

# The effects of infertility on the spouses' relationship\*

EFEITOS DA INFERTILIDADE NO RELACIONAMENTO DOS CÔNJUGES

EFFECTOS DE LA INFERTILIDAD EN LA RELACIÓN DE LOS CÓNYUGES

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## ABSTRACT

The present study investigated the effects of infertility on the spouses' relationship, with the objectives to describe the profile of the studied population, and analyze the effects of infertility on their emotional, sexual and marital life. To do this, a cross-sectional and prospective study was performed in a specialist institution. The sample consisted of 50 infertile couples with a mean of six years of infertility. The women manifested negative feelings in view of the infertility, while the men assumed an attitude of support. The effects on the couples' sexual life were more pronounced in women, and the infertility treatment resulted in positive changes for both spouses. No differences were found regarding the effects of infertility between the women who had undergone more than one treatment and those undergoing treatment for the first time; between the men there were differences in the emotional aspect (frustration and relief) and in the marital relationship (strengthening and maturing).

## DESCRIPTORS

Infertility  
Spouses  
Reproductive techniques  
Nursing

## RESUMO

O presente trabalho trata-se de estudo sobre os efeitos da infertilidade no relacionamento dos cônjuges, com os objetivos de descrever o perfil da população de estudo e analisar os efeitos da infertilidade na vida emocional, sexual e conjugal. Para tal, foi realizado um estudo transversal e prospectivo em instituição especializada. A amostra foi constituída por 50 casais inférteis com seis anos de infertilidade em média. As mulheres manifestaram sentimentos negativos perante a infertilidade, enquanto os homens assumiram uma postura de suporte e apoio. Os efeitos na vida sexual foram mais expressivos nas mulheres, e o tratamento da infertilidade levou a mudanças positivas para ambos os cônjuges. Ao comparar os efeitos da infertilidade sobre os indivíduos que haviam realizado mais de um tratamento com aqueles no primeiro tratamento, observamos que não houve diferenças entre as mulheres; entre os homens houve diferenças no aspecto emocional (frustração e alívio) e no relacionamento conjugal (fortalecimento e amadurecimento).

## DESCRIPTORIOS

Infertilidade  
Cônjuges  
Técnicas reprodutivas  
Enfermagem

## RESUMEN

Estudio sobre los efectos de la infertilidad en la relación de los cónyuges, objetivando describir el perfil de la población estudiada y analizar los efectos de la infertilidad en la vida emocional, sexual y conyugal. Se realizó estudio transversal prospectivo en institución especializada. Muestra constituida por 50 parejas infértiles con seis años de infertilidad en promedio. Las mujeres manifestaron sentimientos negativos ante la infertilidad, mientras que los hombres asumieron una postura de soporte y apoyo. Los efectos en la vida sexual fueron más expresivos en las mujeres, el tratamiento de la infertilidad derivó en cambios positivos para ambos cónyuges. Al compararse los efectos de la infertilidad en individuos que habían realizados más de un tratamiento con la de aquellos en el primero, observamos que no hubieron diferencias entre las mujeres; entre los hombres existieron diferencias en aspectos emocionales (frustración y alivio) y en la relación conyugal (fortalecimiento y maduración).

## DESCRIPTORIOS

Infertilidad  
Esposos  
Técnicas reproductivas  
Enfermería

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## INTRODUCTION

Infertility, defined as the inability to conceive after one year of regular sexual intercourse without the use of any contraceptive method, is an old, and yet frequent, problem<sup>(1-2)</sup>.

The number of infertile individuals has increased over the past years. Approximately 30% of couples of a fertile age are unable to conceive, with female and male factors contributing equally with a 35% rate each; 20% of couples are unable to conceive due to male and female factors combined, and 10% are unable to conceive for unknown reasons<sup>(3-4)</sup>.

Couples rarely expect to deal with infertility, as they believe they will be able to have children whenever they wish<sup>(2)</sup>. The cultural construct has been that the act of being unable to conceive children is attributed to women, which reinforces their feelings of guilt when they cannot conceive and allows men to shirk their own accountability in a couple's failure to conceive<sup>(5)</sup>.

