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## Adaptation with Injury, Family Role Responsibilities, & Social Support After Distal Radius Fracture (DRF)

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A thesis submitted in partial fulfillment of the requirements for the Master of Science degree in Physical Therapy

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## Abstract

This study is a qualitative interpretive descriptive study aimed at elucidating the impact of distal radius fracture (DRF) on patients' activities of daily living (ADLs), professional and familial duties, and social support during the healing process. The study focuses on fracture healing during the immobilization phase of injury. This study lies in the constructivist paradigm employing the interpretive description method. A total of 20 participants with DRF in casts were recruited by purposeful sampling from the Hand & Upper limb Centre, St. Joseph's Hospital enrolled and interviewed over the telephone. Data was analyzed by Braun and Clarke's Thematic Analysis Approach. Constructed themes were mapped on the biopsychosocial model of rehabilitation. The major themes arising from the data set were discomfort/difficulties with ADL and adaptations to activities with DRF and cast, support patients received from their families, friends, neighbors, and colleagues, and their expectations from family and friends for providing emotional and physical support. DRF caused people to be mindful of aging and slow healing, people upholding their independent identities, loneliness caused by COVID-19, and DRF being a trigger for emotional upheaval.

## Keywords

Distal Radius Fracture, Social Support, Family role responsibilities, adaptations, COVID

## Summary for Lay Audience

Distal radius fracture (DRF) is a wrist fracture that typically results from a fall on an extended hand. This fracture is accompanied by symptoms such as pain, decreased grip strength, and limitations in the function of the injured hand that may have an impact on the patient's general health and ability to perform tasks of daily living. This study was conducted under a constructivist paradigm, which means knowledge is co-constructed by the participant and researcher by posing questions and the lived experiences explained by the participants. The interpretive description method was used to conduct this study. This methodology was developed to overcome limitations in formal qualitative traditions, most notably the inability to reliably respond to inquiries about one's experiences with health and illness from holistic, interpretive, and relational viewpoints. Participants were recruited from the Hand and Upper Limb Centre at St. Joseph's Hospital in London. They were interviewed by the first author, on the phone, after obtaining their informed consent. The collected data was transcribed verbatim and then coded. Thematic analysis generated major themes that depicted the results of the data set. The major themes that emerged were difficulties and discomfort in completing activities of daily living along with adaptative techniques used by participants, they received social support both in physical and emotional help, some were satisfied with the help while some others were dissatisfied with the support they received from their friends and family. The distal radius fracture for some participants caused an emotional upheaval, due to accumulated emotional stress. They were suffering through and the fracture was the trigger for their emotional stress. Participants identifying themselves as independent found it difficult to recruit help from others because it was hard for them to depend on others and it affected their independent nature. Other concerns and values that surfaced were being mindful of aging and being more careful in the future. Lastly, the COVID pandemic was identified as a cause of loneliness and limited social support in many cases.

## Co-Authorship Statement

The thesis format and research question were developed with the assistance and supervision of Dr. Joy Christine MacDermid. The thesis idea and study design were originally constructed by Dr. Joy MacDermid and Hoda Seens. The Advisory Committee members, Tara Packham and Dr. Ruby Grewal provided valuable feedback on the whole thesis. Dr. Joy MacDermid revised the whole thesis. I interviewed 17 participants; 3 participants were taken from Sahar Saeidi's dataset, whom she interviewed for a similar project. I analyzed and presented the data in written form.

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# Chapter 1

## 1. Introduction:

This chapter includes a detailed background of the distal radius fractures, epidemiology, social support during DRF, adaptations to activities of daily living, and unpaid work roles. This chapter includes details of what social support is, how people receive support from their friends and family and how it's perceived by people. It also presents the prevalence of DRF during the COVID-19 global pandemic.

### 1.1 Overview

Distal radius fracture (DRF) indicates a fracture of radius bone close to the wrist joint. The most common fractures observed in the emergency room are distal radius fractures (Ermutlu et al., 2020). Low-energy trauma, such as a fall from a standing height, is the most common cause in people over 50 years of age (Nellans, Kowalski & Chung, 2012). They are usually caused by a fall onto an outstretched hand (Brown et al, 2006). Women and seniors are more prone to distal radius fractures (Armstrong et al,2109, MacDermid et al, 2021). Women are more likely than men to experience distal radius fractures, with a 3:1 ratio (Wong et al., 2020). Young adults and children experience DRFs primarily because of outdoor sporting events or car accidents ((Diaz-Garcia et al., 2011; Flinkkilä et al., 2014). Distal radius fractures account for 26% to 46% of all bone fractures seen in primary care, as well as one-sixth of all emergency room visits (MacIntyre & Dewan, 2016). The prevalence of DRF is bimodal; in the senior population, females are more susceptible than males due to a higher risk of falling and osteoporosis (Philip et al, 2019), but young males are more susceptible than young females due to accidents during outdoor sports (Nellans et al, 2012).

Even though distal radius fractures are common in children and seniors, they still have a substantial influence on the health and well-being of young adults. The occurrence of this injury has been steadily increasing over the last 40 years and increases in the pediatric population can most likely be ascribed to an increase in sports-related activities. The increase in the senior age group is directly due to the growth of the senior population and an increase in the number of active elders (Nellans et al, 2019).

Immobilization in a cast is the most common management approach, as it relieves discomfort and permits unrestricted movement of the fingers and elbow while the bone repairs (Simic & Weiland, 2003). If the fracture is displaced, it is usually reduced to an anatomical position under local anesthetic, and then a cast is applied if the fracture pattern is considered stable (Simic & Weiland, 2003). After four weeks when the fracture has healed sufficiently to begin moderate range-of-motion activities, the cast is usually removed. Surgery is suggested if the patient's condition is unstable, and it is believed they would not be able to sustain a malunion if the patient's general health allows it (Mackeeney et al 2003).

Osteoporosis and falls are the two most powerful risk factors for DRFs (Gudmundsdottir, R, S., 2014). Fragility fractures are common when osteoporosis is combined with a fall from a standing height. Clinically, “a fragility fracture may be defined as one that occurs as a result of minimal trauma, such as a fall from a standing height or less, or no identifiable trauma” (Brown, Jacques P., & Robert G. J., 2002 Page no. 3).

Recovery is influenced by many non-injury factors at three levels: a) the personal level, including pre-fracture health, presence of comorbidities, psychosocial variables, and

health literacy; b) the interpersonal level, such as the home environment and social support from family and caregivers; and c) the community level, reflecting access to resources, discharge follow-up, and other factors (Irfan & Dhalla, 2014). Rehabilitation is a biopsychosocial process that considers recovery from injury as a complex process where the therapist has a role in managing symptoms, remediating impairments, and facilitating adaptation/recovery (Wade & Halligan, 2017).

The importance of social support in improved health outcomes is well-known in patients with a variety of medical conditions including coronary heart disease (Angerer et al 2000), cancer (Queenan et al 2010 & Corboy et al, 2011), HIV (Bajunirwe et al, 2009), and stroke (Hilari et al, 2010). Higher levels of social support have also been linked to improved recovery of the premorbid level of functioning in the hip fracture population [Cummings et al, 1998 &, Shyu et al, 2006].

