MEDICAL FAMILY THERAPY AND INFERTILITY: REFERRAL PRACTICES OF INFERTILITY PHYSICIANS AND THEIR VIEWS OF THE BIOPSYCHOSOCIAL IMPACT OF INFERTILITY TREATMENTS ON PATIENTS

A DISSERTATION SUBMITTED IN PARTIAL REQUIREMENT
FOR THE DEGREE OF DOCTOR OF PHILOSOPHY
IN THE GRADUATE SCHOOL OF THE
TEXAS WOMAN'S UNIVERSITY

DEPARTMENT OF FAMILY SCIENCES
COLLEGE OF PROFESSIONAL EDUCATION

BY

MARYAM KEYHAN, M.A.

DENTON, TX

DECEMBER, 2018

DEDICATION

To my parents who instilled the value of education in me

To my husband whose love and support made this journey possible

To my children who put up with a mom who has been a student all their lives

To my brother who always stepped in and helped my family when demands of graduate school took me away from them

ACKNOWLEDGMENTS

I would like to acknowledge the individuals who supported me during my long journey as a doctoral student. I would like to thank my advisor, Dr. Linda Ladd, for her guidance, patience, and encouragement. Thank you for never giving up on me and for continuing to gently push me toward my goals but always being understanding of circumstances that diverted my time and energy. Your positivity and encouragement kept me going even when the tasks at hand seemed impossible to accomplish. Thank you for challenging me to consider new perspectives but also giving me enough autonomy to determine the direction of my project. Completing my dissertation under your guidance was a valuable experience and an amazing learning opportunity. You dedication to your students is truly inspiring.

I would like to thank my committee members whose continuous guidance was invaluable to the development and completion of this project. Thank you, Dr. Rhonda Buckley, for being on my comprehensive exam and dissertation committees for the past 6 years. Thank you for your patience and continued support. I especially appreciated the expertise that you offered during my IRB application process. Your encouraging words and positive energy always give me a boost of confidence.

I would like to thank Dr. Linda Brock, who graciously agreed to be on my committee when I needed a third committee member shortly before my defense meeting, despite her already full schedule. Even though you have only been on my

committee for a short period of time (compared to the six years that my other committee members have been stuck with me), your influence on my journey as a doctoral student and my career as a family therapist started with the first class that I took with you and continues to this day. I would also like to thank Dr. Sarah Woods for her constructive criticism during and after my proposal meeting and Dr. Glen Jennings whose expertise and outlook on life have left a lasting impression on me as a person and a therapist.

In addition, I would like to thank Dr. Mary Sue Green who always challenged me to step outside of my comfort zone and examine the world from a new perspective. Our thought provoking discussions shaped my personal and professional identity and helped me develop valuable critical thinking skills which continue to influence my personal and professional growth.

I would like to thank my supervisor and mentor, Dr. Amir Abbassi. You have been a continuous and relentless source of support, guidance, and encouragement for me in the past eight years. Thank you for guiding me toward two licenses and beyond. You are an inspiration to those who have had the opportunity to learn from you. You will always be my supervisor no matter where I am in my career.

I would also like to thank Dr. Ali Guerami who provided valuable insight into the field of reproductive endocrinology and helped create the online survey that was used to gather information for this study, and Mr. Reza Mohammadi for helping me with this project as a coder despite his very busy schedule.

Last, but not least, I would like to thank my family: My parents who are my role models and moral compass, my husband who has been my rock and best friend for the past 21 years, my children who bring joy to every second of every day, my brother who is my source of support and comic relief and a wonderful uncle to my children, my aunts who did not waste any time to get me started on my educational journey and registered me for college classes the day after I arrived in this country, and my cousins and friends who have always been a source of encouragement and support. It truly took a village to get me to this point. I share this accomplishment with all of you!

ABSTRACT

MARYAM KEYHAN, M. A.

MEDICAL FAMILY THERAPY AND INFERTILITY: REFERRAL PRACTICES OF INFERTILITY PHYSICIANS AND THEIR VIEWS ON THE BIOPSYCHOSOCIAL IMPACT OF INFERTILITY TREATMENTS ON PATIENTS

DECEMBER, 2018

This study explored the referral practices of infertility physicians to mental health professionals, in general, and to medical family therapists, in particular, and their views on the advantages and disadvantages of working closely with a medical family therapist for themselves as physicians and for their patients. This study also explored the views of infertility physicians on the non-medical issues that their patients experience while receiving infertility treatment, including emotional, relationship, ethical/religious, and cultural issues, as well as gender differences in the way patients cope with these problems. The goal of this study was to help medical family therapists establish closer referral relationships with infertility physicians and better serve clients who are experiencing infertility.

A link to the online instrument used to gather information for this study was e-mailed to infertility physicians in the State of Texas. Also, a letter containing information about the study, participation criteria, potential risks, and the link to the online survey was sent to infertility physicians across the United States. Responses to closed ended questions were used to calculate descriptive information

about the participants' referral patterns to mental health providers and their familiarity with the field of medical family therapy. Open-ended questions were used to explore the physicians' views on the advantages and disadvantages of working with medical family therapists as well as their perspective on the emotional, psychological, relational, ethical, and cultural problems that their patients experience as the result of receiving infertility treatment, as well as gender differences. Participants' responses to the open-ended questions were used to identify clusters of meanings (themes). Three main themes were identified: Referral to MedFTs, Non-Medical Issues, and Physicians' Unfamiliarity with MedFT. The results of this study were used to develop recommendations for future research and implications for mental health professionals, including medical family therapists, who wish to collaborate with infertility physicians.

TABLE OF CONTENTS

LIST OF TABLES

Chapter I

INTRODUCTION

Health and illness influence individuals and families in every area of life. Researchers have shown that the quality of people's relationships can influence their physical well-being, and in turn, health issues can influence the quality of people's relationships (Senguttuvan, Whiteman, & Jensen, 2014; Sigurdardottir, Garwick, & Svavarsdottir, 2017; Stepansky, Roache, Holmbeck, & Schultz, 2010). In a review of studies that examined the relationship between marital functioning and health, Robles and Keicolt-Glasser (2003) reported that marital functioning was related to cardiovascular, immune system, and endocrine problems while another study by Cundiff, Birmingham, Uchino, and Smith (2016) reported that a good marital relationship acted as a buffer for the relationship between socioeconomic status and high blood pressure in their sample. Health issues have also been shown to impact the quality of the marital relationship by influencing their roles and level of intimacy (O'Connor, McCabe, Firth, 2008; Pretter, Raveis, Carrero, & Mauer, 2014).

The field of medical family therapy is based on the premise that all human problems, including illness, are biopsychosocial in nature, meaning that human issues cannot be fully conceptualized and treated if all three aspects of the problem (biological, psychological, and social/familial) are not taken into consideration (McDaniel, Doherty, & Hepworth, 2014). Medical family therapy also adds a systemic perspective to the biopsychosocial model (Engel, 2012) in order to

emphasize the systemic interaction between these three factors, this is contrary to the hierarchical approach suggested by the original biopsychosocial model that implied that the biological factors were on top and the social factors were on the bottom (Doherty, McDaniel, & Hepworth, 1994).

Medical family therapy is a relatively new branch in the field of marriage and family therapy. Wirtberg (2005) defined the role of the medical family therapist as "helping the patient and their families to adapt to and develop resources to cope with the changes in the family system that accompanies the emergence of the illness/disability" (p. 45). Hodgson, McCammon, Marlowe, and Anderson (2012) outlined four specific medical family therapy goals/strategies: (1) processing the cognitive and emotional implications of illness; (2) addressing relationship and communication issues among patients and family members; (3) facilitating communication between the family and healthcare providers; and (4) helping patients create or connect with a larger support system.

There is an increased need for the involvement of multidisciplinary teams in treatment of medical issues including infertility (Burns, 1999). Infertility is a common health issue in the United States (Center for Disease Control and Prevention, 2016) and around the world (Mascarenhas, Flaxman, Boerma, Vanderpoel, & Stevens, 2012). Infertility is defined as inability to conceive a child after at least one year of unprotected intercourse for women under the age of 35 and six months of unprotected intercourse for women over the age of 35 (Center for Disease Control and Prevention, 2016).

Infertility is among the medical issues that have a strong psychological and relational effect on patients (McDaniel et al., 2014). McDaniel et al. also pointed to the cultural and religious aspects of having children. According to the authors, having children is considered one of the most, if not the most, important goal of an individual's life in some cultures and religions and is considered the new parent's entrance into adulthood. Gana and Jakubowska (2016) studied 150 infertile couples who were receiving infertility treatment and reported that undergoing infertility treatment can lead to increased emotional distress and decreased marital satisfaction. Therefore, it can be argued that infertile couples can benefit from working with a mental health professional who is familiar with the psychological, emotional, and relational impact of infertility on the system in order to cope with these problems.

McDaniel, et al. (2014) outlined five levels of collaboration that can potentially occur between medical and mental health professionals. The first level involves *minimal collaboration*. In this type of collaboration, mental health professionals and healthcare professionals work at different sites and rarely communicate with each other. The second level of communication is referred to as *basic collaboration from a distance*. Professionals who practice this type of collaboration work at different sites but regularly refer to each other. The third level of collaboration is *basic collaboration on-sit*e. In this type of collaboration, mental and healthcare professionals work at the same site and communicate with each other regularly but work in their own separate systems and do not have in depth knowledge of each other's work. In the fourth level of collaboration, which is referred to as *close*

collaboration in a partially integrated system, all professionals work at the same site and operate under the same theoretical paradigm. This level of collaboration involves regular meetings and consultations among different healthcare professionals but different types of healthcare professionals do not work as part of a single team. The fifth level of collaboration is *close collaboration in a fully integrated system*. At this level of collaboration, different healthcare professionals operate as a single team at the same site under the biopsychosocial paradigm. They have knowledge of each other's work and share the same culture and language.

Although medical family therapy has been shown to be useful in helping families who are experiencing different types of medical illness (Doherty, McDaniel, & Hepworth, 2014), there are still barriers that make it difficult for medical family therapists to be involved in patient care (Fox, Hodgson, & Lamson, 2012). One of these barriers appears to be lack of collaboration between medical providers and marriage and family therapists. In fact, Masdon (2009) reported that among mental health providers, marriage and family therapists were the least likely group to receive referrals from physicians.

Doherty et al. (1994) argued that the slow integration of medical family therapy into healthcare settings is partially due to physicians' adherence to the biomedical model and their discomfort with the biopsychosocial systems model. The authors also attributed the split between medical and mental healthcare to our different education systems which are set up to primarily train students studying medicine to treat physical illness and student studying mental health to treat psychosocial issues.

As the result, medical doctors (with the exception of psychiatrists) do not receive much training in treating mental health issues and mental health providers do not get educated on physical illness. The authors also pointed to the fact that not only are medical and mental health-care systems separated, but also within mental healthcare, psychological, familial, and social issues are each treated separately, which causes each of these issues to be conceptualized by mental health providers as separate and mutually exclusive factors.

McDaniel et al. (2014) argued that the field of medical family therapy was created due to a fragmented healthcare system. According to the authors, traditionally, there have been five types of gap in ideology that have created this fragmented healthcare system. The first gap is the gap between the biological and the psychological systems (the mind-body split) which has led some health care providers to believe that the two systems operate separately. Fortunately, according to the authors, this gap has closed, for the most part, due to recent research (Kligler, Teets, & Quick, 2016) which has pointed to the relationship between the biological and the psychological world.

The second gap that McDaniel et al. (2014) mentioned was the gap between the individual and the family systems. According to the authors, many healthcare professionals still view the individual as the source of the pathology and do not acknowledge the client's context as a potential contributor to the problem and the treatment. As the result, the client's context, mainly the family, may be ignored when a treatment plan is formulated.

The third gap, according to McDaniel, et al. (2014), is between the individual and his/her family and the healthcare system. The authors argued that a systemically-trained therapist will keep in mind the relationship between the client and his/her family and the healthcare system and understands that family dynamics such as triangulation and secrets can also exist between each family member and healthcare professionals. The fourth gap that the authors mentioned is between the clinical, operational, and financial aspects of healthcare. According to the authors, most clinicians only focus on the treatment of the illness that the patient is facing and leave the other parts to the administrators who may not be familiar with the human side of the illness. The fifth and final gap that McDaniel et al. (2014) mentioned is the split between the world of healthcare and the patient/client's larger context which include his/her neighborhood, community, and culture. This is where mental health providers can be especially helpful navigating all the systems that the patient belongs to and exploring how each context can be utilized in treatment.

Other theories have also been offered to explain the gap between physicians and mental health providers. For example, Engel (2012) attributed the separation of the two fields to the belief held by many physicians that psychological and social aspects of illness are not considered scientific and reliable. Also, according to Engel (2012), those physicians who are interested in using the biopsychosocial model have difficulty understanding the psychosocial aspect of illness because they have not been trained to collect those forms of data. This problem is not one sided, however. Doherty et al. (1994) pointed out that although it appears that resistance to

collaboration between medical and mental health professionals comes mainly from physicians, therapists are generally not inclined to collaborate with physicians either. In fact, the authors argued, that aside from occasional collaboration with psychiatrists, many therapists do not even collaborate with other mental health professionals and prefer to practice in isolation.

Although physicians do not regularly refer to mental health professionals, it appears that medical family therapists are at an even greater disadvantage compared to other mental health providers. Clark, Lenville, and Rosen (2017) found that although family physicians were interested in referring their patients to marriage and family therapists, the collaboration between the two groups was limited. Research has shown that when physicians refer patients to therapists, they prefer certain credentials over others. In a survey of 598 family physicians in the Midwest region of the United States, Marandola (1995) found that many physicians are comfortable with their roles as mental health providers and do not feel the need to refer their patients to mental health professionals. The author also reported that their participants were more likely to refer their patients with mental health problems to psychiatrists and psychologists compared to social workers and other types of counselors. Killmeyer (2015) used qualitative methods to examine attitudes and referral practices of family practitioners toward marriage and family therapists. The results indicated that although family practitioners were open to referring their patients to marriage and family therapists, they had little information about the field and desired more knowledge and more accessibility.

Previous studies that have explored referral practices of physicians toward mental health providers, including marriage and family therapists, had only focused on the views of general practitioners and did not include infertility specialists. Research has shown that infertility can result in a range of emotional and psychological issues for patients (Canada & Schover, 2010; Garrity, 2001). Also, in many cases, the impact of infertility is experienced by both the patient and his or her spouse, which can result in relationship issues (Hesam, Taghipour, Rasekhi, Fallahi, & Hesam, 2017). Therefore, it can be argued that the current study with its focus on the referral practices of infertility physicians to marriage and family therapists could benefit both fields.

Statement of the Problem

Referral practices of physicians to mental health professionals, including marriage and family therapists, have been studied to some extent. However, previous studies mainly focused on family practitioners and did not include certain specialists (Clark, et al.,2017; Masdon, 2009). In particular, referral practices of infertility specialists toward medical family therapists had not been studied before. Therefore, there was a lack of scientific findings on real life reasons that would help explain why collaboration between the two groups is very limited. In order to help medical family therapists bridge this gap, this list of explanations needed to come from the perspective of the group that often takes the first step toward creating this relationship: the infertility physicians.

A second area where research was scarce was infertility physicians' perspective on the specific emotional, psychological, and relational issues that their patients experience and how medical family therapists can be helpful to patients in those areas, therefore helping physicians with the treatment process. Although it may be reasonable to argue that those who are experiencing infertility can benefit from working with a medical family therapist (McDaniel et al., 2014; Minucci, 2013), it was not be clear exactly how a medical family therapist could help this population and make the treatment process more efficient for patients and doctors. Therefore, this study investigated the views of infertility physicians, who are often the first providers to see infertile couples, on the non-medical issues, such as emotional; psychological; and relational issues, that their patients experience. Also, research has suggested that couples' experience of infertility can be influenced by culture, gender, religion, and ethical issues (Dembinska, 2012; Lechner, Bolman, & Van Dalen, 2007; Shreffler, Johnson, & Sheuble, 2010). However, infertility physicians' perspectives on how these issues are experienced by patients while receiving infertility treatment has not been studied before.

Statement of Purpose

The first goal of this study was to explore the referral practices of infertility physicians to mental health providers, examine their level of knowledge about the field of medical family therapy, and identify potential advantages and disadvantages of creating more opportunities for collaboration between the two groups from the perspective of the infertility physicians. Although some research on referral practices

of primary care physicians to mental health professionals, including medical family therapists, exists (Killmeyer, 2015; Masdon, 2009), this study provided knowledge on the referral practices of infertility physicians to mental health providers and their attitudes on collaboration with medical family therapists.

The second goal of this study was to examine the non-medical impact of receiving infertility treatment on patients from the perspective of infertility physicians and the influence of gender, culture, and religion on the types of issues that infertility patients experience. Couples who seek infertility treatment often experience a variety of psychological and relationship problems (Klemetti, Raitanen, Sihvo, Saarni, & Kopenen, 2010; Lechner et al., 2007; McDaniel et al., 2014). Although couples with infertility issues consult physicians for medical treatment, it is reasonable to assume that infertility physicians also witness the emotional aspects of infertility treatment and the impact of such treatments on the couple's relationship caused by factors such as the length and extent of treatment, the impact of infertility on their families, and the financial burden of infertility treatment. Therefore, the results of the current study can help marriage and family therapists, including medical family therapists, better serve this group of clients.

Research Questions

The following research questions guided this study:

1. What are the referral practices of infertility physicians to mental health providers?

2. From the perspective of the infertility specialists, what are some of the advantages and disadvantages of collaboration with medical family therapists?

3. From the perspective of infertility specialists, what are some of the psychological, emotional, ethical, religious, and cultural issues that infertility patients experience as the result of receiving treatment and how therapists can be helpful in alleviating these problems?

4. From the perspective of infertility specialists, how are the experiences of men and women different in the way they respond to, and cope with, infertility?

Definitions

1. Medical Family Therapy (MedFt): Medical family therapy is a relatively new field under mental health care that uses a systemic perspective to bridge the gap between biological, psychological, and social aspects of illness (Doherty at al., 1994).

2. Medical Family Therapists (MedFTs): Medical family therapists are family therapists who provide therapy to families whose lives have been influenced by medical illnesses. Marriage and family therapists can choose to receive extra training in medical family therapy but such formal training is not necessary in order for them to practice medical family therapy (Zubatsky, Harris, & Mendelhall, 2016).

3. Infertility: Infertility is defined as inability to conceive a child after at least one year of unprotected intercourse for women under the age of 35 and six

months of unprotected intercourse for women over the age of 35 (Center for Disease Control and Prevention, 2016).

4. Infertility Physician: An infertility specialist is an obstetrician/gynecologist who has received an extra three years of training in the field of reproductive endocrinology (Gordon & DiMattina, 2011). For the purpose of this study, the terms *infertility physician*, *infertility specialist*, and *reproductive endocrinologist* will be used interchangeably.

Delimitations

1. Participation in this study was delimited to obstetrician/gynecologists who had received an extra three years of training in the field of reproductive endocrinology. This was determined by asking a question in the beginning of the online survey about their education background. Other physicians such as general practitioners, who may also treat infertility issues, were not included in this study.