When a couple turns to a clinic for help, both partners must be investigated before confirming the diagnosis of infertility. Although the etiology may be specifically due to either female or male factors, infertility is considered to be a problem of both (the couple).

Maternity and paternity are social aspects esteemed in many cultures, and parenthood is an important phase in the life of most couples. Having or not having a child is not a random issue; there are ideological, cultural and social contexts involved which, directly or indirectly, pressure couples towards becoming parents<sup>(5)</sup>.

The impact of infertility generates individual or marital problems and emotions and can also contribute to instigating and/or worsening marital problems. Sex can become a duty dissociated from pleasure; furthermore, sexual frequency may be reduced<sup>(6)</sup>. All of these factors contribute directly or indirectly to increasing gestational failure. Thus, multidisciplinary teams that counsel and care for infertile couples must have broad knowledge regarding the main alterations that can occur in the couple's emotional, sexual and marital relationships, thus allowing the team to provide quality care and achieve better outcomes.

In this sense, the objective of the present study was to identify and analyze the main effects of infertility on the emotional and sexual lives and on the marital relationship of men and women who underwent treatment for infertility in a specialist service.

## METHOD

This is an observational, descriptive research using a cross-sectional and prospective design. The study was performed at the outpatient clinic of the Center for Pelvic Endoscopy and Human Reproduction, located at *Real e Benemérita Associação Portuguesa de Beneficência – Hospital São Joaquim*, in São Paulo. This service was chosen based on the number of couples undergoing treatment for infertility.

The studied population consisted of 50 couples. The following inclusion criteria were considered: couples of ages equal to or above 18 years; medical diagnosis of infertility; and having undergone some form of treatment for infertility or obtaining treatment during the data collection period. Patients with a history of psychiatric treatment or a medical diagnosis of cancer were excluded from the study. This information was obtained from the patients' medical records before data collection.

**The impact of infertility generates individual or marital problems and emotions and can also contribute to instigating and/or worsening marital problems. All of these factors contribute directly or indirectly to increasing gestational failure.**

The data collection instrument was comprised of sociodemographic (age group, education level, race, city of birth, country of birth, income, years of cohabitation, couple's number of children, number of children with other partners, length of time of infertility, cause(s) of infertility, treatment for infertility), emotional (sadness, embarrassment, struggle, disappointment, anguish, rage, loss, surprise, frustration, anxiety, guilt, acceptance, inferiority, depression, relief), sexual (diminished pleasure and libido, unsatisfactory relations), and marital variables (tension, conflicts, dissatisfaction, maturing, strengthening).

Data collection was performed after the research proposal received the approval from the Research Ethics Committee at Federal University of São Paulo (CEP 1325/06). Data collection was performed on the day of the couple's medical appointment after they had signed the free and informed consent form. Each couple was identified by the same number, but were divided into two groups: group A women and B men.

The results were analyzed as follows: 1) analysis of the study variables; 2) association of the sociodemographic variables with those related to emotional, sexual, and marital aspects; 3) association of the variables related to emotional, sexual and marital aspects with subjects who had already undergone some form of treatment (Intracytoplasmic Sperm Injection – ICSI, *In vitro* fertilization – IVF, and Artificial Insemination), and those who were undergoing treatment for the first time.

The data regarding the study variables were stored on a Microsoft Office Excel 2000™ electronic spreadsheet. Mann-Whitney tests were used for continuous variables, and Chi-square and Fisher's Exact test were used, when necessary, for the categorical variables.

In the presentation of the results, absolute frequencies (N) and relative frequencies (%) are used for qualitative variables; quantitative variables are presented as mean, median and standard deviation, and minimum and maximum values were used to show the variability. Level of significance was set at  $p < 0.05$ .

## RESULTS

### 1- Analysis of the study variables between men and women

Regarding the sociodemographic variables, a significant difference was observed between genders in terms of the cause of infertility (Table 1). The ages of the study participants ranged between 24 and 46 years, with a mean age of 35.4 years for women. There was a predominance of women in the age group between 27 and 35 years (54.5%). Men's ages ranged between 24 and 54 years, and the predominant age group was 36 to 44 years (45%) (Tables 1, 2).