## 1.2 EPIDEMIOLOGY:

The prevalence of DRF is reportedly rising globally (MacIntyre & Dewan, 2016). The number of DRF cases in the United States ranges between 76,080 and 87,315 per year (Chung, Shauver, & Birkmeyer, 2009). The entire cost of surgical management of DRFs is estimated to be around USD 240 million per year (Shauver, Yin, Banerjee, & Chung, 2011). Furthermore, in 1991, 71,000 adult women and men in the United Kingdom reported having a DRF (O'Neill et al., 2001). The incidence of DRF was reported to be 258 per 100,000 per year in a population-based study in Finland (Flinkkilä et al., 2011), and 298 DRF persons per 100,000 in Italy (Piscitelli et al., 2011). According to a Norwegian study, the annual incidence of DRF in women over 85 years old is 120 per

10,000 people, and in men over 85 years old is 33 per 10,000 people (Diamantopoulos et al., 2012). With over 16,000 cases in people aged 51 to 65, distal radius fractures were by far the most frequent type of wrist fracture in Ontario (MacDermid et al, 2021). Although the difference was minimal in the 18 to 40-year-old age group and grew much more sex-differentiated in older age groups. Overall, there were more female cases in the 51 to 65-year-old age range than male cases (12,615 females versus 3759 males) (MacDermid et al, 2021).

In Canada, there is a 3:1 DRF incidence ratio between females and males (Jaglal et al., 2004). In the United States, a female-to-male rate ratio of 4.88 was reported in white people (Baron et al., 1996). Furthermore, a female-to-male ratio of 3.9:1 was recorded in a British study (Thompson, Taylor, & Dawson, 2004). Likewise, a population-based study in Norway found a 4:1 ratio of females to males (Diamantopoulos et al., 2012). In Ontario, Canada, the number of DRF in females was generally double that of males had a higher rate of DRF (58%) than females among young adults (18-24 years) (42%). There was no significant gender difference in the number of DRFs among middle-aged (25-44 years) adults. However, in seniors (45-64 years), the number of DRF was about three times higher in females than in males, and in the senior group (65 and above, it was six times higher in females than in males (Phillip et al, 2019).

### 1.3 PREVALENCE OF DRF IN COVID-19 PANDEMIC:

In the year 2020, the global healthcare system was drastically changed by the COVID-19 pandemic (Nabian et al, 2020, Bram et al, 2020 & Pei et al, 2020). Despite having sustained an injury, some patients, particularly elders and those with comorbidities, have

hesitated to seek medical assistance at emergency rooms, trauma centers, and orthopedic wards for fear of COVID-19 contagion [Nabian et al, 2020 & Murphy et al, 2020]. Some hospitals have increased the number of indications for conservative treatment of injuries and delayed surgery to improve the safety of medical professionals and minimize the number of admitted and operated patients, fewer patients were seen, and fewer follow-up x-rays were taken [Baawa-Ameyaw et al,2020 & Lockey et al, 2021]. During the COVID-19 pandemic, a decrease in the number of patients treated surgically with DRF may have resulted in increased complications in the future [Baawa-Ameyaw et al,2020 & Lockey et al, 2021]. Surgical treatment of DRF is recommended in young patients who have fractures that are displaced, multi-fragmented, or intra-articular. Other factors, such as the medical and bioethical framework, the surgeon, and hospital policy (confounding factors) may influence the epidemiology of DRF during the COVID-19 pandemic in addition to the previous factors [Baawa-Ameyaw et al,2020 & Lockey et al, 2021]. Neither the mean age of patients nor the male-to-female patient ratio changed during the COVID-19 pandemic, according to Nabian [Nabian et al, 2020]. Bram et al looked at the impact of the COVID-19 pandemic on the epidemiology of injuries in children. According to their findings, the total number of fractures decreased by 61%, the male-to-female ratio remained unchanged, and the average age of patients dropped from 9.4 to 7.5 years [Bram et al, 2020].

The COVID-19 pandemic had a substantial impact on the epidemiology and treatment of DRFs in children and adults, (Baawa-Ameyaw et al, 2020). During the COVID-19 pandemic, the number of pediatric and adult patients with DRFs decreased. The pandemic resulted in a considerable increase in the number of children and adults getting

DRF surgical treatment, a decrease in mean patient age, a much shorter length of hospital stays, and an increase in the number of men with DRFs (Olech et al, 2021).

Bram et al found a decrease in injuries caused by sports and other outdoor activities, but an increase in high-energy injuries caused by trampolines and bicycles. Several studies reported a decrease in the number of patients with fractures across the world. (Bram et al, 2020, Hashmi et al, 2020, Pei et al, 2020, Pogetti et al, 2020 & Turgut et al,2020)

The reduced frequency of DRF-related hospitalizations can be attributed to lockdown procedures, a lack of available exercise options, and the requirement to remain indoors throughout the pandemic. Children and adolescents under the age of 18 were less likely to experience injuries, which are often exercise-related in this age group, because of having to stay at home under adult supervision and no organized sports (Olech et al, 2021).

As a result, the variation in this age group is less noticeable. Young adults who stayed at home decreased their exercise, making them less vulnerable to injuries/falls, which are the most common mechanism of DRFs. Because of their fear of contracting the virus, seniors are kept primarily at home. Despite the injury, some did not seek medical help and instead allowed themselves to heal on their own.

#### 1.4 SOCIAL SUPPORT:

Social support is typically a meta-construct concept with no specific definition or way to measure it (Nazari et al, 2016). Information that is conveyed and enables the individual to believe that he or she is cared for, loved, valued, and a part of a network of mutual

obligations is defined as social support (Cobb, 1976). A relation was found between social support and physical and mental health, as well as faster recovery from illnesses (Holahan, Moos, Holahan, & Brennan, 1997). Furthermore, social support can help patients and their caregivers in reducing anxiety, depression, and other psychological issues during the process of rehabilitation (Chen, Mei, & Zhang 2020). Higher levels of social support have been associated with lower rates of morbidity and death in individuals with cardiovascular disorders such as myocardial infarction in past research (Frasure-Smith et al., 2000). Previous research has found a link between gender, depressive symptoms, and social support received: in a depression study, women with depressive symptoms had significantly lower odds of receiving emotional or financial support, while men with depressive symptoms had significantly lower odds of receiving physical support (Jennings, Ralston, & Schatz, 2020).

The impact of social support on patients with hip fractures has been extensively researched. In one study, a lack of social contact and support before hip fracture surgery was linked to a lower chance of survival 2 years after surgery (Mortimore et al., 2008). Another study found that, despite having negative thoughts and sentiments while healing from a hip fracture, most patients were able to cope because of the social support from family and friends, and a moderate level of health-related quality of life was achieved post-surgery (Hlaing, Thosingha, & Chanruangvanich, 2020). Social support in the form of recommended physiotherapy had a favorable association with outcome goals among older women recovering from hip fractures (Casado et al., 2009). Auais et al., 2019 found that social support not only improves physical functional recovery after a hip fracture but also reduces depressive feelings or anxiety, which might be a barrier to patients'

functional outcomes (Schefferes-Barnhoorn et al., 2017). People who have substantial social support, whether through in-person interactions or online interactions, have reported a higher quality of life than those who do not (Leung, & Lee, 2005).

A few demographic, psychological, and social factors influence the functional healing of distal radius fractures (Jayakumar et al., 2020), necessitating knowledge of these factors/variables and their potential impact on the healing process.