2. Due to the difficulties of interviewing physicians face-to-face during their busy office hours, this study gathered information online therefore allowing physicians to respond to the questionnaire at a time of their choosing.

Summary

Physical illness influences many aspects of the lives of individuals and families (Robles & Keicolt-Glasser, 2003). Medical family therapists are a subgroup of marriage and family therapists who provide support to individuals and families who are experiencing medical illnesses (Wirtberg, 2005). Including a medical family

therapist as part of the treatment team has been shown to positively influence treatment outcomes for a variety of medical illnesses including infertility (Doherty et al., 2014). However, collaboration between physicians, including infertility physicians, and MedFTs does not occur very often. Moreover, the views of infertility physicians who are often the first healthcare professionals to have contact with infertility patients on the psychological and emotional impact of infertility treatment on couples and the impact of receiving infertility treatment on their relationships has not been studied previously. This study examined the referral practices of infertility specialists to mental health providers, their attitudes toward MedFTs, and their views on how non-medical issues, such as the psychological, relational, ethical, religious, and cultural issues can impact the well-being of their patients and how men and women are different in the way they cope with these problems.

Chapter II

REVIEW OF THE LITERATURE

This section presents a review of the scientific literature concerning the field of medical family therapy with subsections on theory, history of medical family therapy, and empirical evidence supporting the effectiveness of including mental health professionals in general and marriage and family therapists in particular in treating patients with different medical illnesses such as cancer and diabetes. In addition, this review includes an overview of the subject of infertility with subsections on definition of infertility, infertility statistics in the United States, causes of infertility, available treatments for infertility and their success rate, and a review of available literature on some of the non-medical issues that infertility patients experience and the gender differences that impact how infertility patients respond to these issues.

Theory

The field of medical family therapy differs from other mental health disciplines because it considers the biological, psychological, and social aspects of human experience and also focuses on how these factors interact with each other (Doherty et al., 1994). Due to this comprehensive perspective, Engel's biopsychosical model (2012) was used as the theoretical framework for this study.

Engel (2012), a physician himself, proposed the biopsychosocial model due to his belief that the field of medicine was in "crisis" (p. 375). According to Engel (2012),

this crisis was created due to the belief that disease should be defined using only biological factors, and therefore, there is no place in the field of medicine for social and psychological influences. Furthermore, Engel (2012) believed that the disease-based biomedical model, with its emphasis on biological factors, was an inadequate conceptualization of human conditions because it did not take into account the full range of human experience. This inadequate perspective, Engel argued, influenced the behavior of health care professionals toward patients and their care.

Engel (2012) pointed out two mechanisms through which the biomedical model influenced the way health issues were conceptualized and treated. The first mechanism was the attribution of complex problems to a single source (reductionism). Reductionism allows only for phenomena that are testable using laboratory methods to be considered real and worthy of attention. The second issue to which the biomedical model pointed was the separation of mind and body which led to different and completely separate disciplines that treated biological and psychological problems.

Infertility, which is a medical condition, has been shown to also influence the emotional and psychological well-being of the couples as well as the quality of their relationship and their family unit (Eunpu, 1995). Researchers have confirmed that infertility has a biopsychosocial effect on the lives of individuals and couples (Garrity, 2001). Therefore, Engel's model (2012), with its strong emphasis on multiple aspects of illness, was used by this researcher to conceptualize this study of

infertility, formulate research questions, create survey questions, and interpret the results.

History of Medical Family Therapy

According to Doherty et al. (1994), medical family therapy emerged as a separate field in the 1950s when physicians such as Murray Bowen and Gregory Bateson started to understand the importance of family dynamics in the development and maintenance of medical illnesses and incorporated family members in the treatment of psychiatric patients. This movement was followed by other therapists who believed in involvement of the family in the treatment process such as Minuchin and Roseman during the 70s. In order to clarify the role of the family in the development of pathology in individual family members, Minuchin developed the structural family model (Minuchin, Roseman, & Baker, 1978). According to this model, enmeshment, overprotectiveness, rigidity, and lack of conflict resolution are the four family interaction patterns that are responsible for creation and maintenance of illness.

During the 1980s, the field of medical family therapy was expanded due to some collaboration between family therapists and physicians (Doherty et al., 1994). Also at that time, researchers began to study the interaction between physical health and biospychosocial issues. For example, John Gottman studied the interaction between biological illness and marital discord and the influence of parenting style on children's physical health (Gottman & Katz, 1989; Levenson & Gottman, 1983). As the result of these collaborations and research studies, a set of techniques were

created which eventually lead to the development of medical family therapy as a unique and independent field that goes beyond family therapy.

Doherty et al. (1994) argued that medical family therapy is both similar and different to two older and more established disciplines, health psychology (also known as behavioral medicine) and medical social work. While both of these disciplines bridge the gap between medical and psychosocial issues, Doherty et al. (1994) argued that health psychology has, for the most part, maintained the individually focused tradition of psychology and, mainly, is concerned with the intrapersonal and behavioral aspects of health and fails to take into account the interaction between the intrapersonal and interpersonal mechanisms. Medical social work, according to the authors, comes closer to bridging the gap between the medical and the biopsychosocial aspects of health but most medical social workers advocate for patients in hospitals and help them gain access to the resources they need. In the opinion of Doherty et al., the majority of social workers, however, do not have enough training to provide systemic therapy to families whose members are distressed as the result of a chronic or terminal illness and their work is complimentary to the work of medical family therapists (Doherty et al., 1994).

Empirical Evidence

Medical Family Therapy

The relationship between physical illness and patients' emotional, psychological, and relationship difficulties has been the focus of many research studies. Medical family therapy has been shown to be beneficial in treatment of patients who are

experiencing a variety of medical illnesses such as cancer and diabetes (Amar, Lamson, & Smith, 2015; Hodgeson, McCammon, Marlowe, & Anderson, 2012). In a qualitative content analysis of studies on medical family therapy, Bischoff, Springer, Felix and Hollist (2011) reported three themes that had emerged from the studies: *the patient's multisystemic experience of the disease*; *treatment is about caring not just caregiving*; and *elevating the patient as a collaborator in the treatment*. Campbell and Patterson (1995) conducted a literature review on the effectiveness of including family interventions in treating different medical illnesses. The authors reported that family interventions (treatments that included at least two family members) were shown to be more effective compared to individual treatment in treating chronic childhood disorders such as asthma and diabetes, cardiovascular and neurological diseases, obesity, and some cases of anorexia nervosa.

Anderson, Huff, and Hodgson (2008) conducted a qualitative study on the effectiveness of medical family therapy in an in-patient psychiatric setting. The results of the study revealed the following findings: 1) medical family therapists were effective in promoting collaboration between the patient, family members, and the healthcare team; 2) medical family therapists helped patients and their family members navigate different family dynamics which were created as the result of mental illness; and, 3) medical family therapists promoted systemic change in the lives of patients and their families which helped reduce the possibility of re-hospitalization.

Cancer

Systemic treatments have been shown to be beneficial in treating a variety of medical illnesses. Among the illnesses that have been shown to respond to family interventions implemented by marriage and family therapists is cancer. Approximately, 1.7 million new cases of cancer will be diagnosed in the United States by the end of 2018 (National Cancer Institute, 2018). The experience of being diagnosed with, and receiving treatment for, cancer not only affects the individual patient, it also influences the lives of their partners/spouses and other family members. Patients and their family members experience cognitive, emotional, and relationship issues as the result of diagnosis and treatment of cancer (Francis, Kypriotakis, O'Toole, Bowman, & Rose, 2015; Gazendam-Donofrio et al, 2011). Therefore, it is essential that cancer patients and their families receive systemically based treatment that addresses their biopsychosocial needs as they go through this process. This systemic treatment can be provided by a team that includes medical family therapists.

The importance of involving family members in the treatment of cancer was revealed in a study conducted by Speicea et al. (2000). The study utilized focus groups of patients, family members, and healthcare providers in order to find ways to improve the quality of care in several cancer treatment centers. Results of this phenomenological study revealed that patients consider their family members' involvement as an integral part of their treatment. Participants reported that involvement of family members in the treatment process can provide them comfort

and emotional support, help them with the decision-making process regarding their care, and provide them with extra set of ears to understand and process instructions. From the providers' perspective, it was revealed that although involving family members can positively influence treatment process and outcome, it can also cause problems when family dynamics are dysfunctional. Providers who participated in this study reported that problematic family interactions can disrupt meetings with patients, hinder the decision- making process, and increase patient stress. Therefore, as Speicea et al. (2000) argued, it is important that patients and their families receive treatment from family therapists who have been trained in the systemic perspective in order to address the emotional and relational difficulties that they may experience as the result of cancer.

Hodgson, McCammon, Marlowe, and Anderson (2012) used a phenomenological approach to investigate the experience of cancer patients and their families who received medical family therapy along with their cancer treatment. Hodgson et al. discovered two themes after analyzing participants' responses. The first theme was *Patients and Family Members' Experiences with Medical Family Therapy* and the second theme was *Interventions and Strategies*. Under the first theme, it was revealed that participants were highly satisfied with the systemic family-centered treatment approach rather than a patient only centered approach. Participants mentioned that the therapists' warm and open demeanor helped them get through their cancer treatment. Under the second theme, Interventions and Strategies, it was revealed that the therapist's personality played a great role in helping participants

become more comfortable with, and benefit from, therapy. Expressing genuine emotions, maintaining a constant presence especially during critical events such as crises and decision-making regarding their treatment, and becoming a bridge between the family and other healthcare professionals were among the interventions that were mentioned by participants as extremely helpful.

Burwell, Brucker, and Shields (2006) applied emotion focused therapy, which is an attachment-based form of couple therapy, in two case studies in which couples were battling cancer. The authors argued that attachment theory was a suitable framework for working with couples dealing with cancer because in many cases, diagnosis of cancer is life-threatening and implies a possible loss of the attachment figure (in this case the spouse). The authors reported that several medical family therapy implications were revealed as the result of using attachment-based treatment with their participants. For example, it was shown that couples who had a secure relationship were able to strengthen their bond after the diagnosis of cancer. For others, a diagnosis of cancer increased the intensity of their already existing relationship problems. According to the authors, proximity seeking behavior, which had been shown by previous studies to have an influence on cancer patients' well-being, was impaired in couples with insecure attachment styles and resulted in a demand-withdraw pattern. The authors argued that these findings, used in the context of medical family therapy, can be used to strengthen the relationship between cancer patients and their spouses by creating empathic responses and open communication.

Diabetes

Another illness that has been shown to respond to systemic interventions is diabetes. According to the American Diabetes Association (2014), 1.4 million Americans are diagnosed with diabetes every year. Research has shown that treatment of diabetes can benefit from a collaborative family-based model which involves a variety of healthcare professionals and the patient's family (Phelps et al., 2009). Preliminary data from a study on a collaborative care model of diabetes treatment which included physicians, diabetes educators, nutritionists, and medical family therapists, showed that a comprehensive systemic and multidisciplinary approach to treating diabetes was superior to the traditional medical model (Phelps et al.). This study showed that by including a collaborative care team, physicians were able to spend more time on managing the patients' diabetes and patients were able to disclose other factors that contributed to their poor management of their diabetes, such as socioeconomic issues, more freely. The authors pointed out that such a collaborative team can only be helpful if professionals are willing to collaborate with each other and the patient.

Robinson, Barnacle, Pretorius, and Paulmann (2004) also reported on the effects of a multidisciplinary diabetes treatment team at the University of Nebraska Medical Center. The authors reported that the original collaborative treatment team consisted of providers from different disciplines such as medicine, nursing, nutrition, and medical technology, but not family therapy. Medical family therapists were later added to the team as it became apparent that a more systemic approach was needed to

address all the physical and psychosocial issues that could arise as the result of dealing with diabetes. The authors reported that the use of a multidisciplinary team was helpful to both patients and providers. Patients experienced a holistic approach that addressed different aspect of their treatment. Providers were able to focus more on their own area of specialty as physicians were able to focus more on the medical treatment while medical family therapists addressed concerns of the family about the treatment process. Providers also benefited from participating in this treatment approach by learning how to collaborate with other disciplines about their patients' care.

Harris, Freeman, and Beers (2009) compared two groups of adolescents with poorly controlled diabetes who underwent different types of treatment. One group received home-based behavioral family systems therapy along with their diabetes treatment and the other group received diabetes treatment alone. Results of the study indicated that the group that received family therapy along with diabetes treatment showed significant improvement in diabetes related parent-child conflict and general parent-child conflict compared to the group that only received diabetes treatment. According to the authors, reduction of conflict was related to diabetes treatment outcome such as adherence to medical recommendations in the group that received family therapy.

Infertility

Definition and prevalence. One the issues that medical family therapy has addressed is infertility (McDaniel et al., 1992; McDaniel et al., 2014). Infertility is

defined as inability to conceive a child after at least one year of unprotected intercourse for women under the age of 35 and six months of unprotected intercourse for women over the age of 35 (Center for Disease Control and Prevention, 2016). Herer and Holzapfel (1993) outlined requirements of a natural pregnancy as production of normal eggs and sperm, union of the egg and sperm, implantation of the embryo, and a suitable environment for the embryo to grow. According to the authors, a disruption in any part of this process can result in infertility.

Infertility is a relatively common problem in the United States. The Center for Disease Control and Prevention (2016) reported that 11% of women in the United States between ages of 15 and 44 experience some level of infertility. Infertility is not solely a female issue however. The Center for Disease Control and Prevention (2016) also reported that 7.5% of sexually active males in 2002 reported visiting an infertility specialist and 18% of those who consulted a specialist were diagnosed with a male infertility problem.

Kamath and Bhattacharya (2012) reported that, in general, 84% of women are expected to get pregnant after one year of unprotected intercourse and 92% are expected to conceive after two years of unprotected intercourse. Gordon and DiMattina (2011) also provided statistics on how the prevalence of infertility for women changes with age. According to the authors, 10-15 % of younger women experience problems with infertility while about one third of women over the age of 35 have difficulty conceiving. The authors also reported that about 50% of women over the age of 35 experience pregnancy loss. This has been more of an issue in

recent decades due to women's decision to delay child rearing in order to pursuit education or advance their career (Gordon & DiMattina, 2011)

Causes of infertility. Gordon and DiMattina (2011), in their book titled *100 Questions and Answers about Infertility*, provided information about infertility to non-physicians and outlines several causes of infertility. According to the authors, infertility problems can be divided into female factor infertility and male factor infertility. Among the female factors, the authors mentioned anatomical issues (such as problems with tubes or the uterus), hormone problems, irregular periods/ovulation (which could be the result of a condition called polycystic ovarian syndrome), diminished ovarian reserved (which is influenced by age), and endometriosis (presence of uterine tissue outside of the uterus in the abdominal cavity). Another possible explanation for female factor infertility, according to the authors, is the presence of anti-sperm antibodies in the woman's blood.

Gordon and DiMattina (2011) explained that male factor infertility results from problems with the sperm (motility, volume, PH, morphology of the sperm, and concentration). Motility was defined by the authors as the percentage of the sperm that show normal movement. Concentration is the number of sperm in the sample and morphology refers to the shape of the sperm. The authors also reported that 18.3% of infertile couples experience both male factor and female factor infertility and 12% of infertile couples experience unexplained infertility. Anti-sperm antibodies may also be present on the surface of the sperm, which keeps them from fertilizing the eggs. The authors reported that they had collected the statistical information

regarding infertility and treatment outcome from reports published by the Center for Disease Control and the Society for Assisted Reproductive Technology.

Diagnosis of infertility. Gordon and DiMattina (2011) outlined several diagnostic strategies for infertility problems. According to the authors, male factor infertility is diagnosed using sperm analysis, a laboratory test that measures the count, PH, motility, and volume of the sperm. Two other tests that can be performed to diagnose male factor infertility are acrosome reaction and hypo-osmotic swelling test. Both tests are designed to measure sperm's ability to fertilize the egg.

Gordon and DiMattina (2011) also outlined several strategies that can be used to diagnose female factor infertility. A transvaginal ultrasound can be used to assess the shape of the uterus and possible abnormalities in the uterus and the fallopian tubes, including blockage and fibroids. Ultrasound is also used to measure the woman's egg reserve. Hysterosalpingogram (HSG) is another procedure that is used to examine the uterus and the fallopian tubes. During this procedure, dye is pumped into the uterus and the fallopian tubes while an x-ray machine takes pictures of the dye's movement. Laparoscopy, which is an outpatient surgical procedure that uses small cameras to visualize inside the abdominal cavity, can also be used to diagnose causes of female infertility.

Treatment of Infertility. Gordon and DiMattina (2011) provided an extensive explanation of how the reproductive system is supposed to work, how fertility issues occur, and what types of infertility treatment are available. According to the authors, treatment of infertility starts by consulting an infertility specialist. The authors

defined an infertility specialist as a physician who has completed four years of medical school, four years of general obstetrics and gynecology residency (in which they get exposed to different obstetrical, gynecological, gynecological oncology, and infertility issues), and three years of fellowship in reproductive endocrinology and infertility. The authors also encouraged couples to choose board certified infertility specialist who work at clinics with high success rates.

Kamath and Bhattacharya (2012) outlined several treatment strategies that can be used to help couples conceive if they are not able to conceive on their own. The first and least invasive option is expectant management, which means the couple is educated on how to detect most fertile days during the woman's cycle and advised to have regular intercourse during those times. According to the authors, if spontaneous pregnancy does not occur with expectant management, the next level of intervention can be ovulation inducing medications which are especially effective in women who are experiencing ovulation dysfunction. However, these medications are not without side effects. Some of the side effects of ovulation-inducing medications, such as Clomiphene Citrate, include multiple pregnancies and increased chances of ovarian cancer. According to the authors, another treatment strategy to help couples conceive is intrauterine insemination which means placing the sperm directly in the woman's uterus. Intrauterine insemination can be done with or without use of ovulation inducing medications. Intrauterine insemination along with ovulation inducing medications produce better results than either treatment alone. The authors concluded that when the treatment options mentioned above do not lead to conception, in-vitro

fertilization (IVF), in which egg and sperm are used to conceive embryos outside of the woman's body and later implanted in the woman's uterus, is the treatment of choice, especially in cases of prolonged or unexplained infertility.

If the cause of infertility is determined to be endometriosis, laparoscopic surgery is typically performed to treat it (Gordon & DiMattina, 2011). During this out-patient procedure, cameras are inserted inside the abdominal cavity and the adhesions that could be wrapped around the ovaries, fallopian tubes, or other pelvic organs are removed. Gordon and DiMattina (2011) also suggested medications that may treat endometriosis but did not recommend them for patients that suffer from infertility since they suppress ovulation. When none of these treatment strategies are successful, the couple may still choose to take advantage of other options in order to become parents. These options include using an egg donor, using a sperm donor, and using a surrogate. Gordon and DiMattina (2011) referred to these strategies as *third-party reproduction*.

