

THESIS

A QUALITATIVE STUDY: THE INFLUENCE OF OCCUPATIONAL THERAPY FOR PELVIC FLOOR DYSFUNCTION ON FUNCTIONING, DISABILITY, AND HEALTH

Submitted by

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ABSTRACT

A QUALITITATIVE STUDY: THE INFLUENCE OF OCCUPATIONAL THERAPY FOR PELVIC FLOOR DYSFUNCTION ON FUNCTIONING, DISABILITY, AND HEALTH

Introduction: Approximately one quarter of all women in the United States experience symptoms of pelvic floor dysfunction (PFD). Occupational therapy (OT) for PFD is a relatively new area of expertise within the field, resulting in limited research on its efficacy.

Objectives: Explore the ways in which OT for PFD influences health using the International Classification of Functioning, Disability, and Health (ICF) as a guide.

Method: Four participants completed the study. Eligibility criteria included: >18 years old, biologically female, English speaking, self-reported pelvic floor issue, completed OT intervention for PFD within the last two years. Electronic medical records and Pelvic Floor Distress Inventory Questionnaire-10 (PFDI-20) scores prior to and after completing OT intervention for PFD were reviewed, and semi-structured interviews were conducted.

Results: Four themes emerged: 1) improved mental health and physiological function, 2) promotion of the mind-body connection, 3) reintroduction of meaning, and 4) relationships with healthcare professionals and sociocultural influences. Each theme is tied to a component of the ICF.

Conclusion: OT for PFD has a positive impact on health per the ICF. This may result in better function and participation in everyday life. More research is needed to investigate the generalizability of these findings.

ACKNOWLEDGEMENTS

Throughout the chaos and uncertainty of the last couple of years, returning to this thesis at the end of the week has always remained my constant. It's become a form of comfort, a place where I can explore my passions, and be myself. I credit this to my wonderful advisor, Dr. Arlene Schmid, who has instilled a love of research in me from the first time we met. Seeing your name on books and articles, knowing the lives you've touched through your practice and research, and watching you provoke interest and enthusiasm through your lectures are just a few of the many ways in which you have inspired me. To Dr. Karen Adler, I am beyond lucky to have had you as a professor and mentor. Your warmth and passion are contagious, and your knowledge extraordinary. To Dr. Christine Fruhauf, what an honor it is to have you on my team. Your perspective and expertise are immensely valued, thank you for helping me see the broader picture. Ellen, I can't thank you enough for the many hours you poured into this research. I'm so happy to have had you by my side throughout this journey. Johanna, none of this would be possible without you! Despite everything, you managed to spearhead pelvic floor research within our program and spark interest for several other students who have come after you. Thank you! Kelsey Mathias, although we never truly met, I feel so connected to you and empowered by your work. Thank you for igniting my love of pelvic floor health and helping so many students discover this amazing area of occupational therapy practice. Lastly, thank you to all the participants of this study. Your bravery and ability to be so vulnerable will have an impact beyond what any of us can see! Thank you.

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CHAPTER 1: INTRODUCTION, LITERATURE REVIEW, METHODS

Introduction

Approximately one quarter of all women in the United States suffer from at least one or more symptoms of pelvic floor dysfunction (PFD) (Dieter et al., 2015). PFD refers to a wide variety of clinical conditions that occur when any of the muscles or connective tissue of the pelvic floor do not function properly. The pelvic floor may become stretched during childbirth, weak during aging, or hypertonic with increased stress compromising bladder, bowel, and sexual function, as well as the support of internal organs (Lawson & Sacks, 2018; Wallace et al., 2019). PFD commonly manifests itself as urinary incontinence (UI), fecal incontinence (FI), pelvic organ prolapse (POP), and/or sexual dysfunction (SD) (Jundt et al., 2015; Lawson & Sacks, 2018). Additionally, PFD has a negative psychosocial impact. It is associated with higher incidences of depression and increased anxiety, decreased sexual desire, as well as social isolation and social exclusion (Bochenska & Boller, 2016; Ditah et al., 2014; Menees et al., 2018; Vigod & Stewart, 2006).

The Pelvic Floor

The pelvic floor (PF) refers to a dome-shaped muscular sheet that is comprised of a number of muscles, ligaments, and fascia that are attached to the bony pelvis (Bharucha, 2006; Raizada & Mittal, 2008). The muscles of the pelvic floor serve two main purposes. First, the pelvic floor provides support, or acts as a sling, for the pelvic viscera against intraabdominal pressure changes that occur during daily activities (Hodges et al., 2007; Lawson & Sacks, 2018; Pierce et al., 2015; Raizada & Mittal, 2008). The pelvic viscera consists of the bladder, rectum, and uterus (Dumoulin et al., 2019). Second, the pelvic floor serves as a constrictor or continence mechanism to the urethral, anal, and, vaginal orifices (Dumoulin et al., 2019; Raizada & Mittal,

2008). This mechanism is largely made up of sphincters that can contract and relax both voluntarily and involuntarily. The pelvic floor regulates the storage and emptying of the bladder and bowel, signaling when elimination is necessary by opening and closing urethral and rectal orifices to help maintain continence (Pierce et al., 2015). The pelvic floor also manages muscular contractions that regulate the vaginal orifice. These muscles become slightly stretched and widened to allow penetration to occur with arousal and contract during orgasm (Bortolami et al., 2015). When functioning normally, the pelvic floor supports the pelvic viscera, maintains urinary and fecal continence, and allows successful sexual function (Pierce et al., 2015).

