

Causes of Infertility in Women

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Abstract— Participant were 500 infertile women, which is attending treatment in a clinic and investigated the causes of infertility in women. Results showed that 51.6 % of women with secondary infertility was higher than 48.4 % women with primary Infertility. Regarding age, 29.4 % were 18 – 24 years old, 43 % were 25 – 30 years old, 15.2 % were 31 – 35 years old and 12.4 % were over 35 years old. Concerning the cause of infertility, 66.8 % of the problems were due to ovulation factors only, followed infertility of female factors cause in 17.4 % of the cases, 10.6 % were due to combined factors, 5 % due to problems of the male factors and 0.2 % due to habitual abortion. The current study, finding that similar levels of women with primary and secondary infertility in ovulation factors.

Keywords— Infertility women, female age, causes of infertility, primary & secondary infertility.

I. INTRODUCTION

Infertility is defined as the inability of getting pregnancy of couples, they may both have disability. The male considered infertile after one year of practicing normal sexual intercourse if this happened for the first time after marriage it considered primary infertility, but if it happened after having previous pregnancy it called secondary infertility. Infertility in women are more likely than men to assume personal responsibility for difficulties conceiving (Newton, 2006). However, in the few studies examine the differential experience of Infertility depending on whether it was primary or secondary (Trisha L. Raque-Bogdan and Mary Ann Hoffman, 2015).

Recent studies reported that the worldwide infertility rate is 8 – 12 % (Rusen Ozturk *et al.*, 2017), and reported that data estimate approximately 8 – 10 % of couples are facing some kind of fertility problem. This means that 50 – 80 % million people worldwide are facing the problem of getting pregnancy (Roupa Z. *et al.*, 2009).

There are many causes of infertility, some causes are associated with female risk factors, such as, pelvic inflammatory disease, polycystic ovarian disease, habitual abortion, endometriosis ovulation factor and some associated with male risk factor and others causes associated with combination of male & female factor (Rusen Ozturk *et al.*, 2017). Recently many attentions focused on infertility risk, which lead to increase hope for infertile men & women.

The purpose of this study was to investigate the causes of infertility in women of Tobruk Town.

II. MATERIALS & METHODS

The data of this study were obtained from the Alnoor private clinic center of Tobruk town. The study population consisted of 500 infertile women and based on female patient aged 18 – 40 years old, attending the clinic between February 2000 and February 2018. The information were include the following:-

- 1 – Patient name.
- 2 – Infertility period.

- 3 – Patient age.
- 4 – Type of infertility.
 - a. Primary infertility.
 - b. Secondary infertility.
- 5 – Time of pregnancy.
- 6 – Infertility causing factors which include:
 - a. Ovulation factors only (Ov. F.).
 - b. Female factors which include :
 - 1 – Corpus Latium insufficiency (Lut.Ph.).
 - 2 – Galactic.
 - 3 – Uterine tubes (Ute. Tub.)
 - 4 – Uterus (Ute.).
 - 5 – Endometrium (Endom.).
 - 6 – Cervix (CX.).
 - 7 – Vaginal (Vag.)
 - 8 – Pelvic inflammatory disease (PID).
 - c. Habitual abortion (Hab.Ab.).
 - d. Combined factors (Female & Male Factors).
 - e. Male factors which include :
 - 1 – Sperm reduction number.
 - 2 – Sperm motility.
 - 3 – Dead sperm.
 - 4 – Viscosity.
 - 5 – Pus.
 - 6 – Weak intercourse.
 - 7 – Distortions.

III. RESULTS & DISSECTION

This study has been conducted on 500 infertility cases among woman attending infertility treatment center in Alnoor clinic, Tobruk town, Libya during the period 2000 – 2018.

The result of this study revealed that secondary infertility was the most common with 51.6 % while primary infertility recorded in 48.4 % table 1.

This was in agreement with the result of Trisha L. Raq ue-Bogdan and Mary Ann Hoffman, 2015. While Epstein & Rosenberg, 2005 reported that the primary infertility greater levels than secondary infertility. Patient in this study were 500 women who having either primary (n = 242) or secondary (n = 258) infertility table 2. In this study, we found similar levels of

ovulation factors in women with primary or secondary infertility and this was in agreement with the finding of Trisha L. Raque-Bogdan and Mary Ann Hoffman, 2015. Women with secondary infertility 77 % were higher than with primary infertility 23 %, whereas women infertility in primary with male factors and combined factor 76 % and 7.9 % were higher than that with secondary 24 % and 32 % respectively.

TABLE 1. The percentage of infertility types.

Infertility type	No. of patient	percentage
Primary	242	48.4
Secondary	258	51.6
Total	500	100.0

TABLE 2. Causes of infertility related to the infertility type.

