Efficacy and Safety of Ultrasound Guided versus Blind Technique for Office Insertion of Intrauterine Contraceptive Device:

A Randomised Clinical Trial

Thesis

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By

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Shaimaa Saad Amin Abd El-Azeem

Dedication

To:

My parents

for their endless love, support,

and continuous care

My Husband

&

My Family

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List of Abbreviations

Abb.	Full term
CPP	*Chronic pelvic pain*
CT	*Computed tomography*
GIS	*Gel Instillation Sonography*
HCG	*Human Chorionic Gonadotropin*
IUB	*Intrauterine Ball*
IUD	*Intra Uterine Contraceptive Device*
IUD±ED	*Intra Uterine Device-Endometrium*
LARC	*Long-Acting Reversible Contraceptive*
LNG	*Levonorgestrel*
LNG-IUS	*Levonorgestrel-Intrauterine system*
MLCu	*Multiload copper IUD*
MLCu375	*Multiload copper375 IUD*
MRI	*Magnetic resonance imaging*
NSAIDs	*Non-Steroidal Anti-Inflammatory Drugs*
PID	*Pelvic Inflammatory Disease*
TCu380A	*CopperT380A intrauterine device*
TVU	*Trans-Vaginal Ultrasonography*
VAS	*Visual Analogue Scale*
WHO	*World Health Organization*

INTRODUCTION

The intrauterine device (IUD) is the most widely used reversible method of contraception currently. The estimation is that 15% of the world's women of reproductive age use it. IUDs provide a reversible and long-term method of contraception as a convenient, efficient, relatively safe and low-cost method ***(Ahmadi et al., 2015).***

Several investigators have examined the efficacy of various copper IUD devices. A Cochrane review published by Kulier et al10 in 2007, The authors concluded that the Copper T-380A was more effective in preventing pregnancy than the other devices including the Multiload 375, Multiload 250, Copper T-220, and Copper T-200 ***(Kulier et al., 2007).***

Results from household surveys including the Pan Arab Project for Family Health (PAPFAM) and the Demographic and Health Survey (DHS) in six countries (Algeria, Lebanon, Morocco, Palestine, Syria, and Yemen) indicated that these countries have 1.2 million unintended births ***(Farzaneh et al., 2009).*** It is estimated that 86 million unintended pregnancies every year are caused by inadequate access to family planning services ***(Singh et al., 2010).***

Unwanted pregnancies may adversely affect maternal and fetal health due to unsafe abortion ***(Sciarra, 2009),*** delayed antenatal care ***(Tsui et al., 2010)***, adverse life outcomes for

offspring, or reduced educational opportunities and financial situation for the woman ***(Marston and Cleland, 2003).***

Difficulties with IUD insertion, failure and complications can lead to decreasing utilization of such an effective method ***(Bahammondes et al., 2015).*** From the literature search one author identified that the incidence of IUD insertion failure was between 2.3 and 8.3 per 1000 insertions, and pain during the insertion procedure was associated with increased likelihood of IUD insertion failure. However, as this is a concomitant event it cannot be used to predict patients at high risk of an insertion failure ***(Farmer and Webb, 2003).***

In the first year after insertion, between 5 and 15% of women will have their IUD removed because of irregular uterine bleeding which have been attributed to the effect of contact between the device and the endometrium and even the pressure on the uterine muscle. The disharmonious relationship between the IUD and the uterus is the cause of most of the bleeding complaints, so bleeding is related to improper position rather than the contraceptive method itself which should be excluded before abandoning the IUD for any other method of birth control ***(Kroon et al., 2003).***

Ultrasonography of the pelvis and especially the transvaginal route, plays an essential role in evaluating the IUD position ***(Peri et al., 2007)*** and it's potential complications, thus is considered the gold standard for this gynaecological

condition ***(Nowitzki et al., 2015).*** Investigation of the symptomatic patient and even routine follow-up of asymptomatic women with IUDs include transvaginal ultrasonography to rule out IUD malposition and other complications such as perforation, expulsion and pregnancy ***(Lee et al., 1997).***

AIM OF THE WORK

To compare between ultrasound guided and blind IUD insertion technique as regards proper fundal location of IUD, incidence of complications, time consumption and patient satisfaction.

Research hypothesis:

In women undergoing IUD insertion, ultrasound guided insertion may be similar to blind insertion as regard proper site of insertion (fundal insertion).

Research question:

In women undergoing IUD insertion, does ultrasound guided IUD insertion similar to blind insertion as regard proper fundal location of IUD?