Pelvic Floor Dysfunction

PFD refers to a wide variety of clinical conditions that occur when any of the muscles or connective tissue of the pelvic floor are not functioning properly (Davis & Kumar, 2003). Pelvic floor muscles may become stretched during childbirth, weak during aging, or hypertonic with increased stress and can compromise bladder, bowel, and sexual function as well as the support of internal organs (Lawson & Sacks, 2018; Wallace et al., 2019). PFD commonly manifests itself as urinary incontinence (UI), fecal incontinence (FI), pelvic organ prolapse (POP), and/or sexual dysfunction (SD) (Bump et al., 1996; Jundt et al., 2015; Lawson & Sacks, 2018).

Urinary Incontinence

UI is defined by the International Continence Society as “the complaint of any involuntary leakage of urine” (as cited in Bø, 2004). Studies suggest that the prevalence of UI in women varies between 25% to 45%, depending on how the study defines incontinence, the sample population, and the format of questions about incontinence (Dumoulin et al., 2018). Common factors associated with UI in women include childbearing, age, body mass index, and previous hysterectomy (Minassian et al., 2008).

There are three main types of UI: stress incontinence, urge incontinence, and mixed incontinence. Stress UI, which accounts for half of all UI, is the involuntary leakage of urine with physical exertion (Dumoulin et al., 2018). Urge UI refers to the sudden and intense urge to urinate, followed by an involuntary loss of urine (Mayo Clinic, 2021). Lastly, mixed UI often refers to a combination of stress UI and urge UI and is defined as “the involuntary leakage associated with both urgency and with exertion, effort, sneezing and coughing” (Bø, 2004, p.452).

UI is a serious medical condition that can lead to perineal rash, pressure ulcers, and urinary tract infections (Dumoulin et al., 2018). In addition to the physical impact, UI may also lead to psychological sequelae. Women living with UI report feelings of embarrassment, negative self-perception, isolation, and inactivity (Dumoulin et al., 2018). Living with UI can also lead to an increased risk of depression; a Canadian survey showed that 18 to 44 year old women with UI suffered from depression more commonly than those without UI (Vigod & Stewart, 2006).

Fecal Incontinence

FI is the inability to control the passage of stool from the rectum (Rockwood et al., 2000). Although its prevalence varies depending on fecal character and frequency, it's estimated that nearly 10% of women experience FI in their lifetime (Bochenska & Boller, 2016; Ditah et al., 2014; Nelson, 2004). FI has a significant psychosocial impact, including feelings of anxiety, depression, and poor self-image (Bochenska & Boller, 2016; Menees et al., 2018). Additionally, the social effects of FI, such as social isolation and social exclusion, are devastating (Ditah et al., 2014). It is often seen as an inevitable part of aging or thought to be embarrassing to discuss, resulting in women rarely seeking treatment for their symptoms (Menees et al., 2018). Pregnancy

and childbirth, either via cesarean section or vaginal delivery, are strongly associated with FI (Nelson, 2004).

Pelvic Organ Prolapse

According to the American College of Obstetricians and Gynecologists (2017), POP occurs when the pelvic floor can no longer support one or more pelvic organs, causing them to drop or press into the vagina. In females, the pelvic organs include the vagina, uterus, bladder, urethra, and rectum (ACOG, 2017). Although the epidemiology of POP is are, approximately 43% to 76% of women presenting for routine gynecological care present with loss of vaginal or uterine support, with 3% to 6% having descent beyond the hymen (Jelovsek et al., 2007). Symptoms of POP include vaginal bulging or pelvic pressure, often accompanied by complaints of other bladder, bowel, and pelvic symptoms, such as urinary or fecal incontinence (Jelovsek et al., 2007; Lawson & Sacks, 2018). Women with POP report a decrease in self-perceived body image, worsened sexual function, and psychological distress (Touza et al., 2020). Vaginal childbirth, advancing age, and increased body-mass index are the most consistent risk factors for POP (Davis & Kumar, 2003; Jelovsek et al., 2007; Touza et al., 2020).

Sexual Dysfunction

Sexual dysfunction (SD) can manifest itself as decreased interest and desire, decreased arousal, painful sex, and difficulties attaining orgasm (McCabe et al., 2016). SD in females is multifactorial, as engagement in sexual activity involves many psychological and physiological functions including the integrity of the nervous, hormonal, vascular, immune, and neuromuscular systems. and can be affected by (Bortolami et al., 2015).

Physical symptoms of SD are sensations of dryness, urinary leakage during intercourse, and bulging in the vagina which decreases the enjoyment of both partners sexual activity

(Hadizadeh-Talasaz et al., 2019; Rosenbaum, 2007). Low pelvic floor muscle tone may result in insufficient blood flow to the clitoris which is necessary for attaining orgasm, and high tone of the pelvic floor muscles can result in painful sex (Bochenska & Boller, 2016; Hadizadeh-Talasaz et al., 2019). Dyspareunia can also be attributed to hormone imbalances, menopause, perineal trauma following vaginal delivery, or a history of sexual abuse (Bortolami et al., 2015; Tayyeb & Gupta, 2022).

Current Conservative Treatments for PFD

Conservative, or nonsurgical, treatments for PFD focus on the restoration of functional anatomy and the maintenance of continence and sexual function. The International Consultation on Incontinence (2016), a report focusing on the epidemiology of UI, POP, and FI, recommends lifestyle modifications, such as continence advice, dietary and fluid manipulation, the use of a voiding diary, pelvic floor muscle training, and the use of weighted vaginal cones as evidence-based treatment options. These modalities are often carried out by physical therapists (PTs) or OTs who are trained to provide therapy for the pelvic floor. However, women's awareness of available treatment for PFD is limited (Burkhart et al., 2021). This may be a result of the lack of education presented to women regarding available treatment options within the healthcare setting (Burkhart et al., 2021). Additionally, women may not seek treatment for PFD due to the belief that the symptoms are an inevitable part of being female or that they are a typical physical change due to aging or childbirth (Davis & Kumar, 2003).