Success rates of different infertility treatments. In general, the success rate for different infertility treatments has been reported to be 50-65% (ESHRE Caprin Workshop Group, 2013). Different infertility treatments have also been shown to produce different success rates. Zolliner, Nuemann, and Zolliner (2013) compared use of ovulation inducing medications with timed intercourse and ovulation inducing medications with intrauterine insemination. The authors reported that the group that received intrauterine insemination was almost five times as likely to conceive. Gordon and DiMattina (2011) reported that success rate for intrauterine insemination

is one-third to half for women younger than 35 who are not exhibiting other infertility factors. When other factors such as ovulation problems are present, the authors reported that success rate of ovulation inducing medication along with intrauterine insemination drops to 6-12%. The authors also reported that success rates for in vitro fertilization is 21% for cases of unexplained infertility.

The Center for Disease Control and Prevention (2016) reported that current success rates, defined as percentage of live births, for in vitro fertilization using fresh embryos in the United States are 37.4% for women younger than 35, 31% for women between 35 and 37, and 20.6% for women between 38 and 40. These numbers drop dramatically for women older than 40. Success rates also drop if frozen embryos are used. Gordon and DiMattina (2011) attributed success or failure of IVF to factors such as the woman's age, type of infertility diagnosis, and the expertise of the physician performing the procedure. Other factors have also been shown to influence success of infertility treatment including health of the couple, socioeconomic status, and psychological well-being (Gordon & DiMattina, 2011; Peivandi, Masoodzadeh, Moaodi, & Babaei, 2011; Smith et al., 2011).

Smith et al. (2011) examined the influence of socioeconomic factors on the utilization and success of fertility treatments. Results of the study indicated that, in general, participants with higher income and college degrees utilized treatment more than those who did not have college degrees and had lower incomes. The authors also reported that having a college degree was positively associated with success of fertility treatment. The authors explained that higher rates of pregnancy were

achieved for college educated participants because they used more aggressive treatments for longer periods of time compared to other participants.

Peivandi et al. (2011) examined the influence of anxiety and depression on success of infertility treatment in 70 women who were undergoing in vitro fertilization. Thirty-five participants who had been diagnosed with moderate to severe depression, anxiety or both were compared to 35 participants who had not been diagnosed with either depression or anxiety or had been diagnosed with mild depression/anxiety. The authors reported that 31.42% of the depression/anxiety group were able to achieve pregnancy compared to 54.54% of the participants in the control group indicating that psychological well-being can influence the success or failure of infertility treatment.

Psychological, emotional, and relational impact of infertility. Many individuals and couples expect to have children at some point in their lives (McDaniel, Doherty & Hepworth, 2014). Those who are not successful in conceiving naturally turn to available medical treatments for infertility. Based on the statistics offered in the previous section, it is reasonable to conclude that success rate for infertility treatment is relatively low. The treatment procedures are also invasive, time consuming, and expensive. These factors can result in emotional, psychological, and relationship issues for the couple, which in turn can influence the success of the treatment (McDaniel et al. 2014).

McDaniel et al. (2014) argued that the desire to have children is influenced by many factors. For example, many cultures and religions consider parenthood as the

couple's real entry into adulthood. Becoming parents, according to the authors, is a multigenerational event which changes the relationship between the couple and their own parents and may even bring reconciliation to families who have been experiencing turmoil. McDaniel et al. (2014) also pointed to the importance of socialization in the desire to become parents. According to the authors, girls are taught nurturing behavior through play at a very young age and many grow up with the dream of someday taking care of their own children. This social expectation, paired with the female biology which makes the woman's ability to conceive children time-limited, create a strong desire to have children before it is too late. The authors also argued that similar to women, men are also socialized to want to have children as they are expected to continue the family's name. Therefore, infertility is a multifaceted issue, which goes beyond biology and influences the couple's psychological and emotional well-being as well as their relationship.

Garrity (2001) used the biopsychosocial model to examine couples' marital satisfaction, coping strategies, social support, and anxiety level across five stages of infertility treatment. The five stages of treatment included Pretreatment (the couple is suspecting a problem and is in the process of competing diagnostic tests), Treatment Beginner (a treatment plan has started but has been followed for less than two years), Treatment Regular (tried more than one treatment, has seen multiple specialists, been in treatment for more than two years but less than five), Persister (five or more years of treatment, multiple diagnoses or unexplained cause), and Concluded Treatment (have competed all the stages of treatment and are not planning to undergo more).

Garrity (2001) also examined the influence of gender on the impact of different stages of treatment. Results of the study indicated that marital satisfaction was significantly lower for Persisters compared to Beginners indicating that extended time in treatment can have a negative influence on the marital relationship. The results also indicated that women used social support and escape-avoidance strategies, such as wishful thinking, daydreaming, and avoidance of emotionally charged situations such as baby showers, more than men.

Canada and Schover (2010) examined the influence of infertility caused by cancer treatment on psychological well-being of female cancer survivors. The results indicated that women who were interested in having children at the time of diagnosis but were not able to have them due to cancer were more distressed 10 years after the initial diagnosis compared to women who were able to conceive. The level of infertility related distress for women who did not conceive biological children but had become adoptive or stepparents was lower than the level distress for women who were childless but higher that the level of distress for those who had biological children.

Daniluk and Tench (2007) examined psychological distress, marital and sexual satisfaction, life satisfaction, and self-esteem of 33 couples who had experienced unsuccessful medical intervention for infertility over a 38-month-period. The results indicated that lack of social and partner support, lower emotional and physical health, and perceived lack of options were associated with higher psychological distress, lower marital, sexual, and life satisfaction, and lower self-esteem. Those parents who

had adopted children showed less psychological distress compared to those who had remained childless.

In a mixed method study, Darwiche et al. (2013) examined the emotional and cognitive experiences of couples facing an infertility diagnosis before attempting in-vitro fertilization. Specifically, the researchers examined the couples' acceptance of the diagnosis (emotional resolution) and the couples' ability to construct a shared narrative about the diagnosis (narrative co-construction). The researchers also examined the relationship between these factors and the couples' marital satisfaction and their infertility related distress. The results indicated that most participants had achieved some level of resolution regarding their diagnosis and had been able to create a shared meaning about their experience, although overall, the couples' level of emotional resolution was low. The authors argued that emotional resolution occurs over time and may be low for couples who are in the early stages of treatment. The researchers also found that emotional resolution about the diagnosis and the couples' ability to create a shared meaning about it were positively related to marital satisfaction.

Pinto-Gouveia, Halrhardo, Cunha, and Matos (2012) examined the emotional and psychological effects of infertility on men and women and their coping styles by comparing 100 couples without infertility issues with 100 couples who had been experiencing fertility issues. The researchers reported that infertile couples showed higher levels of depression and lower levels of self-acceptance and self-compassion compared to the couples who were not experiencing infertility. The infertile couples

also showed more dysfunctional coping styles such as avoidance compared to the fertile couples. The results also revealed gender differences for the infertile group with women showing higher levels of depression and lower levels of self-compassion compared to men.

Lechner, Bolman, and Van Dalen (2007) examined the influence of receiving infertility treatment on couples on the following variables: coping style, perceived social support, and psychological distress which was conceptualized as level of anxiety, depression, complicated grief, and physical complains. The results showed that women were more likely to use passive coping styles which was in turn related to more psychological distress. Women also showed higher levels of anxiety, depression, and complicated grief. Men and women did not differ in their level of satisfaction with their social support.

Ethical and cultural considerations. McDaniel et al. (2014) argued that one of the reasons that infertility results in such a great emotional, psychological and relational difficulties is that it involves many ethical issues for the couple. In a research study of public opinion in the United States regarding infertility treatment, Shreffler et al. (2010) found that concerns about children who were conceived through assisted reproductive technologies and who were not biologically related to the mother or the father were among the top ethical concerns.

Callister (2011) pointed to the issue of multiple gestations which may or may not be desirable to the couple as they can result in pregnancy complications. As the result, many infertility clinics recommend using no more than two embryos at a time.

The author argued that the decision on what to do with the remaining embryos can result in an ethical dilemma for the couple depending on their religious views. Some couples may feel obligated to give all embryos a chance at life while others may struggle with the decision of donating their embryos for adoption or research.

Frith and Blyth (2013) discussed some of the ethical concerns regarding conditional embryo adoption. The authors defined conditional embryo adoption as donation of unused embryos by one couple to another couple who are not able to conceive their own embryos. During the conditional embryo adoption process, the couple who is donating the embryos can choose who will receive their embryos. The authors argued that this process allows biological owners of the embryos to put unreasonable demands on those who receive the embryos and cause emotional hardship.

Infertility seems to influence the emotional, psychological, and relational well-being of individuals and couples across cultures. These stresses can also be caused by cultural, ethical, and legal circumstances. In a nationwide study in Finland, Klemetti et al. (2010) examined the influence of infertility on mental health and quality of life and gender differences in the effects of infertility. The authors reported that 20% of women and 9% of men reported that they had experienced infertility. The results indicated that women who had experienced infertility also showed increased risk for dysthymia and anxiety disorders compared to women who had not experienced infertility. Women who had experienced infertility but were able to conceive later on showed higher prevalence of experiencing panic disorder. The

results also showed that men who had experienced infertility and were childless at the time of the study reported having significantly lower quality of life compared to men who had not experienced infertility. The researchers concluded that infertility was associated with mental health and quality of life and men and women are affected differently by infertility.

Another study in Finland by Dembinska (2011) explored opinions of women undergoing infertility treatment in Finland about ethical issues concerning infertility that were under debate in Finland at the time of the study in order to create new laws. The results showed that women who were undergoing infertility treatment strongly rejected the following parts of the bill that was being considered: limitation on freezing embryos, not allowing genetic testing on embryos, and age restriction for women who were allowed to receive treatment for infertility.

Jegede and Fayemiwo (2010) examined cultural and ethical considerations regarding assisted reproduction in Nigeria. The researchers conducted in depth interviews with four infertile couples, two religious leaders, one gynecologist, a nurse and an herbalist. Several cultural themes emerged from the interviews including patriarchy, polygamy, and legitimacy of the children born through assisted reproductive technology. The ethical themes that emerged from the interviews included the decision-making process, side effects of treatment, psychological hardship brought on by the experience of infertility, and discrimination against children who were born using infertility treatment.

In the United States, Missmer, Seifer, and Jain (2011) compared experiences of infertile women from four different racial/cultural backgrounds: White, African American, Hispanic, and Asian women. The results indicated that African American and Hispanic participants had been attempting to get pregnant longer than White participants. It was also revealed that African American and Hispanic women had more difficulty accessing treatment, paying for treatment, and getting time off from work. African American women reported more concern about disappointing their spouses compared to the other cultural groups and Asian women reported more concern about the social stigma of infertility.

Gourounti, Lykeridou, and Vaslamatzis (2012) examined the relationship between marital satisfaction and level of distress, communication with one's partner and level of distress, and amount of communication with others and level of distress in a group of Greek infertile women. The results indicated that lower levels of marital satisfaction and lower amount of communication with partner were associated with higher levels of anxiety and depression. Also, increased communication with partner was associated with higher levels of marital satisfaction. Communication with others about infertility was not shown to be related to marital satisfaction, anxiety, or depression.

Overall, it appears that neither the experience of infertility, nor its psychological, emotional, and relational impact on the couple are unique to any country or culture. The studies, however, do show gender differences in the way men and women experience infertility. McDaniel, Doherty and Hepworth (2014) argued that in

general, women have been expected to take most of the responsibility for the couple's reproduction. This can explain why women are the subjects of more studies on infertility and are shown to be impacted more negatively by the experience of infertility.

Summary

The literature cited above suggested that there is strong empirical evidence for including medical family therapists on the treatment team for many illnesses including infertility. Inclusion of medical family therapists in treating infertility patients is especially important since research shows that infertility can result in a variety psychological, emotional, and relationship issues. This literature review also showed that infertility is a prevalent condition that influences individuals and couples across cultures but may be experienced differently by men and women due to differences in socialization.

Chapter III

METHODOLOGY

This section discusses the processes through which the author of this qualitative and descriptive study collected information on physician's referral practices to mental health providers, their attitudes toward working with medical family therapists, and their perspectives on the emotional, psychological, and relationship issues that infertility couples experience. Specifically, this section provides information on the study design, targeted participants, the data collection process, the instrument that was used to collect information from the participants, and analysis of data.

Research Design

This study used qualitative (Kvale & Brinkmann, 2009) and summative quantitative methods to collect and analyze information on infertility physicians' referral patterns to mental health professionals and attitudes toward the field of marriage and family therapy and their perception about some of the non-medical issues that may impact treatment of infertility patients. Descriptive questions focused on the participants' referral patterns and their familiarity with the field of medical family therapy while the qualitative questions gathered information on the emotional, psychological, and relationship, ethical/religious/cultural issues that infertility patients experience while receiving infertility treatment as well as gender differences in the way patients respond to these issues. Open-ended questions were chosen to collect information for this study because the study questions had not been examined

previously by other researchers and, therefore, there was limited knowledge in this area.

Participants

Demographic Characteristics

Participants of this study were 13 reproductive endocrinologists who were licensed to practice in the United States. Eleven of the reproductive endocrinologists who completed the survey were male (84.6%) and two were female (26.4%). The majority of the participants were Caucasian (*n*=11). One participant chose "other" but did not specify and one explained that he did not want to answer the question about ethnicity because he did not believe it was relevant.

Inclusion and Exclusion Criteria

The inclusion criteria for this study were being licensed as a physician in the United States and having completed a residency in obstetrics and gynecology followed by a three-year fellowship in reproductive endocrinology. The last criterion was chosen because it set apart reproductive endocrinologists as specialists in the field of infertility as opposed to other physicians who may treat infertility. Gordon and DiMattina (2011) explained that although reproductive endocrinology is a subspecialty of obstetrics and gynecology and requires three extra years of training, many obstetricians/gynecologists also provide infertility treatment. Therefore, for the purpose of this study, doctors who had not been trained as reproductive endocrinologists were excluded. This exclusion criterion provided more consistency in the educational backgrounds of the participants. It was also based on the

assumption that reproductive endocrinologists work with more infertile couples and therefore have more experience with how receiving infertility treatment affects their patients since infertility is the only focus of their practice as opposed to OBGYNs for whom infertility is only a portion of their practice.

Descriptive Characteristics

All of the participants reported that they had completed a residency in OBGYN and a fellowship in reproductive endocrinology. Participants were asked to use one of the five categories that described the number of years that they have been in practice. Table 1 summarizes the participants' responses.

Table 1

Participants' Years of Experience

Number of Years in Practice	***f***
0-5	1
6-10	1
11-15	1
16-20	1
25 +	9

Nine participants chose "more than 25 years", one chose "16-20 years, one chose "11-15 years, one chose "6-10 years", and one chose "0-5 years". When asked about their familiarity with the field of medical family therapy, 10 participants (76.92%) reported that they were not familiar with medical family therapy and three (24.08%) indicated that they were familiar with medical family therapy. However, out of the three participants who indicated that they were familiar with medical family therapy, only one reported that he referred his patients to marriage and family therapists.

Recruitment

A list of fertility clinics in the State of Texas was compiled by the researcher using an online search. The researcher contacted the managers for each clinic by phone (see Appendix A) and explained the study objectives and asked them to forward an e-mail containing the link to the study questions to the doctors who worked at the clinic (see Appendix B). A reminder e-mail was sent to the office managers three weeks after the initial e-mails were sent. These attempts generated five completed surveys. In order to gather more data and eliminate the office managers from the data gathering process, the researcher purchased 196 mailing addresses of reproductive endocrinologists who were licensed to practice in the United States from the American Society for Reproductive Medicine. A letter, which was a printed version of the recruitment e-mail (see Appendix C), was sent to each purchased address. This was done after receiving approval from Texas Woman's University Institutional Review Board (see Appendix D). This strategy resulted in eight more completed surveys which brought the total number of completed surveys to 13.

Data Collection

Data were collected using an online survey. A link to the study instrument on Psych-Data was e-mailed or sent in a letter to 19 infertility clinics in the State of Texas and 196 reproductive endocrinologists in other states. The purpose of the study, potential risks for participants, time requirement, and contact information for the principal investigator and faculty advisor were provided in the e-mail as well (see

Appendix E). It was explained to participants that by clicking on the link provided in the e-mail, they would consent to participating in the study and would be directed to first page of the study on PsychData. Participants were also given the opportunity to request a copy of the results by providing their e-mail address and the name and contact information of their favorite charity. The researcher's informal discussions with several physicians revealed that as a group, physicians are not likely to take the time to answer research questions. In order to increase their motivation, participants were informed that they can provide the name of their favorite charity to be entered into a drawing to win one of three $50 charity donations.

Instrument

The instrument that was created for this study by the researcher has two sections (see Appendix D). The first section collected demographic information such as age, gender, and years of practice and included survey questions about their familiarity with the field of MFT and their referral practices to mental health professionals. This section also documented that the participants had competed a residency in OBGYN and a fellowship in reproductive endocrinology.

The second section of the instrument included open-ended questions which explored the attitudes of infertility physicians toward medical marriage and family therapy; their reasoning behind their referral practices; their views on the emotional, psychological, and relational issues that their patients experience as the result of infertility; and how marriage and family therapy could be helpful to their patients. The instrument also included questions about ethical and cultural issues that the

participants' patients had experienced during treatment and gender differences in response to infertility. The questions for this instrument were created by the researcher based on review of the relevant literature and by consulting a reproductive endocrinologist. After the instrument was created, it was reviewed by this reproductive endocrinologist for content validity. This reproductive endocrinologist did not participate in this study.

Data Analysis

Data from the closed-ended survey questions was used to calculate demographic information and frequencies. The demographic information that was collected included gender and ethnicity. The frequency information included years in practice, referral patterns to mental health professionals including marriage and family therapists, and their familiarity with the field of medical family therapists.

Participants' responses to the open-ended questions were coded to identify themes (common clusters of meaning). This was done using a meaning coding system which involved assigning a term to a group of words that convey certain meaning (Kvale & Brinkmann, 2009). Coding allowed the researcher to categorize participants' responses to open-ended questions. To analyze data gathered in this study, data-driven coding was used. In data driven coding, the researcher starts without codes and develops codes as he or she is analyzing the data (Kvale & Brinkmann, 2009). In order to increase validity of the results, analyst triangulation was performed (Patton, 1999). Two co-coders analyzed the data independently and the results were compared to the researcher's analysis.

Role of the Researcher

All interviews are subjective (Fontana & Frey, 2005). Therefore, in a qualitative study that uses interviews to gather data, it is impossible to separate the researcher from the study. In this study, however, the participants received the study questions in a written format and answered them also in a written format through an online venue. Using an online survey decreased the influence of the researcher on how participants answered the questions.

The questions that were used to gather data for this study were created by the researcher and were inevitably influenced by her personal and academic background. Wooley, Butler, and Wampler (2000) argued that the researcher's emotions and personal experiences influence the coding process. This researcher has personal experience with infertility and has received several types of infertility treatment. Therefore, it is possible that the survey questions that were developed by the researcher or the researcher's interpretation of the results may have been influenced by her personal experience with infertility. In order to minimize the influence of the researcher's personal experience on the results, the researcher worked with two co-coders and worked diligently to be aware of any personal biases.

