
# Epidemiology and Health Related Quality of Life in Infertile Females

**by**

**Nashwa Ismail Ali Basyoni**

**Assistant Lecturer, Department of Community, Environmental and Occupational Medicine**

**B.Sc. in Medicine and Surgery - Faculty of Medicine**

**Ain Shams University**

**2001**

**Thesis submitted in partial fulfillment of MD degree in Public Health**

**Faculty of Medicine,**

**Ain Shams University**

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**Nashwa Ismail Ali Basyoni**

**Assistant Lecturer, Department of Community, Environmental and Occupational Medicine**

**Faculty of Medicine, AinShamsUniversity**


**Supervised by:**


## Professor Dr. Aisha Mohammad AboAlfotouhAlgamal

**Professor of Public Health, department of Community, Environmental and Occupational Medicine**

**Faculty of Medicine, AinShams University**

## Professor Dr. Iman Mohammad Ahmad Bakr

**Professor of Public Health, department of Community, Environmental and Occupational Medicine**

**Faculty of Medicine, AinShams University**

## Dr.Sahar Ahmad DewedarAbdo

**Assistant Professor of Public Health, department of Community, Environmental and Occupational Medicine**

**Faculty of Medicine, AinShams University**



**Ain Shams University**

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# وبائية وجودة الحياة الصحية للسيدات اللآتى يعانين من العقم

**الرسالة توطئه للحصول على درجة الدكتوراة فى الصحة العامة**

**مقدم من :**


## الطبيبة/ نشوى إسماعيل على بسيوني

**المدرس المساعد بقسم طب المجتمع والبيئة و طب الصناعات**

**كلية الطب جامعة عين شمس**


**تحت أشراف**


## الأستاذ الدكتور/ عائشة محمد أبو الفتوح الجمل

**استاذ طب المجتمع بقسم طب المجتمع والبيئة و طب الصناعات**

**كلية الطب جامعة عين شمس**

## الأستاذ الدكتور/ إيمان محمد أحمد بكر

**أستاذ طب المجتمع بقسم طب المجتمع والبيئة و طب الصناعات**

**كلية الطب جامعة عين شمس**

## الدكتور/ سحر أحمد دويدار عبده

**أستاذ مساعد طب المجتمعبقسم طب المجتمع والبيئة و طب الصناعات**

**كلية الطب جامعة عين شمس**



**جامعة عين شمس**

**2015**

قال الله تعالى:

بِسْمِ اللَّهِ الرَّحْمَٰنِ الرَّحِيمِ

لِلَّهِ مُلْكُ السَّمَاوَاتِ وَالْأَرْضِ ۚ
يَخْلُقُ مَا يَشَاءُ ۚ يَهَبُ لِمَنْ يَشَاءُ إِنَاثًا وَيَهَبُ لِمَنْ يَشَاءُ
الذُّكُورَ (49)
أَوْ يُزَوِّجُهُمْ ذُكْرَانًا وَإِنَاثًا ۖ وَيَجْعَلُ مَنْ يَشَاءُ عَقِيمًا ۚ
إِنَّهُ عَلِيمٌ قَدِيرٌ(50)

سورة الشورى

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*this work would never have come to light.*

# *Declaration*

*I hereby declare that the work in this thesis is my own except for quotations and statements which have been clearly acknowledged.*

Nashwa Ismail Ali Basyoni

# *Abstract*

**Background**: Female infertility is a growing problem. Numerous risk factors are incriminated. Also infertility has many effects on the individual. Its effect on the Health related quality of life (HRQOL) among Egyptian females has not been sufficiently studied.

**Aim**: This study aimed to: study epidemiology and identify the main risk factors associated with infertility among Egyptian females, Assess the health related quality of life among these patients including physical, psychological and social domains.

**Subjects and Methods**: A Case control study was conducted on females attending outpatient clinic at two tertiary hospitals in Cairo. An interview questionnaire was designed and administered. 468 cases (infertile) and 450 (fertile) controls were interviewed. Data was analyzed using SPSS program version18.

**Results:** Significant risk factors for infertility included age at marriage more than 30, BMI more than 30, alcohol intake, exposure to x-ray, radiotherapy, lead, domestic pesticides, chemicals, history of congenital malformation, family history of hereditary disease, abnormal pattern of menstruation. 12.4% of the cases had poor or very poor HRQOL in comparison to 3.1% of the controls. Cases showed lower scores than controls in all three domains of QOL.

**Conclusions:** There are numerous risk factors affecting infertility in the Egyptian society, many of which are preventable. Infertility and its related health conditions have a negative effect on all domains of HRQOL.

**Recommendations:** Care should be taken to avoid the risk factors. Infertile females should be offered suitable supportive measures as counseling and patient centered care throughout their course of treatment.