Occupational Therapy for PFD

Occupational therapy (OT) aims to use “everyday life activities to promote health and wellness through enhancing or enabling participation in occupation” (AOTA, 2020, p.30). Occupations, in this sense, refer to the various activities that provide meaning and purpose in life

(AOTA, 2020). Individually chosen occupations shape identities and influence overall health and wellbeing. In addition to addressing the physiology and symptomology of PFD, OT for PFD aims to address the occupations that are affected by PFD symptoms (Akslerud & Vestal, 2021).

A study done by Schmitz et al. (in preparation) proposed four predominate OT intervention techniques for PFD: the use of a voiding/bladder diary, diaphragmatic/deep breathing, pelvic floor awareness, and yoga. Schmitz et al. suggests that OT gave women the information and tools necessary to embed these techniques into their everyday occupations, allowing them to establish routines through positive lifestyle changes. Following OT for PFD and the use of these intervention techniques, the participants of the study described feelings of relief after discovering OT for PFD and feelings of empowerment and expertise of their own bodies (Schmitz, et al., in preparation). While data is emerging regarding the lived experiences of women with PFD, little is known about the impact of OT intervention has the symptoms of PFD.

The International Classification of Functioning, Disability, and Health

To provide a holistic context for examining and understanding the perceived influence of OT intervention as treatment for PFD on all areas of human function, the International Classification of Functioning, Disability, and Health (ICF) was used as the conceptual framework for this study (World Health Organization, 2001). The ICF was developed by the World Health Organization to provide unified and standard language and framework for the description of health and health-related states. Body function and structure, activity, participation, and environmental and personal factors, are the ICF components that comprise function or disability (World Health Organization, 2001). The components interact with one another as indicated by bidirectional arrows displayed on the model (Figure 1). The ICF breaks down a diagnosis, such as PFD, into specific health and health-related components that endeavor

to determine an individual's function or disability. Function and disability exist on opposite ends of a continuum and are determined through interpretation of the components of the ICF.

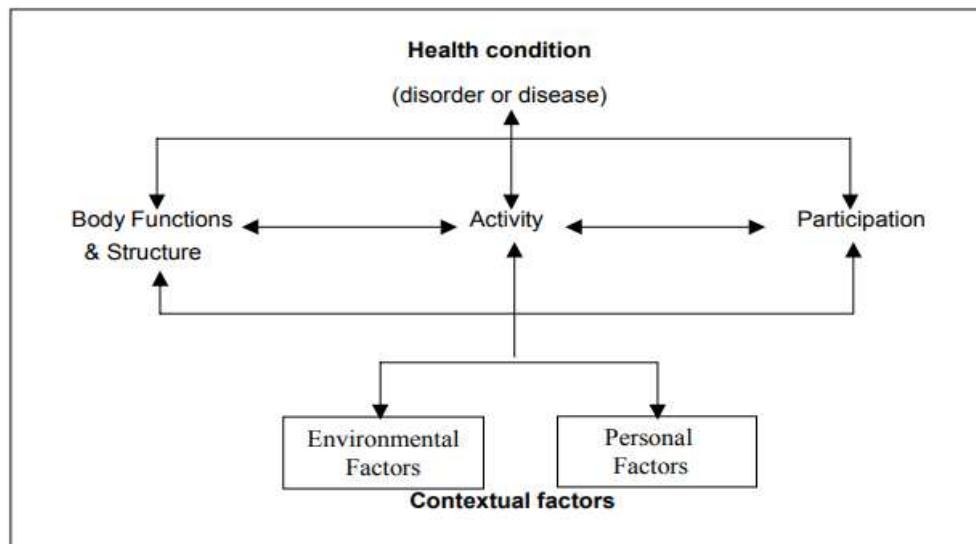


Figure 1. *The International Classification of Function, Disability, and Health (ICF) model, World Health Organization (2001).*

Influence of PFD on the Components of the ICF

Literature using the ICF as a conceptual framework to understand the many facets of PFD remains limited. Some studies focus on a single symptom of PFD, such as that done by Brandt & van Vuuren (2019) which focuses on the impact of POP on the components of the ICF, suggesting that POP is related to dysfunction, activity limitations, and participation restrictions, specifically with impairments in mobility. Other studies, such as that of Berghmans (2018), focus on physical therapy (PT) as a treatment option for PFD and the ways in which PT may influence the components of the ICF. These studies imply a negative impact on the components of the ICF for those with PFD with a focus on impairments on body functions and structure. However, other components of the ICF, specifically the social and environmental contexts and participation, are

not thoroughly explored. The research question of this study is “How does OT for PFD influence health using the ICFs conceptual framework?”.

Methods

Study Design

A pragmatic qualitative research design through an interpretive case-series was used to develop themes through detailed description of the lived experiences of women who received OT for pelvic floor health issues (Savin-Baden & Major, 2013). Additional quantitative data were collected through participants’ electronic medical records (EMRs) for further assessment and understanding of participants’ cases. This design allowed for a pragmatic approach, combining both objective and subjective information and drawing upon the most “sensible and practical methods available in order to answer a given research question” (Savin-Baden & Major, 2013, p. 171). Interpretation of data collected was then guided by the components of the ICF.

Recruitment and Participants

Participants were identified by an occupational therapist (KM) who is trained in pelvic floor health and owned a private practice in Colorado, United States. Participants met the following inclusion criteria: 18 years or older; biologically female; had a self-reported pelvic floor issue; completed and discharged from OT intervention for pelvic health within the last two years; and were English speaking. All participants were seen by KM for pelvic floor OT services. Participants were recruited by KM through social media and word of mouth. When a potential participant was identified, that participant was introduced to the study team via email and screened for inclusion criteria via a telephone call or email. Four participants were identified and consented to participating in this IRB approved study.

