the aim of this study is to investigate the fear of Covid, the social relationships and the social support as basic psychosocial determinants of infertile couples' health in Greece during the COVID-19 Pandemic.

Methods

Study design

This is a quantitative study conducted in April 2022 in a private infertility medical center Heraklion Crete. The scientific

council of Infertility Centre approved the research.

Sample and setting

A sample of 75 patients of the private infertility center in Heraklion Crete was used for this research. They were individuals -men and women- who had been diagnosed with infertility and wished to have a child in the future. The questionnaires distributed were 100 and 75 completed questionnaires were returned and used for analysis.

Measurements

The questionnaire consisted of three parts. The first part was related to demographic and socio-economic characteristics of the respondents, the second one was a Covid-19 fear assessment questionnaire (FCV-19 Scale) developed by Ahorsu et.al, (2020) [41] and weighted by Tsiropoulou et al. (2021) [42] which consisted of seven questions to assess patients' fear of corona virus. Responses were given through a five-point Likert scale. The third part was based on the article by Rocío Fernández-Ballesteros and Macarena Sánchez-Izquierdo [43] which was adapted according to the needs of the present research and consisted of fourteen questions concerning the patients' relationships with their social environment both before and during Covid-19 [44].

Data collection

The questionnaires were distributed by the clinic staff while waiting for the patients' visit. The criterion for participation was consent and willingness to participate in this study. The completion of the questionnaire was done under the responsibility of the respondent and did not exceed 10-15 minutes. Completion was anonymous and the responders could withdraw at any time.

Ethics

The study did not impose any financial burden on the participants. Data was collected and analyzed in a way that ensured anonymity and confidentiality and an informed and written consent was obtained from the participants. The study design was based on the European General Data Protection Regulation (GDPR) and aligned with the Declaration of Helsinki.

Statistical analysis

Descriptive statistics and correlation analysis were used for statistical analysis of the data. The statistical package used for the analysis was the SPSS.

Results

Descriptive statistics

Sociodemographic data

The majority of the participants were women (78,7%), mainly

aged 41-50 years. Regarding the level of education, most of them are secondary school graduates (41.3%), followed by university graduates (26.7%). Regarding their marital status, most respondents stated that they were married (76%). Regarding their employment position, most of the participants are 34 private employees (45.3%), followed by 6 civil servants (8%), 4 unemployed, self-employed and salespersons (5.3%), 3 pharmacists (4%). The nationality of the majority of the participants is with a percentage of 97.3% Greek and 2 persons (2.7%) are of Albanian nationality and reside in Crete. Regarding the marital status of the participants, 57 (76%) were married having one child, 43 (57.3%), 11 (14,7%) were married and 7 (9,3%) divorced. Regarding the importance to having a child in the future, 28 (37.3%) participants consider that it is important to have a child, 23 (30.7%) consider it very important, 14 (18.8%) consider it quite important while 10 (13.3%) do not consider it important at all (Table 1).

		Count	Column N %
Sex	Male	16	21,3%
	Female	59	78,7%
	Total	75	100,0%
Age	>30	2	2,7%
	31-40	31	41,3%
	41-50	42	56,0%
	51-60	0	0,0%
	>60	0	0,0%
	Total	75	100,0%
Education Level	Secondary	31	41,3%
	Technical College	12	16,0%
	University degree	20	26,7%
	Post Graduate degree	8	10,7%
	Other	4	5,3%
	Total	75	100,0%

Occupation	Pharmacist	3	4,0%
	Farmer	2	2,7%
	Unemployed	4	5,3%
	Doctor	2	2,7%
	Graphic Designer	2	2,7%
	Civil Servant	6	8,0%
	Lower	2	2,7%
	Self Employed	4	5,3%
	Private Employed	34	45,3%
	English Teacher	2	2,7%
	Mid Wife	2	2,7%
	Civil Engineer	2	2,7%
	Housewife	2	2,7%
	Sales person	4	5,3%
	16	2	2,7%
	Σύνολο	75	100,0%
Country of Origin	Albania	2	2,7%
	Greece	73	97,3%
	Total	75	100,0%
Nationality	Albanian	2	2,7%
	Greek	73	97,3%
	Total	75	100,0%
Place of Residence	Crete	62	82,7
	Creece except Creete	11	14,7
	Abroad	2	2,7%
	Total	75	100%
Marital Status	Single	11	14,7%
	Divorced	7	9,3%
	Married	57	76,0%
	Total Married with children Number of children	75 43 1(35)	100,0% 57% 1 (46,7%)
Importance of obtaining a child	Important	28	37,3

Table 1: Socio-demographic data.

