



# DESIGN4 HEALTH

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## 621. Comparing Male and Female Experiences in IVF Treatment Using Journey Mapping

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**ABSTRACT** People that receive IVF treatment usually are a couple rather than an individual, this creates new challenges in understanding their experience. We use journey mapping to better understand male and female experiences as well as couple dynamics during IVF treatment. Observations, contextual enquiries, and interviews were done to assess the context and needs of couples during IVF treatment. Journey mapping was used to map the emotions, barriers, and points for improvement in each phase of the treatment for males and females. We extended the concept of an individual journey to a joint one combining the journeys of males and females to find opportunities for couple interaction and support during IVF treatment.

Keywords: IVF treatment, journey mapping



## Introduction

Many healthcare organizations today focus on how to create healthcare technology that is meaningful for people. Our work in this domain is situated specifically in the context of fertility care. Infertility - the inability to achieve a successful pregnancy after at least 12 months of regular unprotected intercourse (Zegers-Hochsclid et al. 2009) - has major psychological implications such as stress, feelings of depressions, and relational problems. In this context, healthcare technology has the potential to help people in coping with their treatments and empower them to live healthier lives, both physically and mentally.

Depending on the cause of the reduced fertility, there are various possible treatments. We focus on people receiving in vitro fertilization (IVF) treatment. IVF treatment is one of the most stressful treatments; it can be challenging both mentally and physically. We develop an application that offers lifestyle support regarding physical activity, diet, mental wellbeing, and will give information about the treatment. The ultimate goal is to increase the ongoing pregnancy rate by reducing the early exit from the treatment and improving physical and mental health.

Reduced fertility is the main reason for heterosexual couples to seek IVF treatment, but also for same-sex couples and single people; IVF can provide a solution when sperm and or egg donations are required in order to get pregnant. In this paper we specifically focus on heterosexual couples receiving IVF treatment. In this case, males and females experience joint and individual treatments, but the female is going through the major part of the treatment. The complex nature of their interpersonal relationship creates new challenges in understanding their treatment.

As these couples experience stress and changes in their relationships, their way of coping with this has implications for themselves and as a couple (Newton, Sherrard, and Glavac 1999). Generally, women report higher levels of stress than men (Greil 1997) and use different strategies to cope with infertility. Women more often seek social support, use escape-avoidance e.g. try to avoid or escape thoughts or feelings, and use positive reappraisal e.g. reconstruct stressful events as valuable or beneficial than men (Jordan and Revenson 1999; Peterson et al. 2006). Therefore, gender should be considered when planning interventions. The different experiences of males and females during IVF treatment has led to our research into the specific couple dynamics during IVF treatment.

## Related work

### *Digital communication in couples*

Prior research has already focused on several aspects of communication between partners in a romantic relationship. Scissors (2012) and Scissors and Gergle (2013) investigated how couples

switch between communication channels in conflict situations and Scissors et al. (2014) researched digital communication in conflict situations. Computer-mediated communication can provide useful strategies for initiating, managing, and resolving conflicts (Scissors 2012). These findings are relevant in the context of IVF treatment as couples have different coping strategies in dealing with infertility and this can lead to conflicts. Along the same lines, Scissors et al. (2014) outline potential benefits and drawbacks for apps that facilitate sensitive conversations in the context of IVF treatment. Using text messaging during a conflict can be harmful to a relationship, as it is associated with distancing behaviours such as delaying or ignoring responses.

In contrast to these potentially harmful behaviours He (2013) researched how technology can support intimacy and mutuality within a couple through collaboration in accomplishing collective tasks. Therefore, communication technology used during IVF treatment can improve relationships by documenting their collaborative experience and affection.

Finally, Branham et al. (2012) created a diary communication technology that facilitates information sharing between couples; They concluded that reflection can move partners' understandings of each other.

### *Evolution of healthcare*

Healthcare has shifted from a paternalistic model in which care is done 'to' a person, to a model that is grounded in collaboration between caregivers and people that receive care (Charles, Whelan, and Gafni 1999; D'Amour et al. 2008; McMullan 2006); Both are involved actively in decision making and are sharing responsibility (Barry and Edgman-Levitan 2012). More recently, a holistic approach is being adopted, focussing on the people using healthcare services and their values, social situation and lifestyle. This approach is concerned with how people experience health problems as well as the evolution of diseases rather than focussing primarily on the evolution of diseases (Starfield 2011; Ekman et al. 2011).

In this context, the success of healthcare technology depends on how well it fits into the existing service and how well it is accepted by caregivers. For the technology to be accepted, it needs to create value for all stakeholders, not only the receiver of care. To facilitate this, service design is increasingly used to improve and innovate in healthcare (Bate and Robert 2007).