Intervention

All participants received OT with KM for their specific PFD; however, frequency, duration, and specific intervention activities were individualized to meet the needs of each participant. Common interventions used include the completion of a voiding diary, diaphragmatic breathing, pelvic floor and core awareness, and yoga (Schmitz, et al., in preparation). KM reported using intervention approaches that are rooted in the philosophical core of OT through addressing both mental and physical health, adapting interventions to client's specific needs, and considering the whole person (Schmitz, et al., in preparation).

Data Collection

Qualitative Data Collection

Participants completed a semi-structured, one-on-one interview based on an interview protocol. Interviews were conducted virtually through the video platform, Zoom. The interview protocol was developed by the team and focused on eliciting responses that correspond with the components of the ICF, including individuals' experiences with PFD and perception of their activity and participation in ADLs and IADLs before and after completing OT intervention.

Quantitative Data Collection

Quantitative data were collected through retrospective EMR chart review provided by the referring occupational therapist, KM. Participants signed a release form allowing the research team access to the EMR to collect demographic information and fundamental descriptions of the OT intervention and process to aid in the comprehensive understanding of participants' cases. Chart review data included initial evaluation information, diagnostic information, and the Pelvic Floor Distress Inventory Questionnaire- Short Form 20 (PFDI-20).

Pelvic Floor Distress Inventory Questionnaire- Short Form 20 (PFDI-20).

The PFDI-20 is used to assess the impact that pelvic floor disorders have on quality of life in women over the last three months (Shirley Ryan Ability Lab, 2012). It is a twenty-item questionnaire that takes approximately five to ten minutes to complete. The PFDI-20 is split into three main categories: urinary distress, colorectal-anal distress, and pelvic-organ prolapse. The PFDI-20 relies on patient-reported outcomes, as the patient answers yes or know to questionnaire items and then ranks the level of bother of each “yes” on a Likert scale (Not at all=1, Somewhat=2, Moderately=3, Quite a bit=4). Scores from each domain are then added together, and the mean value of all questions answered is then multiplied by 25 to receive the actual score. The actual score of the three categories are then added together to obtain the summary score. The greater perceived impact of PFD on a patient’s life is reflected in a higher score (Shirley Ryan Ability Lab, 2012).

Data Analysis

Quantitative Data Analyses

Quantitative data were analyzed using descriptive statistics to describe the sample population using means, standard deviations, frequencies, and proportions as appropriate.

Qualitative Data Analyses

Interviews were audio recorded, transcribed verbatim, and uploaded to NVivo software. Two of the authors (Pearce & Jerome) independently read interview transcripts and performed line by line open coding of key concepts. Information was initially categorized using components of the ICF (body function, body structure, activity, participation, environmental factors, and personal factors) as a guide. Specific ICF codes were referred to ensure accuracy and consistency between authors. Once authors reached a consensus, further analysis was conducted to identify major themes that existed within each ICF component across all interviews.

Introduction

Approximately one quarter of all women in the United States experience at least one or more symptoms of pelvic floor dysfunction (PFD) (Dieter et al., 2015). PFD refers to a wide variety of clinical conditions that occur when any of the muscles or connective tissue of the pelvic floor are not functioning properly. The pelvic floor may become stretched during childbirth, weak during aging, or hypertonic with increased stress. This may compromise bladder, bowel, and sexual function, as well as the support of internal organs (Lawson & Sacks, 2018; Wallace et al., 2019). PFD commonly manifests itself as urinary incontinence (UI), fecal incontinence (FI), pelvic organ prolapse (POP), and/or sexual dysfunction (SD) (Jundt et al., 2015; Lawson & Sacks, 2018).

PFD has deleterious impacts; physically, women with PFD may experience perineal rash, pressure ulcers, urinary tract infections, vaginal bulging or pelvic pressure, and the inability to achieve orgasm (Dumoulin et al., 2018; Lawson & Sacks, 2018; McCabe et al., 2016). Popular current nonsurgical treatments address these issues through focusing on the restoration of the functional anatomy and the maintenance of continence and sexual function (Brandt and van Vuuren, 2019). PFD also has a mental component, as it may increase incidences of depression and anxiety, decrease sexual desire, and lead to social isolation and social exclusion which is not addressed in current treatment practices (Bochenska & Boller, 2016; Ditah et al., 2014; Menees et al., 2018; Vigod & Stewart, 2006). Brandt and van Vuuren (2019) acknowledge that current nonsurgical treatments do not focus on the mental component of PFD, recommending that treatment for PFD be more comprehensive and holistic.

However, women's awareness of available treatment for PFD remains limited (Burkhart et al., 2021). Low levels of awareness may be a result of the lack of information presented to women regarding available treatment options within the healthcare setting (Burkhart et al., 2021). Additionally, women may not seek treatment for PFD due to the belief that the symptoms are an inevitable part of being female, aging, or childbirth (Davis & Kumar, 2003).

Occupational therapy (OT) practice addresses these beliefs through its framework, as it aims to use "everyday life activities to promote health and wellness through enhancing or enabling participation in occupation" (AOTA, 2020, p. 30). Occupations refer to the various activities that provide meaning and purpose in life (AOTA, 2020). Individually chosen occupations shape identities and influence individual's overall health and wellbeing. Focusing on the whole client, using a top-down approach, and considering contextual factors are indoctrinated into OT education and practice (Fisher and Marterella, 2019). A study done by Schmitz et al. (in preparation) proposed four predominate OT intervention techniques for PFD that were embedded into everyday occupations to establish routines through positive lifestyle changes. These intervention techniques included the use of a voiding/bladder diary, diaphragmatic/deep breathing, pelvic floor awareness, and yoga. OT for PFD addresses the occupations affected by PFD symptoms, rather than PFD symptomology itself (Akslerud & Vestal, 2021). Following these interventions, the participants in the study described feelings of relief after discovering OT for PFD and feelings of empowerment and expertise of their own bodies (Schmitz et al., in preparation). While data is emerging regarding the lived experiences of women with PFD, little is known about the influence OT has on health and function among women with PFD.