As it is derived from the above table, from the total of 73 people who gave valid answers, in 43 couples women are the ones who have infertility problems with a percentage of 58.9%, in 12 couples men with a percentage of 16.4% and in 18 couples both sexes had a problem with a percentage of 24.7%. Two participants did not answer this question.

The importance of obtaining a child in the future

Regarding to the importance of obtaining a child in the future, 28 (37.3%) of participants consider that it is important to have a child, 23 (30.7%) consider it very important, 14 (18.8%) consider it quite important while 10 (13.3%) do not consider it important at all (Table 2).

	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Not important at all	10	13,3	13,3	13,3
Quite Important	14	18,7	18,7	32,0
Important	28	37,3	37,3	69,3
Very important	23	30,7	30,7	100,0
Total	75	100,0	100,0	

Table 2: The importance of obtaining a child in the future.

Couples Infertility problem

From the total of 73 people who gave valid answers, in 43 couples women are the ones who have infertility problems with a percentage of 58.9%, in 12 couples men with a percentage of 16.4% and in 18 couples both sexes had a problem with a percentage of 24.7%. Two participants did not answer this question (Table 3).

		Frequency	Percentage	Valid Percentage	Cumulative Percentage
	Man	12	16,0	16,4	16,4
	Woman	43	57,3	58,9	75,3
	In both	18	24,0	24,7	100,0
	Total	73	97,3	100,0	
Missing	99	2	2,7		
Total		75	100,0		

Table 3: Couples Infertility problem.

Fear for Covid 19

The fear scale score for covid-19 was calculated as the mean of the seven questions, which were scored from 1-5 where 1 = minimum fear and 5 = maximum fear. Thus the maximum possible value of the scale is 5 and the minimum is 1 (Table 4).

N	Valid	75
	Missing	0
Mean		2,9869
Interstitial		3,2900
Standard deviation		1,11182
Fluctuation		1,236
Minimum		1,00
Maximum		5,00

Table 4: Fear for Covid 19.

This rule is derived from the following calculation: $5-1=4$ units of difference between maximum and minimum divided by the 5 levels (from very low to very high) gives a “step” of 0.8, between each level, starting from a minimum of 1 and going up to a maximum of 5. Based on the above rule, the mean for covid-19 fear of the 75 participants is at the moderate fear level. Frequency plot follows (Figure 1).

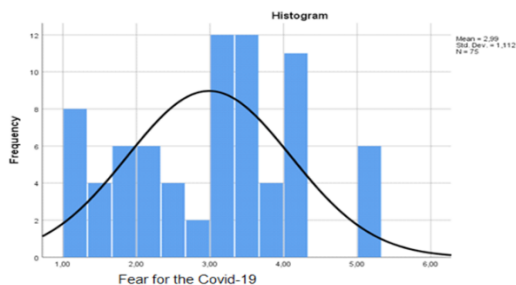


Figure 1: Frequency for fear for the covid-19.

Social difficulties

The score of the social difficulties scale was calculated as the mean of the seven questions, which were scored from 1-5 where 1 = minimum social difficulty and 5 = maximum social difficulty. Thus, the maximum possible scale score is 5 and the minimum is 1 (Table 5).

N	Valid	75
	Missing	0
Mean	2,2712	
Interstitial	2,5000	
Standard deviation	,72253	
Fluctuation	,522	
Minimum	1,00	
Maximum	3,75	

Table 5: Social difficulties.

From the above table, it can be derived that the mean of the scale is 2.27 and the interstitial is 2.5. The standard deviation was calculated to be 0.72 and the fluctuation 0.52. The minimum observed value was 1 and the maximum observed value was 3.75. The mean for social difficulties of the 75 participants is at a low level. The following is the frequency chart (Figure 2).