Journey mapping is a tool that is used in service design. It offers a framework for understanding the experience of people while they receive care (Trebble et al. 2010; Manchaiah, Stephens, and Meredith 2011), it describes the care pathway from the receivers point of view, and it shows how digital elements integrate into the care pathway.

In this paper we compared the male and female experience during IVF treatment by investigating their emotional responses, existing barriers, and points for improvement in each phase of the treatment. We extended the concept of an individual journey to a joint one, looking at both partners in a couple. Based on that, and on the existing insights in couple communication



technology, we provide some new insights in how to facilitate communication and support in a couple app for people receiving IVF treatment.

## Method

Our goal was to create insights that inspire the development of couple features for an application for people receiving IVF treatment. The work leading to this deployment consists of assessing of the context of IVF treatment and the needs in a qualitative study consisting of observations, contextual enquiries, and interviews.

### *Assessing the context of IVF treatment*

In an effort to understand the context of people receiving IVF treatment we did observations and contextual enquiries. Seven observations of interactions between caregivers and people receiving IVF treatment were done in the Leuven University Fertility Centre (LUFC); These include three consults with gynaecologists, two consults with midwives, half a day of observations in the lab, and a demo of the online platform. The researcher made notes during and after the observations.

Eleven contextual enquiries with caregivers were done in the LUFC, the Centre for Reproductive Medicine University Hospital Antwerp (UZA), and with affiliated professionals. Contextual enquiries were done with two gynaecologists, four midwives, three psychologists, one relaxation therapist, and one dietitian. Contextual enquiries focused on stakeholders, important moments, lifestyle, and technology usage. All contextual enquiries were recorded and transcribed verbatim and relevant objects were photographed with consent.

### *Assessing needs of people receiving IVF treatment*

To understand the needs of people receiving IVF treatment, seventeen semi-structured interviews were done with people receiving IVF treatment, focusing on lifestyle, couple interaction, and technology usage. Participants were recruited at LUFC, UZA, and via the main organization for people receiving fertility treatment that is active in Flanders, Belgium (De Verdwaalde Ooievaar). Participants could participate as a couple (5), or as an individual (11 females and 1 male). All interviews were recorded and transcribed verbatim.

The notes, photographs of relevant objects, and transcripts were coded and analysed using grounded theory as the underlying theoretical framework. NVivo, a qualitative software analysis tool was used to facilitate the analysis. This study was approved by the Social and Societal Ethics Committee at KU Leuven and the Ethics Committees of University Hospitals in Leuven and Antwerp.

## Results

We focused on the context and needs of people receiving IVF treatment regarding couple interaction. While analysing our results we identified four main themes that are important:

*Stigma for males.* In society there is still a stigma on infertility; This is bigger when infertility is caused by males than when it is caused by females.

*Different treatments.* Males have a smaller role in the treatment than females. Therefore, males can be frustrated as their partner is dealing with the major part of the treatment, but there is not a lot they can do.

*Support.* Although females go through most of the treatment, there are opportunities for males to support females.

*Different ways of dealing with infertility and IVF treatment.* Females more often seek social support and males take more distancing approach.

## Journey Mapping

Based on the analysis, we created user journeys to enhance our understanding of the experience during IVF treatment. We laid out the emotions, barriers, and points for improvement in each phase of the journey for males and females separately identifying and highlighting their unique needs. Finally, we combined the journeys to understand what the couple requires at each step of their treatment cycle and we identified opportunities for couple interaction and support.

Figure 1 shows the combined journey of males and females for one full IVF cycle. Typically, people go through multiple cycles as six cycles are reimbursed by health insurance in Belgium. Usually, in the preparation and embryo culture phase multiple ova (egg cells) are retrieved and multiple embryos are formed. Per full IVF cycle, usually one or two embryos are replaced and the surplus embryos are frozen for possible use in a subsequent partial IVF cycle (cryo).