The International Classification of Functioning, Disability, and Health (ICF) was used as the conceptual framework for this study (World Health Organization, 2001). The ICF provides a

holistic context for examining and understanding the perceived influence of OT intervention as treatment for PFD on all areas of human function. The World Health Organization developed the ICF to provide unified and standard language and framework for the description of health and health-related states by focusing on the following components: body function and structure, activity, participation, environmental factors, and personal factors (World Health Organization, 2001). For example, the ICF allows a practitioner to break down a diagnosis, such as PFD, into the components that are connected in such a way that, if you influence one component, all the other components adjust. The purpose of this study was to understand the perceived influence of OT for PFD framed within the context of the ICF.

Methods

Study Design

A pragmatic qualitative research design was used to develop themes through detailed description of the lived experiences of women who received OT for pelvic floor health issues (Savin-Baden & Major, 2013). An interpretive case-series allows for multiple accounts of individual experiences to be explored (Savin-Baden & Major, 2013). Additional quantitative data were collected through participants' electronic medical records (EMRs). This design allowed for a pragmatic approach, combining both objective and subjective information through drawing upon the most sensible and practical methods available (Savin-Baden & Major, 2013). Interpretation of data collected was then guided by the ICF framework.

Recruitment and Participants

Participants were identified by their occupational therapist, referred to as KM, who specialized in the pelvic floor and owned a private practice in Colorado, United States. Participants met the following inclusion criteria: 18 years or older; biologically female; self-

reported pelvic floor issue; completed and discharged from OT intervention for pelvic health within the last two years; and were English speaking. When a potential participant was identified, that participant was introduced to the study team via email and screened for inclusion criteria via a telephone call or email. Four individuals consented and participated in this IRB approved study.

Data Collection

Quantitative Data Collection

Quantitative data were collected through retrospective chart review of the EMR. Participants signed a release form allowing the research team access to the EMR to collect demographic information and fundamental descriptions of the OT intervention and process to aid in the comprehensive understanding of participants' cases. Chart review data included demographics and the Pelvic Floor Distress Inventory Questionnaire-Short Form 20 (PFDI-20).

The PFDI-20 is used to assess the impact that pelvic floor disorders have on quality of life in women over the last three months (Shirley Ryan Ability Lab, 2012).. It is a twenty-item questionnaire that takes approximately five to ten minutes to complete. The PFDI-20 is split into three main categories: urinary distress, colorectal-anal distress, and pelvic-organ prolapse. The patient answers "yes" or "no" to questionnaire items and ranks the level of bother of each "yes" on a Likert scale (Not at all=1, Somewhat=2, Moderately=3, Quite a bit=4). Scores from each category are added together and the mean value of all questions answered is then multiplied by 25 to receive the actual score. The actual score of the three categories are then added together to obtain the summary score which ranges from 0-300. Greater perceived impact of PFD on a patient's life is reflected in a higher score (Shirley Ryan Ability Lab, 2012).

Qualitative Data Collection

Participants completed a semi-structured, one-on-one interview. Interviews were conducted virtually through a secure video platform and guided by an interview protocol developed for this study. The research team developed the interview protocol with questions related to experiences in OT for pelvic floor and perceptions of the influence of OT on their overall health and function (Schmitz et al., in preparation).

Intervention

All participants received OT with KM for their specific PFD; however, frequency, duration, and specific intervention activities were individualized to meet the needs of each participant. Interventions included the completion of a voiding diary, diaphragmatic breathing, pelvic floor and core awareness, and yoga (Schmitz et al., in preparation). KM reported using intervention approaches rooted in the philosophical core of OT by addressing both mental and physical health, adapting interventions to client's specific needs, considering the whole person, and being occupation based (Schmitz et al., in preparation).

Data Analysis

Quantitative Data Analyses

Quantitative data were analyzed using descriptive statistics to describe the sample population including means, standard deviations, frequencies, and proportions.

Qualitative Data Analyses

Interviews were audio recorded, transcribed verbatim, and uploaded to NVivo for data analyses. The first two authors independently read interview transcripts and performed line by line open coding of key concepts observed within the data. Each interview was analyzed and coded separately, with primary themes being the ICF components. Language and examples were

pulled directly from the ICF framework (see Table 1). Subthemes were then developed within each ICF component/theme. Transcript codes, themes, and subthemes were discussed, compared, and refined through consensus of the two authors throughout the analyses.

Table 1.

Definitions and Categories of ICF Components per the World Health Organization (2001).

International Classification of Function, Disability, and Health Components	Definitions	ICF Category Examples Related to this Study*
Body Functions	"...the physiological functions of body systems, including psychological functions." p. 221	Temperament and personality functions, including confidence and agreeableness; emotional functions, including fear, anxiety, and sorrow; fecal and urinary continence; sexual function including sexual arousal and orgasm; discomfort associated with sexual intercourse; muscle tone
Body Structures	"...the structural or anatomical parts of the body such as organs, limbs and their components classified according to body systems." p. 221	Structure of the uterus, cervix, and fallopian tubes; structure of vagina and external genitalia; structure of pelvic region including joints, muscles, and ligaments
Activity	"...the execution of a task or action by an individual." p. 221	Intentionally focusing on specific stimuli; meditating, pondering, speculating, or reflecting; solving problems
Participation	"...a person's involvement in a life situation." p. 221	Managing one's own activity level; completing the daily routine; self-

		care, including regulating urine and defecation; taking care of animals; family relationships; intimate relationships; work and employment; recreation and leisure
Environmental Factors	“...make up the physical, social, and attitudinal environment in which people live and conduct their lives.” p.178	Relationships with immediate family, friends, and health professionals; Attitudes of immediate family, friends, and healthcare professionals; health services, systems, and policies
Personal Factors	“... contextual factors that relate to the individual.” p. 222	Age, gender, societal status, life experiences

*ICF Category Examples listed here are found within the ICF framework and referenced as they relate closest to this study’s qualitative data.

