



بسم الله الرحمن الرحيم

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تم رفع هذه الرسالة بواسطة / سلوي محمود عقل

بقسم التوثيق الإلكتروني بمركز الشبكات وتكنولوجيا المعلومات دون أدنى

مسئولية عن محتوى هذه الرسالة.

ملاحظات: لا يوجد



Factors Affecting Successful In Vitro Fertilization Process

A Thesis

Submitted for partial fulfillment of Master degree
in Maternity & Gynecological Nursing

By

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2022**

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Acknowledgments

*First and foremost, I feel always indebted to **Allah**, the Most Beneficent and Merciful, who gave me the strength to accomplish this work,*

*My deepest gratitude to my supervisor, **Prof. Dr. Mona Ahmed El Sheikh**, Professor of Maternity & Gynecological Nursing, Faculty of Nursing, Ain Shams University, for her valuable guidance and expert supervision, in addition to her great deal of support and encouragement. I really have the honor to complete this work under her supervision.*

*I would like to express my great and deep appreciation and thanks to **Dr. Amira Mohammed Attia**, Lecturer of Maternity & Gynecological Nursing, Faculty of Nursing, Ain Shams University, for her meticulous supervision, and her patience in reviewing and correcting this work,*

*Special thanks are to my **parents**, my **husband** and all my **family** members for their continuous encouragement, enduring me and supporting me.*

Also, I would like to thank all women who participated in this work.

*✍ **Walaa Fathy El Saied Abd-Elhady***

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List of Abbreviations

<i>Abbr.</i>	<i>Full-term</i>
ART	: Assisted Reproductive Technologies
BMI	: Body mass index
ET	: Embryo transfer
FQOL	: Fertility quality of life
GIFT	: Gamete intra fallopian tube transfer
GIFT	: Gamete intra fallopian transfer
IUI	: Intrauterine insemination
IVF	: In Vitro Fertilization
PCOS	: Polycystic ovarian syndrome
PROST	: Pronuclear stage tubal transfer
SD	: Standard deviation
SPSS	: Statistical package for social sciences
TET	: Tubal embryo transfer
ZIFT	: Zygote intra fallopian transfer

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Abstract

Aim: The aim of this study was to assess the factors affecting Successful in Vitro Fertilization Process. **Design:** Descriptive study was used in this study. **Sample** All women admitted to IVF process unit at maternity hospital in last two years 500 women and took 125 women in six months. **Setting:** This study was conducted in the in vitro fertilization unit at Ain Shams University Maternity Hospital. **Data collection: include: 4 Tools:** **tool 1** Structured interviewing questionnaire; **Tool 2** infertility factors assessment sheets, **Tool 3 State** trait anxiety inventory scale **Tool 4** likert scale assessment sheet of attitude of couple. **Results** This study showed that there was statistical significant relation between the two study groups regarding factors affecting successful IVF process (Age), while there was highly statistical significant relation between the two study groups regarding their income and BMI. The study revealed that there was no statistical significant relation between the two study groups regarding factors affecting successful IVF process regarding attitude, anxiety, medical, gynecological, obstetric and environmental factors. **Conclusion:** the current study concluded that there was a statistically significant relation between the two study groups regarding their(age ,income, BMI)as the factors affecting successful IVF process. Furthermore, more than half of the unsuccessful group had moderate anxiety level, and uncertain attitude regard IVF process. **Recommendations:** Increase awareness of newly married couples about reproductive health. Design an education program about the IVF process and study its effect on women's anxiety levels.

Key words: factors, the success in vitro Fertilization, age, obesity, psychosocial attitude.

Introduction

Infertility is a problem that affects men and women of reproductive ages in all areas of the world. Infertility is typically defined as the inability to achieve pregnancy after one year of unprotected intercourse. If the woman has been trying to conceive for a year or more, the woman should consider an infertility evaluation. However, if the woman is 35 years or older, the woman should consider beginning the infertility evaluation after six months of unprotected intercourse rather than a year (**Society et al., 2017**).

Although there are various types of Assisted Reproductive Technologies (ART) and more innovative procedures developed every day, IVF has been proven to be the most effective ART procedure. An impressive 99% of ART procedures are IVF or ICSI (Intracytoplasmic Sperm Injection) procedures (**Brunet, 2018**).

In Vitro Fertilization (IVF) is a treatment that helps an infertile woman to achieve a pregnancy. The technique involves four main steps: the development of eggs in the woman's ovaries; the removal of eggs from her ovaries; the placement of the eggs and sperm together in the laboratory to allow fertilization to occur, and the transfer of fertilized eggs (embryos) into the woman's uterus for the establishment of pregnancy (**Rani & Paliwal, 2016**).

There are many factors that affect success of IVF process as ethnicity, the cause of infertility, age, subfertility duration, parity, and lifestyle factors, oocytes retrieved, endometrial thickness, the number of embryos transferred and quality of blastocysts (**Azmoudeh et al., 2018**).

In Egypt, the chances of IVF success are directly related to the age of the female partner. Efficient treatment has an almost 50% chance of pregnancy with females aged 35 or less. Between ages 35 and 39 chances of success drop to approximately 35-40%; while at the age of 40 chances of pregnancy drop to 20% and at 43 years to 5%. the latest results of cycles performed in one year (2016) had a success rate of embryo survival following thawing (de-freezing of embryos) is around 97% while the chance of becoming pregnant is around 35% (**The Egyptian IVF center, 2018**).

The major complication of IVF is the risk of multiple births which is directly related to the practice transferring of multiple embryos. Sometimes, multiple births are related to increased risk of pregnancy loss, obstetrical complications, prematurity, and neonatal morbidity with the potential for long term damage. Sometimes, there is risk of transferring of chronic disease such as hepatitis B to female patients and their expecting offspring by sperm during their incubation which can be brought to negligible levels (**Bhandari et al., 2018**).

The IVF nurse plays a significant role in the care received by both recipient and donor, acting as the coordinator for IVF cycles and providing direct care to both patients (**Mori et al., 2018**). Nurses working in the field of infertility perform the roles of practitioner / clinician in all stages of diagnosis, treatment and follow-up from the moment couples present. In this role, nurses evaluate the needs of couples with a holistic perspective in accordance with their medical knowledge, identify problems, decide on care practices, plan and implement them and evaluate the outcome of care using management skills (**Lesser, 2015**).

Justification of the study:

The total fertility rate in Egypt dipped from 3.5% in 2014 to 3.1% in 2018, according to a study prepared by UNFPA, with data collected from the birth and mortality registration system implemented in collaboration between the Ministry of Planning, Monitoring and Administrative Reform and the Ministry of Health and Population. Fertility levels are the main determinant of population growth. Since 2006, fertility levels in Egypt were on an upward trend, reaching its highest level in 2014 at 3.5%. Fertility levels decreased at a slow pace in 2017 (3.4) % compared to 2014, but saw a sharp decrease in 2018, reaching 3.1% (**Zheng, 2021**).

Average incidence of infertility is about 15% globally varies in different populations some causes can be detected and

treated, whereas other cannot; unexplained infertility constitutes about 10% of all cases (**WHO, 2019**). IVF is done to help a woman become pregnant. It is used to treat many causes of infertility, including: Advanced age of the woman (advanced maternal age) Damaged or blocked Fallopian tubes (can be caused by pelvic inflammatory disease).

Aim of the Study

The aim of this study was to assess the factors affecting Successful in Vitro Fertilization Process.

Research question:

What are the factors that affecting successful in vitro fertilization process?