**Table 1** – Subjects according to sociodemographic variables and gender – São Paulo, 2011

		Female		Male		Total		p-value*
		N	(%)	N	(%)	N	(%)	
Age group	18 – 26	2	4.5	2	4.1	4	4.3	0.239
	27 – 35	24	54.5	18	36.7	42	45.2	
	36 – 44	16	36.4	22	45.0	38	41.0	
	≥ 45	2	4.5	7	14.3	9	9.7	
Years of education	Completed Primary ed.	6	12.2	6	12.3	12	12.4	1.000
	Completed Secondary ed.	16	32.6	17	34.7	32	33.7	
	Completed Higher ed.	23	46.9	22	44.9	45	5.9	
	Completed Graduate studies	4	8.2	4	8.2	8	8.2	
City of birth	São Paulo	39	78.0	38	76.0	77	77.0	0.812
	Others	11	22.0	12	24.0	23	23.0	
Country of birth	Brazil	49	98.0	48	96.0	97	97.0	1.000
	Abroad	1	2.0	2	4.0	3	3.0	
Income (Minimum Salary)	1- 5	17	48.6	19	52.8	36	50.7	0.334
	6 - 10	9	25.7	3	8.3	12	17.0	
	11-15	3	8.6	5	14.0	8	11.3	
	16 - 20	3	8.6	6	16.7	9	12.7	
	> 20	3	8.6	3	8.3	6	8.4	
Years of cohabitation	2 to 5	23	47.0	23	47.0	46	47.0	1.000
	6 to 9	11	22.4	11	22.4	22	22.4	
	> 10	15	30.6	15	30.6	30	30.6	
Biological Children	Current relationship	2	4.0	2	4.0	4	4.0	1.000
	Other relationships	4	8.0	3	6.0	7	7.0	
	No children	44	88.0	45	90.0	89	89.0	
Cause of infertility	Male factor	8	16.0	19	40.4	27	28.0	0.037
	Female factor	19	38.0	13	27.6	32	33.0	
	Mixed factor	15	30.0	7	15.0	22	22.6	
	Unexplained	8	16.0	8	17.0	16	16.5	
IVF	Yes	15	30.0	11	22.0	26	26.0	0.361
	No	35	70.0	39	78.0	74	74.0	
ICSI	Yes	11	22.0	11	22.0	22	22.0	1.000
	No	39	78.0	39	78.0	78	78.0	
Artificial insemination	Yes	12	24.0	9	18.0	21	21.0	0.461
	No	38	76.0	41	82.0	79	79.0	

(\*) p = Value based on the Chi-square test.

**Table 2** – Descriptive measures of age and length of time infertile (years), according to gender – São Paulo, 2011

		Female	Male	p-value(*)
Age	N	44	49	<b>0.019</b>
	Mean	35.4	38.5	
	Median	34.5	38.0	
	Standard deviation	5.7	6.4	
	Minimum	24.0	24.0	
	Maximum	46.0	54.0	
Length of time infertile	N	50	50	0.947
	Mean	6.0	6.0	
	Median	5.0	5.0	
	Standard deviation	4.1	4.4	
	Minimum	1.0	1.0	
	Maximum	20.0	22.0	

(\*) p = Value based on the Mann-Whitney test.

Regarding the variables related to emotional aspects, a significant difference was observed in terms of the manifestation of feelings of sadness, struggle, loss and depression among men and women (Table 3).