Summary

This study used an online instrument to collect information on referral practices of infertility physicians to mental health professionals, their views on advantages and disadvantages of working with medical family therapists, and their perspective on some of the non-medical issues that their patients experience as well as gender

differences. Participants of this study were 13 physicians who have completed a fellowship in reproductive endocrinology and practiced in the United States. Responses to the demographic questions revealed that the majority of the participants were Caucasian, male, and had more than 25 years of experience in the field of reproductive endocrinology. Quantitative data were used to report demographic and descriptive statistics and qualitative data were coded in order to identify themes and sub-themes

CHAPTER IV

RESULTS

This chapter will discuss the research questions that guided this study and the relevant findings. An online survey, which contained demographic questions, close-ended questions, and open-ended questions, was sent to 19 infertility clinics in the State of Texas and 196 reproductive endocrinologists nationwide. The participants' responses to the demographic and close-ended questions were used to report descriptive information about the participants. Qualitative methods were used to analyze responses to the open-ended questions which lead to creation of several themes and sub-themes (Kvale & Brinkmann, 2009).

Online Survey

The online survey included demographic questions, three close-ended questions, and eight open-ended questions. One of the close-ended questions asked participants whether they currently refer their patients to mental health providers. A follow-up multiple choice question asked participants who reported that they refer their patients for mental health treatment to identify the specialties of the mental health professionals to whom they refer their patients. The participants' responses to these two questions were used to answer the first research questions that guided this study which were designed to gather information about referral patterns of infertility specialists to mental health provides. The third close-ended question that was included in the online survey inquired about the participants' familiarity with the field

of medical family therapy. Responses to this question were used as supplemental information for one of the themes that emerged from the participants' responses to the open-ended questions.

Research and Interview Questions

This qualitative study included four research questions (RQ) from which three close-ended questions and eight interview questions were developed. The research questions and corresponding open-ended questions are as follows:

Research Questions

RQ 1. What are the referral practices of infertility physicians toward mental health providers including medical family therapists?

As mentioned previously, this research question was addressed by the three close-ended questions that were included in the survey.

RQ 2. From the perspective of the infertility specialist, what are some of the advantages and disadvantages of collaboration with medical family therapists?

Interview questions (RQ2).

1. In your opinion, what might be some of the advantages of working with a medical family therapist for you as a physician?
2. In your opinion, what are some of the disadvantages of working with a medical family therapist for you as a physician? How do you believe those issues can be resolved?
3. In your opinion, what are some of the advantages of working with a medical family therapist for your patients?

4. In your opinion, what are the disadvantages of working with a medical family therapist for your patients? Please explain how those issues can be resolved.

RQ 3. From the perspective of the infertility specialist, what are some of the psychological, emotional, relational, ethical, religious, and cultural issues that infertility patients experience as the result of receiving treatment and how therapists can be helpful in alleviating these problems?

Interview questions (RQ 3).

5. Based on your experience, what emotional, psychological, and relationship issues do your patients experience as the result of receiving a diagnosis of fertility or undergoing infertility treatment that can be discussed with a medical family therapist?

7. What kind of ethical issues do couples have to deal with as they make decisions regarding their infertility treatment?

8. In your experience, what type of cultural and religious issues do your patients experience as the result of infertility?

RQ 4. From the perspective of the infertility specialist, how are the experiences of men and women different in the type of emotional, psychological, and relational issues that they experience as the result of receiving infertility and the way they cope with those issues?

Interview question (RQ 4).

6. What differences have you noticed between men and women in the type of emotional, psychological, and relationship issues that they experience and the type of coping mechanisms that they use?

Referral Patterns of Infertility Physicians

The first research question that guided this study was about the referral patterns of reproductive endocrinologists to mental health providers. The online survey included a close-ended question which asked participants whether they referred their infertility patients for mental health treatment. The majority of the reproductive endocrinologists who participated in this study reported that they referred their patients to mental health providers (*n*=12). Participants were then asked to identify the mental health specialists to whom they referred their patients using a multiple-choice question. This question offered the following options: psychologist, counselor, marriage and family therapist, social worker, and other. Table 2 summarizes the participants' responses:

Table 2

Participants' Referral Patterns

Participant	Psychologist	Social Worker	Counselor	MFT	Other
1	X				
2	X	X			
3	X		X	X	
4			X		
5					X
6	X				
7	N/A				
8	X				
9	X	X			
10		X			
11	X				
12	X				
13	X			X	

As Table 2 illustrates, nine participants reported that they referred their patients to psychologists, three reported that they referred to social workers, two reported that they referred to counselors, and two reported that they referred to marriage and family therapists. Table 2 also shows that some participants refer to more than one specialty. Three of the participants indicated their preference for specialties in their responses to the open-ended questions as well. These participants stated that they regularly referred to psychologists or social worker and did not see the need to refer to marriage and family therapists. Two of these participants also reported that they employ a full-time psychologist in their practice and only refer to other mental health providers if their psychologists recommend it. As one participant explained:

> I have not worked with a "family therapist" and have been blessed with the full-time practice of our psychologist to have consultation with patients, so I don't really understand the need for a "family therapist". (Participant 11)

Qualitative Findings- Themes

This researcher and her two co-coders identified three themes from the physician responses to the open-ended questions: *Referral to MedFTs; Non-Medical Issues;* and *Physicians' Unfamiliarity with MFT.* The theme Referral to MedFTs had two subthemes: a) Advantages and b) Disadvantages. The theme Non-Medical Issues had five subthemes: a) Emotional/Psychological/ Relational; b) Ethical/Religious/ Cultural; c) Gender Differences; d) Culture/Gender; and e) Special Issues. The theme Physicians' Unfamiliarity with MedFT had no subthemes.

Table 3 summarizes the relationships between the research questions, themes, and sub-themes. Since Research Question 1 focused on physician referral patterns and was presented earlier, themes from the physician responses from research questions 2, 3, and 4 are included in Table 3.

Table 3

Research Questions, Themes, and Sub-Themes

Research Question	Theme	Sub-Theme
From the perspective of the infertility specialist, what are some of the advantages and disadvantages of collaboration with medical family therapists?	**Referral To MedFTs**	**Advantages** **Disadvantages**
From the perspective of the infertility specialist, what are some of the psychological, emotional, relational, ethical, religious, and cultural issues that infertility patients experience as the result of receiving treatment and how therapists can be helpful in alleviating these problems?	Non-Medical Issues	Emotional/ Psychological/ Relational Ethical/Religious/ Cultural Special Issues Culture/Gender

Referral to MedFTs

In order to identify factors that could influence referral practices of reproductive endocrinologists to medical family therapists, four open-ended questions were included in the survey. These questions were used to address Research Question 2 which inquired

about advantages and disadvantages of working with medical family therapists from the perspective of the participants. Coding of the responses revealed the following two sub-themes: *Advantages* and *Disadvantages*.

Advantages. Overall, 8 out of 13 participants stated that they believed there were advantages in referring their patients to medical family therapists for themselves or for their patients. The two most commonly mentioned advantages of working with a medical family therapist was helping patients cope with issues related to infertility and working with someone who specializes in the subject of infertility. Five of the respondents stated that one of the advantages of working with a medical family therapist is that their patients can receive help in coping with infertility related emotional problems. The followings are examples of responses that highlighted this advantage:

- Helps ease burden of treatment emotional up/downs, emotional toll. (Participant 1)
- My patients would learn coping strategies to work through the stressors that frequently accompany treatment. (Participant 2)

Five participants stated that it was important for the therapists who work with infertility patients to specialize in the field of infertility and have knowledge of specific issues that infertility patients may experience. According to these participants, a therapist who specializes in the field of infertility could help patients better cope with infertility related issues and may help patients feel more

uncomfortable with seeking therapy compared to a general therapist. The importance of specialization was stated in the following examples:

- More specialized. (Participant 5)
- Useful to have someone whose focus is on the couple and who has infertility knowledge. Perhaps less intimidating than a general therapist/counselor/social worker. (Participant 6).

Saving time for the physician was another commonly mentioned response under advantaged of collaborating with medical family therapists. Some of the participants stated that they did not have the time or the training to help patients with emotional or relationship issues. Therefore, they emphasized, collaborating with a medical family therapist who specializes in infertility could be helpful to them and their patients.

- May help offload burden of in-depth counseling and afford time to focus on treatment. (Participant 1)
- Psychological counseling takes a lot of time and requires multiple visits, and as medical professionals we don't have a lot of time. It's just impractical to spend more than 30 minutes with every visit in our field. (Participant 4)

Other less frequently mentioned advantages of referring to medical family therapists included preparing patients for infertility treatment, sharing pertinent information with the physician by the therapist, helping couples with decision making, assessment of relationship and family dynamics, and providing appropriate referrals. The following examples highlight these advantages:

- Assessment of the emotional and psychological components of the couple's fertility issues, Preparation for the roller coaster of fertility treatment and role of a parent. (Participant 3)
- Most of my patients do appreciate being referred to a fertility counselor who prepares them for the treatment and provides or refers to specialists that can provide appropriate additional therapy/treatment. (Participant 3)
- I have not routinely referred patients; when I have, the shared information has helped me and the patient. (Participant 7)

Disadvantages. Five out of thirteen participants reported that they did not see a disadvantage in referring their patients to a medical family therapist. Eight participants, however, mentioned specific disadvantages in working with medical family therapists. Cost and time requirement for patients were the most frequently mentioned responses. The following examples highlight these disadvantages:

- Financial burden- third party reimbursement/insurance coverage and additional time commitment- Already constrained due to fertility therapy requirement. (Participant 1)
- Expenses and time required for patients to see a fertility counselor I don't see any resolution. (Participant 3)
- I don't refer all patients pursuing infertility to a counselor mainly due to cost concerns. (Participant 4)

Participants also mentioned adding complexity/interference with treatment and patient discomfort as disadvantages of working with a medical family therapist. These concerns were stated in the following examples:

- Additional complexity to the process. (Participant 1)
- Occasionally, fertility counselors allow themselves to advise patients on medical matters of a particular fertility treatment which confuses the couple. (Participant 3)
- Some infertile couples balked of having to see someone to counsel them on infertility. (Participant 4)

Non-Medical Issues

The qualitative coding of the responses to open-ended questions 5, 7, and 8 identified different types of non-medical issues that the participants' patients have experienced as the result of their diagnosis and treatment for infertility. These questions were used to gather information about Research Questions 3 which inquired about the emotional, psychological, relational, ethical, religious, and cultural issues that the participants' patients generally experience. Under this theme, the following sub-themes were identified:

Emotional/psychological/relational. Question 5 asked participants about the emotional, psychological, and relationship issues that their patients have experienced as the result of infertility. Different levels of desire/interest for treatment between the partners was the most frequently mentioned response as seen in the following examples:

- Different levels of interest in pursuing therapy (Participant 2)
- Differences between partners acceptance to treatment (Participant 5).
- Conflict regarding reasons/level of desire for pregnancy (Participant 7).

Other issues that were listed by the respondents included marital problems such as infidelity and divorce, sexual dysfunction, pressure or isolation from extended family, stress, depression, anxiety, guilt, loss of self, suicide, and substance abuse. Several of the participants mentioned that their patients often felt that they were being punished for past decisions and some blamed their partners for the infertility issues that they were experiencing. The following examples highlight some of these responses:

- Loss of control, loss of sense of self as competent, loss of sexuality, being punished for some past misdeed, seeing partner as failure, fear of losing partner, disagreements about what therapies to pursue. (Participant 6)
- All you can think of: stress, erectile dysfunction/loss of libido, infidelity, depression, blame, self-doubt, anger, substance abuse, divorce, suicide. (Participant 7)

Gender differences. Open-ended Question number 6 asked participants to identify differences that they had noticed between their male and female patients in response to infertility related issues. This question was designed to address Research Question 4, which inquired about the different ways in which men and women experience and cope with infertility issues. Three of the thirteen participants stated that "there were not major differences between men and women in their response to infertility". Ten participants however, mentioned specific differences between the

two genders. The most frequently mentioned response was related to each gender's coping style with infertility related issues. According to the participants, women tend to talk about their problems with others and receive more emotional support while men tend to be closed-off or passive. Some respondents mentioned that women may experience more intense emotions but others mentioned that men tend to show more anger, hostility, blame and the desire to help their partner/fix the problem. These differences in the way men and women respond to infertility related issues were stated in the following examples:

- Women tend to open up more, men tend to redirect to women/stay closed (Participant 1).
- Women more emotional and willing to discuss issues directly. Men apathy as well as anger and hostility (Participant 9).
- Minimal differences with inability to conceive, but major differences with RPL (recurrent pregnancy loss). Women universally seem to experience this much more than men including PTSD necessitating serious psychological intervention/medication (Participant 11).

Ethical/religious/cultural. Survey questions 7 and 8 were used to collect information about the ethical, religious, and cultural dilemmas that the participants' patients have experienced while receiving infertility treatment. These two questions, along with Survey Question 5, were used to gather information about research question 3 which inquired about non-medical infertility related issues. The two most frequently mentioned ethical, religious, and cultural issues were as follows: 1)

assisted reproduction being against religion/moral values, and 2) issues regarding unused embryos. Other less frequently mentioned responses included termination of abnormal embryos and pregnancies, stigma, genetic testing, and sharing information with children and others. The following is a set of examples that mentioned these factors:

- Feelings about "playing God" Feelings about having an embryo burden. (Participant 2)
- Conflict with personal and religious beliefs; isolation from family and community; when to tell children their biological origin; whether to share decisions with anyone. (Participant 7)
- Infertility therapies (artificial insemination; IVF) are not approved; termination of abnormal embryos/pregnancies is not approved. (Participant 8)
- Most common is the belief that IVF is not acceptable due to their religion so they can only do OI (ovulation induction) and timed IC (intercourse) or IUI (intrauterine insemination). As with non-IVF patients, many could not terminate a fetus with abnormalities. (Participant 11)

Culture/gender. Several responses indicated cultural issues that were also influenced by gender. These responses address both Research Questions 3 and 4. One of these issues which was mentioned by both Participant 11 and Participant 13, who appeared to be in the same practice at the time that they completed the survey, was the issue of *arranged marriage*. According to these two participants, in some cultures where arranged marriages are common, couples may not be able to, or

choose not to, have intercourse. As the result, these couples seek infertility treatment when they want to have children. Another issue that was mention by some participants was the social status of women as it relates to infertility. The following responses mentioned how these cultural/gender factors influence infertility treatment:

- Asian couples tend to think infertility issues are only female related; and Asian males are less likely to participate in the evaluation/treatment process (Participant 8)
- My female patients in many cultures may be "identified" as having a problem conceiving while it may be a male factor, or even cultural situations such as "arranged marriages" in which heterosexual couples do not have intercourse by choice and choose instead to do artificial insemination with the husband's sperm. (Participant 11)
- Most common in my practice is the second-class status of women in choosing a partner/husband. Many women are in "arranged marriages" and have never had intercourse unless forced by their husbands. I often do timed insemination at couple's request if they do not have intercourse. (Participant 13)

Special issues. For the purpose of this analysis, the topic of special issues refers to the problems or circumstances that were reported by the participants to be highly stressful for their patients and may need special attention from medical family therapists. Several of the participants stated that although they do not refer their patients for mental health treatment regularly, they always refer when they work with

patients who need to use third party reproduction methods such as donor sperm/egg or surrogates. Some of the participants also mentioned miscarriage or repeated pregnancy loss as a highly stressful situation for their patients.

- The acceptability of using donor sperm; how many individuals can it take to create a family. (Participant 10)
- Patients identified with needs to see her [psychologist] are referred and the consultation is optional. However, with sperm, egg donation, same sex couples, gestation carriers, etc. it is required to have a consultation with our full-time psychologist who only does infertility counseling (including recurrent pregnancy loss). (Participant 11)
- My Reproductive Endocrinology and Infertility practice employs a full-time psychologist for these issues….Our program requires all patients using donor egg or sperm have a consultation with her and this is extremely beneficial. She is also a great resource for our staff. She has been with our practice for greater than 20 years and has limited her practice to the area of infertility as well as miscarriage and recurrent pregnancy loss. (Participant 13)

Physicians' Unfamiliarity with MedFT

Although this theme is not directly related to the research questions that guided this study, it was apparent from the participants' responses that their level of knowledge about medical family therapy influences their referral practices toward medical family therapists. The participants' responses to the closed-ended question about their familiarity with the field of medical family therapy revealed that most of

the respondents were not familiar with this field. This was also evident in some of their responses to the open-ended questions. The phrases "I don't know" and "Unknown" were used nine times by the 13 physicians who participants in this study. Also, several questions were left unanswered by the participants, which may be due to participants' unfamiliarity with medical family therapy (or could be due to fatigue, lack of interest, or other factors).

Also, some participants provided answers that were based on incorrect assumptions about the field of marriage and family therapy in general. This was most evident in three of the responses. One of the participants believed that there were no established qualification and licensing criteria for medical family therapists. Two other responses (both from one participant) appeared to be based on the assumption that family therapy always includes family interventions and involves the extended family of the client, which in the respondent's opinion, could make patients uncomfortable and make the treatment process more complicated:

> No experience with a medical family therapist but I would guess I would think it would be less except if my psychologist suggested a "family" intervention. Infertility is a very private, sometimes uncomfortable diagnosis for the couple, and until they "need" to inform other family members, this may also add stress to their evaluation and subsequent treatment.…I have a hard enough time embracing a husband in to this treatment, and I would not be comfortable with family interference (i.e.. in-laws, etc). (Participant 11)

Overall Patterns in Participants' Responses

The responses to the survey questions, both close-ended and open-ended, provided an overview of the participants' attitudes toward mental health professionals including medical family therapists, their understanding of the advantages and disadvantages of collaborating with medical family therapists, and their familiarity with the non-medical issues that their patients experience due to infertility.

Referral to Mental Health Providers

The majority of the participants (12 out of 13) reproductive endocrinologists who participated in this study reported that they referred their patients to mental health professionals. However, analysis of the open-ended questions indicated that most of the respondents may not refer their patients for mental health treatment on a regular basis and only refer them as needed or in situations when highly stressful circumstances, such as using donor gametes, are present. As mentioned previously, only two of the participants reported that they employ full-time health-care professionals in their practice.

Familiarity with MedFT and Benefits of Referring to MedFTs

Based on the participants' responses to the first four open-ended questions, which asked about advantages and disadvantages of working with medical family therapists, it appears that four of the participants have a clear understanding of how collaborating with medical family therapists can be beneficial to them and their patients. Two of these participants reported that they were familiar with the field of medical family therapy but only one reported that he referred his patients to marriage

and family therapists. The other participant who indicated that he was familiar with medical family therapy reported that he referred his patients to psychologists.

Eight of the respondents reported that they were not familiar with medical family therapy and provided limited responses to the open-ended questions about advantages and disadvantages of working with medical family therapist suggesting that the paragraph that was included in the questionnaire to provide information about medical family therapy may not have been enough for them to even answer these questions hypothetically. One respondent who reported that he was familiar with medical family therapy, did not respond to the questions about advantages and disadvantages of working with MedFTs and reported that he referred his patients to psychologists and not marriage and family therapists.