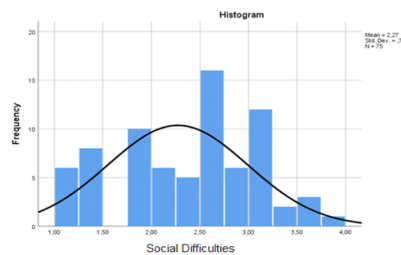


Figure 2: Frequency for social difficulties.

Lack of support

The fear scale score for covid-19 was calculated as the mean of the seven questions, which were scored from 1-5 where 1=minimal lack of support and 5=maximum lack of support. Thus, the maximum possible scale score is 5 and the minimum is 1 (Table 6).

Lack of support for the health problem		
N	Valid	75
	Missing	0
Mean	2,6621	
Interstitial	2,5000	
Standard deviation	,72444	
Fluctuation	,525	
Minimum	1,25	
Maximum	4,00	

Table 6: Statistics on lack of support.

From the above table, it can be derived that the mean of the scale is 2.66 and the interstitial is 2.5. The standard deviation was calculated at 0.72 and the fluctuation at 0.52. The minimum observed value was 1.25 and the maximum observed value was 4. The average score for lack of support for the health problem of the 75 participants was at the moderate level. The following is the frequency chart (Figure 3).

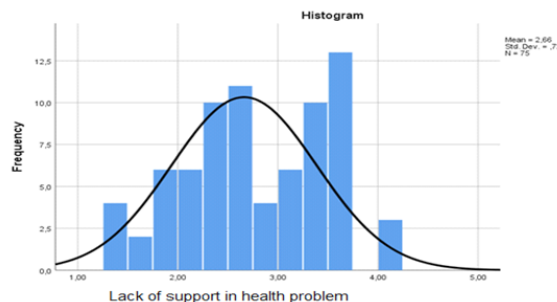


Figure 3: Frequency for lack of support for the health problem.

Social Difficulties & Lack of Support

The fear scale score for covid-19 was calculated as the mean of the seven questions, which were scored from 1-5 where 1=minimal social difficulties and/or lack of social support and 5=maximum social difficulties and/or lack of social support. Thus the maximum possible scale value is 5 and the minimum is 1 (Table 7).

Social Difficulties & Lack of Support in Health Problem		
N	Valid	75
	Missing	0
Mean		2,4683
Interstitial		2,5000
Standard deviation		,60510
Fluctuation		,366
Minimum		1,13
Maximum		3,75

Table 7: Statistics for social difficulties and lack of support.

From the above table, it can be derived that the mean of the scale is 2,47 and the interstitial is 2,5. The standard deviation was calculated to be 0,6 and the fluctuation 0,36. The minimum observed value was 1.13 and the maximum observed value was 3.75. The mean for the social difficulties of the 75 participants was in the low range. The following is the frequency chart (Figure 4).

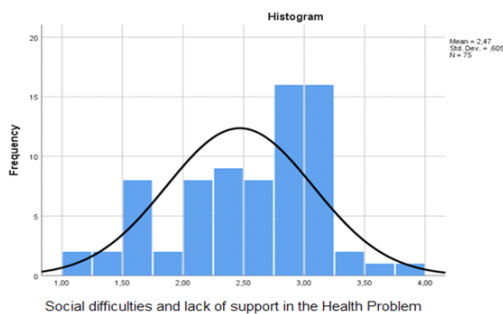


Figure 4: Frequency for social difficulties and lack of support in the Health problem.

Resilience of Social Relations to the Covid-19 pandemic

The score of the pandemic resilience of social relations

scale was calculated as the mean of seven questions, which were scored from 1-5 where 1=minimum resilience and 5=maximum resilience. Thus the maximum possible scale score is 5 and the minimum is (Table 8).

N	Valid	75
	Missing	0
Mean		3,2511
Interstitial		3,3300
Standard deviation		,70263
Fluctuation		,494
Minimum		2,00
Maximum		4,00

Table 8: Resilience of social relationships in the Covid pandemic-19.