Social support was studied in the context of interactions with individuals or within familial ties from the mid-1970s to the early 1980s (Vaux, 1992). Initially, a theoretical model known as the provider model was employed to investigate the concept of social support, which comprises the provision of useful support from a provider to a recipient (Hupcey, 1998). This model, on the other hand, had flaws since it ignored the dynamic character of social support and the fact that each supplier and recipient of support is unique. Because social support is multidimensional, it has been broken down into three dimensions: functional, structural, and perceptual support (Chak, 1996). The quality of supporting behaviors and the social exchange of functions are included in the functional dimension of social support. This support includes Emotional, instrumental/tangible, and informational support (Chronister, Chou, Frain, & da Silva Cardoso, 2008). Perceived social support assesses that person's sense of support regardless of whether the person has received the support or not (Cohen, 2004). These factors are all important in a holistic view of social support because they all affect one's functionality and health. The interaction between environmental and personal factors can have an impact on one's health, according to the International Classification of Functioning, Disability, and Health (ICF).

Environmental factors that can influence one's health in the context of social support include the availability or absence of vital services, policies, informational and tangible aid (functional dimension of social support), the presence or absence of quality relationships and support ties (structural dimension of social support), and, finally, negative, or positive attitudes that can sometimes stem from previous experience (attitude and perceptual dimensions of social support).

Emotional support includes psychological needs such as emotional and cognitive demands involving love, caring, and empathy (Beutel et al., 2017). Lower emotional/informational social support adds significantly to the variability of the patient-reported pain and disability outcome in distal radius fracture; furthermore, in distal radius fracture, lower emotional/informational social support adds significantly to the variability of the patient-reported pain and disability outcome (Symonette, MacDermid, & Grewal, 2013, Ellwardt, Aartsen, Deeg & Steverink, 2013).

Men have been reported to provide less emotional support than women when it comes to offering social support (MacGeorge, Gillihan, Samter, & Clark, 2003). This difference could be because women are more eager and prone to seek support for themselves, and as a result, they provide others with the sensitive emotion-focused, encouraging words that they seek; this dynamic, in turn, aids women in maintaining their interpersonal relationships (Kunkel & Burleson, 1999). Receiving emotional support is just as important as giving it, and women receive it mostly from their friends, relatives, and children because of their larger social network, whereas men receive it primarily from their spouses (Gurung, Taylor, & Seeman, 2003). As a result, men receive more emotional support than women, as evidenced by a study in which women initially

received the same level of emotional support as men up until six months after surgery, when their level of support declined in comparison to men (Luszczynska, Boehmer, Knoll, Schuz & Schwarzer, 2007). Physical support (also known as instrumental assistance) entails the provision of tangible goods, services, and aids (Sherbourne, Stewart, 1991). Transportation to medical appointments and accompanying patients to doctor's offices are tangible supports, as is assistance with household tasks, unfinished work responsibilities, and medical regimens (Coffman, 2008). (Boutin-Foster, 2005). This form of assistance is particularly significant in people's daily lives since it decreases physiological symptoms of sick and emotional distress, and individual's self and sense of belonging by decreasing the demands of stressful situations and the expectation of anticipated future responsibilities. (Thoits, 2011).

Positive social interactions have been correlated with higher self-efficacy, better health outcomes, lower stress, and improved mental health (Zhang, Edwards, Yates, Guo, & Li, 2013). In both older men and women, high levels of social participation and interaction have been linked to the maintenance of functional capacity and lower levels of disability as evaluated by activities of daily living (Avlund, Lund, Holstein, & Due, 2004).

When it comes to distal fractures, social support plays an applicable role in recovery crucial. Baseline emotional/informational social support was reported to contribute to a 4.7 % variability of the pain and disability outcome score, after controlling for age and gender 1 year after surgery (Symonette, MacDermid, & Grewal, 2013).

Distal radius fractures are associated with pain and impairment, and pain has been determined to have a clear association with stress (Keogh et al, 2009). Therefore, the

stress caused by the pain due to the fracture can be mediated by social support, encouraging favorable health outcomes, and improving coping abilities.

### 1.5 ADAPTATION/ COMPENSATION WITH CHORES:

Fractures of the upper limb in seniors are usually treated conservatively (Mei et al,2019), for six weeks with the wrist immobilized to varying degrees. The vast majority of patients are discharged from hospitals and monitored in outpatient clinics. Many activities rely on proper arm function, and individuals with upper limb injuries encounter difficulties performing daily life tasks (ADLs). How do these patients cope with their limb's immobility, especially when many of them live alone and may be responsible for taking care of relatives, friends, or pets? Current practice implicitly assumes that these patients will have little difficulty and that health and social services (H & SS), as well as informal caregivers (family and friends), will assist them.

Beaulé et al assessed the physical function by domestic activities among adults, general activities, personal hygiene, social activities, hobbies, and sports. Meal preparation and consumption were frequently highlighted as problematic activities. Patients had trouble lifting pots and pans, pouring liquid from a pitcher, and using a screwdriver and a hammer, among other things. Many patients also reported significant limitations in general tasks (such as mowing the lawn or moving heavy items) and hygiene practices (e.g., wiping buttocks, hooking a bra, brushing teeth). Only a few patients reported being unable to participate in sports, hobbies, or social activities; nevertheless, those who did express significant difficulty in doing so (Beaulé et al, 2000).

Bialocerkowski reported that work activities were the most difficult, followed by interior household tasks and activities requiring fine motor skills among adults. However, those that needed the coordinated use of both hands, such as eating utensils, activities that entailed gripping and lifting, crafts, office duties, and gardening, were the most reported important specific difficult activities which also caused pain reported by two-thirds of the study population. Seventy-one percent of the participants said they could no longer undertake activities that they could do before their wrist injury. The most commonly cited types of "impossible" activities were recreational activities such as sports (golf, tennis, bike riding), playing musical instruments, and crafts, inside domestic activities such as cleaning, cooking, and wringing out washing; work activities that required carrying, lifting, or grasping; and activities that required fine movements of the fingers such as writing, opening lids, taps, and doors were the most frequently reported categories of 'impossible' activities (Bialocerkowski, 2002).

To make activities easier to accomplish, compensatory mechanisms were applied in every activity category. The sample of 19 persons reported 218 distinct compensating techniques, the most prevalent of which were asking someone else to undertake the work, using the other hand, and using other parts of the body to lift or grab (Bialocerkowski, 2002). Both indoor and outdoor domestic work was where compensatory strategies were most frequently applied. Compensation is addressed through activity modification, such as changing the lifting or grasping technique, using only the healthy hand, alternate hands, splitting tasks into manageable components, doing less or doing the work more slowly, or activity avoidance. Furthermore, the usage of devices to facilitate domestic indoor activities were regularly recorded. Jar openers, ironing presses, and rubber gloves

were commonly mentioned. A third of the compensating techniques mentioned entailed avoiding activity and delegating the duty to another family member. Non-essential activities both indoors and outdoors and leisure activities were sometimes completely ignored in contrast with essential tasks (hygiene and feeding) which were negligibly avoided (Bialocerkowski, 2002).