Physician Sensitivity to Non-Medical Issues

Analysis of the responses to open-ended Questions 5-8, which asked about non-medical issues that the participants' patients had experienced as the result of infertility treatment, revealed that four of the participants appear to have detailed knowledge of the emotional, relational, ethical, religious, and cultural issues that infertility can cause for their patients, while seven participants demonstrated some understanding of such issues and two did not respond to these questions. One of the two participants who did not answer the four open-ended questions about the non-medical issues that infertility patients experience chose to use the space provided in the online survey to criticize the researcher on the poor construction of the online

questions and suggested that the survey questions were “too complex for such as simple questionnaire”.

Summary

This study used an online survey to collect descriptive and qualitative information from 13 reproductive endocrinologists. The participants’ responses to the multiple choice and close-ended questions revealed that the majority of participants, who reported that they refer their patients to mental health providers, referred their patients to psychologists. These responses also revealed that most of the participants were not familiar with the field of medical family therapy. Qualitative coding of the responses to the open-ended questions revealed the following themes: 1) Referral to MedFTs, 2) Non-Medical Issues, and 3) Physicians’ Unfamiliarity with MedFT. Under Referral to MedFTs, two sub-themes were identified: a) Advantages and b) Disadvantages. Under Non-Medical Issues, five sub-themes were identified:

a) Emotional/Psychological/Relational, b) Gender Differences,

c) Ethical/Religious/Cultural, d) Culture/Gender, and e) Special Issues

CHAPTER V

DISCUSSION

This section includes an overview of the study results, comparison of the results with the scientific literature, and a discussion on how the results fit with the theoretical model that guided this study, the biopsychosocial model (Engel, 2012). This section also discusses the limitations that could influence the generalizability of the results; implications for mental health providers, including medical family therapists; and recommendations for future research.

Brief Overview

The purpose of this online study was to examine the referral patterns of infertility physicians toward mental health providers, their beliefs on the advantages and disadvantages of collaboration with medical family therapists, and their views on the emotional, psychological, relational, ethical, religious, and cultural issues that their patients experience as the result of infertility and the gender differences that they had observed in the way their patients cope with those issues. This study used primarily qualitative methods of gathering information, but also included close-ended questions which were used to gather demographic and descriptive information.

Discussion of the Findings

Comparison of the Sample with National Statistics

The gender composition of the participants of this study was an unexpected finding for this researcher since the majority of the participants were male but the national

statistics show that the majority of the OBGYNs who practice in the United States are female (Vasser, 2015). However, an online search revealed that the gender composition of the male participants in this study was consistent with the national statistics for reproductive endocrinologists in the United States. According to a study conducted in 2014 which examined demographic characteristics of 336 reproductive endocrinologists who practiced in the United States, 61% of the participants were male (Barnhart et al., 2016). These findings indicate that although the majority of the OBGYNs in the United States (58.7%) are female (Rayburn, 2017), most of the OBGYNs who specialize in reproductive endocrinology are male, suggesting that a smaller number of female OBGYNs go into this specialty. This may influence the findings of studies that use reproductive endocrinologists as samples because it limits the results to the views of a mostly male group.

Referral Patterns of Physicians to Mental Health Providers

All but one of the infertility specialists who participated in this study reported that they refer their patients to mental health professionals. There is conflicting information in the scientific literature about referral practices of physicians to mental health providers. This finding, however, is not consistent with previous studies that have examined the referral practices of physicians to mental health providers. Marandola (1996) found that most physicians were confident in treating patients with mental health issues and did not see the need to refer most of them to mental health providers. Kravitz et al. (2006) also reported that only 36% of the mental health related visits to primary care and internal medicine doctors resulted in referral for mental health treatment.

However, in a study of mental health referrals of primary care physicians, Steele et al. (2012) reported that the majority of the primary care physicians were not confident in their ability to treat mental health issues. One explanation for these contradictory results may be the age of the studies. It is possible that in recent years, physicians have become more aware of the need to refer their patients with mental health issues to providers who specialize in mental health treatment.

Several factors can be considered as explanation for high referral rates of the participants of this study. Infertility diagnosis and treatment can have a strong emotional psychological effect on patients and can have relational, religious, ethical, and cultural implications for them (McDaniel et al, 2014). This may prompt more referrals to mental health providers by infertility physicians comparted to primary care physicians. Also, infertility physicians often work with couples as opposed to other specialists who generally have one identified patient. As the result, it is possible that infertility physicians may be more inclined to refer their patients for relationship issues that can result from infertility treatment.

Preferred specialties. The majority of the participants who reported that they refer their patients to mental health professionals indicated a preference for psychologists, followed by social workers, counselors, and marriage and family therapists. Two of these participants stated that they employ a full-time psychologist in their practice. These results are consistent with previous studies on referral patterns of primary care physicians which have shown that physicians are more likely to refer their patients with mental

health needs to psychologists and psychiatrists and least likely to refer them to marriage and family therapists (Marandola, 1996; Masdon, 2009).

Themes

The participants' responses to the open-ended questions of the survey were analyzed using qualitative methods (Kvale & Brinkmann, 2009). This analysis revealed three overall themes and seven sub-themes:

1) Referral to MedFTs: a) Advantages and b) Disadvantages

2) Non-Medical Issues: a) Emotional/Psychological/Relational,

b) Ethical/Religious/Cultural, c) Gender Differences, d) Gender/Culture, and

e) Special Issues

3) Physician's Unfamiliarity with MedFT

Referral to MedFTs. Infertility has been shown to cause a variety of emotional and relational problems for patients (Klemetti et al., 2010; Lechner et al., 2007: McDaniel et al. , 2014). Emotional and relationship issues can, in turn, influence the outcome of infertility treatments (Morreale, Balon, Tancer, & Diamond, 2011; Peivandi, Masoodzadeh, Moaodi, and Babaei , 2011). Despite scientific findings that suggest that collaboration with marriage and family therapists positively influence the treatment outcome for a variety of illnesses (Aamar, Lamson, & Sminth, 2015; Hodgeson, McCammon, Marlowe, & Anderson, 2012), previous studies have shown that collaboration between physicians and marriage and family therapists is very limited. For example, Clark et al. (2009) reported that although their participants, who were 137 family physicians practicing in the United States, believed that 45% of their patients

could benefit from marriage and family therapy, only 5% of those patients were referred to marriage and family therapists. These reports are consistent with the findings of the current study which indicated that infertility physicians prefer other mental health specialties and are not likely to refer their patients to marriage and family therapists.

Considering the low referral rates of physicians to marriage and family therapists, including medical family therapists, one of the goals of this study was to identify factors that could influence the creation and maintenance of referral relationships between infertility physicians and medical family therapists and some specific steps that medical family therapists could take in order to address these issues. This goal was achieved by asking participants to identify possible advantages and disadvantages of working with medical family therapists.

Advantages. The results of this study identified several advantages of working with medical family therapists from the perspective of infertility physicians. Saving time for the physician was among the most frequently mentioned responses. Previous studies have found that physicians are under time constraints. For example, a study on the factors that cause physician burn out revealed that time limitation is among the factors that cause stress for the family physicians (Conrad et al., 2010). Another study which explored the experiences of patients in the primary care setting partially attributed negative experiences of patients to time constraints (Rocque & Leanza, 2015). Similar to the studies mentioned above, participants of this study reported that they do not have the time and training to focus on the non-medical issues, such as emotional and relational issues, that their patients experience. As the result, they stated, referring their patients to

a medical family therapist could decrease the need to provide psychological counseling to their patients and making the treatment process more efficient.

Another important advantage of working with medical family therapists from the perspective of infertility specialists who participated in this study was the help that their patients could receive in preparing for and coping with the emotional, psychological, and relational issues that they may experience due to infertility as well as making decisions regarding their treatment. Peterson et al. (2012) outlined three types of services that infertility counseling can provide to infertile couples: information gathering and help with decision making; support; and short-term crisis management. These services are consistent with the findings of Norre and Wischmann (2011) who reported that physicians who work with infertility counselors expect that counselors prepare their patients for the emotional impact of infertility treatment. This expectation is supported by findings of previous studies which have shown that psychological interventions, including marriage and family therapy, can be effective in helping patients who are experiencing infertility. For example, Najafi, Soleimani, Ahmadi, Javidi, and Kamkar (2014) examined the effectiveness of emotionally focused couple therapy on marital satisfaction and quality of life of 15 couples who were receiving infertility treatment. The authors reported that the quality of life and marital satisfaction of the couples who received emotion focused couple therapy improved significantly compared to the control group. Also, another study, which examined the impact of a marital relationship enrichment program in helping infertile couples, revealed that the program significantly

increased the couples' marital satisfaction, intimacy, and sexual satisfaction (Masoumi et al., 2017)

Several of the infertility physicians pointed to the importance of referring their patients to a therapist who specializes in the field of infertility as opposed to a general therapist. The importance of specialization for infertility counselors is supported by the available literature as well. Although in the past infertility counselors had a supportive role in treatment of infertility issues, their role has recently changed in some settings as they are more and more included in pre-treatment and day-to-day visits of infertility patients (Peterson et al., 2012). Therefore, it is important for infertility therapists to have some knowledge of the medical aspects of infertility as well as its emotional and relational impact on patients. Peterson et al. (2012) emphasized the need for therapists to be familiar with issues that infertility patients may experience including sexual dysfunction, gender differences in the way couples experience infertility, issues concerning third party reproduction and its medical and legal aspects, and disclosure of the nature of their conception with children.

In a qualitative study on the counseling needs of infertility patients, Jafarzadeh-Kenarsari, Ghahiri, Zargham-Boroujeni, and Habibi (2015) found that infertility patients need help in the areas of emotional distress management, sexual counseling, marital counseling, and family counseling. Bokaie, Simbar, Ardakani, and Majd (2016) emphasized the impact of infertility of the couple's sexual relationship and insisted that couple therapists who work with infertile couples should have knowledge of sex therapy. Wolowelsky and Grazi (2014) argued that counselors should be familiar with the cultural

context and personal beliefs and values of their clients and how these factors can influence infertility treatment. Connor, Sauer, and Doll (2012) also argued that marriage and family therapists who work with infertility patients must have knowledge of the impact of the patients' religious beliefs on the ethical issues that patients experience and their decision regarding the use of infertility treatment.

Disadvantages. Although several of the physicians reported that they did not believe there was a disadvantage in collaborating with medical family therapists, some mentioned specific disadvantages such as time requirement, cost, discomfort, and lack of access or resources. Some of these concerns are supported by the available literature on utilization of mental health services by couples. Bradford, Mock, and Stewart (2016) argued that couples often do not pursue marital counseling due to the time requirement of attending counseling sessions and cost of treatment. Therefore, shorter treatment methods which can also decrease the financial cost of treatment can be beneficial to couples who experience infertility. Gorayeb, Bosari, Rosa-e-Silva, and Feriani (2012) reported that a brief five-week cognitive behavioral intervention significantly increased pregnancy rates for patients receiving infertility treatment while Bradford et al. (2016) suggested a two-session couple interventions, which according to the authors could eliminate some of the barriers of seeking treatment. Geyser (2015) also emphasized the importance of using evidence-based interventions in order to make the treatment process cost-effective for couples. In regard to lack of access or resources, Kravitz et al. (2006) reported that physicians were more likely to refer their patients for mental health treatment if mental health services were readily available to them, usually within 2 weeks. Steele et al.

(2012) also reported that long wait-time and long travel distance for patients were the most important barriers for physician referrals to mental health providers.

The current study revealed that one of the potential disadvantages of working with medical family therapists for infertility physicians is therapist interference with medical treatment. Two of the physicians reported that sometimes therapists interfere with infertility treatment by giving medical advice to patients. According to these participants, this interference can make the treatment process more complicated and cause confusion for patients.

This concern is not consistent with the available empirical evidence which indicate that psychotherapy increases the effectiveness of medical treatment for a variety of medical illnesses such as cancer, chronic pain, insomnia, and infertility (Eells, 2000). Although the effectiveness of medical family therapy on the outcome of infertility treatment has not been examined, counseling in general (Vizheh, Pakgohar, Babaei, & Ramezanzadeh, 2012) and specific psychotherapy approaches such as cognitive behavioral therapy, mindfulness interventions, and mind-body interventions have been shown to positively influence infertility treatment outcome for patients (Maleki-Saghooni, Amirian, Sadeghi, & Roudsari, 2017). Furthermore, medical family therapy has been reported to alleviate emotional issues that are caused by infertility (McDaniel, Hepworth Doherty, 1992). Since emotional issues have been shown to negatively impact the outcome of infertility treatment (Peivandi et al., 2011; Roony & Domar, 2018), it can be argued medical family therapy can positively influence infertility treatment outcome.

Non-medical issues. One of the goals of this study was to identify the non-medical issues that infertility patients experience from the perspective of the infertility specialists. Research has shown that individuals and couples can experience a variety of emotional and relational issues as the result of the diagnosis of infertility or infertility treatment (Canada & Schover, 2010; Daniluk & Tench, 2007; Garrity, 2001). This study however, explored the set of issues that physicians observe during their visits with their patients which can hinder the treatment process. Analysis of the responses to the open-ended questions that addressed the emotional, psychological, relational, religious, ethical, and cultural issues caused by infertility revealed one overall theme, Non-Medical Issues, and five subthemes:

Emotional/psychological/relational. Infertility has been shown to result in a variety of emotional issues (Lechner et al., 2007) and relational issues (Mogna, Alexandrescu, Katz, Stein, & Ganiats, 2004). Norre and Wischmann (2011) argued that the way infertility physicians communicate with their patients influences the emotional impact of the infertility diagnosis and treatment on patients, but sometimes the shared desire to produce results as quickly as possible may cause doctors to ignore the psychological issues that their patients experience. Therefore, it is important for infertility specialists to have knowledge of, and be sensitive to, the emotional, psychological, and relational issues that their patients experience.

The current study revealed that the majority of the participants were aware of the emotional, psychological, and relational issues that their patients experience while receiving infertility treatment. The most frequently reported issue under this sub-theme

was different levels of desire for infertility treatment between partners. However, a search of relevant literature revealed limited information about this problem. In fact, Tao, Coates, and Maycock (2012) who conducted a systematic review of qualitative studies on the impact of infertility on the marital relationship emphasized the need for future research on "congruency of couple's perception of infertility" (Discussion Section, para. 7).

Although it appears that the different levels of desire for treatment among the partners and its impact on infertility treatment has not been studied before, it is obvious that couples who are experiencing infertility are faced with many difficult decisions regarding infertility treatment (Conner, Sauer, & Doll, 2012). Johnson and Johnson (2009) reported that partners had a significant influence on infertility patients' decisions to seek treatment. The two partners, however, are not always in agreement regarding treatment decisions. Duthie et al. (2017) compared the family-building priorities for infertility patients and their partners and found that women emphasized having a child by any means while men put more emphasis on being genetically related to their children. Such differences in the type of infertility treatment that each partner is willing to use may hinder the treatment process for the couple. Schaller, Griesinger, and Benz-Jansen (2016) also found that among couples who were undergoing IVF, women were more concerned about the outcome of treatment, but men were more concerned about the risks and side effects of the treatment to their partner. These findings, along with the reports of the participants of the current study, point to the need for therapists to help couples make mutually accepted decisions about infertility treatment.

Other infertility related emotional, psychological, and relational issues that were revealed in this study were depression, anxiety, guilt, blame, grief/loss, infidelity or divorce, substance abuse, sexual dysfunction/decreased libido, suicide, and family pressure. These findings are consistent with the available literature although some have more empirical support, such as depression anxiety, and guilt (Hasanpoor-Azghdy, Simbar, & Vedadhir, 2014); grief/loss (Conner, Sauer, Doll, 2012); sexual dysfunction (Bakhtiari, Basirat, & Nasiri-Amiri, 2016; Mirblouk et. al, 2016; Piva, Lo Monte, Graziano, & Marci, 2014); and family pressure (Brito, 2018; Maher, Abdollahifard, Rahmanina, & Abdollahifard, 2014), while there is limited information about others such as divorce (Fledderjohann, 2017), suicide (Kerr, Brown, & Balen, 1999) and substance abuse (Karjane, Stovall, Berger, & Svikis, 2008).

Overall, it appears that the emotional, psychological, and relational issues that infertility specialists observe in their patients while providing treatment to them are similar to the issues that are reported by patients. The only exception is different levels of interest/desire for treatment between partners. Although this issue was the most frequently reported problem by the participants of this study, it is not reported as often in studies that have examined infertility issues from the perspective of patients. This discrepancy may be due to the nature of the issues that patients experience as the result of infertility. Some issues, such as depression, anxiety, or infidelity, may be considered private or patients may not find them relevant to their medical treatment, and as the result, they may not discuss them with their physicians. Other issues, however, such as different levels of desire for treatment, can directly impact the treatment process;

therefore, physicians may observe them more frequently. This explanation was supported by feedback from the reproductive endocrinologist who reviewed the online survey for content validity for the purpose of helping the researcher develop a valid instrument for this study. This reproductive endocrinologist explained that he and his colleagues rarely become aware of the non-medical issues that their patients experience due time constrains, unless those issues have direct impact on the treatment.

Gender differences. The majority of the participants reported specific differences between men and women in their response to infertility. A small number of participants, however, reported that they had not observed significant differences between male and female patients. There is support for both of these observations in the scientific literature, although a larger number of studies have found significant gender differences compared to those that did not find such differences.

Singh (2016) examined the emotional response and adjustment levels of men and women to infertility and reported no significant difference between the two genders. Other studies, however, have found significant gender differences in couple responses to infertility. In a study of adjustment levels of couples to infertility, Kroemeke and Kubicka (2018) reported that women experienced higher levels of depression but received more emotional support compared to men. These observations are consistent with the results of the current study which indicated that women experience more emotional issues compared to men but receive more social and emotional support due to their willingness to discuss their struggles with others as opposed to men who tend to stay closed off or passive.

The tendency for women to seek or receive more support compared to men has been shown in several other studies as well (Karlidere et al., 2007; Kondaveeti et al., 2011). Although gender differences in couples' responses to infertility have been documented extensively, Shapiro (2009) argued that there are many aspects of infertility that are experienced similarly by men and women. Therefore, the author emphasized, that therapists should strive to achieve a balance between addressing gender differences and treating the couple as a unit to promote resiliency.

Ethical/religious/cultural. Infertility can result in different types of ethical, religious, and cultural issues (Callister, 2011; Frith & Blyth, 2013; Gourounti, et al., 2012; McDaniel et al., 2014). Participants of this study were asked separate questions about religious, ethical, and cultural issues that their patients experience. However, analysis of the results revealed that there was a great amount of overlap between these three factors which lead to the creation of a single subtheme. The most frequently reported issues under this sub-theme were assisted reproduction being against patients' religion/moral values and decisions regarding unused embryos. Some of the physicians stated that their patients feel that they are "playing God" while others mentioned that their patients struggle with issue related to when human life begins, therefore having difficulty making decisions about unused embryos.