Results

Quantitative Findings

All participants held a bachelor’s degree, were in a partnered relationship, had at least one child, and completed OT for symptoms of PFD with KM for varying amounts of time.

Participants are represented by pseudonyms: Katelyn, Kelly, Natalie, and Vivian. See Table 2 for demographics and PFDI-20 scores, which on average increased by nearly 87%.

Table 2.*Demographic and PFDI-20 results.*

Participant	Katelyn	Kelly	Natalie	Vivian	Mean (SD)
Age	31	29	36	37	33
Number of OT sessions completed	5	9	12	5	7.75
PFDI-20 scores pretreatment (evaluation)	122	57	170	128	119.25 (+- 46.67)
PFDI-20 scores posttreatment (discharge)	13	0	33	16	15.5 (+-13.58)
% of change from pretreatment to posttreatment	89.35%	100%	80.59%	86.82%	86.82%

*PFDI-20=The Pelvic Floor Distress Inventory Questionnaire-20; total score is 300; an

improvement of 13.5 points (or a 23% reduction) in scores is considered clinically relevant

(Wiegersma et al., 2017).

Qualitative Findings

The qualitative data gathered from the four interviews were rich in details that represented each of the components of the ICF. Six themes emerged based on participant responses, each correlating with the components of the ICF (See Table 3). Each of the themes are discussed in detail below and are supported by direct quotations from study transcripts.

Table 3.

Qualitative Themes and Correlating ICF Components.

Theme	ICF Component
1) Mental Health	Body Function and Structure
2) Physiological Improvements	Body Function and Structure
3) Promotion of the Mind-Body Connection	Activity
4) The Reintroduction of Meaning into Life	Participation
5) Relationships with Healthcare Professionals	Environmental and Personal Factors
6) Sociocultural Norms	Environmental and Personal Factors

Theme 1: Mental Health

Participants described feelings of fear, anxiety, and a lack of confidence that affected their mental health while living with PFD. Natalie explained: "...I just felt really down on myself all of the time...just very insecure about myself...because it was embarrassing. It felt ridiculous. Like, how could this be?" Natalie exemplified self-doubt and questioned her body's worth, stating: "I've had miscarriages as well, and I was really, really worried about that. And of course, in my, in my head I always felt like, did I have these miscarriages because my body isn't up to par?". Katelyn described how she felt her fear of experiencing her PFD symptoms in public exacerbated her fear of her symptoms:

I think so much of your symptoms even, come from just this fear. I think so, obviously the symptoms are real and I don't want to downplay that, but for me at least, when I'm focused on the symptoms, they get worse.

The participants described the psychological changes that occurred throughout their experience with OT that improved their mental health. Katelyn described the psychological changes as a process of reworking her brain to understand her body. She described the increase in confidence in managing her symptoms as a “mental breakthrough” that she believed to be “almost as important... if not more [important]” than physical improvements.” Kelly revealed that she was able to let go of her anxiety by telling herself “...I don’t have to hold on to all of this...” after living in what she described as a “constant state of anxiety”.

Vivian also described newfound confidence in her body after OT, “I feel like what I was able to...come away from the sessions with...more confidence in what was happening in my body and what I was capable of achieving in my body”.

Theme 2: Physiological Improvements

Participants described experiencing urinary leakage and urgency, pelvic pain, painful sex, cramping, feelings of vaginal bulging, muscle tightness, and painful scar tissue prior to receiving OT services. Katelyn described her symptoms, “I did experience, um, pelvic organ prolapse symptoms. And so, I started feeling the heaviness. Um, I could actually see uh my cervix, um, felt like a tampon was falling out”. She compared the pain associated with her POP to that of a pulled muscle, “I almost felt like I pulled my pelvic floor, like, you know how you feel like pull your hamstring or something like, I would have that feeling afterwards and my pelvic floor would be sore”. Kelly described how she felt her entire muscular system changed after giving birth, saying, “My whole body just got screwed up”.

After completing OT, the women described improvement in their physiological function. Natalie, who saw KM both while pregnant and postpartum, explained:

And I felt better with this pregnancy than I have with any of my pregnancies. I felt strong, I felt energized. Like she had me moving my body and helping me through that and...I wish I felt that way with all my pregnancies. It was amazing...It was clear that what we did during my pregnancy really paid off...I mean I had a baby and haven't had any leakage! I haven't had the pain, the cramping of it. I haven't had anything like that.

Theme 3: Promotion of the Mind-Body Connection

The participants explained that a large part of OT intervention was centered on acquiring knowledge about the interconnectedness of the body's systems and breathing. Kelly described that focusing on her whole body rather than just the pelvic floor "transformed" her care. She explained that prior to OT, she had foundational knowledge of pelvic anatomy, but OT ultimately helped her realize the importance of the relationships among her body's systems. Katelyn mirrored these sentiments, "... [the OT] helped give me strategies...it definitely was not limited to just the pelvic floor. She helped me branch out so that my whole body could then help my pelvic floor in the future". Katelyn explained that OT taught her what was "actually happening" in her body, stating that "there's a big difference in feeling and pain versus the reality of anatomic issues".

The women described focusing their attention on their bodies and thinking about how their actions and thoughts can control their PFD symptoms. This was done through deep breathing, meditation, creating mental maps, and mindful visualizations of the pelvic floor. Kelly describes her experience of deep breathing as having an immediate "rebound effect":

...once we worked on the breathing um and then you instantly get the rebound effect, you know, the whole system working at the same time it's like, "Okay, this is what it should feel like literally every second of the day."