Wrist problems have been linked to a wide range of nonphysical symptoms. Positive benefits accounted for 13% of all stated effects, such as being more conscious and appreciative of how to do things and living each day to the fullest needed however, the most commonly reported negative impacts of the wrist condition were emotional and/or financial, with the majority of people saying that they had been harmed emotionally and/or financially (Anderson et al, 2018).

## **1.6 Unpaid Work roles**

The care and assistance offered by members of a home to other members are referred to as family role responsibilities. When performed by family members it represents unpaid work. This work is comparable in nature to paid care occupations such as childcare, nursing, and elderly, disabled, or sick person care. The total work done in a family can be a combination of unpaid work performed by family members and friends, and paid work performed by support or clinical staff. Even though unpaid family care work is a basic human need with significant ramifications for society's living standards and well-being, it is not considered a productive activity (Francavilla, & Giannelli, 2019). As a result of this view, it is not included in national accounting systems, leading to its invisibility (Francavilla, & Giannelli, 2019). Since the mid-twentieth century, there has been a

significant shift in heterosexual couples' domestic labor split, with men doing more and women performing less housework than in the past (Bianchi et al. 2000). Despite the gap in housework shrinking, women continue to do the majority of the work (Bianchi et al. 2012).

According to the National Alliance for Caregiving [NAC] and the American Association for Retired Persons [AARP], 65.7 million persons in the United States provide unpaid family caregiving support to an adult or a child. 49 million of these caregivers look after an adult, 3.9 million look after a child, and 13 million are estimated to look after both an adult and a child (NAC & AARP, 2009). According to disability research, because of the complexity of the care needs associated with caring for someone with a chronic disability, family caregivers' professional accomplishments, social participation, and physical and psychological well-being are constrained throughout their lives (NAC & AARP, 2009).

The financial, physical, and emotional aspects of caring for a dependent member are referred to as family care duties. According to recent theories, family caregiving tasks can be divided into two categories: typical care and exceptional care (Roundtree & Lynch, 2006). The common care responsibilities of parents of children with typical development are referred to as typical care responsibilities. Daily aid and adult supervision are provided, such as preparing children for school in the morning, arranging transportation to and from school, assisting with homework, and nurturing acts. As children grow older, the amount of attention they receive decreases (Roundtree & Lynch, 2006).

The informal care provided by family members of a person with a disability is referred to as exceptional care duties (Roundtree & Lynch, 2006). This form of care necessitates a significant amount of physical, emotional, and financial resources from families, which might shift over time as the disabled family member progresses through important developmental phases (Grant & Whittell, 2000; Roth, Perkins, Wadley, Temple, & Haley, 2009). Since family role responsibilities are an important aspect of functioning, it is important to understand the temporary transitions in this role following an injury.

### **1.7 OBJECTIVES:**

To find out how persons adapt to the challenges post wrist trauma we need a deep understanding of the compensatory mechanism used by the patients and how they enact and use social support from their partners and family.

1. What is the impact of a DRF on function in daily activities, employment family roles responsibilities, and social/recreational activities?
2. What coping strategies (instrumental, social support, etc.) are enacted to optimize function during recovery?
3. How do patients do to engage in helping to complete family role responsibilities during the early phase of recovery?

## References

Armstrong, K. A., von Schroeder, H. P., Baxter, N. N., Zhong, T., Huang, A., & McCabe, S. J. (2019). Stable rates of operative treatment of distal radius fractures in Ontario, Canada: a population-based retrospective cohort study (2004–2013). *Canadian Journal of Surgery*, 62(6), 386–392. <https://doi.org/10.1503/cjs.016218>

Avlund, K., Lund, R., Holstein, B. E., & Due, P. (2004). Social relations as a determinant of onset of disability in aging. *Archives of gerontology and geriatrics*, 38(1), 85-99.

Baawa-Ameyaw J, Kabariti R, Chandra A, Rhee J. The theoretical impact on corrective upper limb elective services following analysis of distal radius fractures managed nonoperatively during the COVID-19 pandemic. *Bone Jt Open*. 2020;1(10):612 –6.

Baawa-Ameyaw J, Kabariti R, Chandra A, Rhee J. The theoretical impact on

Beaulé, P.-E., Dervin, G. F., Giachino, A. A., Rody, K., Grabowski, J., & Fazekas, A. (2000). Self-reported disability following distal radius fractures: The influence of hand dominance. *The Journal of Hand Surgery (American Ed.)*, 25(3), 476–482. [https://doi.org/10.1016/S0363-5023\(00\)70027-X](https://doi.org/10.1016/S0363-5023(00)70027-X)

Berlin, Heidelberg: Springer Berlin Heidelberg. [http://doi.org/10.1007/978-3-642-54604-4\\_10](http://doi.org/10.1007/978-3-642-54604-4_10)

Berlin, Heidelberg: Springer Berlin Heidelberg. [http://doi.org/10.1007/978-3-642-54604-4\\_10](http://doi.org/10.1007/978-3-642-54604-4_10)

Beutel, M. E., Brähler, E., Wiltink, J., Michal, M., Klein, E. M., Jünger, C., ... & Nickels, S. (2017). Emotional and tangible social support in a German population-based sample: Development and validation of the Brief Social Support Scale (BS6). *PloSone*, 12(10), e0186516.

Bianchi, S. M. (2011). Family change and time allocation in American families. *The Annals of the American Academy of Political and Social Science*, 638, 21–44.

<https://doi.org/10.1177/0002716211413731>.

Boutin-Foster, C. (2005). Getting to the heart of social support: a qualitative analysis of the types of instrumental support that are most helpful in motivating cardiac risk factor modification. *Heart & Lung*, 34(1), 22-29.

Bram JT, Johnson MA, Magee LC, Mehta NN, Fazal FZ, Baldwin KD. Where have all the fractures gone? The epidemiology of pediatric fractures during the COVID-19 pandemic. *J Pediatr Orthop*. 2020;40(8):373 –9

Brown, Jacques P., Robert G. Josse (2002). 2002 clinical practice guidelines for the diagnosis and management of osteoporosis in Canada. *Canadian Medical Association Journal* 167, (10) (Nov 12): S1-34,  
<https://www.lib.uwo.ca/cgi-bin/ezpauthn.cgi?url=http://search.proquest.com/docview/204956076?accountid=15115> (accessed May 26, 2016).

Casado, B. L., Resnick, B., Zimmerman, S., Nahm, E. S., Orwig, D., Macmillan, K., & Magaziner, J. (2009). Social support for exercise by experts in older women post-hip fracture. *Journal of women & aging*, 21(1), 48-62.

Chak, A. (1996). Conceptualizing Social Support--A Micro or Macro Perspective?. *Psychologia, Journal of Oriental International Psychology*, 39(2), 74-83.

Chen, S., Mei, Y., Zhang Z. (2020). A qualitative study of perceived Social Support in Stroke Survivors and their caregivers during rehabilitation in the community. *Chinese General Practice*, 23(35), 4503–4507. <https://doi.org/10.12114/j.issn.1007-9572.2020.00.106>

Cobb, S. (1976). Social support as a moderator of life stress. *Psychosomatic Medicine*, 38(5), 300–314

Chronister, J., Chou, C. C., Frain, M., & da Silva Cardoso, E. (2008). The relationship between social support and rehabilitation-related outcomes: a meta-analysis. *Journal of Rehabilitation*, 74(2).