Similar to the participants of the current study, Conner, Sauer, and Doll (2012) emphasized the dilemma of "playing God" for couples who seek infertility treatment. The authors examined issues related to assisted reproduction from the perspective of Judaism, Catholicism, Protestantism, and Islam and explained that while all four religious

forbid taking a human life, they are not in agreement about when human life begins. This can create dilemmas for followers when it comes to making decisions about left-over embryos or termination of abnormal embryos or pregnancies. According to the authors, although procreation is a highly emphasized goal of marriage in Catholicism, Judaism, and Islam, Catholicism is strictly against most methods of reproduction assistance while Judaism and Islam are more accepting of such technologies.

The ethical dilemma of unused embryos has been the subject of several studies and scholarly writings. Provoost, Pennings, Sutter, and Dhont (2012a) explained that when patients undergo in vitro fertilization, a large number of embryos are produced. When patients decide to stop treatment, either because their family is complete or due to unsuccessful treatment, they have to decide what to do with the remaining embryos. Paul, Berger, Blyth, and Firth (2010) outlined the four options that are generally available to couples faced with these decisions: continue to store the embryos, discard the embryos, donate the embryos for scientific use, and donate the embryos to other couples who are experiencing infertility.

Several factors have been shown to influence the decision-making process of couples regarding their unused embryos. In a study of the attitudes of couples who had frozen embryos, Melamed et al. (2009) found that the majority of their participants viewed their embryos as "life". The authors reported that some participants stated that they were more likely to discard their embryos than donate them for scientific use due to concerns about their embryos being misused while others stated that they would choose to discard their embryos over donating them to other couples because donating their embryos would be

like giving away a child. In another study on the decision-making processes of couples about the fate of their unused embryos, Takahashi et al. (2012) found that cultural values were the main influence on the couples' decisions. The authors also reported that their participants' decision-making process was impacted by the couples' level of acceptance of their infertility. The authors stated that couples who had not accepted their infertility were more likely to continue to store their embryo because discarding them would mean that they were going to accept that they would be childless for the rest of their lives.

Other factors have been also reported to influence couples' decisions about what to do with remaining embryos. For example, Provoost, Penning, Sutter, and Dhont (2012b) reported that viewing the embryos as a symbol of the couples' relationship can make the decision-making process more emotional and bring on a sense of loss and grief. The authors reported that participants who viewed their embryos as a symbol of their relationship also reported more attachment to the embryos, gave a higher moral status to the embryos, were significantly less likely to consider donating their embryos to others for reproduction, and were less likely to consider donating them to science compared to those who did not have that view. An interesting finding of this study was that the authors reported no significant difference between the two groups regarding their willingness to discard the embryos. Finding of the studies mentioned above, validate the findings of the current study which indicated that religious and cultural values influence couples' decisions regarding the types of treatment that they seek and issues that are presented after treatment is complete.

Some of the other ethical, religious, and cultural issues that were reported by the participants of this study included genetic testing, stigma, termination of abnormal embryos or pregnancies, and sharing information about the nature of children's conception. Third party reproduction was also mentioned several times as a highly controversial issue which will be discussed later under Special Issues.

The issues that were mentioned by the participants of this study were consistent with the available literature on the ethical, religious, and cultural dilemmas concerning infertility treatment. In a study which used female members of an online infertility group, Sternke and Abrahamson (2015) found that the stigma of infertility was an important factor identified by the participants. Gourounti and Glentis (2012) conducted a literature review of studies that had examined attitudes of couples undergoing IVF about genetic testing of the embryos before implantation. The authors reported that most of the reviewed studies revealed high levels of acceptance about genetic testing among couples, and some couples, especially Muslims, even preferred pre-implantation testing due to their concerns about termination of abnormal pregnancies. Rueter et al. (2016) studied the factors that influence parents' decisions on disclosing their children's method of conception with them and found that parents' privacy orientation influenced this decision. According to the authors, parents who had a more open orientation toward privacy were more willing to disclose this information with their children compared to those who had a closed privacy orientation.

Culture/gender. During the qualitative analysis of the data that was collected by this study, it became apparent that some of the issues that the participants had observed in

their patients were influenced by both gender and culture. Two participants reported that some of their patients who were in arranged marriages were not able to, or chose not to, have intercourse. As the result, these couples sought infertility treatment in order to have children. This was a surprising finding for this researcher considering the difficulty and high cost of infertility treatment and its relatively low success rate.

The researcher's attempt at locating research studies that examined the relationship between the cultural practice of arranged marriage and couples' use of infertility treatment did not produce many results. However, there is scientific evidence pointing to the relationship between being in an arranged marriage and the presence of sexual dysfunction. Dogan and Saracoglu (2009) found that women and their spouses who were in arranged marriages were more likely to suffer from sexual dysfunction which limited their ability to have intercourse. This finding is consistent with the reports of two physicians in the current study which indicated that treatments such as pelvic floor physical therapy can be successful in helping these couples gain the ability to have intercourse and conceive naturally.

Another issue mentioned by the participants of this study which had both gender and cultural components was the status of women in the family and society as it relates to infertility. Some of the physicians reported that when couples present with infertility issues, the female patients are usually the ones who are considered to have a problem even in the presence of male factor infertility. This is consistent with the available literature on the influence of gender on the experience of infertility. Burnett (2009) argued that one of the cultural issues that therapists need to keep in mind is that in many

cultures, infertility is considered a woman issue, therefore reducing the men's participation in the treatment process. Several studies (Aldemir, et al. 2015; Kroemek & Kubica, 2018; Schaller et al., 2016), including the current study, have revealed that women experience more intense emotional issues as the result of infertility compared to men. Maher et al. (2014) argued that although both genders were emotionally impacted by infertility, women experienced more severe emotional, psychological, and sexual issues possibly because women experience the burden of infertility more than their male partners.

Special issues. Certain situations or circumstances were reported by the participants of this study to be especially stressful for their patients. One frequently mentioned situation was the use of third-party reproduction (donor gametes or surrogacy). Advances in infertility treatment have made it possible for many infertile couples to have children using third party methods (Bohme, 2017). Some of the participants of this study reported that they always refer patients who are planning to use egg or sperm donors or using surrogates for mental health treatment.

These findings are consistent with previous studies on the use of third party reproduction. Badiyepeyma, Abdollahe Fard, Parandavar, and Ramezanali (2014) argued that surrogacy creates a triad consisting of the child, the surrogate, and the mother, which brings up the issue of whether mothers want to inform their children that they were born using a surrogate. The authors reported that women who used IVF but carried their children themselves were more likely to disclose information about how their child was

conceived and born with the child and close relatives compared to women who used surrogates or egg donors.

One of the participants of this study reported that the use of donor eggs was difficult for female patients who were experiencing infertility due to age. This relationship between age of the female and having to resort to the use of egg donor was supported by another study which found that the mean age of the women who were using donor eggs was higher than the average age of other female IVF patients (Sills et al., 2010). Women's concerns about using donated eggs was confirmed in a study by Salari, Karimi, and Mohammadifar (2014) who found that women reported being concerned that the child will not be accepted as theirs by family members. Lisovskaya et al. (2017) also reported that women who needed to use a donor egg showed high levels of anxiety, frustration, aggression, and stress. Wyverkend et al. (2017) examined the influence of using donor sperm on the position of the father in the family and found that although for most of the participants using donor sperm was just another way to have a family, they avoided discussing the donor after the child was born to avoid compromising the position of the father.

Another highly stressful situation for infertility patients which was revealed by this study was the experience of miscarriage or recurrent pregnancy loss. Some of the participants reported that their patients, especially women, had a very strong emotional reaction to miscarriage or repeated pregnancy loss. One participant even reported that some of these female patients can experience post-traumatic stress syndrome. This

finding is consistent with results of several studies on the impact of miscarriage and repeated pregnancy loss.

Serrano and Lima (2010) examined the emotional impact of recurrent pregnancy loss on couples and reported that although both partners experienced grief, female grief was more intense. The authors also reported that the intensity of grief for women was related to the quality of their communication with their partners, but for men, the intensity of their grief was related to their level of sexual satisfaction. Harris and Daniluk (2010) conducted a qualitative study of the emotional responses of women who had experienced spontaneous pregnancy loss. The authors reported that their participants experienced profound grief, loss of control, guilt, and social awkwardness.

Physician's unfamiliarity with MedFT. As expected, this study revealed that most infertility physicians are not familiar with the field of medical family therapy. This was also evident in the participants' responses to the survey's open-ended questions. Many participants answered "I don't know" or "unknown" to questions about advantages and disadvantages of working with a medical family therapist. Those who cited specific advantages and disadvantages of working with medical family therapists appear to have responded to those questions hypothetically or based on their experience of working with other types of mental health professionals.

This finding can explain the low rates of referrals from physicians in general, and infertility physicians, in particular, to marriage and medical family therapists. Another explanation for the limited collaboration between physicians and marriage and family therapists could be physician's incorrect assumptions about marriage and family therapy.

This study revealed that some physicians believe that there are not established training criteria for medical family therapists and others believe that marriage and family therapists always use family intervention which can interfere with the medical treatment. The need for providing more information about marriage and family therapy and medical family therapy to physicians was also emphasized by Killmeyer (2015) who found that although physicians were open to collaboration with marriage and family therapist, they desired more information and accessibility.

Theory

Engel's biopsychosocial theory (2012) was used as the theoretical framework for this study. Engel insisted that illness can only be understood when biology, psychology, and the social context of the patient are taken into account. As this study and a review of the related literature have revealed, infertility influences individuals, couples, and their families at the biological, psychological, and social levels. This study also pointed to the interaction between these factors. Results of this study showed that infertility can strongly influence patients' emotional and psychological well being as well as their relationships, and in turn, patients' emotional and relationship issues can influence the outcome of infertility treatment. Therefore, findings of this study, which revealed different aspects of infertility and the benefits of including mental health providers, such as medical family therapists, in patient care confirm the biopsychosocial theory of illness.

Limitations

Several limitation may influence the generalizability of the findings of this study:

- The small number of participants in this qualitative study limits generalizability. Multiple attempts by the researcher over a period of several months resulted in a 6% response rate and 13 completed surveys. Also, it is possible that the 13 reproductive endocrinologist who participated in this study chose to do so because they were interested in the topic of the study. As the result, findings of this study may not represent attitudes and beliefs of the majority of infertility specialists
- Using online methods influenced the results of this study. Online methods were chosen because the researcher believed that it would be very difficult to schedule face-to-face interviews with physicians. However, this method made it impossible for the researcher to clarify misinterpretation of questions and resulted in a few responses that did not seem relevant to the questions being asked.

Implications for Therapists and Recommendation for Future Research

Results of this study lead to development of several implications for therapists who are interested in working with infertility patients and suggestions for future research on the topic of medical family therapy and infertility.

Increasing Collaboration

The overall goal of this study was to learn about referral patterns and attitudes of infertility physicians toward medical family therapy in order to provide information to both groups on how to increase collaboration. Another goal of this study was to identify the particular set of non-medical issues that patients bring up during their visits with their doctors which may hinder the treatment process. Since doctors are generally the initiators of referral relationships with other providers, exploring the advantages and

disadvantages of working with medical family therapists from their perspective and identifying the specific issues that are brought up by their patients while receiving treatment can help medical family therapists be more effective in helping infertility patients and therefore increase the doctors' motivation to initiate and maintain a referral relationship with medical family therapists.

The results of this study revealed that one of the main reasons that infertility physicians do not regularly refer their patients to medial family therapists is their unfamiliarity with this field and the skills and knowledge that medical family therapists possess. This is consistent with findings of Clark et al. (2009) who reported that the majority of their participants, who were family physicians, were either completely unaware that marriage and family therapy existed as a field or had limited information about what family therapists do. Therefore, marriage and family therapists who are interested in collaborating with physicians, including infertility specialists, need to provide information about their field and the unique set of skills that they can offer patients. This can also be a focus of future research studies. Instead of asking about advantages and disadvantages of working with medical family therapists, future researchers ask physicians to identifying specific steps that medical family therapists can take in order to increase physician motivation to initiate and maintain a referral relationship with medical family therapists.

This study revealed that some physicians may have incorrect assumptions about the field of marriage and family therapy or medical family therapy, such as the assumption that family therapists always use family interventions. Therefore, it is important for

therapists who wish to work closely with physicians to be aware of these incorrect assumptions and make attempts to provide correct information to physicians. This issue can also be the focus of future research. Future studies can uncover other incorrect assumptions that physicians may hold about marriage and family therapy and shed light on how prevalent these incorrect assumptions are among physicians.

Referral Preferences of Physicians

This study confirmed findings of previous studies which indicated that physicians are more likely to refer their patients to psychologists and least likely to refer them to marriage and family therapists. Future studies can examine physicians' reasons for choosing psychologists over marriage and family therapists. A noteworthy finding of this study was that only one of the three participants who reported that they were familiar with the field of medical family therapy also reported that they refer their patients to marriage and family therapists. This finding suggests that lack of knowledge about medical family therapy may not the only reason that physicians do not refer to medical family therapists on a regular basis. Some of the factors that may influence physicians' referral patterns to MedFTs were identified under the sub-theme disadvantages, such as access and cost. These findings suggest that medical family therapist who are interested in working with infertility patients may benefit from choosing office locations close to infertility clinics and also becoming managed care providers in order to reduce the cost to patient. However, further research is needed to identify other factors that limit collaboration between infertility physicians and MedFTs and develop strategies to resolve those issues.

Cultural Considerations

An unexpected finding of this study was the relationship between the cultural practice of arranged marriage and couples' pursuit of infertility treatment. It appears that the high prevalence of sexual dysfunction in arranged marriages is influencing couples' ability to conceive naturally. However, more research is needed to identify other factors that can lead to these couples' decision to choose infertility treatment over intercourse in order to have children. This finding has implications for therapists as well. As mentioned previously, it is important for therapists to become familiar with the cultural context of the issues that their clients experience. In this particular situation, therapist need to keep in mind that the needs of couples who are in arranged marriages and are also seeking infertility treatment may be different from the needs of couples who are infertile.

Summary

This section included a brief overview of the findings of this study as well as how the findings compare to the available literature. The results indicated that most of the participants were not familiar with the field of medial family therapy but believed that there were advantages in collaborating with medical family therapists for themselves as physicians and for their patients. This study also identified several non-medical issues that the participants observed in their patients. Limitations that influenced the results of this study were outlined, implications for therapists were identified, and recommendation for future research were proposed.

REFERENCES

Aamar, R., Lamson, A., & Smith, D. (2015). Qualitative trends in biopsychosocial-spiritual treatment for underserved patients with type 2 diabetes. *Contemporary Family Therapy: An International Journal, 37*(1), 33-44. doi:10.1007/s10591-015-9326-x

Aldemir, S., Eser, A., Turhan, N. O., Dalbudak, E., & Topcu, M. (2015). Relation of anxiety and depressive symptoms with perceived social support according to gender within infertile couples. *Dusunen Adam: Journal of Psychiatry & Neurological Sciences, 28*(4), 328-336. doi:10.5350/DAJPN2015280404

American Diabetes Association. (2014). *National Diabetes Statistics Report.* Retrieved from www.diabetes.org.

Anderson, R. J., Huff, N. L., & Hodgson, J. L. (2008). Medical family therapy in an in-patient psychiatric setting: A qualitative study. *Families, Systems, and Health, 26*(2), 164-180. doi:10.1037/1091-7527.26.2.164

Badiyepeyma, Fard Abdollahe, S., Parandavar, N., & Ramezanli, S. (2014). Detection of surrogacy: Ethical challenge. *Journal of Jahrom University of Medical Sciences, 11*, 73. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=99118859&site=ehost-live

Bakhtiari, A., Basirat, Z., & Nasiri-Amiri, F. (2016). Sexual dysfunction in women undergoing fertility treatment in Iran: Prevalence and associated risk factors. *Journal*

of Reproduction & Infertility, 17(1), 26-33. Retrieved from http://search.ebscohost.com/ login.aspx?direct=true&db=cmedm&AN =26962480&site=ehostlivehttp://search.ebscohost.com/login.aspx?direct+true&db=cmedm&AN=269620&site=ehost-live

Barnhart, K. T., Nakajima, S. T., Puscheck, E., Price, T. M. Baker, V. L., & Segars, J. (2016). Practice patterns, satisfaction, and demographics of reproductive endocrinologists: Results of the 2014 Society for Reproductive Endocrinology and Infertility Workforce Survey. *Fertility and Sterility, 105*(5), 1281-1286. doi: 10.1016/j.fertnstert.2015.12.135.

Bischoff, R. J., Springer, P. R., Felix, D. S., & Hollist, C. S. (2011). Finding the heart of medical family therapy: A content analysis of medical family therapy casebook articles. *Families, Systems, and Health, 29*(3), 184-196.

Bohme, H. (2017). New paradigms of parenthood: Researching practice in a fertility clinic incarnating new forms of family. *Journal of Family Therapy, 39*(3), 402-414. doi:10.1111/1467-6427.12173

Bokaie, M., Simbar, M., Ardekani, S. M. Y., & Majd, H. A. (2016). Women's beliefs about infertility and sexual behaviors: A qualitative study. *Iranian Journal of Nursing & Midwifery Research, 21*(4), 379-384. doi:10.4103/1735-9066.185579

Bradford, K., Mock, D. J., & Stewart, J. W. (2016). It takes two? An exploration of processes and outcomes in a two-session couple intervention. *Journal of Marital and Family Therapy, 42*(3), 423-437. doi:10.1111/jmft.12144

Brito, J. (2018). A phenomenological analysis on infertility in Mexican women living in the United States. *Revista Interamericana De Psicología, 52*(1), 129-138. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=fua&AN=130856007&site=ehost-live

Burnett, J. A. (2009). Cultural considerations in counseling couples who experience infertility. *Journal of Multicultural Counseling and Development, 37*(3), 166-177. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=EJ867090&site=ehost-live http://www.counseling.org/Publications/Journals.aspx

Burns, L. H. (1999). Genetics and infertility: Psychosocial issues in reproductive counseling. *Families, Systems, & Health, 17*(1), 87-110. doi: 10.1037/h0089888

Burwell, S. R., Brucker, P. S., & Shields, C. G. (2006). Attachment behaviors and proximity-seeking in cancer patients and their partners. *Journal of Couple & Relationship Therapy*, *5*(3), 1-16. doi:10.1300/J398v05n03-01

Callister, L. C. (2011). Ethical considerations for genetic testing, infertility, and balancing maternal-child needs. *The American Journal of Maternal/Child Nursing, 36*(3), 162-168. doi: 10.1097/NMC.0b013e3182102221

Campbell, T. M., & Patterson, J. L. (1995). The effectiveness of family intervention in treatment of physical illness. *Journal of Marital and Family Therapy, 21*, 545-583. doi:10.1111/j.1752-0606.1995.tb00178.x

Canada, A. L., & Schover, L. R. (2010). The psychological impact of interrupted child-bearing in long-term female cancer survivors. *Psycho-Oncology, 21*, 134-143. doi: 10.1002/pon.1875

Center for Disease Control and Prevention. (2016). *Reproductive Health: Data and Statistics*. Retrieved from www.cdc.org/reproductivehealth/

Clark, R. E., Lenville, E., & Rosen, K.H. (2009). A national survey of family physicians: Perspectives on collaboration with marriage and family therapists. *Journal of Marital and Family Therapy, 35*(2), 220-230. doi: 10.1111/j.1752-0606.2009.00107.x

Connor, J., Sauer, C., & Doll, K. (2012). Assisted reproductive technologies and world religions: Implications for couples therapy. *Journal of Family Psychotherapy, 23*(2), 83-98. doi:10.1080/08975353.2012.679899

Conrad, T. R., Link, C. L., Shackelton, R. J., Marceau, L. D., Knesenbeck, O. V. D., Siegrist, J., Arber, S., Adams, A., & McKinlay, J. B. (2010). It's about time: Physicians' perceptions of time constraints in primary care medical practice in three national healthcare systems. *Med Care, 48*(2), 95-100. doi: 10.1097/MLR. 0b013e31 81c12e6a

Cundiff, J. M., Birmingham, W. C., Uchino, B. N., & Smith, T. W. (2016). Marital quality buffers the association between socioeconomic Status and ambulatory blood pressure. *Annals of Behavioral Medicine*, *50*(2), 330-335. doi:10.1007/s12160-015-9742-z.