**Key words:** female infertility, risk factors, health related quality of life

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# *List of Abbreviations*

| | |
|---|---|
| ASRM | American Society of Reproductive Medicine |
| ART | Assisted Reproductive Technology |
| BMI | Body Mass Index |
| DALY's | Disability Adjusted Life Years |
| DHS | Demographic Health Survey |
| EGP | Egyptian pounds |
| EPA | Environmental Protection Agency |
| EQ-5D | EuroQOL five Dimensions |
| FET | Frozen Embryo Transfer |
| FSH | Follicle Stimulating Hormone |
| GIFT | Gamete Intra-Fallopian Transfer |
| HMG | Human Menopausal Gonadotrophin |
| HRQOL | Health Related Quality Of Life |
| HUI1 | Health Utility Index1 |
| HUI2 | Health Utility Index2 |
| ICSI | Intracytoplasmic Sperm Injection |
| IVF | In Vitro Fertilization |
| IUI | Intra Uterine Insemination |
| NHS | National Health System (England) |
| NSAID | Non Steroidal Anti Inflammatory Drugs |
| OHSS | Ovarian HyperStimulation Syndrome |
| PCC | Patient Centered Care |
| PCO | PolyCystic Ovary |
| PVC | PolyVinyl Chloride |
| QALY | Quality Adjusted Life Years |
| QLQ-C3 | Quality of Life Questionnaire for Cancer |
| QOL | Quality Of Life |
| QWB | Quality Well Being |
| ROC curve | \Receiver Operating Characteristic curve |
| SF 12 | Short Form 12 |
| SF 36 | Short Form 36 |
| SF- 6D | Short Form Six Dimension |
| SIP | Sickness Impact Profile |
| SSRI | Selective Serotonin Release Inhibitors |
| WHC | Women's Health Council |
| WHO | World Health Organization |
| WHO DHS | World Health Organization Demographic Health Survey |
| ZIFT | Zygote Intra-Fallopian Transfer |

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# *Introduction*

Infertility is defined as the inability to conceive or to bring pregnancy to term after one year of continuously trying to do so, *(Fritz and Speroff, 2011).*Infertility is a medical and social condition that can cause considerable social, emotional and psychological distress, *(WHC, 2009).*

The origin of infertility is due to male or female factors; the causes are multiple. Infertility affects males and females equally. 40% of causes infertility are due to male causes, 40% are due to female causes, 10% aredue to mixed causes, and another 10% are due to unexplained causes, *(Callister, 2005).* But still women carry the blame and so the burden of infertility, especially in developing countries, *(Sembuya, 2010).*

Although estimates of the prevalence of infertility are not very accurate and vary from region to region, approximately 8-10% of couples experience some form of infertility problem, *(Serour, 2008).*According to a study conducted by the Egyptian Fertility Care Society and sponsored by the World Health Organization (WHO), infertility in Egypt affects 12 percent of Egyptian couples. Of these women, 4.3 percent suffer from primary infertility (have never been pregnant) and 7.7 percent suffer from secondary infertility (have been pregnant before, even if the pregnancy ended in a miscarriage or an ectopic pregnancy). The number of women aged 15 to 49 years exceeds 25 million, which means that at least 3 million women are infertile in Egypt, *(Sallam, 2013).*

These figures, however, may rise in the near future as increasing numbers of women decide to delay having children till an age when natural female fertility is in decline, *(Ragni et al., 2005).* The number of couples treated for infertility has risen significantly in recent decades. This is often attributed to increased diagnosis and by the availability of assisted reproductive technologies,

but there are indications that the actual incidence rate of infertility is rising too, *(National infertility association, 2014).*

There are many risk factors which affect female fertility. They include: increased age, tobacco smoking, alcohol use, being underweight, excessive exercise and caffeine intake, *(Mayo foundation, 2014)*. A growing body of scientific evidence is encouraging infertility patients and practitioners to pay more attention to the impacts of environmental factors on reproductive health, *(National infertility association, 2014).* Many of these are reversible risk factors.

The desire to have children should be considered as a normal need that ought to be met *(Ragni et al. 2005)*. Patients who pursue treatment for infertility often find themselves involved in a stressful and emotionally and economically draining quest for a child. Many studies demonstrate that infertile patients commonly experience feelings of depression, isolation, anxiety, grief and inadequacy, *(Rashidi et al., 2008, Chachamovich et al., 2009, Mousavi, 2013.)*. In Egypt this is further aggravated by social pressure from spouse or other relatives. This is another factor which could worsen the quality of life for infertile couples, *(Sallam, 2013)*. Few studies have been done in Egypt addressing the Quality of life of these persons.

Treatment for infertility is expensive and in our society limited resources are a major problem. The psychological burden is further increased by the long list of investigations and treatments couples may need before reaching a final diagnosis, which in some cases can end with “unknown cause” as a diagnosis. The economic burden is reflected not only on the couple but also on the country as a whole as the government pays a portion of these high costs *(Shahin, 2007)*.

This study is an attempt to identify problems facing this group of patients in order to provide more suitable care for them in the future.