Chung, K. C., Shauver, M. J., & Birkmeyer, J. D. (2009). Trends in the United States in the treatment of distal radial fractures in the elderly. *The Journal of Bone and Joint Surgery (American Volume)*, 91(8), 1868–1873. <http://doi.org/10.2106/JBJS.H.01297>

Coffman, M. J. (2008). Effects of tangible social support and depression on diabetes self-efficacy: a study of Hispanic older adults. *Journal of Gerontological Nursing*, 34(4), 32–39

Cohen S. Social relationships and health. *Am Psychol*. 2004;59(8):676–84. <https://doi.org/10.1037/0003-066X.59.8.676>

corrective upper limb elective services following analysis of distal radius

Court-Brown CM, Caesar B. Epidemiology of adult fractures: A review. *Injury*. 2006 Aug;37(8):691-7. DOI: 10.1016/j.injury.2006.04.130. Epub 2006 Jun 30. PMID: 16814787.

D. Corboy, S. McLaren, and J. McDonald, "Predictors of support service use by rural and regional men with cancer," *Australian Journal of Rural Health*, vol. 19, no. 4, pp. 185–190, 2011.

Diamantopoulos, A. P., Rohde, G., Johnsrud, I., Skoie, I. M., Hochberg, M., Haugeberg, G., . . . Chen, Y. (2012). The epidemiology of low- and high-energy distal radius fracture in middle-aged and elderly men and women in southern Norway. *PLoS ONE*, 7(8), e43367. <http://doi.org/10.1371/journal.pone.0043367>

Diaz-Garcia, R. J. (2012). The evolution of distal radius fracture management: A

Ellwardt, L., Aartsen, M., Deeg, D., & Steverink, N. (2013). Does loneliness mediate the relation between social support and cognitive functioning in later life? *Social science & medicine*, 98, 116-124

Ermütlu, C., Mert, M., Kovalak, E., Kanay, E., Obut, A., & Öztürkmen, Y. (2020). Management of distal radius fractures: Comparison of three methods. *Cureus*, 12(8).

F. Bajunirwe, D. J. Tisch, C. H. King, E. J. Arts, S. M. Debanne, and A. K. Sethi, "Quality of life and social support among patients receiving antiretroviral therapy in Western Uganda," *AIDS Care*, vol. 21, no. 3, pp. 271–279, 2009.

Flinkkilä, T. (2014). Classification of distal radius fractures. In *Distal Radius Fractures* (pp. 83–91). Berlin, Heidelberg: Springer Berlin Heidelberg. [http://doi.org/10.1007/978-3-642-54604-4\\_10](http://doi.org/10.1007/978-3-642-54604-4_10)

Flinkkilä, T. (2014). Classification of distal radius fractures. In *Distal Radius Fractures* (pp.

fractures managed nonoperatively during the COVID-19 pandemic. *Bone Jt*

Francavilla, F., & Giannelli, G. C. (2019). Dressing a ghost: size and value of unpaid family care. *Applied Economics*, 51(28), 3015–3030.

<https://doi.org/10.1080/00036846.2018.1564116>

Frasure-Smith, N., Lespérance, F., Gravel, G., Masson, A., Juneau, M., Talajic, M., & Bourassa, M. G. (2000). Social support, depression, and mortality during the first year after myocardial infarction. *Circulation*, 101(16), 1919-1924.

Grant, G., & Whitell, B. (2000). Differentiated coping strategies in families with children or adults with intellectual disabilities: the relevance of gender, family composition, and the lifespan. *Journal of Applied Research in Intellectual Disabilities*, 13, 256-275.

Gudmundsdottir, R. S., The elderly osteoporotic patient (2014). In L. M. Hove, T. Lindau, & P. Hølmer, (Eds.), *Distal radius fractures: Current concepts* (pp. 241-254). Dordrecht: Springer Berlin Heidelberg. doi:10.1007/978-3-642-54604-4

Gurung, R. A., Taylor, S. E., & Seeman, T. E. (2003). Accounting for changes in social support among married older adults: Insights from the MacArthur Studies of Successful Aging. *Psychology and Aging*, 18(3), 487.

historical treatise. *Hand Clinics*, 28(2), 105–111.

Hlaing, W. Y., Thosingha, O., & Chanruangvanich, W. (2020). Health-related quality of life and its determinants among patients with hip fracture after surgery in Myanmar.

*International Journal of Orthopaedic and Trauma Nursing*, 100752.

<https://doi.org/10.1016/j.ijotn.2020.100752>

Holahan, C. J., Moos, R. H., Holahan, C. K., & Brennan, P. L. (1997). Social context, coping strategies, and depressive symptoms: An expanded model with cardiac patients. *Journal of Personality and Social Psychology*, 72(4), 918–928.

<https://doi.org/10.1037/0022-3514.72.4.918>

Hupcey, J. E. (1998). Clarifying the social support theory-research linkage. *Journal of advanced nursing*, 27(6), 1231-1241.

Irfan A. Dhalla, M. (2014, October 01). Postdischarge virtual Ward, Readmission, and death. Retrieved March 05, 2021,

J. A. Queenan, D. Feldman-Stewart, M. Brundage, and P. A. Groome, “Social support and quality of life of prostate cancer patients after radiotherapy treatment,” *European Journal of Cancer Care*, vol. 19, no. 2, pp. 251–259, 2010

Jaglal, S. B., Weller, I., Mamdani, M., Hawker, G., Kreder, H., Jaakkimainen, L., & Adachi, J. D. (2004). Population trends in BMD testing, treatment, and hip and wrist fracture rates: Are the hip fracture projections wrong? *Journal of Bone and Mineral Research*, 20(6), 898–905. <http://doi.org/10.1359/JBMR.041231>

Jayakumar, P., Teunis, T., Vranceanu, A. M., Lamb, S., Ring, D., & Gwilym, S. (2020). Early Psychological and Social Factors Explain the Recovery Trajectory After Distal Radial Fracture. *JBJS*, 102(9), 788-795.

Jennings, E. A., Ralston, M., & Schatz, E. (2020). Support in times of need: How depressive symptoms can impact receipt of social support among aging adults in rural South Africa. *SSM-population health*, 12, 100666

Keogh, E., Book, K., Thomas, J., Giddins, G., & Eccleston, C. (2009). Predicting pain and disability in patients with hand fractures: Comparing pain anxiety, anxiety sensitivity and pain catastrophizing. *European Journal of Pain*, 14(4), 446–451.

<https://doi.org/10.1016/j.ejpain.2009.08.001>

[6861471A 67](#)

Kunkel, A. W., & Burleson, B. R. (1999). Assessing explanations for sex differences in emotional support: A test of the different cultures and skill specialization accounts. *Human Communication Research*, 25(3), 307-340

Leung, L., & Lee, P. S. (2005). Multiple determinants of life quality: The roles of Internet activities, use of new media, social support, and leisure activities. *Telematics and Informatics*, 22(3), 161-180

Lockey SD, Nelson PC, Kessler MJ, Kessler MW. Approaching "Elective" Surgery in the Era of COVID-19. *J Hand Surg Am*. 2021;46(1):60 –4.

Luszczynska, A., Boehmer, S., Knoll, N., Schulz, U., & Schwarzer, R. (2007). Emotional support for men and women with cancer: Do patients receive what their partners provide? *International Journal of Behavioral Medicine*, 14(3), 156.