Daniluk, J. C., & Tench, E. (2007). Long-term adjustment of infertile couples following unsuccessful medical intervention. *Journal of Counseling and Development, 85*, 89-100. Retrieved from http://search.ebscohost.com.ezp.twu.edu/login.aspx?direct=true&db=bth&AN=23844554&site=ehost-live

Darwiche, J., Favez, N., Maillard, F., Germond, M., Guex, G., Displand, J. & de Rotn, Y. (2013). Couples' resolution of an infertility diagnosis before undergoing in vitro fertilization. *Swiss Journal of Psychology, 72*(2), 91-102. doi: 10.1024/1421-0185/a000102

Dembinska, A. (2012). Bioethical dilemmas of assisted reproduction in the opinions of Polish women in infertility treatment: A research report. *Journal of Medical Ethics, 16*(12), 731-734. doi:10.1136/medethics-2011-100421

Dogan, S., & Saraçoglu, G. V. (2009). Yasam boyu vajinismusu olan kadinlarda cinsel bilgi, evlilik özellikleri, cinsel islev ve doyumun degerlendirilmesi [Abstract]. *Medical Journal of Trakya University / Trakya Universitesi Tip Fakultesi Dergisi, 26*(2), 151-158. Retrieved from http://search.ebscohost.com.ezp.twu.edu/login.aspx?direct=true&db=a9h&AN=42843739&site=ehost-live

Doherty, W. J., McDaniel, S. H., & Hepworth, J. (2014). Contributions of medical family therapy to the changing health care system. *Family Process*, *53*(3), 529-543. doi:10.1111/famp.12092

Doherty, W. J., McDaniel, S. H., & Hepworth, J. (1994). Medical family therapy: An emerging arena for family therapy. *Journal of Family Therapy, 16,* 31-46.

Duthie, E. A., Cooper, A., Davis, J. B., Sandlow, J., Schoyer, K. D., Strawn, E., & Flynn, K. E. (2017). Priorities for family building among patients and partners seeking treatment for infertility. *Reproductive Health, 14*, 1-9. doi:10.1186/s12978-017-0311-8

Eells, T. D. (2000). Can therapy affect physical health? *The Journal of Psychotherapy and Practice Research, 9*(2), 100-104. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/ articles/PMC3330586/

Engel, G. L. (2012). The need for a new medical model: A challenge for biomedicine. *Psychodynamic Psychiatry*, *40*(3), 377-396. doi:10.1521/pdps.2012.40.3.377

ESHRE Capri Workshop Group (2013). Failure (with some success) of assisted reproduction and gamete donation programs. *Human Reproduction Updates, 19*(4), 354-365. doi:10.1093/humupd/dmt007

Eunpu, D. L. (1995). The impact of infertility and treatment guidelines for couple therapy. *The American Journal of Family Therapy, 23*(2), 115-128. Retried from http://search.ebscohost.com.ezp.twu.edu/login.aspx?direct=true&db=tfh&AN=9507194631&site=ehost-live

Fledderjohann, J. (2017). Difficulties conceiving and relationship stability in sub-saharan Africa: The case of Ghana. *European Journal of Population, 33*(1), 129-152. doi:10.1007/s10680-016-9401-5

Fontana, A., & Frey, J. H. (2005). The interView: From neutral stance to political involvement. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (pp. 695-727). Thousand Oaks, CA: Sage Publications Ltd.

Fox, M., Hodgson, J., & Lamson, A. (2012). Integration: Opportunities and challenges for family therapists in primary care. *Contemporary Family Therapy: An International Journal*, *34*(2), 228-243. doi:10.1007/s10591-012-9189-3

Francis, L. E., Kypriotakis, G., O'Toole, E. E., Bowman, K. F., & Rose, J. H. (2015). Grief and risk of depression in context: The emotional outcomes of bereaved cancer caregivers. *Omega: Journal of Death & Dying, 70*(4), 351-379. doi:10.1177/003022281 557372

Frith, L., & Blyth, E. (2013). They can't have my embryo: The ethics of conditional embryo donation. *Bioethics, 27*(6), 317-324. doi:10.1111/bioe.12034.

Gana, K., & Jakubowska, S. (2016). Relationship between infertility-related stress and emotional distress and marital satisfaction. *Journal of Health Psychology, 21*(6), 1043-1054. doi: 10.1177/1359105314544990

Garrity, D. A. (2001). Five medical treatment stages of infertility: Implications for counselors. *The Family Journal: Counseling and Therapy for Couples and Families, 9*(2), 140-150. doi: 10.1177/1066480701092008

Gazendam-Donofrio, S. M., Hoekstra, H. J., van der Graff, W. T., van de Wiel, H. B., M, Visser, A., Huizinga, G. A., & Hoekstra-Weebers, J. (2011). Adolescents' emotional reactions to parental cancer: Effect on emotional and behavioral problems. *Journal of Pediatric Psychology, 36*(3), 346-359. doi:10.1093/jpepsy/jsq090

Geyser, P. J., & Siebert, I. T. (2015). Early recurrent pregnancy loss. *Obstetrics & Gynecology Forum, 25*(1), 28-31. Retrieved from http://search.ebscohost.com /login.aspx?direct= true&db=a9h&AN=110454966&site=ehost-live.

Gorayeb, R., Borsari, A. C. T., Rosa-e-Silva, A. J., & Ferriani, R. A. (2012). Brief cognitive behavioral intervention in groups in a Brazilian assisted reproduction program. *Behavioral Medicine, 38*(2), 29-35. doi:10.1080/08964289.2012.654834

Gordon, J. D., & Di Mattina (2011). *100 Questions and answers about infertility* (2nd ed.). Sudbury, MA: Jones and Bartlett Learning.

Gottman, J. M., & Katz, L. F. (1989). Effects of marital discord on young children's peer interaction and health. *Developmental Psychology, 25*(3), 373-381. Retrieved from http://search.ebscohost.com.ezp.twu.edu/login.aspx?direct=true&db=fgh&AN=MRB-CDAS0034139&site=ehost-live

Gourounti, K., & Glentis, S. (2012). Patient attitude to preimplantation genetic diagnosis and counseling issues. *Journal of Health Science, 6*(3), 402-416. Retrieved from http://www.hsj.gr/medicine/patient-attitude-to-preimplantation-genetic-diagnosis-and-counseling-issues.pdf

Gourounti, K., Lykeridou, K., & Vaslamatzis, G. (2012). Increased anxiety and depression in Greek infertile women result from feeling of marital distress and poor marital communication. *Health Science Journal, 6*(1), 69-81. Retrieved from http://www.hsj.gr/medicine/increased-anxiety-and-depression-in- greek-infertile-women-results-from-feelings-of-marital-stress-and-poor-marital-communication.php?aid=3322

Harris, D. L., & Daniluk, J. C. (2010). The experience of spontaneous pregnancy loss for infertile women who had conceived through assisted reproductive technology.

Human Reproduction, 25(3), 714-720. Retrieved from https://doi.org/10.1093/humrep/dep445

Harris, M. A., Freeman, K. A., & Beers, M. (2009). Family therapy for adolescents with poorly controlled diabetes: Initial test of clinical significance. *Journal of Pediatric Psychology, 34*(10), 1097-1107.

Hasanpoor-Azghdy, S., Simbar, M., & Vedadhir, A. (2014). The emotional-psychological consequences of infertility among infertile women seeking treatment: Results of a qualitative study. *Iranian Journal of Reproductive Medicine, 12*(2), 131-138. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=95853007&site=ehost-live

Herer, E., & Holzapfel, S. (1993). The medical causes of infertility and their effects on sexuality. *Canadian Journal of Human Sexuality, 2*(3), 113-120. Retrieved from http://search.ebscohost.com.ezp.twu.edu/login.aspx?direct=true&db=sih&AN=25150825&site=ehost-live

Hesam, A., Taghipour, L., Rasekhi, S., Fallahi, S., & Hesam, Z. (2017). Investigating multiple aspects of mental health in infertile couples. *International Journal of Mental Health and Addiction, 15*(4), 928-932. doi: 10.1007/s11469-016-9675-1.

Hodgson, J. L., McCammon, S. L., Marlowe, D. P., & Anderson, R. J. (2012). Medical family therapy in cancer care: Patient and family experiences. *American Journal of Family Therapy*, *40*(3), 258-266. doi:10.1080/01926187.2011.611783

Jafarzadeh-Kenarsari, F., GHahiri, A., Zargham-Boroujeni, A., & Habibi, M. (2015). Exploration of counseling needs of infertile couples: A qualitative study. Iranian

Journal of Nuesing & Midwifery Research, 20(5), 552-559. doi: 10.4103/1735-9066.164506

Jegede, A. S., & Fayemiwo, A. S. (2010). Cultural and ethical challenges of assisted reproductive technologies in the management of infertility among the Yoruba of southwestern Nigeria. *African Journal of Reproductive Health, 14*(2), 115-127.

Johnson, K. M., & Johnson, D. R. (2009). Partnered decisions? U.S. couples and medical help-seeking for infertility. *Family Relations*, *58*(4), 431–444. doi:10.1111/j.1741-3729.2009.00564.x

Kamath, M. S., & Bhachattarya, S. (2012). Demographics of infertility and management of unexplained infertility. *Best Practice and Research: Clinical Obstetrics and Gynecology, 26*, 729-738. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/22951769

Karjane, N. W., Stovall, D. W., Berger, N. G., & Svikis, D. S. (2008). Alcohol abuse risk factors and psychiatric disorders in pregnant women with a history of infertility. *Journal of Women's Health (15409996), 17*(10), 1623-1627. doi:10.1089/jwh.2007.0651

Karlidere, T., Bozkurt, A., Yetkin, S., Doruk, A., Sütçigil, L., Nahit Ozmenler, K., & Ozsahin, A. (2007). [Is there gender difference in infertile couples with no axis one psychiatric disorder in context of emotional symptoms, social support and sexual function?]. *Turk Psikiyatri Dergisi = Turkish Journal of Psychiatry, 18*(4), 311-322. Retrieved from http://search/.ebscohost.com.ezp.twu.edu/login.aspx?direct=true&db=mnh&AN=18066722&site=ehost-live

Kerr, J., Brown, C., & Balen, C. H. (1999). The experiences of couples who have had infertility treatment in the United Kingdom. *Human Reproduction, 14*(4), 934-938. Retrieved from https://doi.org/10.1093/humrep/14.4.93

Killmeyer, M. M. W. (2015). *Communication between primary care providers and medical family therapists: Reducing barriers to collaborative care* (Order No. 3721999). Available from ProQuest Dissertations & Theses Global. (1721470321). Retrieved from http://ezp.twu.edu/docview/1721470321 ?accountid=7102

Klemetti, R., Raitanen, J., Sihvo, S., Saarni, S., & Kopenen, P. (2010). Infertility, mental disorders, and well-being: A nationwide survey. *Acta Obstetrica et Gynecologica, 89*(5), 677-682. doi: 10.3109/00016341003623746

Kligler, B., Teets, R., & Quick, M. (2016). Complementary/integrative therapies that work: A review of the evidence. *American Family Physician*, *94*(5), 369-374. Retrieved from https://www.aafp.org/afp/2016/0901/p369.html

Kondaveeti, N., Hamilton, J., Maher, B., Kirkham, C., Harrison, R., & Mocanu, E. V. (2011). Psychological trends in couples before commencement of in vitro fertilization (IVF) treatment. *Human Fertility, 14*(4), 218-223. doi: 10.3109/ 14647273.2011.633236

Kravitz, R. L., Franks, P., Feldman, M., Meredith, L. S., Hinton, L., Franz, C., … Epstein, R. M. (2006). What drives referral from primary care physicians to mental

health specialists? A randomized trial using actors portraying depressive symptoms. *Journal of General Internal Medicine*, *21*(6), 584–589. http://doi.org/10.1111/j.1525-1497.2006.00411.x

Kroemeke, A., & Kubicka, E. (2018). Positive and negative adjustment in couples undergoing infertility treatment: The impact of support exchange. *PLoS ONE, 13*(6), 1-12. doi:10.1371/journal.pone.0200124

Kvale, S., & Brinkmann, S. (2009). *InterView: Learning the craft of qualitative research interviewing.* Thousand Oaks, CA: Sage Publication.

Lechner, L., Bolman, C., & Van Dalen, A. (2007). Definite involuntary childlessness: Associations between coping, social support, and psychological distress. *Human Reproduction, 22*(1), 288-294.

Levenson, R. W., & Gottman, J. M. (1983). Marital interaction: Physiological linkage and affective behavior. Journal of Personality and Social Psychology, *45*(3), 587-697. Retrieved from http://www.psychology.nottingham.ac.uk /staff/ddc/c8cxpa/further/CR_material/Marriage.pdf

Lisovskaya, T. V., Zakhezina, E. A., Filippova, G. G., Ambartsumyan, E. M., Portnov, I. G., & Mayasina, E. N. (2017). Mental state assessment of recipients in the IVF donor programs and psychotherapeutic methods of its correction. *Gynecological Endocrinology: The Official Journal of the International Society of Gynecological Endocrinology, 33*, 28-31. doi:10.1080/09513590.2017.1399694

Masdon, T. A. (2009). *Patients with psychosocial issues: The referral practices of family physicians* (Order No. 3367241). Available from Dissertations & Theses @ Texas

Woman's University; ProQuest Dissertations & Theses Global. (305140336). Retrieved from http://ezp.twu.edu/docview/305140336?accountid=7102

Maher, R., Abdollahifard, K. H., Rahmanian, M., & Abdollahifard, S. (2014). The emotional effects of infertility on infertile couples. *Journal of Jahrom University of Medical Sciences, 11*, 190. Retrieved from http://search.ebscohost.com/login.aspx ?direc t=true&db=a9h&AN=99118915&site=ehost-live

Maleki-Saghooni, N., Amirian, M., Sadeghi, R., & Roudsari, R. L. (2007). Effectiveness of infertility counseling on pregnancy rates in infertile patients undergoing assisted reproductive technologies: A systematic review and meta-analysis. *International Journal of Reproductive Biomedicine, 15*(5), 391-402. Retrieved from http://search.ebscohost. com.ezp.twu.edu/login.aspx?direct= true&db =a9h&AN=124798948&site=ehost-live

Mascarenhas, M. N., Flaxman, S, R., Boerma, T., Vanderpoel, S., & Stevens, G. A. (2012). *PLoS Medicine, 9*(2), 1-12. doi: 10.1371/journal.pmed.1001356

Masoumi, S. Z., Khani, S., Kazemi, F., Kalhori, F., Ebrahimi, R., & Roshanaei, G. (2017). Effect of marital relationship enrichment program on marital satisfaction, marital intimacy, and sexual satisfaction of infertile couples. *International Journal of Fertility & Sterility, 11*(3), 197-204. doi:10.22074/ijfs.2017.4885

Marandola, D. A. (1995). *Referrals for mental health services: A survey of physicians' attitudes and behaviors regarding their role as "gatekeeper" for the proposed health care system* (Doctoral Dissertation). Available from ProQuest Dissertations & Theses

Global. (UMI No. 304248797). Retrieved from http://ezproxy.twu.edu:2048/docview/304248797 ?accountid =7102

McDaniel, S. H., Doherty, W., J., & Hepworth, J. (1992). Medical family therapy with couples facing infertility. *The American Journal of Family Therapy, 20*(2). 101-122. Retrieved from https://doi.org/10.1080/01926189208250882

McDaniel, S. H., Doherty, W. J., & Hepworth, J. (2014). *Medical family therapy and integrated care* (2nd ed.). Washington, DC: American Psychological Association.

Melamed, R. M. M., Bonetti, T. C. S., Braga, D. P. A., Madaschi, C., Iaconelli, A., Jr, & Borges, E., Jr. (2009). Deciding the fate of supernumerary frozen embryos: Parents' choices. *Human Fertility, 12*(4), 185-190. doi:10.3109/14647270903377186

Minucci, D. (2013). Psychological and ethical implications related to infertility. *International Journal of Gynecology and Obstetrics, 123*(2), S36-38.

Minuchin, S., Rosman, B. L., & Baker, L. (1978). *Psychosomatic families: Anorexia nervosa in context.* Cambridge, MA: Harvard University Press.

Mirblouk, F., Asgharnia, M., Solimani, R., Fakor, F., Salamat, F., & Mansoori, S. (2016). Comparison of sexual dysfunction in women with infertility and without infertility referred to al-zahra hospital in 2013-2014. *International Journal of Reproductive Biomedicine, 14*(2), 117-124. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=113697800&site=ehost-live

Missmer, S. A., Seifer, D. B., & Jain. T. (2011). Cultural factors contributing to healthcare disparities among patient with infertility in midwestern United States.

Fertility and Sterility, 95(6). 1943-1949. doi: 10.1016/j.fertnstert.2011.02.039. Epub 2011 Mar 21.

Mogna, M., Alexandrescu, B., Katz, S. E., Stein, M., & Ganiats, T. (2004). Impact of infertility on quality of life, marital adjustment, and sexual function. *Urology, 63*(1), 126-130. Retreived from https://www.ncbi.nlm.nih.gov/pubmed/14751363

Morreale, M., Balon, R., Tancer, M., & Diamond, M. (2011). The impact of stress and psychosocial interventions on assisted reproductive technology outcome. *Journal of Sex & Marital Therapy, 37*(1), 56-69. doi:10.1080/0092623X.2011.533584

Najafi, M., Soleimani, A., Ahmadi, K., Javidi, N., & Kamkar, E. H. (2014). The effectiveness of emotionally focused therapy on enhancing marital adjustment and quality of life among infertile couples with marital conflict. *International Journal of Fertility and Sterility, 9*(2), 248-236.

