

# **Assessment of Psychological Profile of Infertile Women in Egypt**

**Thesis**

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

# قالوا

لسببائك لا علم لنا  
إلا ما علمتنا إنك أنت  
العليم العظيم

صدق الله العظيم

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## List of Abbreviations

Abb.	Full term
AMH	Anti Mullerian Hormone
ART	Assisted Reproductive Technique
BDQ	Brief Disability Questionnaire
BMI	Body Mass Index
CAT	Chlamydia Antibody Test
CC	Clomiphene citrate
DASS	Depression Anxiety Stress Scales
DES	Di Ethyl Stilbesterol
FSH	Follicular stimulating hormone
GnRH	Gonadotrophin Releasing Hormone
HADS	Hospital Anxiety and Depression Scale
HPO	Hypo Thalamo Ovarian
HSG	Hystro Salpingo Gram
IVF	In Vitro Fertilization
LH	Leutinizing Hormone
LMP	Last Menstrual Period
LPD	Luteal Phase Defect
LUF	Lutinized Un ruptured Follicule
MRI	Magnetic Resonance Imaging
NICE	The National Institute for Health and Care Excellence
PCO	Poly Cystic Ovarian Syndrome
PCT	Postcoital test
PID	Pelvic Inflammatory Disease
POF	Pre mature Overian Failure
SF-36	Short Form Health Survey
STIs	Sexually Transmitted infection
WHO	World Health Organization

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## INTRODUCTION

**I**nfertility is a disease defined by the failure to achieve a successful pregnancy after 12 months or more of appropriate, timed unprotected intercourse or therapeutic donor insemination. Earlier evaluation and treatment may be justified based on medical history and physical findings and is warranted after 6 months for women over age 35 years (*Practice Committee of the American Society for Reproductive Medicine, 2013*).

When a woman is unable to ever bear a child, either due to the inability to become pregnant or the inability to carry a pregnancy to a live birth she would be classified as having **primary infertility**. If she is unable to bear a child, either due to the inability to become pregnant or the inability to carry a pregnancy to a live birth following either a previous pregnancy or a previous ability to carry a pregnancy to a live birth, she would be classified as having **secondary infertility** (*WHO, 2013*).

The inability to have children is undeniably a very distressing experience in both men and women which can lead to major psychological disorders such as depression. Depression is said to be a major problem associated with infertility especially in Africa where children are highly valued for socio-cultural and economic reasons (*Mascarenhas et al., 2012*). Childlessness often creates enormous problems for



couples; especially for the women who are generally blamed for the infertility status of couples (*Dyer et al., 2009*).

Paying attention to the emotional burden of infertility is increasingly recognized in recent years (*Gameiro et al., 2012*). To understand the seriousness of patients' emotional problems in fertility care, the emotional status of infertile women has been studied frequently. As a result, being infertile and undergoing fertility treatments have been found to affect patients' quality of life (*Verhaak et al., 2007*), which may be seen in terms of impairment in psychosocial well-being, sexual satisfaction and marital relationship (*Chachamovich et al., 2010*). Moreover, the stigmatizing character of infertility hinders patients talking about their problem, resulting in a lack of social support (*Ombet, 2009*). Further, unsuccessful treatment cycles raise patients' levels of anxiety and depression (*Verhaak et al., 2010*).

The complex condition of infertility involves a wide range of psychological responses. During childhood and adolescence, social messages about the importance of parenthood are constantly disseminated and especially for women, being a mother is something often central to identity. Thus, a sense of loss of identity and feelings of defectiveness and incompetence are quite often experienced (*Deka and Sarma, 2010*).

## **AIM OF THE WORK**

**T**he aim of this study is to assess the prevalence of psychological affection in infertile Egyptian women.

### **Research Question:**

Does anxiety and depression rate increase in infertile women in comparison to fertile ones?

### **Research Hypothesis:**

In infertile women anxiety and depression rate may be increased in comparison to fertile ones.

### **Research Null Hypothesis:**

Infertility does not affect women psychological health.

## Chapter 1

# INFERTILITY

**M**any couples experience involuntary childlessness for at least one year: estimates range from 12% to 28%." 20-30% of infertility cases are due to male infertility, 20-35% are due to female infertility, and 25-40% are due to combined problems in both parts (*European Society of Human Reproduction and Embryology, 2014*).

In 10-20% of cases, no cause is found. The most common cause of female infertility is ovulatory problems which generally manifest themselves by sparse or absent menstrual periods. Male infertility is most commonly due to deficiencies in the semen, and semen quality is used as a surrogate measure of male fecundity (*Cooper et al., 2010*).