Natalie described breathing as "the root of everything". When asked of her experience in becoming more aware of her pelvic floor muscles, she stated:

...breathing is the start of everything...Breathing in and then lifting and connecting your...core to your pelvic floor because really, I didn't even realize that they were like one connection, you know? Because I didn't have it. Everything was separated in my brain...with every breath, engage, connect your pelvic floor, and then do your movement. So, every single time: breathe in, pull up, engage, get that pelvic floor to connect and then do your movement.

Breathing influenced Katelyn's body awareness as well. She described "homework" she was given from the OT in which she was encouraged to do five minutes of breathing as she contracted and relaxed her pelvic floor, which ultimately enabled her to manipulate her PF muscles at will.

...initially the homework was five minutes of just breathing, contract-release. Like really feel that. Be very mindful of that, what that feels like...And so, it was, it kind of built from just feeling it and learning what that was to can you manipulate it (the pelvic floor).

Theme 4: The Reintroduction of Meaning into Life

The symptoms of PFD prevented Katelyn from participating in what she referred to as "basic, every day, every week things". The participants described several instances of their daily lives that were negatively impacted by PFD, which Natalie described as "isolating". Going to the grocery store was something that she had avoided prior to OT:

...I'd have to go to the bathroom every time and, you know, it's-- there's nothing wrong with going the bathroom in public, it's not that-- it's just, that's more time and more steps and more things and like, normal people can just go to the bathroom, and then go to the store and then go again when they come home...it was overwhelming at times.

Sex and intimacy with partners were also largely affected by PFD, which lead to relationship strain. Kelly described that UI affected her desire to have sex, stating: "...it made me nervous that I was going to mess up, if I did have sex." Natalie explained how her symptoms led to insecurity and diminished sex drive:

...[PFD] limited me and my husband...I would be so insecure about myself... I wouldn't want him to look at me or I wouldn't, you know, I felt so insecure... I'd want the lights off and I wouldn't want him to look...I'd always be afraid. What if I peed on him? Like that was such a big deal...it created tension for me, which you don't want tension when you're doing that, you know?

Participants described that OT equipped them with the tools needed to manage their symptoms and participate in meaningful areas of their life again. Vivian shared that she had become more confident not only in her body, but in her relationship with her husband:

...I was given more tools to help, like release tension...be knowledgeable about...my specific body....and more empowered to, like, be confident...Like having better intimacy...just, um confident and able to like, um speak for, for what I need and um stuff like that. So, um, I think that definitely was impactful.

Katelyn, a postpartum athleticism coach, reported learning ways to adapt exercises to how her body was feeling. She explained that she was able to strategize and take control of her symptoms after pushing herself in her workout:

I still will go too hard in a workout, or I still will push my threshold and realize, okay I'm not quite ready for that, and I'll have symptoms for a few days. But I no longer have that "Oh crap! like I've ruined myself". It's "Okay, I have symptoms. Here, I need to drop back to this level, and then I will move forward again a little slower"....I think, [KM] who forced me to bring back and work on those very basic foundational things with me...

The women reported that their therapist taught them how to apply what they had learned to nearly all situations, such as picking up their children, going to the movies, dancing, and running. Vivian stated: "I'm able to function the majority of the time doing more things that I love to do".

Theme 5: Relationships with Healthcare Providers

Relationships with healthcare providers can either serve as a barrier or as a support to rehabilitation. Vivian described her experience with a different pelvic floor therapist, who was not an OT, as having a "lack of the personalized approach". Natalie, who had also seen a different pelvic floor therapist prior to KM, described her experience:

She (the pelvic floor therapist) never like, explained how it connected or why we would do those things and sometimes I felt like she was just doing it until my insurance wouldn't let me do it anymore...it didn't really seem like I was improving...she made it seem like I needed to continue to see her so that she could fix my body.

Natalie saw several healthcare professionals before she was referred to OT. The first doctor she saw after experiencing POP told her that she needed to have a hysterectomy, which Natalie described as traumatizing.

...the doctor told me, “You need a hysterectomy, you need to have this taken out”... and she said I “wouldn't have another baby. You need to have this taken out and that's just what you need”. I was like, traumatized for months...

Natalie reported that the second doctor she saw left her feeling even more isolated. She recalled:

It does feel isolating when...you go to the doctor and she basically says, “I only deal with old people”...when she came in the room she was genuinely like, “Oh...you're really young”, and she said to me, “I have never talked to a woman your age,”...I was 34 at the time! You know, it was like, “Thanks?”

The participants told of a different relationship with KM. Natalie explained the stark difference between her experience with KM and the previous therapist she had seen:

She's [KM] like, your cheerleader, you know? And I think that makes all the difference because she-- and she's constantly helping me be aware of what I can do and I am doing it for my own body, instead of “She needs to help me”, it's “I'm doing it, you know?”

Katelyn had a similar sentiment as she shared what she perceived to be the key difference between the therapist she had seen before finding OT and KM:

I would say that she [KM] was more investigative...she was much more curious about... whole system...The other physical therapist [name redacted] didn't really ask me. She had a protocol, and she went through that. But [KM] was able to...go on the journey with me more. She was able to troubleshoot and like, “okay, does this work? does this not work?” ...it was just a different frame of thinking, a different mindset... which really jived with where I was at... she really like made you feel like she really cared about your progress and was willing to... find the answer with you. I think that was the biggest difference.

Vivian also felt as though KM had gone on a “journey” with her. She described KM’s approach as “holistic”, explaining:

I really liked...having...my whole experience matter and, like, feeling like I had, um, this supportive person to be on this journey with me...I didn't feel like I was fighting to be heard or, um, anything like that, it just felt very like supportive.