National Cancer Institute of National Institute of Health (2018). *Understanding cancer: Cancer statistics.* Retrieved from https://www.cancer.gov/about-cancer/ understanding/statistics

Norré, J., & Wischmann, T. (2011). The position of the fertility counsellor in a fertility team: A critical appraisal. *Human Fertility (Cambridge, England), 14*(3), 154-159. doi:10.3109/14647273.2011.580824

O'Connor, E. J., McCabe, M. P., & Firth, L. (2008). The impact of neurological illness on marital relationships. *Journal of Sex & Marital Therapy, 34*(2), 115-132. doi:10.1080/00926230701636189

Patton, M. Q. (1999). Enhancing the quality and credibility of qualitative analysis. *Health Services Research, 34*(5), 1189-1208. Retrieved from https://www.ncbi.nlm.nih.gov /pmc/articles/PMC1089059/?page=8

Paul, M. S., Berger, R., Blyth, E., & Frith, L. (2010). Relinquishing frozen embryos for conception by infertile couples. *Families, Systems, & Health, 28*(3), 258-273. doi:10.1037/a0020002

Peivandi, S., Masoodzadeh, A., Moaodi, P., & Babaei, S. (2011). Association between anxiety and depression of infertile patients with their IVF cycles success rate. *Journal of Mazandaran University of Medical Sciences (JMUMS), 21*(84), 96-104. Retrieved from http://search.ebscohost.com.ezp.twu.edu/login.aspx?direct =true&db=a9h&AN=67426889&site=ehost-live

Peterson, B., Boivin, J., Norré, J., Smith, C., Thorn, P., & Wischmann, T. (2012). An introduction to infertility counseling: A guide for mental health and medical professionals. *Journal of Assisted Reproduction and Genetics*, *29*(3), 243–248. Retrieved from http://doi.org/10.1007/s10815-011-9701-y

Phelps, K. W., Howell, C. D., Hill, S. G., Seeman, T. S., Lamson, A. L., Hodgson, J. L., & Smith, D. A. (2009). A collaborative care model for patients with type-2 diabetes. *Families, Systems, and Health, 27*(2), 131-140.

Pinto-Gouveia, J., Galhardo, A., Cunha, M., & Matos, M. (2012). Protective emotional regulation processes towards adjustment in infertile patients. *Human Fertility*, *15*(1), 27-34. doi:10.3109/14647273.2011.654310

Piva, I., Lo Monte, G., Graziano, A., & Marci, R. (2014). A literature review on the relationship between infertility and sexual dysfunction: Does fun end with baby making? *European Journal of Contraception & Reproductive Health Care, 19*(4), 231-237. doi:10.3109/13625187.2014.919379

Pretter, S., Raveis, V. H., Carrero, M., & Mauer, M. S. (2014). Couples living with cardiovascular disease: Effects on the marital relationship. *Journal of Family Social Work, 17*(1), 21-36. doi:10.1080/10522158.2013.865288

Provoost, V., Pennings, G., De Sutter, P., & Dhont, M. (2012a). A private matter: How patients decide what to do with cryopreserved embryos after infertility treatment. *Human Fertility, 15*(4), 210-216. doi:10.3109/14647273.2012.745015

Provoost, V., Pennings, G., De Sutter, P., & Dhont, M. (2012b). 'Something of the two of us'. the emotionally loaded embryo disposition decision making of patients who view their embryo as a symbol of their relationship. *Journal of Psychosomatic Obstetrics & Gynecology, 33*(2), 45-52. doi:10.3109/0167482X.2012.676111

Rayburn, W. F. (2017). *The obstetrician-gynecologist workforce in the United States: Facts, figures, and implications*. Retrieved from American Congress of Obstetrics and Gynecologists website: https://www.acog.org/Clinical-Guidance-and-Publications/The-Ob-Gyn-Workforce/The-Obstetrician-Gynecologist-Workforce-in-the-United-States

Robles, T. F., & Kleicolt-Glasser, J. K. (2003). The physiology of marriage: Pathways to health. *Physiology and Behavior, 79*(3), 409-416. Retrieved from: https://doi.org/ 10.1016/ S0031-9384(03)00160-4

Robinson, W. D., Barnacle, R. E. S., Pretorius. R., & Paulman, A. (2004). Collaboration in action. *Families, Systems, and Health: The Journal of Collaborative Family Healthcare, 22*(4), 490-496.

Rocque, R., & Leanza, Y. (2015). A systematic review of patients' experiences in communicating with primary care physicians: Intercultural encounters and a balance between vulnerability and integrity. *PLOS One*. Advance Online Publication. Retrieved from https://doi.org/10.1371/journal.pone.0139577

Roony, K. L., & Domar, A. D. (2018). The relationship between stress and infertility. *Dialogues in Clinical Neuroscience, 20*(1), 41-47.

Rueter, M. A., Anderson, K. N., Connor, J. J., Pasch, L., Scheib, J. E., Koerner, A. F., & Damario, M. (2016). Sharing information with children conceived using in vitro fertilisation: The effect of parents' privacy orientation. *Journal of Reproductive & Infant Psychology, 34*(1), 90-102. doi:10.1080/02646838.2015.1067856

Salari, S., Karimi, N., & Moammadifar, F. (2014). Egg donation. *Journal of Jahrom University of Medical Sciences, 11*, 138. Retrieved from http://search.ebscohost.com /login.aspx?direct=true&db=a9h&AN=99118890&site=ehost-live

Schaller, M. A., Griesinger, G., & Banz-Jansen, C. (2016). Women show a higher level of anxiety during IVF treatment than men and hold different concerns: A cohort study. *Archives of Gynecology and Obstetrics, 293*(5), 1137-1145. doi:10.1007/ s00404-016-4033-x

Senguttuvan, U., Whiteman, S. D., & Jensen, A. C. (2014). Family relationships and adolescents' health attitudes and weight: The understudied role of sibling relationships. *Family Relations, 63*(3), 384-396. doi:10.1111/fare.12073

Serrano, F., & Lima, M. L. (2010). Recurrent miscarriage: Psychological and relational consequences for couples. *Psychology and Psychotherapy, 79*(4). 585-594. Retrieved from https://doi.org/10.1348/147608306X96992

Shapiro, C. (2009). Therapy with infertile heterosexual couples: It is not about gender- or is it? *Clinical Social Work Journal, 37*(2). 140-149. doi: 10.3109/14647273.2011. 6332361

Sills, E. S., Mykhaylyshyn, L. O., Dorofeyeva, U. S., Walsh, D. J., Salma, U., Omar, A. B., . . . Walsh, A. P. (2010). The long path to pregnancy: Early experience with dual anonymous gamete donation in a European in vitro fertilisation referral centre. *Reproductive Health, 7*, 6p. doi:10.1186/1742-4755-7-20

Singh, S. (2016). Study of emotional responses of couples undergoing infertility treatment. *Indian Journal of Health & Well-being, 7*(6), 619-622. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=116855607&site=ehost-live

Shreffler, K. M., Johnson, D. R., & Sheuble, L. K. (2010). Ethical problems with infertility treatment: Attitudes and explanations. *Social Science Journal, 47*(4), 731-746.

Sigurdardottir, A. O., Garwick, A. W., & Svavarsdottir, E. K. (2017). The importance of family support in pediatrics and its impact on healthcare satisfaction. *Scandinavian Journal of Caring Sciences, 31*(2), 241-252. doi:10.1111/scs.12336

Smith, J. F., Eisenberg, M. L., Glidden, D., Millstein, S. G., Cedars, M., Walsh, T. J., et al. (2011). Socioeconomic disparities in the use and success of fertility treatments: Analysis of data from a prospective cohort in the United States. *Fertility & Sterility, 96*(1), 95-101. doi:10.1016/j.fertnstert.2011.04.054

Speicea, J., Haricness, J., Laneri, H., Franicel, R., Roter, D., Kcornblith, A. B., & ... Holland, J. C. (2000). Involving family members in cancer care: Focus group considerations of patients and oncological providers. *Psycho-Oncology*, *9*(2), 101-112.

Steele, M., Zayed, R., Davidson, B., Stretch, N., Nadeau, L., Fleisher, W., … St. John, K. (2012). Referral patterns and training needs in psychiatry among primary care physicians in Canadian rural/remote areas. *Journal of the Canadian Academy of Child and Adolescent Psychiatry*, *21*(2), 111–123.

Stepansky, M. A. 1., Roache, C. R. 1., Holmbeck, G. N. 1., gholmbe@luc.edu, & Schultz, K. (2010). Medical adherence in young adolescents with spina bifida: Longitudinal associations with family functioning. *Journal of Pediatric Psychology, 35*(2), 167-176. doi:10.1093/jpepsy/jsp054

Sternke, E., & Abrahamson, K. (2015). Perceptions of women with infertility on stigma and disability. *Sexuality & Disability, 33*(1), 3-17. doi:10.1007/s11195-014-9348-6

Takahashi, S., Fujita, M., Fujimoto, A., Fujiwara, T., Yano, T., Tsutsumi, O., . . . Akabayashi, A. (2012). The decision-making process for the fate of frozen embryos by Japanese infertile women: A qualitative study. *BMC Medical Ethics, 13*, 9. doi:10.1186/1472-6939-13-9

Tao, P., Coates, R., & Maycock, B. (2012). Investigating marital relationship in infertility: A systematic review of quantitative studies. *Journal of Reproduction & Infertility*, *13*(2), 71–80. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles /PMC3719332/

Vasser, L. (2015). How medical specialties vary by gender. *AMA Wire*. Retrieved from https://wire.ama-assn.org/education/how-medical-specialties-vary-gender

Vizheh, M., Pakgohar, M., Babaei, G., & Ramezanzadeh, F. (2012). Effect of counseling on quality of marital relationship of infertile couples: A randomized controlled trial (RCT) study. *Archives of Gynecology and Obstetrics, 287*(3), 583-589. doi: 10.1007/s00404-012-2595-9

Wirtberg, I. (2005). Introduction to medical family therapy. *Acta Pediatrica, 94*(448), 45-46. Retrieved from http://search.ebscohost.com.ezp.twu.edu/login.aspx? direct=true &db =mnh&AN=16175808&site=ehost-live

Wolowelsky, J. B., & Grazi, R. V. (2014). Current Jewish perspectives on maternal identity. *The Official Journal of the International Society of Gynecological Endocrinology, 30*(12). doi: 10.3109/09513590.2014.950644

Wooley, S. R., Butler, M. H., & Wampler, K. S. (2000). Unraveling change in therapy: Three different process research methodologies. *The American Journal of Family Therapy, 28,* 311-327.

Wyverkens, E., Provoost, V., Ravelingien, A., Pennings, G., De Sutter, P., & Buysse, A. (2017). The meaning of the sperm donor for heterosexual couples: Confirming the position of the father. *Family Process, 56*(1), 203-216. doi:10.1111/famp.12156

Zolliner, U., Neumann, C., & Zolliner, K. P. (2013). Probability of success of conservative treatment of infertility: Exact timing as an important prognostic factor. *Journal of Reproductive Medicine, 58*(5-6), 205-211.

Zubatsky, M., Harris, S. M., & Mendenhall, T. J. (2017). Clinical training and practice patterns of medical family therapists: A national survey. *Journal of Marital & Family Therapy, 43*(2), 264-275. doi:10.1111/jmft.12203

APPENDIX A

Initial Phone Call to Office Managers

Hello,

My name is Maryam Keyhan. I am a doctoral candidate in Family Therapy in the Family Sciences Department at Texas Woman's University. I am recruiting participants for my dissertation titled, *Medical Family Therapy and Infertility: Referral Practices of Infertility Physicians and their Views on the Biopsychosocial Impact of Infertility Treatment on Patients.* I am interested in learning more about how men and women cope with this experience as there is very little research in this area. By starting with the physicians who treat infertility, I believe that I can gain a better understanding of the experience and use that information to inform other therapists, especially, family therapists.

I am hoping to recruit 30-40 infertility specialists to participate in my study. Would you please give me your e-mail address, so I can send you an e-mail that contains the link to my online survey? Also, once I send you the link to the study, I would really appreciate it if you could forward that e-mail to other physicians in your practice. Thank you very much.

APPENDIX B

Recruitment E-mail to Physicians

Dear Physician,

My name is Maryam Keyhan. I am a doctoral candidate in Family Therapy at the Family Sciences Department of Texas Woman's University. I am working on a dissertation titled, *"Medical Family Therapy and Infertility: Referral Practices of Infertility Physicians and their Views on the Biopsychosocial Impact of Infertility".*

I would like to ask you to take the time to participate in my study. I believe that your experience as an infertility physician will provide valuable insight into how the emotional and psychological well-being of individuals and couples who seek infertility treatment can be impacted by the treatment and how marriage and family therapists can develop a closer working relationship with infertility physicians and be more helpful to their patients.

The link provided in this e-mail will direct you to the online survey. It will take 15-20 minutes to answer the study questions. The risks of participating in this study are minimal and may include some emotional discomfort as the result of recalling information about your patients.

The criteria for participating in this study is being a licensed physician and have completed a fellowship in the field of reproductive endocrinologist. By clinking on the link provided in this e-mail, you acknowledge that you meet the participation criteria for this study and consent to participate in the study.

Once you complete the survey, as a small token of my appreciation, you will be entered into a drawing to win one of three 50-dollar donations that will be sent to a charity of your choice.

If you have any questions about this study, please do not hesitate to contact me at 469-396-2335 or Maryam_32@hotmail.com or my advisor, Dr. Linda Ladd, at 940-898-2694, lladd@twu.edu.

Thank you very much for your time!

Sincerely,

Maryam Keyhan, M.A.

Doctoral Candidate, Family Therapy

Family Sciences Department

Texas Woman's University

(469) 396-2335

APPENDIX C

Recruitment Letter to Physicians

Medical Family Therapy and Infertility: Referral Practices of Infertility Physicians and their Views on the Biopsychosocial Impact of Infertility.

Online Survey: https://www.psychdata.com/s.asp?SID=180921

Dear Physician,

My name is Maryam Keyhan and I am a doctoral candidate in the Family Therapy program at Texas Woman's University in Denton, Texas. I am recruiting physicians with a specialty in infertility to take a short, online survey which asks questions about their work with couples who are experiencing infertility or undergoing treatment. The study also explores referral practices of infertility physicians. I would like to ask you to take the time to participate in my study as your experience as an infertility physician will provide me with valuable insight into the emotional and psychological well-being of individuals and couples who seek infertility treatment. In this survey, you are also asked to consider how marriage and family therapists can develop a closer working relationship with infertility physicians and be more helpful to their patients.

I am gathering my data through PsychData; this survey has been timed to take you between 10-15 minutes to complete.

This survey is anonymous as you will not be asked to give your name or other identifying information. However, when you have completed the survey, you may choose to click on a second survey where you can name a charity which will be entered into a drawing for one of three $50 donations. You may also wish to ask for a copy of the summary of the results; if you elect the summary, you will be asked for an email address. This information will be kept separately from the main survey

The link provided at the top of this letter will direct you to the online survey. Completion of the survey constitutes your consent to participate in this research study. It will take approximately 10-15 minutes for you to answer the survey questions. The risks of participating in this study are minimal and may include some emotional discomfort as the result of recalling information about your patients. Participation in this study is completely voluntary. You may choose to stop answering questions at any time without penalty. There is a potential risk of loss of confidentiality in all email, downloading, electronic meetings, and internet transactions. Your confidentiality will be protected by the researcher to the extent that is allowed by law.

If you have any questions about this study, please do not hesitate to contact me at 469-396-2335 or Maryam_32@hotmail.com , or my advisor, Dr. Linda Ladd, at 940-391-0834 or lladd@twu.edu. Thank you very much for your time!

Sincerely,
Maryam Keyhan, M.A., Doctoral Candidate
Family Therapy Program
Family Sciences Department
Texas Woman's University

APPENDIX D

Modification Approval Notification from IRB

Institutional Review Board
Office of Research and Sponsored Programs
P.O. Box 425619, Denton, TX 76204-5619
940-898-3378
email: IRB@twu.edu
https://www.twu.edu/institutional-review-board-irb/

DATE: June 18, 2018

TO: Ms. Maryam Keyhan
Family Sciences

FROM: Institutional Review Board - Denton

Re: Notification of Approval for Modification for Medical Family Therapy and Infertility: Referral Practices of Infertility Physicians and their Views on the Psychological, Emotional, and Relational Impact of Infertility Treatment (Protocol #: 19915)

The following modification(s) have been approved by the IRB:

The recruitment process will now include mailing the recruitment letter to a list of physicians acquired from a professional organization of doctors who specialize in infertility.

cc. Dr. Linda Ladd, Family Sciences

APPENDIX E

Online Instrument

Referral Practices of Infertility Physicians and their Views on the Biopsychosocial Issues that their Patients Experience

Section 1: The following section will ask you demographic questions as well as questions about your familiarity with the field of medical family therapy and your referral practices.

1. Sex: Male/Female/Other

2. Ethnicity/Race: White African-American Hispanic Asian Native-American Hawaiian/Pacific Islander Other

3. Did you complete a fellowship in reproductive endocrinology? Yes/No

4. Years in practice as an infertility specialist:

5. Are you familiar with the field of medical family therapy? Yes/No

6. Do you currently refer your patients to a therapist/counselor? Yes/NO

If you answered yes, please indicate which type of counselor/therapist you refer your patients to: Counselor Marriage and Family Therapist Psychologist Social Worker Other (please explain)

Section 2: Attitudes toward Medical Family Therapy and Views on Emotional, Psychological, and Relationships that Infertility Patients Experience

The following paragraph explains how medical marriage and family therapy has been conceptualized for the purpose of this study.

Medical family therapy is a branch of marriage and family therapy. Medical family therapists work with couples and families who are experiencing, or receiving treatment for, medical illnesses, including cancer, chronic illnesses such as diabetes and high blood pressure, and infertility. Medical family therapists help couples/family members adjust to the emotional and psychological, and relational impact of the illness and treatment. They also help couples/families adjust to new roles as one family member undergoes treatment, prepare for possible loss of a family member, make important

decisions regarding their treatment/care, comply with treatment plans and medications (Doherty, McDaniel, & Hepworth, 2014; McDaniel, Doherty, & Hepworth, 2014) .

Please answer the following questions based on the explanation above:

1. In your opinion, what might be some of the **advantages** of working with a medical family therapist for you as a **physician**?

2. In your opinion, what are some of the **disadvantages** of working with a medical family therapist for you as a **physician**? How do you believe those issues can be resolved?

3. In your opinion, what are some of the **advantages** of working with a medical family therapist for your **patients**?

4. In your opinion, what are the **disadvantages** of working with a medical family therapist for your **patients**? Please explain how those issues can be resolved.

5. Based on your experience, what **emotional, psychological,** and **relationship** issues do your patients experience as the result of receiving a diagnosis of fertility or undergoing infertility treatment that can be discussed with a medical family therapist?

6. What differences have you noticed between **men** and **women** in the type of emotional, psychological, and relationship issues that they experience and the type of coping mechanisms that they use?

7. What kind of **ethical issues** do couples have to deal with as they make decisions regarding their infertility treatment?

8. In your experience, what type of **cultural and religious issues** do your patients experience as the result of infertility?

Section 3: **Please provide the name and contact information for a charity that you would like to receive a 50-dollar donation if you are one of our three winners.**