MacDermid, J. C., McClure, J. A., Richard, L., Faber, K. J., & Jaglal, S. (2021). Fracture profiles of a 4-year cohort of 266,324 first incident upper extremity fractures from population health data in Ontario. *BMC Musculoskeletal Disorders*, 22(1), 1–996.  
<https://doi.org/10.1186/s12891-021-04849-7>

MacGeorge, E. L., Gillihan, S. J., Samter, W., & Clark, R. A. (2003). Skill deficit or differential motivation? Testing alternative explanations for gender differences in the provision of emotional support. *Communication Research*, 30(3), 272-303.

MacIntyre, N. J., & Dewan, N. (2016). Epidemiology of distal radius fractures and factors predicting risk and prognosis. *Journal of Hand Therapy*, 29(2), 136-145.

Mackenney PJ, McQueen MM, Elton R. Prediction of instability in distal radial fractures. *J Bone Joint Surg Am*. 2006;88:1944–1951

Mei, X. Y., Gong, Y. J., Safir, O., Gross, A., & Kuzyk, P. (2019). Long-term outcomes of total hip arthroplasty in patients younger than 55 years: a systematic review of the contemporary literature. *Canadian Journal of Surgery*, 62(4), 249–258.

<https://doi.org/10.1503/cjs.013118>

Mohammad Hossein Nabian, Fardis Vosoughi, Farid Najafi, Seyyed Saeed Khabiri, Maziar Nafisi, Javad Veisi. Epidemiological pattern of pediatric trauma in COVID-19 outbreak: Data from a tertiary trauma center in Iran. *Injury*. 2020; S0020 –1383(20)30756 –7

Mortimore, E., Haselow, D., Dolan, M., Hawkes, W. G., Langenberg, P., Zimmerman, S., & Magaziner, J. (2008). Amount of social contact and hip fracture mortality. *Journal of the American Geriatrics Society*, 56(6), 1069-1074. <https://doi.org/10.1111/j.1532-5415.2008.01706.x>

Murphy T, Akehurst H, Mutimer J. Impact of the 2020 COVID-19 pandemic on the workload of the orthopedic service in a busy UK district general hospital. *Injury*. 2020;51(10):2142 –7.

Nazari S, Foroughan M, Mohammadi Shahbolaghi F, Rassouli M, Sadegh Moghadam L, Farhadi A, et al. Analysis of the psychometric properties of the perceived social support scales in older adults. *Iran J Age*. 2016;10(4): 210–8.

Nellans KW, Kowalski E, Chung KC. The epidemiology of distal radius fractures. *Hand Clin*. 2012 May;28(2):113-25. DOI: 10.1016/j.hcl.2012.02.001. Epub 2012 Apr 14. PMID: 22554654; PMCID: PMC3345129.

Nellans, K. W., Kowalski, E., & Chung, K. C. (2012). The epidemiology of distal radius fractures. *Hand clinics*, 28(2), 113-125.

O'Neill, T. W., Cooper, C., Finn, J. D., Lunt, M., Purdie, D., Reid, D. M., . . . UK Colles' Fracture Study Group. (2001). Incidence of distal forearm fracture in British men and women. *Osteoporosis International*, 12(7), 555–558.

<http://doi.org/10.1007/s001980170076>

ocerkowski, A. E. (2002). Difficulties associated with wrist disorders – a qualitative study. *Clinical Rehabilitation*, 16(4), 429–440.

<http://doi.org/10.1191/0269215502cr516oa>

Olech, J., Ciszewski, M. & Morasiewicz, P. Epidemiology of distal radius fractures in children and adults during the COVID-19 pandemic – a two-center study. *BMC Musculoskelet Disord* **22**, 306 (2021). <https://doi.org/10.1186/s12891-021-04128-5>

Olech, J., Ciszewski, M., & Morasiewicz, P. (2021). Epidemiology of distal radius fractures in children and adults during the COVID-19 pandemic - a two-center study. *BMC Musculoskeletal Disorders*, 22(1), 306–306. <https://doi.org/10.1186/s12891-021-04128-5>

Open. 2020;1(10):612–6.

P. Angerer, U. Siebert, W. Kothny, D. Muhlbauer, H. Mudra, and C. von Schacky, “Impact of social support, cynical hostility and anger expression on the progression of coronary atherosclerosis,” *Journal of the American College of Cardiology*, vol. 36, no. 6, pp. 1781–1788, 2000.

Pei Y, Wu C, Zhuang C, Ye T, Zhang Y, Liu J. The patterns and management of fracture patients under COVID-19 outbreak in China. *Ann Transl Med.* 2020;8(15):932

Pei Y, Wu C, Zhuang C, Ye T, Zhang Y, Liu J. The patterns and management of fracture patients under COVID-19 outbreak in China. *Ann Transl Med.* 2020;8(15):932. 18.

Pervaiz Hashmi, Shah Fahad, Hammad Naqi Khan, Marij Zahid, Anum Sadruddin , Shahryar Noordin. Covid-19 pandemic: Economic burden on patients with musculoskeletal injuries in a tertiary care hospital of LMIC; a retrospective cross-sectional study. *Ann Med Surg (Lond).* 2020;60:5 –8. 17.

Philip, S. S., Macdermid, J. C., Nair, S., Walton, D., & Grewal, R. (2019). What Factors Contribute to Falls-Related Distal Radius Fracture? *Journal of Aging and Physical Activity*, 27(3), 392–397. <https://doi.org/10.1123/japa.2017-0428>

Piscitelli, P., Tarantino, U., Chitano, G., Argentiero, A., Neglia, C., Agnello, N., . . . Brandi, M. L. (2011). Updated incidence rates of fragility fractures in Italy: Extension study 2002-2008. *Clinical Cases in Mineral and Bone Metabolism*, 8(3), 54–61. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3279067/>

Poggetti Andrea, Del Chiaro Andrea , Nucci Anna Maria, Suardi Chiara, Pfanner Sandra. How hand and wrist trauma has changed during a covid-19 emergency in Italy: Incidence and distribution of acute injuries. What to learn? J Clin Orthop Trauma. 2020;12(1):22-26. <https://doi.org/10.1016/j.jcot.2020.08.008>. Epub 2020 Sep 9.

Roth, D. L., Perkins, M., Wadley, V. G., Temple, E. M., & Haley, W. E. (2009). Family caregiving and emotional strain: Associations with quality of life in a large national sample of middle-aged and older adults. *Quality of Life Research*, 18, 679-688.

Roundtree, L., & Lynch, K. (2006). *Exploring the complexities of exceptional caregiving*. Boston, MA: Boston College Center for Work and Family.

S. R. Cummings, S. L. Phillips, M. E. Wheat, et al., "Recovery of function after hip fracture. The role of social supports," *Journal of the American Geriatrics Society*, vol. 36, no. 9, pp. 801–806, 1988

Scheffers-Barnhoorn, M. N., van Haastregt, J. C., Schols, J. M., Kempen, G. I., van Balen, R., Visschedijk, J. H., & van Eijk, M. (2017). A multi-component cognitive behavioral intervention for the treatment of fear of falling after hip fracture (FFIT): protocol of a randomized controlled trial. *BMC geriatrics*, 17(1), 71.