**Table 3** – Subjects' descriptions of feelings associated with infertility, according to gender – São Paulo, 2011

		Female		Male		Total		p-value(*)
		N	(%)	N	(%)	N	(%)	
Sadness	Yes	31	62.0	20	40.0	51	51.0	<b>0.027</b>
	No	19	38.0	30	60.0	49	49.0	
Embarrassment	Yes	5	10.0	3	6.0	8	8.0	0.715
	No	45	90.0	47	94.0	92	92.0	
Struggle	Yes	9	18.0	0	0.0	9	9.0	<b>0.002</b>
	No	41	82.0	50	100.0	91	91.0	
Disappointment	Yes	14	28.0	12	24.0	26	26.0	0.648
	No	36	72.0	38	76.0	74	74.0	
Anguish	Yes	10	20.0	6	12.0	16	16.0	0.275
	No	40	80.0	44	88.0	84	84.0	
Rage	Yes	2	4.0	2	4.0	4	4.0	1.000
	No	48	96.0	48	96.0	96	96.0	
Loss	Yes	9	18.0	1	2.0	10	10.0	<b>0.007</b>
	No	41	82.0	49	98.0	90	90.0	
Surprise	Yes	12	24.0	9	18.0	21	21.0	0.461
	No	38	76.0	41	82.0	79	79.0	
Frustration	Yes	22	44.0	15	30.0	37	37.0	0.147
	No	28	56.0	35	70.0	63	63.0	
Anxiety	Yes	14	28.0	11	22.0	25	25.0	0.488
	No	36	72.0	39	78.0	75	75.0	
Guilt	Yes	5	10.0	4	8.0	9	9.0	1.000
	No	45	90.0	46	92.0	91	91.0	
Acceptance	Yes	4	8.0	10	20.0	14	14.0	0.083
	No	46	92.0	40	80.0	86	86.0	
Inferiority	Yes	7	14.0	3	6.0	10	10.0	0.182
	No	43	86.0	47	94.0	90	90.0	
Depression	Yes	7	14.0	0	0.0	7	7.0	<b>0.012</b>
	No	43	86.0	50	100.0	93	93.0	
Relief	Yes	3	6.0	4	8.0	7	7.0	1.000
	No	47	94.0	46	92.0	93	93.0	

(\*) p = Value based on the Chi-square test.

Women reported negative feelings towards sexual activity, such as diminished libido (p = 0.037) and unsatis-

factory relations (p = 0.026), which were not observed in men (Table 4).

**Table 4** – Subjects according to feelings related to sexual activity, according to gender– São Paulo, 2011

		Female		Male		Total		p-value*
		N	(%)	N	(%)	N	(%)	
Diminished pleasure	Yes	8	16.3	3	6.1	11	11.2	0.109
	No	41	83.7	46	94.0	87	89.0	
Diminished libido	Yes	10	20.4	3	6.1	13	13.3	<b>0.037</b>
	No	39	79.6	46	94.0	85	86.7	
Unsatisfactory relations	Yes	6	12.2	0	0.0	6	6.1	<b>0.026</b>
	No	43	88.0	49	100.0	92	94.0	

(\*) p = Value based on the Chi-square test.

Regarding the variables related to the marital relationship, no differences were observed between the study subjects; however, the maturing and strengthen-

ing variables, considered to be positive features in the marital relationship, were emphasized by the study subjects (Table 5).

**Table 5** – Subjects according to the types of changes in their relationships with their partners, according to gender – São Paulo, 2011

		Female		Male		Total		p-value*
		N	(%)	N	(%)	N	(%)	
Tension	Yes	5	10.0	3	6.0	8	8.0	0.715
	No	45	90.0	47	94.0	92	92.0	
Conflict	Yes	4	8.0	5	10.0	9	9.0	1.000
	No	46	92.0	45	90.0	91	91.0	
Dissatisfaction	Yes	6	12.2	0	0.0	6	6.1	1.000
	No	43	88.0	49	100.0	92	94.0	
Maturing	Yes	14	28.6	11	22.0	25	25.2	0.451
	No	35	71.4	39	78.0	74	74.7	
Strengthening	Yes	20	40.0	12	24.0	32	32.0	0.086
	No	30	60.0	38	76.0	68	68.0	
Improvement	Yes	5	10.0	2	4.0	7	7.0	0.436
	No	45	90.0	48	96.0	93	93.0	

(\*\*) p = Value based on the Chi-square test.

