تقييم عوامل الخطورة الناجمة عن البيئة الداخلية وعلاقتها بالعقم لدى السيدات

رسالة مقدمة من الطالبة

نهال علي محمد عثمان

بكالوريوس الطب والجراحة . كلية الطب . جامعة عين شمس . ١٩٩٨

ماجستير في أمراض النساء والتوليد . كلية الطب . جامعة عين شمس . ٢٠٠٥

لاستكمال متطلبات الحصول علي درجة دكتوراه فلسفة

في العلوم البيئية

قسم العلوم الطبية البيئية

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٢٠١٣

صفحة الموافقة على الرسالة

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ASSESSMENT OF INDOOR ENVIRONMENTAL RISK FACTORS AND ITS RELATION TO INFERTILITY AMONG WOMEN

Submitted By

Nehal Ali Mohamed Osman

M.B.B.Ch., Faculty of Medicine, Ain Shams University, 1998

Master of (Obstetrics & Gynecology), Faculty of Medicine, Ain Shams University, 2005

A thesis submitted in Partial Fulfillment
Of
The Requirement for the Doctor of Philosophy Degree
In
Environmental Science

Department of Environmental Medical Science
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APPROVAL SHEET

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سورة البقرة الآية: ٣٢

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List of Abbreviations

ARI	Acute Respiratory Infections
BaP	benzo[a]pyrene
CO	Carbon monoxide
COPD	Chronic obstructive pulmonary disease
COS IUI	Controlled ovarian stimulation and intrauterine insemination
CT	Computed tomography
DBCP	Dibromochlorpopane
DDE	Dichlorodiphenyldichloroethylene
DDT	Dichlorodiphenyltrichloroethane
EMFs	Electromagnetic fields
ETS	Environmental tobacco smoke
FSH	Follicle-stimulating hormone
Hg	Mercury
HUVE	Human umbilical vein endothelial
IARC	International agency for research on cancer
ICSI	Intracytoplasmic sperm injection
IGF	Insulin-like growth factor
IGFBP	Insulin-like growth factor binding protein
IU	International unit
IVF	In vitro fertilization
LH	Luteinizing hormone
MRI	Magnetic resonance imaging
NO2	Nitrogen dioxide
NSBRI	Non-specific-building-related illness
OR	Odds ratio
PC	Personal computer
PCB	Polychlorinated biphenyls
PHAH	A polyhalogenated aromatic hydrocarbon

List of Abbreviations (Cont.)

PID	Pelvic inflammatory diseases
PM	Particulate matter
PVC	Polyvinyl chloride
SBS	Sick building syndrome
Sc	Subcutaneously
STI	Sexually transmitted infections
SVOCs	Semivolatile organic compounds
TTP	Time to pregnancy
TV	Television
TVOC	Total volatile organic compounds
USA	United States of America
VOCs	Volatile organic compounds
WHO	The World Health Organization

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Abstract

- **Background:** Infertility is one of the most emotionally debilitating conditions, and can be a significant social and public health problem.
- **Aim of the study:** The present study was designed to find out the negative role of some indoor pollutants physical, chemical or biological on the fertility of the women.
- **Subjects and methods:** This cross-sectional, case control study was conducted at Police Hospital Nasr City and Sayed Galal Hospital and included 100 women during the period from June 2010 to June 2013. Sixty cases complained of primary infertility represented the cases group. Another forty women who did not complain of infertility problem coming to the hospital for routine clinical investigation represented control group. After taking an informed consent and all the patients agreed to participate in the study. All cases underwent full history taking, clinical examination, and all completed a questionnaire to investigate possible life style, dietary, physical or chemical factors to examine association of infertility with these factors.
- **Results:** there was no significant difference between both groups as regard age but there was significant increase of BMI in primary infertile women. There was no significant difference between both groups as regard occupation, education, economic level or menstrual history. There was significant decrease of regular and satisfied relationships and significant increase in lubricant usage and vaginal douching in primary infertile women in comparison to fertile women. There was statistically significant increase of smoking exposure and number of sugars spoons/cup of beverages in primary infertile women in comparison to fertile women, although there was no significant difference as regard smoking women or rate of beverage consumption in both groups. There was significant increase of dissatisfaction and feeling having nothing in cases group in comparison to control group. No significant difference was found between cases and control groups as regard cosmetics, drugs, clothes types or material, physical activity, factors related to diet, home properties, personal cleanliness or work characters in working women.
- **Conclusion:** Results of the present study linked obesity, smoking, sugar consumption, psychological factors, lubricant usage and vaginal douching to primary infertility, but on the other hand, it can not link other lifestyle and dietary factors to primary infertility.

Introduction

Infertility is a prevalent problem and has significant consequences for individuals, families and the wider community. Infertility is defined as inability of a couple to conceive naturally after one year of regular unprotected sexual intercourse. It remains a major clinical and social problem, affecting perhaps one couple in six. Evaluation usually starts after 12 months; however it may be indicated earlier. The most common causes of infertility are: male factor, female factor, combined male and female factors and unexplained infertility ***(Kamel, 2010).***

The World Health Organization (WHO) estimates that approximately 8-10% of couples experience some form of infertility problem. On a worldwide scale, this means that 50-80 million people suffer from infertility. However, the incidence of infertility may vary from region to region ***(WHO, 2010).***

People's chance of having a healthy, live birth may be impacted upon by factors such as weight, diet, smoking, other substance abuse, environmental pollutants, infections, medical conditions, medications and family medical history ***(Anderson et al., 2010)***.

Throughout the 1980s and 1990s the crude human birth rate (live births per 1000 population) declined, indicating reduced fertility and suggesting a potential decline in fecundity (the potential to conceive). Detection of environmental contaminants in human tissues, fueled speculation that human infertility rates are increasing and environmental toxicants are potentially important causal agents associated with this change ***(Foster et al., 2008).***