

# Awareness of Jordanian IVF clinicians of the maximum implantation potential point (MIPP) for patients with recurrent implantation failure; a survey

## Abstract

**Objective:** To assess the awareness of Jordanian IVF clinicians of the Maximum Implantation Potential Point (MIPP) in order to overcome any technical factor during embryo transfer in couples with RIF.

**Study Design:** We carried out a closed-envelop anonymous survey of all Jordanian IVF clinicians to assess their awareness of the MIPP and to evaluate if we need to review our practice regarding embryo transfer techniques.

**Results:** We sent a 70 closed-envelops and 42 responded to our request and completed the survey. 16 only placed a cross on the sagittal painting of the uterus and 20 doctors placed a cross on the transverse plane painting of the uterus and 6 did indicate placement point on both planes. The average distance from the to the placement point was 1.4 cm with a standard deviation of 0.2.

**Conclusion:** Our survey shows that The vast majority of Jordanian IVF clinicians are aware of the maximum implantation point (MIPP) and they tailored their embryo transfer according to each individual patient to maximize the patient pregnancy chances.

**Keywords:** embryo transfer, clinicians, ultrasound-guided and implantation point

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## Introduction

Assisted reproductive technology (ART) has allowed couples previously unable to conceive to achieve viable pregnancy and to father their genetically borne kids, despite the advances in this field world wide, challenges still present and one of the main challenges that face the IVF clinicians is Recurrent implantation failure (RIF).

Recurrent implantation failure (RIF) is defined when a repeated transfers of a good quality (morphologically) embryos ended by failure of implantation and pregnancy as a result. After investigating the couple for all possible causes of RIF<sup>1</sup> we propose that easy a traumatic embryo transfer to achieve the MIPP may help in case of RIF.

Undoubtedly, easy (atraumatic) embryo transfer (the most crucial final step) into the endometrial cavity will improve embryo implantation rates and pregnancy rates as well with IVF. It has been suggested by many studies that there are several factors that may affect the success of IVF treatment that related to the final (most crucial) step, embryo transfer. The position where the embryos will have deposited is one of these detrimental factors.<sup>2</sup> Clinicians are divided in using two techniques when they transferring the embryos, some of them they use the old method, clinical touch technique (to touch the fundus then go back 5-10-mm then they deposit the embryos). The second group they use Ultrasound –guided embryo transfer that have a higher implantation and pregnancy rates as showed in a recent Cochrane review of 17 randomized controlled trials which concluded that ultrasound-guided embryo transfers increased clinical pregnancy rates over the clinical touch technique( OR 1.38, 95% CI 1.16–1.64).<sup>2</sup> The use of ultrasound to guide the catheter tip during embryo transfer will help the clinicians to determine the proper site for embryo deposition to achieve the maximum implantation , to avoid endometrial disruption and to avoid touching the uterine fundus

as well as , because they have many drawbacks that will compromise the outcome. We have conducted this survey to assess if the Jordanian IVF clinicians are aware about the proper site and technique to deposit embryos to overcome embryo transfer factor in couples with RIF.

## Methods

70 gynaecologists who practices in Amman–Jordan were asked to complete a survey that sent to them in a closed envelop by indicating where they deposit the embryo when performing an embryo transfer procedure, 42 of the clinicians that received the survey responded to our request and completed the survey.

## Results

In Jordan there are no reproductive endocrinology and infertility subspecialty fellowships and exams. General gynaecologists do perform assisted conception procedures. There are 19 assisted conception centres in Jordan. All 19 centres were approached by the principle investigator who distributed the surveys and were asked to complete it. Doctors experience level in assisted conception was variable ranging from few months to more than 10 years. Most gynaecologists were trained locally in Jordan and few were trained outside Jordan. The survey was a simple drawing of the uterus in sagittal and transverse planes. Doctors were only asked to indicate with a cross the place of embryo transfer. The doctors were not asked to provide any personal information.

From the 70 gynaecologists approached 42 completed the survey. 16 only placed a cross on the sagittal painting of the uterus and 20 doctors placed a cross on the transverse plane painting of the uterus and 6 did indicate placement point on both planes. The average distance from the to the placement point was 1.4 cm with a standard deviation of 0.2 The sample was normally distributed.

## Discussion

Embryo transfer is the final and most crucial step in IVF and it may consider as a cause of implantation and pregnancy failure. As demonstrated that over 80% of the embryo flash locations is associated with the eventual gestational sac position.<sup>2</sup> It was demonstrated that for every additional millimeter the embryos are placed away from the uterine fundus, the clinical pregnancy rate increases by 11%.<sup>2</sup> Moreover, Optimizing the embryo transfer technique will improve the implantation and pregnancy rate especially in couples with RIF as studies have showed that up to 30% of pregnancy failures in ART may accounted to a poor embryo transfer technique<sup>3-5</sup> and a statistically significant difference in pregnancy rates after embryo transfer by different providers showed a direct correlation between embryo transfer technique and pregnancy rates.<sup>6,7</sup>

To the best of our Knowledge, this is the only published survey assessing the awareness of IVF clinicians of the MIPP as a method to overcome embryo transfer factor in couples with RIF not only in Jordan but also in the Middle East. The vast majority of Jordanian IVF clinicians are aware of the maximum implantation point (MIPP) that discussed by Robert Z and they tailored their embryo transfer according to each individual patient to maximize the patient pregnancy chances in RIF.

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## Conflicts of interest

The author declares there are no conflicts of interest.

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