Shauver, M. J., Yin, H., Banerjee, M., & Chung, K. C. (2011). Current and future national costs to medicare for the treatment of distal radius fracture in the elderly. *The Journal of Hand Surgery*, 36(8), 1282–1287. <http://doi.org/10.1016/j.jhsa.2011.05.017>

Sherbourne, C. D., & Stewart, A. L. (1991). The MOS social support survey. *Social science & medicine*, 32(6), 705-714.

Simic PM, Weiland AJ. Fractures of the distal aspect of the radius: changes in treatment over the past two decades. *Instr Course Lect*. 2003;52:185–195.

Symonette, C. J., MacDermid, J., & Grewal, R. (2013). Social support contributes to outcomes following distal radius fractures. *Rehabilitation research and practice*, 2013

Thoits, P. A. (2011). Mechanisms linking social ties and support to physical and mental health. *Journal of health and social behavior*, 52(2), 145-161

Thompson, P. W., Taylor, J., & Dawson, A. (2004). The annual incidence and seasonal variation of fractures of the distal radius in men and women over 25 years in Dorset, UK. *Injury*, 35(5), 462–466. [http://doi.org/10.1016/S0020-1383\(03\)00117-7](http://doi.org/10.1016/S0020-1383(03)00117-7)

Turgut A, Arlı H, Altundağ Ü, Hancıoğlu S, Egeli E, Kalenderer Ö. Effect of COVID-19 pandemic on the fracture demographics: data from a tertiary care hospital in Turkey. *Acta Orthop Traumatol Turc*. 2020;54(4):355 –63.

Vaux, A. (1992). Assessment of social support. In H. O. F. Veiel & U. Baumann (Eds.), *The series in clinical and community psychology. The meaning and measurement of social support* (p. 193–216). Hemisphere Publishing Corp.

Wade DT, Halligan PW. The biopsychosocial model of illness: a model whose time has come. *Clinical Rehabilitation*. 2017;31(8):995-1004. doi:10.1177/0269215517709890

Wong, R. M. Y., Wing-Tung, H. O., Ning, T. A. N. G., Tso, C. Y., Ng, W. K. R., Chow, S. K. H., & Cheung, W. H. (2020). A study protocol for a randomized controlled trial evaluating vibration therapy as an intervention for postural training and fall prevention after distal radius fracture in elderly patients. *Trials*, 21(1), 1-6.

Y.-I. L. Shyu, W.-R. Tang, W.-C. Tsai, J. Liang, and M.-C. Chen, "Emotional support levels can predict physical functioning and health-related quality of life among elderly Taiwanese with hip fractures," *Osteoporosis International*, vol. 17, no. 4, pp. 501–506, 2006.

Zhang, S., Edwards, H., Yates, P., Guo, Q., & Li, C. (2013). Partial mediation role of self-efficacy between positive social interaction and mental health in family caregivers for dementia patients in Shanghai. *PloS one*, 8(12), e83326.

## Chapter 2

### Methods

The framework of this study is described in this chapter, beginning with an explanation of the paradigmatic perspective and technique used. The procedures that were used are also described, including the sampling technique used to generate the dataset and the qualitative content analysis procedures followed. The data was collected by willing participants who were recruited to take part in the cohort study “*Gender and unpaid work roles after DRF*” through interviews conducted via phone calls. The steps taken to ensure the quality of this study is also described in this chapter. Finally, a description of ethics approval for this study is provided.

#### 2.1 Paradigmatic View

This study is grounded in a constructivist paradigmatic lens, identifying the subjective descriptions of how participants cope with DRF and how they adapt to their activities of daily living, family role responsibilities, and caregiving. The researcher is aware that the methods of data collection and analysis have been influenced by her interpretations as well as participant interpretations. Therefore, by a constructivist paradigm, this research employed a relativist perspective of ontology and a subjectivist view of epistemology (Guba & Lincoln, 1994; Ponterotto, 2005; UK Essays, 2013). The experiences described in this study were viewed as mental constructs depending on the people who described them (Guba & Lincoln, 1994). The investigational process, involving interactions between the researcher, participants, and dataset, is deemed to have formed the data that was gathered for this study (Guba & Lincoln, 1994). Although interpretation has affected data collection, processing, and reporting, the researcher has made an effort to limit its

influence and give preference to the descriptions given by the dataset and research participants rather than interpretations

## 2.2. Positionality

While I have made an effort to reduce the impact of interpretation on the study's findings, in keeping with the constructivist paradigmatic approach and the qualitative description methodology I have used, I accept that my personal experiences and judgments have had an impact on this research.

I am a 28-year-old female Physiotherapist. I grew up in a small town in northern Pakistan, I had my hand and elbow on my dominant hand fractured quite a few times during my childhood at the age of 8, a teenager at the age of 16, and adulthood at the age of 24. I have a thorough cast experience, and very good emotional and physical support, my expectations during the recovery from my friends and family, adaptations to activities, and difficulties with tasks. Being a physiotherapist sets my mind about what the rehabilitation process might look like for distal radius fractures. Other than that, I am much younger than most of the participants and might have different experiences with fractures and disabilities.

Having a personal cast experience, my educational background, age, and gender might have influenced my questions during the data collection process, framing questions during the interviews, forming the research question, and analysis of this data. Finally, it might have had an impact on how this data was reported and discussed in this thesis.

My evaluation of the current research literature has an impact on how I interpret the dataset used in this study and the conclusions that are offered.

I thoroughly reviewed the body of existing literature before developing my study question, which is based on how others have previously defined adaptations and social support during wrist fracture recovery. The procedures I used to extract key information from my data sources and code this information was also impacted by findings from earlier studies.

Although I've tried to let the codes that represent the answers to my research question emerge directly from my data sources, my decisions about how to code the information I've gathered have been influenced by descriptions of the same information provided in previous studies and my own fracture experiences.

## 2.3 Study Design

This study design was an *interpretative description qualitative research approach*, to understand the adaptation to injury and family role responsibilities, and the social support from their partners/family members after DRF.

Interpretive description (ID) is a qualitative research method having epistemological roots in nursing science (Thorne, 2016). This methodology was created to overcome constraints in formal qualitative traditions, notably the inability to consistently answer questions regarding health and sickness experiences from holistic, interpretive, and relational views (Thorne, 2016) ID offers a qualitative research approach to nursing science—and medical education—that incorporates techniques for finding and applying aggregated knowledge. (Thorne,2016, Abdul-Razzak et al, 2014). The unique foundation of ID is that it considers the fact that human experiences are made up of intricate interactions between psychosocial and biological processes (Benjumea, 2015). At the center of this disciplinary understanding is the uncovering of recurring patterns, or shared realities, within these experiences (Thorne, 2016, Archibald et al, 2015)

Moreover, researchers can use the ID to investigate a medical education problem to discover themes and patterns across subjective perspectives while accounting for individual differences (Clark et al, 2018). ID is founded on an interpretive perspective that emphasizes the constructed and contextual aspect of human experiences. This technique is non-categorical in that it can be re-evaluated with the addition of new contexts, concepts, and analytical frameworks (Benjumea, 2015, Murphy et al, 2018, Thorne et al, 2016). The concepts outlined in these patterns can be used to make practical applications because they cater to both individual cases and common experiences (Brisbois, 2014).