### Couple receiving IVF treatment - Combined journey for one IVF cycle

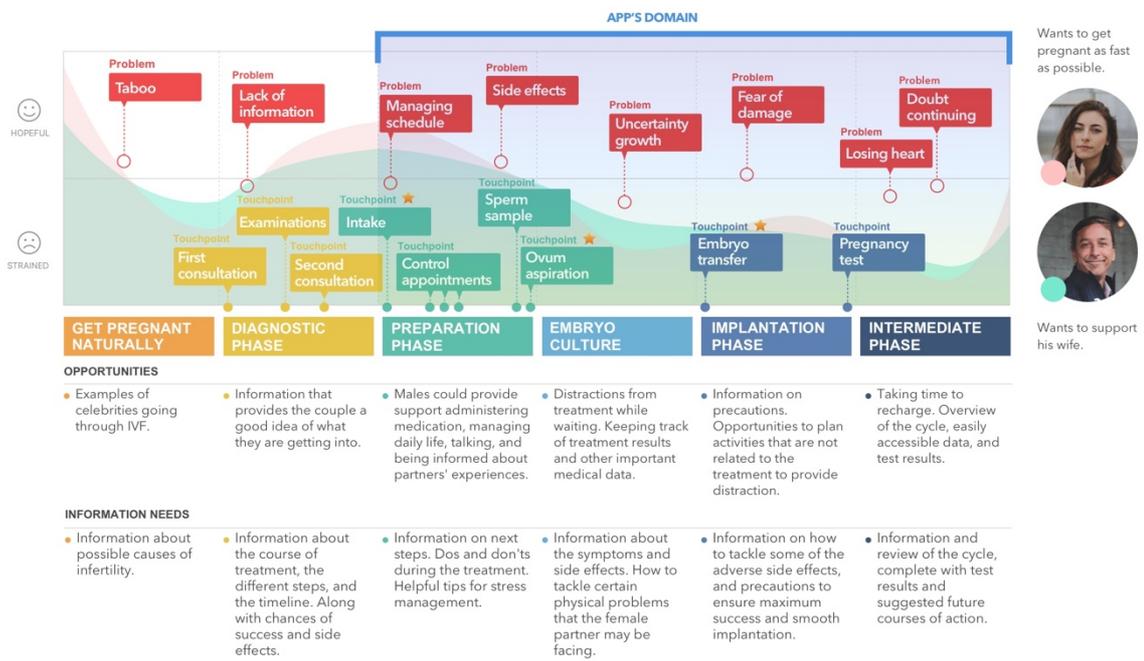


Figure 1: Combined journey for one IVF cycle

Looking at the two curves on the journey map, one can notice that the male and female go through the same ups and downs but the female partner experiences these ups and downs more strongly than the male partner.

In general, males have a smaller role in the treatment than females and because of this they feel frustrated as they can do little during the treatment. Related to this, we identified the first opportunity for couples in attending main appointments (intake, ovum aspiration, and embryo transfer) together.

In the preparation phase, for females emotional ups and downs can be a result of the hormonal changes induced to aid in the preparation phase of the treatment. The hormones also magnify smaller inconveniences that women experience in daily life and cause physical strain. On top of that, females have to go through regular check-ups in the hospital that are time constraining. These factors contribute to a higher fluctuation in the female partner's journey graph with respect to the male partner. In this phase the female has to go through many steps in the treatment. Besides providing the sperm sample, there is little that males are required to do and this can be frustrating. Here, we identified opportunities for the males to provide support by helping administering medication, helping managing daily life during the frequent check-ups that female has to attend and providing support by talking and staying up-to-date about the appointments and the experience of the partner.

For the couple, the hardest part is when there are no activities planned and the couple has to wait. For example, in the embryo culture phase there is a waiting period while embryos are being



developed in the lab and in the implantation phase there is a waiting period after the embryo transfer. Here, we identified an opportunity for males and females to work together to create distractions from the treatment.

## Conclusion and discussion

Although many general communication apps and technologies such as SMS, WhatsApp and social media such as Facebook are available, we believe that a dedicated app that provides guidance for treatment and also facilitates interaction and support between partners can add significant value for people during IVF treatment. It is important to note that both partners have a typical set of strengths and needs. In order to work as a team, they both need sufficient opportunities to use their strengths to address their partners' needs. Best et al. (2017) have already pointed out the potential of a couple intervention for weight loss in the context of infertility and obesity as couples support each other during everyday life and fertility treatment. A couple intervention could provide lifestyle advice as well as offer a module to improve social processes to facilitate behaviour change.

Journey mapping provides a tool for understanding the experience during IVF treatment. We compared and combined the journeys for males and females and analysed the differences. However, journey mapping is not without limitations. As fertility treatment is a highly dynamic treatment, timings and next steps in the treatment are dependent on the results in previous phases. This makes it a challenge to capture the treatment in a journey map.

Journey mapping allowed us to better understand couple interactions during fertility treatment and identify opportunities for couple interaction and support. We found several opportunities for collaboration between the couple: Throughout the treatment the couple could attend main appointments together; In the preparation phase males can provide support by helping administering medication, helping manage daily life during the frequent check-ups that the female has to attend, and provide support by talking and staying up-to-date about the appointments and experience of the partner; And in the embryo culture and implantation phase, males and females can work together to create distractions from the treatment.

Besides providing understanding of the experience of couples receiving IVF treatment, journey mapping helped us to visualize the interactions in a clear and clean manner and enabled us to communicate the complex situation to team members more easily. The results were used to inspire the development of concepts for couple features for our application, which is currently under development.

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