From the above table, it can be derived that the mean of the scale is 3.25 and the interstitial is 3.33. The standard deviation was calculated as 0.7 and the fluctuation as 0.5. The minimum observed value was 2 and the maximum observed value was 4. The mean for social difficulties in pandemic covid-19 of the 75 participants is at the moderate level. The following is the frequency diagram (Figure 5).

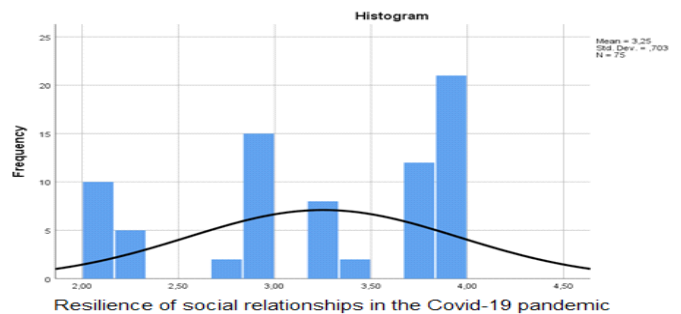


Figure 5: Frequency for Resilience of social relationships in the Covid-19 pandemic.

Correlation analysis

Given the non-normality of the variables, Spearman's nonparametric rho test was chosen for the correlation analysis. The tables with the results follow (Table 9).

Spearman's rho		Fear of Covid 19	Social Difficulties	Lack of support for health problem	Social Difficulties & Lack of Support for Health Problem	Resilience of Social Relationships to the Covid-19 pandemic
Fear for the Covid 19	Rho	1,000	,662**	,513**	,702**	-,341**
	p (2t)		0,000	0,000	0,000	0,003
	N	75	75	75	75	75
Social Difficulties	Rho	,662**				
	p (2t)	0,000				
	N	75				
Lack of support for health problem	Rho	,513**	,373**			
	p (2t)	0,000	0,001			
	N	75	75			
Social Difficulties & Lack of Support for Health Problem	Rho	,702**	,819**	,811**		
	p (2t)	0,000	0,000	0,000		
	N	75	75	75		
Resilience of Social Relationships to the Covid-19 pandemic	Rho	-,341**	-,543**	-0,116	-,371**	
	p (2t)	0,003	0,000	0,320	0,001	
	N	75	75	75	75	

** . Correlation is significant at the 0.01 level (2-tailed).
 * . Correlation is significant at the 0.05 level (2-tailed).

Table 9: Correlation results.

Fear for the covid-19

From the Pearson rho test, a strong (>0.6) positive correlation was found between fear for the covid-19 and social difficulties (rho = 0.662). This correlation was statistically significant with a margin of error of less than 1% (p<0.001) Based on the coding of the variables, this correlation demonstrates that participants with a higher level of fear for the covid-19 tended to have more social difficulties. From the Pearson rho test, a moderate (<0.6) positive correlation was found between fear for the covid-19 and lack of support for this health problem (rho = 0.513). This correlation was statistically significant with a margin of error of less than 1% (p<0.001) Based on the coding of the variables, this correlation demonstrates that participants with a higher level of fear for the covid-19 feel a greater lack of support in the infertility they face. From the Pearson rho test, a strong (>0.6) positive correlation was found between fear for the covid-19 and social

difficulties and lack of support for the health problem (rho = 0.7). This correlation was statistically significant with a margin of error of less than 1% (p<0.001) Based on the coding of the variables, this correlation demonstrates that participants with a higher level of fear for the covid-19 both experience more social difficulties and lack of support than those with a lower level of fear. From the Pearson rho test, a relatively weak (<0.4) negative correlation was found between fear for the covid-19 and the strength of social relationships in the Covid-19 pandemic (rho = -0.341). This correlation was statistically significant with a margin of error of less than 1% (p<=0.003) Based on the coding of the variables, this correlation demonstrates that participants who have a higher level of fear for the covid-19 have lower social relationship resilience during the pandemic than those with a lower level of fear. Thus, the higher their fear of the virus, the more their social relationships are affected.