## **2 – Association of sociodemographic variables with the variables related to emotional, sexual, and conjugal aspects of the infertile couples**

Significant differences were found regarding the association of the sociodemographic variables with the variables related to emotional aspects between: 1) education and frustration ( $p < 0.001$ ) and disappointment ( $p = 0.034$ ) – 83.6% and 72% of subjects who manifested feelings of frustration and disappointment, respectively, had completed higher education or graduate studies; 2) education and relief ( $p = 0.001$ ) – 85.7% of the subjects who reported this feeling had completed a primary or secondary level education; 3) sadness/anxiety and income- 66.7% and 86% of the subjects who manifested feelings of sadness ( $p = 0.045$ ) and anxiety ( $p = 0.043$ ) had a monthly income of up to 10 minimum salaries; 4) relief and length of time of infertility- 7.1% of the subjects reported feeling relief ( $p = 0.008$ ) after the diagnosis of infertility, regardless of the time of cohabitation; 5) struggle and frustration and length of time of infertility- the feelings of struggle ( $p = 0.028$ ) and frustration ( $p = 0.044$ ) were present in subjects who were infertile between 7.4 and 5.2 years (mean), re-

spectively; 6) anxiety and IVF- 92% of the subjects who manifested anxiety ( $p = 0.017$ ) had not undergone IVF; and 7) loss/guilt/depression and ICSI- feelings of loss ( $p = 0.039$ ), guilt ( $p = 0.023$ ), and depression ( $p = 0.005$ ) were present in 50%, 55.6%, and 71.4%, respectively, of the subjects who had undergone ICSI.

Significant differences were observed for the associations between sociodemographic, sexual and marital variables: 30% presented diminished libido ( $p = 0.023$ ), and 59% of the subjects who reported their relationship bond was strengthened ( $p = 0.002$ ) had undergone ICSI; 92% and 84.3% of the subjects who reported maturing ( $p = 0.013$ ) and strengthening of the relationship bond ( $p = 0.005$ ), respectively, had cohabited for up to nine years.

## **3 – Association of variables related to emotional, sexual, and marital aspects between subjects who had already undergone treatment and those who were undergoing treatment for the first time**

No significant differences ( $p < 0.05$ ) were found for the comparison between variables related to emotional, sex-

ual and marital aspects between women who had already undergone at least one treatment for infertility and those who had not. On the other hand, men who were undergoing treatment for the first time reported experiencing feelings of frustration ( $p = 0.001$ ) and relief ( $p = 0.046$ ), as well as changes in the marital relationship: maturing ( $p = 0.025$ ) and strengthening ( $p = 0.001$ ).

## DISCUSSION

Women achieve the peak of their fertility at the age of 24 years; fertility then decreases until the age of 30 years, at which time it drops abruptly<sup>(7)</sup>. Women between the ages of 27 and 35 years have a 25% probability of experiencing physical problems and being unable to conceive after trying for one year<sup>(3)</sup>. In opposition to men, women's fertility has a limited time, starting at the menarche and ending at menopause. In addition, there are many factors that can hinder pregnancy as women age. These data corroborate the present study findings (Tables 1 and 2).

A specialist in fertility gives the diagnosis of infertility after performing a clinical investigation of both spouses. In the present study, women reported that 38% of the diagnoses of infertility were due to female factors and 16% to male factors, while men stated that 40% of the causes were related to them and 27.6% to women. The question was asked of the subjects without any confirmation of the diagnosis by the health team assisting the couple. Therefore, the findings suggest that the spouses assume a protective stance towards their partner, taking on the responsibility for the infertility (Table 1).

Most couples, at a certain time in their relationship, decide to have children and stop using contraceptive methods; 60% of these couples get pregnant within about five or six months of unprotected sexual relations, 90% become pregnant within approximately one year, and 10% are unable to achieve pregnancy<sup>(8)</sup>. According to the results (Table 2), the study subjects' mean time of infertility was six years.

Men who experience infertility tend to repress their feelings by assuming a protective role and supporting their partners, thus it appears they are less affected emotionally<sup>(5,9)</sup>. Women experience infertility more intensely, even when the cause of the infertility is associated with their male partner<sup>(10)</sup>.