Theme 6: Sociocultural Influences

A large part of the environment are the social and cultural norms that often govern one’s actions and can influence one’s personal beliefs. The participants described how their perception of sociocultural norms impacted and continue to impact those with PFD. Kelly speculated why her friends and family with PFD had not sought treatment:

So many women are dealing with these things, but it's always been taboo to talk about it...There's such a lack of education of it...people just don't know or there's such this like taboo for women to share hardships...and I think part of that is it's been such a male dominated profession in the medical field that they haven't experienced these things themselves, usually, and so they don't understand how life altering it can be.

Natalie described how her experience with KM empowered her to continue to advocate for herself and for others with PFD:

Being able to feel this way now, I have become more open about talking about with other people because I want people to be aware...I mean that is not something people always talk about and I wish they had because then I wouldn't have felt so alone with my first one. And so I try to recognize that...it's okay. Women need to unite a little bit more. And, and become aware, because the doctors aren't helping with that, they're not even talking about it. So who's going to talk about it?

Advocating for herself and for others with PFD is something Katelyn described as a consequence of her success with OT. She reported posting about her experience on the social platform Instagram, and talking to anyone who would listen:

And so now I think having this knowledge...learning more from [KM]...talking to more pelvic floor PTs, talking to more midwives, my best friend's midwife, talking to other coaches who work with this population. I want to tell everyone about it because whether they are confident in telling their doctor or will tell me...I post about it all the time on Instagram!

Discussion

This study aims to investigate how women with PFD experience everyday life using the ICF components as a guiding framework. Until now, the nuances and contextual factors surrounding PFD had not been explored in relation to the bidirectional arrows/relationships that exist between function and impairment per the ICF. Furthermore, this is one of the first studies to investigate the ways in which OT impacts PFD through interviews with women that completed OT with the same therapist. Participants' responses demonstrate how OT for PFD may have an impact each of the components of the ICF through focusing on psychological and physical function and individual empowerment as they relate to the ability to participate. Based on the reports of the four women who participated in this study, OT for PFD had a direct impact on each of the fundamental components of health and health-related states based on the universally known health-related ICF.

The women who participated in this study discussed both their experiences with OT for PFD and the journeys that led them to OT. Three out of the four women shared that they had sought treatment from other professionals prior to finding OT. This sentiment is similar to the

study done by Burkhart et al. (2021) who suggested that while most women do not seek any treatment for PFD, those who do are most often seen by a physical therapist. In the case of three of the participants, they were treated by more than one physical therapist prior to finding OT and reported minimal to no improvements and a lack of holistic treatment.

A study conducted by Brandt and van Vuuren (2019), which investigated movement impairment in women with POP based on the ICF, suggested that addressing the movement and mobility impairments of POP may effect contextual factors (environmental and personal), activity limitations, and participation restrictions in patients with POP. The researchers suggest that the assessment and management of patients with POP should be comprehensive and addressed with a holistic approach. Based on the data provided by the participants in this current study, OT addressed activity and participation while considering the potentially inhibiting/empowering contextual factors. The clinical implications, that assessment and management of PFD should be comprehensive, presented by Brand and van Vuuren (2019) then treatment options such as OT for PFD in relation to the ICF and provisions of a holistic approach.

Limitations

The study includes several limitations. The sample size was small, consisting of only four participants self-identified as women, are Caucasian, lived in the same city in Colorado at the time of treatment, were of similar ages, and college-educated. This greatly impacts the generalizability of the results. The participants received services from the same OT (KM), limiting the study to a singular approach that may or may not be replicated by another OT with the same certifications and education. Despite these limitations, this study provides much needed

insight into how OT for PFD influences health and function among women with PFD through the well-known conceptual framework of the ICF.

Future Directions

To create a comprehensive understanding of the influence of OT for PFD, future studies should incorporate several more women from different areas of the United States of various ages and PFD symptomology, and who represent several different OT's who may have different approaches to pelvic floor treatment. This may be done through continued qualitative research, an implementation of a survey or assessment based on the components of the ICF that relate to PFD, or a combination of the two.

Research on OT for PFD should be continued, as it is a burgeoning area of practice that has garnered the attention of practitioners across the country (*OTs for Pelvic Health*, n.d.). OT's holistic approach in both prevention and treatment makes OT an optimal option for individuals with PFD. Until now, it has not been brought to the attention of healthcare professionals and referring physicians that OT for PFD can have a positive effect on function per the ICF framework. OBGYN's, midwives, nurses, primary care physicians, and all who fall within the multidisciplinary care team, should consider referring patients presenting with symptoms of PFD to an OT who specializes in this area.

CHAPTER 3: CLINICAL IMPLICATIONS

It is often reported that due to the nature of PFD, treatment requires a holistic and whole-body approach (Berghmans, 2018; Brandt & van Vuuren, 2019; Jundt et al., 2015; Wallace et al., 2019). Focusing on the whole client, using a top-down approach, and considering contextual factors are indoctrinated into OT education and practice (Fisher and Marterella, 2019). As OT for PFD increases in popularity among practitioners, the need to advocate for the profession as experts in this area also grows. The lack of awareness of available treatment options among women with PFD is an incredible disservice to this population and to the OTs who intend to treat them. Based on the reports of the four women who participated in this study, OT for PFD directly impacts the most universally recognized components of health and function. Research should continue to explore how OT is uniquely adept to work with those with PFD, and practitioners, researchers, and educators should continue to advocate for the profession within this area of practice.

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LIST OF ABBREVIATIONS

PF	Pelvic Floor
PFD	Pelvic Floor Dysfunction
EMR	Electronic Medical Record
OT	Occupational Therapy
OTs	Occupational Therapist/s
ICF	International Classification of Function, Disability, and Health
UI	Urinary Incontinence
FI	Fecal Incontinence
POP	Pelvic Organ Prolapse
SD	Sexual Dysfunction
PT	Physical Therapy
PTs	Physical Therapist/s