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The Prevalence of Infertility and Related Factors in Patients Referred to Infertility Center in Besat Hospital in Sanandaj, Iran.

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ABSTRACT

Infertility is a major health care problem. The aim of this study was to determine the prevalence of infertility and related factors in patients referred to infertility center in Besat hospital in Sanandaj, Iran in 2014-2015. This descriptive analytical cross-sectional study was conducted on all couples referred to infertility center in Besat hospital in Sanandaj, Iran in 2014-2015.The study population consisted of 579 patients. The questionnaire was used to collect data. Data were analyzed using STATA ver.11 software. Descriptive statistics, mean, standard deviation and Chi-square test, T-test and Fisher exact test were also used. T-test was used for quantitative variables and for qualitative variables Chi-square test and Fisher exact test were used. From 579 cases, 372 cases (64.3%) had primary infertility and 207 cases (35.7%) had secondary infertility. Most common cause of infertility in women was related to ovarian factors (33.5%) and in men were male factors (30.2%). Other causes of infertility were uterine factors (5.5%), tubular factors (12.8%) and unknown factors (18%). There was no significant relationship between women age groups with male factors of infertility (p = 0.813) while there was a significant relationship statistically between women age groups with ovarian factors (p=0.001). The results of this study showed that the prevalence of primary and secondary infertility was 64.3% and 35.7% respectively also the most common cause of infertility in men were male factors and for women were ovarian, tubal and unknown factors which was almost the same as many previous studies. It seems that a survey with greater population is required to estimate the accurate rate of infertility in Kurdistan province.
Keywords: Male Infertility, Female Infertility, Causality

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INTRODUCTION

Infertility is a major health care problem and is defined as not having pregnancy after one year of regular intercourse without using contraception techniques [1]. The prevalence of infertility in developed countries has been estimated as 3.5-16.7% and in developing countries as 6.9-9.3% [2] while the average of infertility that reported for Iran is 13.2% [3].It has been reported that 40% of infertilities were related to men, 40% to women and 20% to both sexes [4].

Infertile couples are at risk of psychological disorders. Depression is considered as one of the main psychological disorders associated with infertility that seriously affect the life of infertile men and women, their treatment, and also their follow-up [5]. Infertility is not merely a health problem; it also affects the social injustice and inequality [6] and lead to distress and depression, as well as discrimination and ostracism [7, 8]. Infertility is divided into two primary and secondary types. The secondary infertility is the inability to give births in spite of exposure to pregnancy for one year [9]. The studies showed that infertility, primary or secondary occurs in almost 15% of all women around the world [10], and the incidence of female infertility is rising annually [6].

There are many causes of infertility and often several reasons together are the cause of infertility [11]. The cause of infertility are various from male problems such as varicocele, azoospermia, of vas deferens obstruction, the sperm problems (low number, low mobility, Dysmorphology) and sensitivity to sperm to female problems including age, body weight, nutrition disorders, smoking, luteal phase defects, cervix disorders, endometriosis, ovulation problems, poor quality of ovulation, polycystic ovarian syndrome and obstruction of the fallopian tubes [12-15].

The most common cause of female infertility is ovulation defect and low ovarian reserve in the ovaries due to aging, also women overweight effects androgen and estrogen production and is responsible for 12% of all infertility in women [14]. The most common cause of male infertility is varicocele [15, 16] which is defined as dilated and twisted veins of the pampiniform plexus in the spermatic cord [17]. The age of the onset of infertility is usually during puberty or immediately after puberty [18].

Given the importance of infertility issue as a health consideration which affects the life of couples and also the lack of information about the prevalence of infertility in Kurdistan Province the aim of this study is to determine the prevalence of infertility and related factors in patients referred to infertility center in Besat hospital in Sanandaj, Iran in 2014-2015.

MATERIAL AND METHODS

This descriptive analytical cross-sectional study was conducted on all couples referred to infertility center in Besat hospital in Sanandaj, Iran in 2014-2015.The study population consisted of 579 patients. The cases were enrolled with census .The questionnaire was used to collect data. Data including demographic information, the final diagnosis of the cause of infertility, duration of infertility, marriage age and duration of marriage was obtained from patient`s medical record. Data were analyzed using STATA ver.11 software. Descriptive statistics, mean, standard deviation and Chi-square test, T-test and Fisher exact test were also used. T-test was used for quantitative variables and for qualitative variables Chi-square test and Fisher exact test were used.

RESULTS

The results showed that the mean age of men, the mean age of women, the mean duration of marriage and the mean duration of infertility were 35.6±7.58, 31.2±6.55, 8.7±5.9, and 4.8 years respectively. The level of education of most of the participants was under high school diploma. The majority of men were self- employee and women were housekeeper. Most of the participants had the history of consanguineous marriage and also history of family infertility.

From 579 cases, 372 cases (64.3%) had primary infertility and 207 cases (35.7%) had secondary infertility. Most common cause of infertility in women was related to ovarian factors (33.5%) and in men was

male factor (30.2%). Other causes of infertility were uterine factors (5.5%), tubular factors (12.8%) and unknown factors (18%).

In women less than 25 years old, the most causes of infertility was ovarian factors (47.2%),in women 25-35 years old also the most causes of infertility was ovarian factors (34.15%).The most cause of infertility in women over 35 years was male factor (31.33%).