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 (and there is no other reason, such as breastfeeding or postpartum amenorrhoea) (*WHO, 2013*).

Primary infertility is infertility in a couple who have never had a child, while Secondary infertility is failure to conceive following a previous pregnancy. Infertility may be caused by infection in the man or woman, but often there is no obvious underlying cause (*WHO, 2013*).

**In the United States to consider a couple eligible for treatment:**

- A woman under 35 has not conceived after 12 months of contraceptive-free intercourse. Twelve months is the lower reference limit for *Time to Pregnancy* by WHO.
- A woman over 35 has not conceived after 6 months of contraceptive-free sexual intercourse (*Cooper et al., 2010*).

**In the UK** "A woman of reproductive age who has not conceived after 1 year of unprotected vaginal sexual intercourse, in the absence of any known cause of infertility, should be offered further clinical assessment and investigation along with her partner, with earlier referral to a specialist if the woman is over 36 years of age (*NICE, 2013*).

**Epidemiology**

- Infertility rates have increased by 4% since the 1980s, mostly from problems with fecundity due to an increase in age (*Maheshwari, 2008*).
- Fertility problems affect one in seven couples in the UK, most couples (about 84%) who have regular sexual intercourse (that is, every two to three days) and who do not use contraception get pregnant within a year, about

92 out of 100 couples who are trying to get pregnant do so within two years (*NICE, 2013*).

- Women become less fertile as they get older, for women aged 35, about 94% who have regular unprotected sexual intercourse get pregnant after three years of trying, for women aged 38, however, only about 77%. The effect of age upon men's fertility is less clear (*NICE, 2013*).
- In people going forward for IVF in the UK, roughly half of fertility problems with a diagnosed cause are due to problems with the man, and about half due to problems with the woman. However, about one in five cases of infertility has no clear diagnosed cause (*Khan et al., 2005*).
- In Britain, male factor infertility accounts for 25% of infertile couples, while 25% remain unexplained. 50% are female causes with 25% being due to anovulation and 25% tubal problems (*Khan et al., 2005*).

### **In Developing countries:**

Infertility has profound effects on individuals in developing countries, as the production of children is often highly socially valued and is vital for social security and health networks as well as for family income generation (*Lock and Nguyen, 2011*).

Infertility in these societies often leads to social stigmatization and abandonment by spouses. Infertility is, in fact, common in sub-Saharan Africa. Unlike in the West, secondary infertility is more common than primary infertility, being most often the result of untreated STIs or complications from pregnancy/birth (*Inhorn, 2003*).

when couples in Egypt are faced with seemingly intractable infertility problems due to a range of family and societal pressures that centre around the place of children in constituting the gender identity of men and women, it is often the women who is forced to seek continued treatment; this continues to occur, even in known instances of male infertility and that the constant seeking of treatment frequently becomes iatrogenic for the women (*Inhorn, 2003*).

Infertility often leads to “marital demise, physical violence, emotional abuse, social exclusion, community exile, ineffective and iatrogenic therapies, poverty, old age insecurity, increased risk of HIV/AIDS, and death (*Gerrits and Shaw, 2010*).

### **Risk factors:**

- ***Environmental factors and infertility***

The etiological importance of environmental factors in infertility has been stressed (*Hruska et al., 2000*).

Potentially harmful occupational environmental exposures such as chlorin, hydrocarbons and fumicides have also been discovered to be associated with the increased link of spontaneous miscarriage in women (*Hruska et al., 2000*).

Hence individuals having direct contact with or exposure to such chemicals have high chances of having primary or secondary infertility as the case may be. Estrogen-like hormone-disrupting chemicals such as phthalates are of particular concern for effects on babies of women (*Olooto et al., 2012*).

▪ **Weight changes and infertility**

Ovarian dysfunction could be caused by weight loss and excessive weight gain with body mass index (BMI) greater than 27 kg/m<sup>2</sup>, excess weight has also been found to have effect on treatment efficacy and outcomes of assisted reproductive technique (*Freundl et al., 2003*).

Estrogen is produced by the fat cells and primary sex organs and thus, state of high body fat or obesity causes increase in estrogen production which the body interprets as birth control, limiting the chances of getting pregnant (*American Society for Reproductive Medicine, 2005*).

Also, too little body fat causes insufficient estrogen production and thus menstrual irregularities with anovulatory