Social Difficulties

From the Pearson rho test, a relatively weak (<0.4) positive correlation was found between social difficulties and lack of support for the health problem (rho = 0.373). This correlation was statistically significant with a margin of error of less than 1% (p<=0.001). Based on the coding of the variables, this correlation demonstrates that participants with more social difficulties have a stronger lack of support in the infertility problem. From the Pearson rho test, a moderate strength (<0.64) negative correlation was found between social difficulties and the strength of social relationships in the Covid-19 pandemic (rho = -0.543). This correlation was statistically significant with a margin of error of less than 1% (p<0.001). Based on the coding of the variables, this correlation demonstrates that as social difficulties increase, social relationship strength during the pandemic decreases.

Social Difficulties and Lack of Support in Health Problem

From the Pearson rho test, a strong (>0.6) positive correlation was found between social difficulties and lack of support in health problem and fear for the covid-19 (rho = 0.702). This correlation was statistically significant with a margin of error of less than 1% (p<0.001). Based on the coding of the variables, this correlation demonstrates that as social difficulties and lack of support in infertility increases, fear for the covid-19 increases. From the Pearson rho test, a relatively weak (<0.4) negative correlation was found between social difficulties and lack of support in health problem and the strength of social relationships in the Covid-19 pandemic (rho = -0.371). This correlation was statistically significant with a margin of error of less than 1% (p<=0.001). Based on the coding of the variables, this correlation demonstrates that as social difficulties and lack of support in one's infertility problem increases, social relationship resilience to the covid-19 pandemic decreases.

Spearman's rho		Fear for the Covid 19	Social Difficulties	Lack of Support in Health Problem	Social Difficulties & Lack of Support in Health Problem	Resilience of Social Relationships to the Covid-19 Pandemic
Sex	rho	0,139	0,133	-0,091	0,045	-0,052
	p (2t)	0,235	0,254	0,438	0,699	0,658
	N	75	75	75	75	75
Age	rho	,283*	,345**	-0,002	0,189	-0,139
	p (2t)	0,014	0,002	0,984	0,104	0,233
	N	75	75	75	75	75
Education Level	rho	-,658**	-,595**	-,373**	-,582**	0,176
	p (2t)	0,000	0,000	0,001	0,000	0,130
	N	75	75	75	75	75
Country of origin	rho	-,265*	-,270*	0,119	-0,111	0,101
	p (2t)	0,022	0,019	0,308	0,341	0,388
	N	75	75	75	75	75

Nationality	rho	-,265*	-,270*	0,119	-0,111	0,101
	p (2t)	0,022	0,019	0,308	0,341	0,388
	N	75	75	75	75	75
Place of Residence	rho	0,110	0,166	-0,172	-0,031	-0,213
	p (2t)	0,347	0,154	0,139	0,795	0,066
	N	75	75	75	75	75
Have you got children?	rho	,262*	0,207	0,070	0,170	-0,060
	p (2t)	0,023	0,075	0,549	0,144	0,612
	N	75	75	75	75	75
If YES, How many?	rho	0,175	0,284	-0,039	0,252	0,054
	p (2t)	0,263	0,065	0,804	0,103	0,731
	N	43	43	43	43	43
How important is having a child in the future for you?	rho	-0,062	-0,003	-0,084	-0,038	-0,054
	p (2t)	0,599	0,980	0,474	0,749	0,646
	N	75	75	75	75	75
To whom was infertility problem observed?	rho	,253*	-0,063	0,107	0,084	-0,165
	p (2t)	0,031	0,595	0,366	0,481	0,164
	N	73	73	73	73	73

** . Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 10: Results of demographic data correlations.

Sex

The Sex gave no statistically significant correlation. This means that it does not affect any of the factors.

Age

From the Pearson rho test, a relatively weak (<0.4) positive correlation was found between age and fear for the covid-19 ($\rho = 0.283$). This correlation was statistically significant with a margin of error of less than 5% ($p \leq 0.014$). Based on the coding of the variables, this correlation demonstrates that older individuals are more fearful. From the Pearson rho test, a relatively weak (<0.4) positive correlation between age and social difficulties was found ($\rho = 0.345$). This correlation was statistically significant with a margin of error of less than 1% ($p \leq 0.002$). Based on the coding of the variables, this correlation demonstrates that as age increases, social difficulties increase.