In women less than 25 years old 28% of infertility causes of couples was male factor and 72 % was related to other factors, while in women 25-35 years old 30.66% of infertility causes was related to male factors and 69.34% was related to other factors. (Table 1)

There was no significant relationship between women age groups with male factors of infertility (p = 0.813), while there was a significant relationship between women age groups with ovarian factors (p=0.001). This means that in women less than 25 years old 47.2% of infertility was related to ovarian factors and for women 25-35 years and women over 35 years it was 34.15% and 24.29% respectively. The results showed that there were no significant relationship between women age groups and uterine factors of infertility (p = 0.262). In women less than 25 years old 5.6 of infertilities was related to tubal factors of infertility ,while for women 25-35 years and over 35 years it was 12.89% and 18.07 % respectively. (Table 2).

There was significant relationship between women age group and tubal factors of infertility (p=0.007). (Table 3)

There was a significant relationship between women age groups and unknown factors of infertility statistically (p=0.31). (Table 4)

Although there was no significant relationship between the duration of marriage with male factor, uterine factors, unknown and tubal factors, there was a significant relationship between the duration of marriage with ovarian factors of infertility (p=0.002),in couples who their marriage duration was less than 10 years 38.25 % and in couples who their marriage duration was more than 10 years 25.47% of infertility was observed.

Table 1: the frequency of infertility causes in terms of women age

Women age groups	The Causes of infertility					
	Men Factor N (%)	Ovarian factors N (%)	Uterine factors N (%)	Tubal Factors N (%)	Unknown factors N (%)	Total N (%)
Less than 25years	35 (28%)	59 (47.2%)	7 (5.6%)	7 (5.6%)	17 (13.6%)	125 (100%)
25-35 Years	88 (30.66%)	98 (34.15%)	12 (4.18%)	37 (12.89%)	52(18.12%)	287 (100%)
Over 35Years	52 (31.33%)	37 (22.29%0	13 (7.83%)	30 (18.07%)	34(20.48%)	166 (100%)
Total	175 (30.28%)	194 (33.56%)	32 (5.54%)	74 (12.8%)	104(17.82%)	579 (100%)

Table 2: the relationship between the age group of women with uterine factors of infertility in subjects

Cause of Infertility Women age groups	Uterine Factors N (%)	Other Factors N (%)	Total N (%)	X^2	P-Value
Less than 25 years	7(5.6%)	119 (94.4%)	126 (100%)	2.86	0.262
25-35 Years	12 (4.18%)	275 (95.82%)	287 (100%)		
Over 35 Years	13 (8.73%)	153 (92.17%)	166 (100%)		
Total	32 (5.54%)	546 (94.46%)	579 (100%)		

Table 3: the relationship between the age group of women with tubal factors of infertility in subjects

Cause of Infertility Women age groups	Tubal Factors (%)	Other factors N (%)	Total N (%)	X^2	P-Value

Less than 25 years	7(5.6%)	119 (94.4%)	126 (100%)	9.94	0.007
25-35 Years	37 (12.89%)	250 (87.11%)	287 (100%)		
Over 35 Years	30 (18.07%)	136 (81.93%)	166 (100%)		
Total	74 (12.8%)	504 (87.2%)	579 (100%)		

Table 4: the relationship between the age group of women with unknown factors of infertility in subjects

Cause of Infertility Women age groups	Tubal factors N (%)	Other factors N (%)	Total N (%)	X^2	P-Value
Less than 25 years	17(13.6%)	109 (86.4%)	126 (100%)	2.34	0.31
25-35 Years	52(15.12%)	235 (81.88%)	287 (100%)		
Over 35 Years	35 (20.38%)	131 (79.52%)	166 (100%)		
Total	104 (17.82%)	475 (82.18%)	579 (100%)		

DISCUSSION

In this study the average age of women and men were 31.2±6.55 and 35.6±7.28 years. The average length of marriage was 8.7±5.9 years and average length of infertility was 4.8±4.7 years. The infertility of most participants was primary which its causes in men were male factors and in women was ovarian factors.

In the present study from 579 cases, 372 cases (64.3%) had primary infertility and 207 cases (35.7%) had secondary infertility. The results also showed that there was no significant relationship between the age group of women with male and uterine factors of infertility, but there was a significant relationship between the age group of women with tubular and unknown factors.

In a study by Masoumi et al which was conducted in Hamadan, Iran from 1200 cases, 834 cases (69.5%) suffered from primary infertility and 366 (30.5%) cases had secondary infertility. Average length of marriage of infertile couples was 7.6±5.31 years and their duration of infertility was a 4.6±5.1 year (19) which was almost the same as our study.

In our study 10.6% of women were employee and 89 % were house wives. In a study by Pal et al almost less than one tenth (9.3%) of infertile women were involved in income generating activities where as majority 264 (90.7%) of them were house wives [20], which was in consistent with our findings.

In the present study almost 51.22% of infertility causes were related to female factors while in a study by Masoumi et al among the various causes of infertility 88.6 % were related to women factors [19].

Studies showed that different factors including; individual, social, economic and irrational thoughts about having children may have a negative effect on the quality of life of infertile women and also the quality of life status in infertile couples is directly associated with their self-esteem, social support, sexual satisfaction, and marital satisfaction [21]. Infertility has potentially inappropriate effects on quality of life in infertile couples [22] it also has a varied impact on multiple dimensions of health and functioning such as martial adjustment and sexual functioning [23].

CONCLUSION

The results of this study showed that infertility is one of the biggest problems of couples that several years have passed from their marriage. The most common cause of infertility in men was male factors and for women were ovarian, tubal and unknown factors. Further studies with greater population are required to achieve more accurate results and made more serious decisions.

Limitation of Study

Incomplete medical records were among limitation of this study.

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