Causes of infertility	Total No. of patient	Infertility type	
		Primary	Secondary
Ovulation factors	334	167 (50 %)	167 (50 %)
Female factors	87	20 (23 %)	67 (77 %)
Male factors	25	19 (76 %)	6 (24 %)
Combined factors	53	36 (67 %)	17 (32 %)
Habitual abortion	1	-	1 (100 %)
Total	500	242 (48.4 %)	258 (51.6 %)

TABLE 3. Causes of infertility related to number of patient.

Causes of infertility	No. of patient	percentage
Ovulation factors	334	66.8
Female factors	87	17.4
Male factors	25	5.0
Combined factors	53	10.6
Habitual abortion	1	0.2
Total	500	100.0

TABLE 4. The percentage of infertility related to age groups.

Age groups	No. of patient	percentage
18 - 24	147	29.4
25 - 30	215	43.0
31 - 35	76	15.2
>35	62	12.4
Total	500	100.0

A significant difference was observed between the infertility causes ($p < 0.001$) table 3. However, it has been reported in previous studies no significant differences was found between infertility causes (Rusen Ozurk, *et al.*, 2017). The results of the present study showed that the most common cause of female infertility was problems in the ovulation factors in 66.8 % of the cases, while the second most common cause was the infertility by female factors in the 17.4 % of the cases. The third cause was combined factors in the 10.6 % of the cases, following infertility due to problems in the male factors in the 5 % of the cases. Finally, in 1 % of the infertility was due to habitual abortion.

Regarding age, 29.4 % of the 500 women coming to the clinic center were 18 – 24 years old, 43 % were 25 – 30 years

old, 15.5 % were 31 – 35 years old and 12.4 % were above 35 years old table 4. The results of this study showed that the decline in female fertility starts at 31 years of age and become more pronounced at greater than 35 years of age, this is agreement with result of Santiago Brugo Olmedo, 2015. Our result found that women infertility aged between 18 – 28 years old was higher than that reported previously by Rusen *et al.*, 2017. While our study showed, lower rate in fertility women aged greater than 31 years old and up. The results of the present study showed that a high proportion of women aged 25 – 30 years and 18 – 24 years were they have 43 % and 29.4% infertility respectively, possibly because this is the reproductive age period among women (Roupa Z. *et al.*, 2009). It was notes that when age increased, the infertility is decreased.

The present study shows that the infertility women had a lower rate in female factors, male factors and combined factors then those reported by Rusen Ozturk *et al.*, 2017. As for the causes of female infertility, these may be related to pituitary gland, the ovaries, the fallopian tubes, the body of the uterus, the cervix of the uterus and the vagina (Roupa z. *et al.*, 2009 and Speroff L. *et al.*, 1999).

IV. CONCLUSION

The finding of this study provide the infertility women in our study had a lower rate in female factors, male factors and combined factors Then those reported in other literature. The main causes of female infertility were the ovulation factors, female factors and the youngest age.

Statistical Analysis

The data were analysis has used statistical package for social sciences (SPSS, 2012). Results were presented as frequencies tables where Chi Square test was run.

REFERENCES

- [1] Epstein, Y.M. & Rosenberg, H.S. (2005). Depression in primary versus Secondary infertility egg recipients. *Fertility and sterility*, 83, 1882 – 1884.
- [2] Newton, C.R. (2006). Counseling the infertile couple. In S. N. Covington & L. H. Burns (Ed.), *infertility counseling: A comprehensive handbook for Clinicians* (2nd. Ed., pp. 143 – 155).
- [3] Roupa Z., Polikandrioti M., Sotiropouloa P., Faros E., Koulouri A., Wozniak G. Gourni M. (2009). Causes of infertility in women at reproductive age. *HSJ – Health Science Journal* vol. 3 Issue 2 (2009).
- [4] Rusen Ozturk, Aylin Tane, Sezer Er Guneri, Bulent Yilmaz (2017). Another face of violence against women: infertility . *Pak J med Sic.*, 2017 vol. 33 No. 4 www.pjms.com.Pk 909 – 914.
- [5] Santiago Brugo Olmedo (2015). Review – Definition and Causes of infertility. *5:39 pm rbmojournal.com*, 173 – 185.
- [6] Speroff L., Glass R., Kase N. (1999). *Clinical Gynecological Endocrinology and Infertility – Lippincott Williams and Wilkins, U.S.A.* 1035 – 1036, 1038 – 1043.
- [7] Trisha L. Raque – Bogdan and Mary Ann Hoffman (2015). The relationship Among infertility, Self – compassion, and Well – Being for women with Primary or Secondary Infertility. *Psychology of women quarterly*. vol. 39 (4) 484 – 496.