Education level

From the Pearson rho test, a strong (>0.6) negative correlation was found between education level and fear for the covid-19 ($\rho = -0.658$). This correlation was statistically significant with a margin of error of less than 1% ($p < 0.001$). Based on the coding of the variables, this correlation demonstrates that as the level of education increases, the fear for the covid-19 decreases. From the Pearson rho test, a moderate (<0.6) negative correlation was found between education level and social difficulties ($\rho = -0.595$). This correlation was statistically significant with a margin of error of less than 1% ($p < 0.001$). Based on the coding of the variables, this correlation demonstrates that as the level of education increases, social difficulties are less severe. From the Pearson rho test, a relatively weak (<0.4) negative correlation was found between education level and lack of health problem support ($\rho = -0.373$). This correlation was statistically significant with a margin of error of 1% ($p \leq 0.001$). Based on the coding of the variables, this correlation demonstrates that as the level of education increases, the lack of support for the infertility problem faced decreases.

Place of residence

Place of residence and the importance of having a child in the future gave no statistically significant correlation, so they do not influence the factors.

Married with children

From the Pearson rho test, a relatively weak (<0.4) positive correlation was found between those with children and fear for the covid-19 ($\rho = 0.262$). This correlation was statistically significant with a margin of error of less than 1% ($p < 0.001$). Based on the coding of the variables, this correlation demonstrates that those who have children are more fearful of corona virus.

Discussion-Conclusion

The findings of the present study regarding basic psychosocial determinants of infertile couple's health such as the fear of the Covid, the social relationships and the social support are found in most of surveys [24-30]. A big percentage of participants (56%) belong to the age group of 41-50 ετών and by this way literature, references which underline the age as the most significant infertility factor are confirmed. In addition, older people are more afraid of being exposed to the virus, so they have a greater fear of coming into contact with other people and discussing their infertility problem and they often have more social difficulties. All of above increase the anxiety and depression they may feel. The research also showed that the level of education is inversely proportional to the fear felt by the participants and the higher the level of education, the lower the fear of Covid-19, the lower of social difficulties and the lower of lack of social support. This is also noted to a relevant study on the basis of which more educated and well-informed people about COVID-19 experience less fear [44]. According to the findings of the present research, as social difficulties' and lack of support increases, fear for the covid-19 increases so do the social difficulties a person faces in trying to communicate with their family and friends and thus feel a greater lack of support for the infertility problem. In addition, the strength of one's social relationships during the pandemic is reduced. This has the effect of increasing anxiety and feelings of discomfort. This is noted by Gibson (2000) [45] and Martins, et.al (2011) [46] who believe that as support from the family environment increases, so does the stress and feelings of social isolation of the infertile couple decrease and social relationship resilience to the covid-19 pandemic decreases. Infertile individuals find psychological support in their family and social environment more easily. This support is one of the therapeutic methods according to Ansha Patel, et.al (2015) [47]. According to our study, when infertile woman has people to communicate and exchange views and receive advice have lower stress and this reduces allows her to face her health problem with more optimism. According to Rashidi B., et.al. (2008) [48], infertile couples need to receive support during treatment to improve their quality of life and especially women's but during Covid-19 this is difficult to happen because the fear of illness does not enhance social contacts. Fear for the Covid-19 does not encourage individuals to engage in day-to-day communication in person, which weakens the relationship between them and prevents the infertile woman from discussing her health problem [46,47]. With this distancing due to the continuous lockdowns, there is no possibility to exchange experiences, psychological support either from the family, or from the friendly or professional environment. Thus, anxiety and discomfort increases towards having a child [39]. This is also noted to our study which showed that participants with a higher level of fear during the pandemic had lower resistance to social relationships.

Limitations

The research focuses exclusively on the infertile couples for whom there is interest in generalizing the findings of the study, so the results cannot be extended to the general population. In addition, the generalization for all infertile couples is limited due to the limited number of sample. It is, therefore, necessary to further investigate a larger sample of infertile couples that will allow the conclusions to be used with significantly increased safety.

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