A study<sup>(6)</sup> has shown that 43% of infertile women reported experiencing serious negative feelings in terms of sexual relations, while infertile men did not mention any alteration in their feelings towards sexual activity. The sexual act, formerly considered to be a time of pleasure and satisfaction becomes, for infertile couples, merely a means to fulfill their conjugal duties, contributing to the start or increase of conflict and the loss of satisfaction in sexual relations<sup>(11)</sup>. According to the present study results

(Table 4), infertile women reported more dissatisfaction with their sexual life than did men.

Men's interest in reaching a diagnosis, participating and being involved in the infertility treatment results in positive changes in the marital relationship. In addition, strengthening or distancing will depend on the relationship that already exists between spouses before they are diagnosed with infertility<sup>(12)</sup>. Results (Table 5) showed that the effects of infertility did not cause any negative alterations in the marital relationship, suggesting that men had an active role in this phase.

The sociodemographic variables were associated with the study variables (emotional, sexual and marital aspects).

The results showed that when the education variable was associated with variables related to emotional aspects, as described in the present study, significant evidence was found regarding the feelings of frustration, disappointment and relief.

If, on the one hand, the level of education helps individuals understand and seek knowledge regarding the issues involved in seeking infertility treatment, on the other hand it can make them more vulnerable to positive or negative changes.

Couples hope and expect to have children whenever they wish, but the confirmation of infertility puts their dreams and expectations at risk, and they therefore feel frustrated and disappointed that they are incapable of transferring their genes and generating a descendant<sup>(2,13)</sup>.

Nearly 65% of the 106 subjects of a study performed in public and private hospitals in Santiago reported that the costs related to infertility treatment were a problem for them, and they had to work more in order to cover that cost. The techniques are expensive and, throughout the treatment, can trigger negative feelings, such as anxiety and sadness, depending on the economic power and emotional balance of each couple<sup>(3,14)</sup>.

Anxiety emerges among couples after they receive the confirmation of their infertility; however, it appears that anxiety is evidenced, or exacerbated, among those with a low income. The possibility of not becoming pregnant after the treatment, added to their concern regarding the financial impact, contributes to the onset and worsening of anxiety<sup>(3)</sup>. The techniques for Assisted Human Reproduction (AHR) do not provide a 100% guarantee of becoming pregnant at the end of the treatment<sup>(9)</sup>.

The social and family pressure for a couple to have children makes them postpone the search for medical assistance due to fear of being stigmatized. Couples may wait years before seeking an answer for their inability to conceive. However, regardless of the length of time of cohabitation, the confirmation of the diagnosis of infertility does not provide any relief to the couple because, even when they become aware of a positive prognosis, they feel defective or inferior.

Relief is a feeling that is present mainly when the etiology of infertility is not related to the male because, in certain parts of the world, fertility remains culturally associated with virility<sup>(6)</sup>. When the etiology of infertility is due to a male factor, men tend to participate more in the treatment<sup>(15)</sup>. In the present study, the etiology of infertility, regardless of the subjects' gender, did not bring relief.

It is known that the longer the time of infertility, the smaller the chances of a successful treatment outcome. Couples demonstrate feelings of struggle throughout the treatment and, when they do not become pregnant at the end of the cycle, they use this feeling as the foundation to begin one more cycle towards achieving the fulfillment of their dream of becoming parents. In addition, couples can experience feelings of frustration, depending on the woman's age and the length of time of infertility.

At the end of the 1970's, the first report was made of a birth resulting from extracorporeal fertilization, thus confirming man's success in solving issues affecting couples wanting to become parents. In Brazil, there are numerous centers that perform modern techniques such as *in vitro* fertilization (IVF) and intracytoplasmic sperm injection (ICSI), aimed at providing care to couples that experience infertility.

According to a study that analyzed 400,135 IVF cycles in the United Kingdom, a mean number of nine oocytes were captured after hormonal stimulation for IVF, and a mean number of five embryos were formed from these oocytes, resulting in a 21.3% success rate of live births; however, the number of live births decreased as maternal age increased<sup>(16)</sup>. Therefore, despite the use of modern technologies, it is possible that some couples will never become parents, hence the need for a multidisciplinary team prepared to provide the necessary support to infertile couples.

Anxiety is described as a fear of the unknown, and may occur in the stage of searching for the etiology of infertility, throughout the treatment, at the end of the cycle, and while waiting for the results of the treatment. According to a Fortaleza study, the necessary exams and medications involved in a cycle of *in vitro* fertilization can trigger the onset of anxiety<sup>(17)</sup>. In the present study, nearly 92% of the subjects that reported feeling anxious had not yet undergone IVF.

Because it is an advanced technique, ICSI increases the subjects' expectations in terms of fulfilling their dreams of parenthood. Failure at the end of the treatment may make them associate their failure with a sense of being punished for things they have done in the past and can generate or increase their feelings of guilt, in addition to increasing psychopathological symptoms such as depression, anguish and loss<sup>(1,3)</sup>.

Undergoing artificial insemination, *in vitro* fertilization (IVF) and intracytoplasmic sperm injection (ICSI) did not

result in any changes in the sexual activity of the infertile subjects. Change in sexuality (36.3%) is directly related to the success of the infertility treatment, and this factor should be considered as a means of improving the chances of success<sup>(14)</sup>. Regarding the effects of ICSI on the marital relationship, the couples that underwent this procedure reported that it strengthened the bond between them.

A San Diego study, performed with 30 infertile couples, showed they had a mean of 7.3 years of cohabitation and did not reveal any changes in the marital relationship<sup>(7)</sup>. In this study, the subjects presented positive characteristics regarding the marital relationship, such as maturing and strengthening, and these factors were mostly evidenced in couples with a cohabitation time of less than ten years. The occurrence of changes over a long period of time could cause a deterioration in the marital relationship of infertile couples, resulting in separation<sup>(18)</sup>.

No significant differences were found between the study variables (emotional, sexual and marital aspects) in comparing women who had undergone at least one treatment and those who had not. Women are emotionally fragile, and, therefore, they express their feelings constantly, regardless of the experiences they are living.

Men who were undergoing the treatment for the first time reported feeling frustrated compared to those who had undergone treatment more than once. They consider it difficult and distressing to realize they need help from someone else (the physician) for conception to occur, and this causes feelings of inferiority and frustration<sup>(14)</sup>. The results from this study showed that men experienced diminished marital satisfaction after undergoing infertility treatment.

The effects of infertility are substantial and, the more perspectives the multidisciplinary team has in terms of the subjects' reactions, the better prepared the team will be to help the couple cope with this difficult phase<sup>(14)</sup>. Furthermore, understanding the effects of infertility allows nurses to elaborate thorough instruments to be used in the nursing appointments in Assisted Human Reproduction (AHR), thus allowing them (nurses) to achieve higher precision in the nursing process.

AHR is experiencing an exponential growth worldwide, and several countries already employ specialist nurses who provide direct care to infertile couples, including techniques such as the retrieval of eggs and embryo transfer. In Brazil, the first course on ARH for nurses occurred in 2010. Therefore, in addition to preparing specialist professionals, it is necessary to produce scientific material that will contribute to the advancement of the field.

Cross-sectional studies provide a timely analysis of cause and effect situations, but do not establish a causal relationship, i.e., they do not clarify the cause and effect relationship among events, and this is a limitation of the present study.

## CONCLUSION

Women manifested negative emotional changes, while men expressed feelings related to an attitude of providing support and balance. Negative feelings towards sexual activity were also more common among women; regarding the marital relationship, the changes were positive for both spouses.

The sociodemographic variables of education, monthly income, years of cohabitation, length of time of infertility, *in vitro* fertilization (IVF), and intracytoplasmic sperm injection (ICSI) were accountable for the negative changes in the emotional aspects of the infertile couples. There were negative changes in regards to sexual activity when correlated with ICSI, but this variable had a positive effect on the marital relationship, as did the variable of years of cohabitation.

No differences were observed regarding the studied aspects between women who had undergone infertility treatment at least once and those who had not, but men manifested changes in the emotional aspect (frustration and relief) and in the marital relationship (strengthening and maturing).

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