ID is useful for qualitative inquiry across health professions when a study tries to capture the subjective experience of a population and wants to use this knowledge to inform health care practices. ID is a credible and transparent technique for developing a deep understanding and generating knowledge that can benefit clinical practice by facilitating the development of comprehensive evidence-based knowledge informed by the perceptions and experiences of the population under study (Benjumea, 2015, Thorne et al, 2013).

## 2.4 Ethics Recruitment, and consent of the participants

Ethics was obtained from the Western University of Ontario ethics board and Lawson research Center ethics board. Patients with DRF were recruited from the hand and upper limb center at St. Joseph's hospital London, Patients who participated in the cohort study "*Gender and unpaid work roles after DRF*" were asked if they were willing to take part in the qualitative research interview. For this list of willing candidates, a ***purposeful sampling*** strategy was utilized. A sampling technique that is frequently employed in qualitative descriptive research and that is likely to produce a dataset with high-quality data is purposeful sampling (Neergaard et al., 2009). Patients from different age groups and family structures were enrolled in the study. Utilizing the knowledge already

available in the subject of research to find cases with rich information is a key component of purposeful sampling (Suri, 2011).

Participants were asked to indicate they had read the letter of consent before enrolling and to give their written approval for participation after reading the letter of information. Before every interview verbal consent to participate was obtained and audio recorded.

## 2.5 Inclusion/Exclusion criteria

The participants were patients with a diagnosis of DRF, aged 18 years or older, fluent in speaking and reading/writing in English, and who provided informed consent verbally and written.

Participants under the age of 18 years, who were not able to speak or read/write, and participants who were not cognitively able to give consent were excluded.

## 2.6 Data collection

A total of 405.41 minutes of interview data was collected from interviewing 20 participants. The first author personally interviewed 17 participants, and data from 3 other interviews were used from another team member's interviews working on the same population after discussing with the supervisory and advisory committee because of the relevance to the research question. The sample sufficiency was decided using A comparative method for themes saturation CoMeTS method was suggested by Constantinou et al. The "saturated terrain" or sufficiency is thought to have been developed when the results of each new interview were compared to those that had already been constructed and produced no new theme. Because the analysis of interviews in a certain order can affect saturation thresholds based on the amount of data available

(Constantinou et al, 2017). A reflexive journal was kept throughout the process for personal reflection. Patients were given the option of an online video call or an audio phone call, and all of them opted for a phone call. Most interviews ranged in duration from 20 to 30 minutes. A semi-structured interview guide was used to ask questions for looking deeper into the research problem. The interviews were recorded using an encrypted recording device and stored on a password-protected computer in an encrypted file or zoom files stored in a protected (G-drive) hospital server.

Because the applied and practice disciplines frequently recognize that experience can theoretically include limitless variation, data saturation is rarely the desired objective in ID. Instead, the emphasis should be on learning more about participant perspectives while acknowledging that there may be variations in perceptions and outliers (Abdul-Razzak, 2014). Hence data sufficiency was decided to be reached when enough rich data was collected and nothing new was constructed with participants.

## 2.7 Data Analysis

To understand how people with DRF adapt to family role responsibilities and daily activities, the recorded data was transcribed verbatim into text and analyzed using Thematic Analysis within the ID approach. Thematic analysis was used to identify, analyze, and report patterns or themes emerging from the data. The analysis was conducted in accordance with Braun and Clarke's six phases of thematic analysis, which include familiarizing oneself with the data, creating preliminary codes, looking for themes, reviewing themes, defining, and labeling themes, and writing up the report (Braun & Clarke, 2006). The researcher interacted with the data deeply, and reflexive field notes were used to reflect upon the data

## 2.8. Quality considerations

According to the constructivist paradigm and the qualitative descriptive interpretative approach used in this study, the researcher has viewed the data as jointly constructed by herself and the interview subjects. The researcher is aware that different researchers may have different interpretations of data that have been designated as relevant. Each of Tracy's (2010) "big tent" criteria was considered when determining how quality will be attained throughout this study. Important quality criteria for this study include rigor and credibility, as well as sincerity (Milne & Oberle, 2005; Neergard et al., 2009; Tracy, 2010). This is because the research aims to reduce the impacts of interpretation. Additionally, Tracy's (2010) criteria of rigour, credibility, and sincerity have all been cited as critical in the application of a constructivist paradigm (Neergard et al., 2009; Salkind, 2010).

### 2.8.1 Rigour and Credibility

The thoroughness, depth, and attention placed into data collection, analysis, and reporting have been characterised as rigour in this study (Tracy, 2010). In the constructivist paradigm, researchers acknowledge themselves, including their biases and sensibilities, as part of the research process and its findings since they reject the idea of objectivity (Salkind, 2010). A constructivist paradigm requires that interactions between the researcher and the participants, or even the researcher and the dataset, be characterised as an essential component of the research process (Salkind, 2010). Research that "readers feel is trustworthy enough to act on and make judgments in line with" is considered credible (Tracy, 2010). Detailed descriptions of the processes and outcomes must be given to establishing credibility. In-depth reporting of facts and conclusions constitutes a thick description (Tracy, 2010).

In qualitative research, crystallisation refers to the notion that a conclusion is more credible if it can be reached by at least two different sources or types of information (Tracy, 2010). Instead of using the term "triangulation," the term "crystallisation" is used to acknowledge that results are still only partial constructions of an issue, even if they were obtained from various data sources, data types, or theoretical frameworks (Tracy, 2010). Thus, the constructivist paradigm applied throughout this study is closely compatible with the usage of crystallization as a quality criterion. To achieve crystallization, researchers must collect data from numerous sources to produce a comprehensive but still arbitrary understanding of a problem (Tracy, 2010). This concept is applied in this research by interviewing a reasonable number of participants to gather details and co-construct the meaning of the experiences in question. The author is aware that information gathered in this way does not lead to a singular "truth" about the techniques implemented, but rather to a more detailed description that is created through interactions between the researcher, the dataset, and participants. Understanding current theories and descriptions provided in the literature has helped the researcher recognize nuances in the dataset and make suitable conclusions about what is crucial for addressing the study's objectives (Tracy, 2010). In research using interpretive description, it is vital to let codes applied to the data come from the data itself, even while using existing theory is useful for spotting nuance in the dataset (Milne & Oberle, 2005). The researcher's decisions about what data to code and how to classify this data, as well as what information was deemed significant for coding, have all been reported (Tracy, 2010). These choices have been made to guarantee that the codes come from the data sources examined in this study.

To ensure credibility and rigour the researcher constantly discussed and shared the codes and themes with a group member working on the same population for another research question. The themes and codes were also discussed and refined with research committee members to be transparent and plausible.

## 2.8.2 Sincerity and Reflexivity

Transparency or honesty regarding the research method is an essential component of sincerity (Tracy, 2010). Transparency is achieved by clearly documenting decisions made and actions taken throughout the research process (Tracy, 2010). By disclosing information about the study's methodology, including how data was coded and how much detail was included in transcriptions, the transparency of the study has been attained (Tracy, 2010). Self-reflexivity, or the process of fostering sincerity and authenticity with oneself, one's research, and one's audience through self-assessment of biases and motivations, is another aspect of sincerity (Tracy, 2010). Reflexivity allows researchers to document their own experiences and assess any potential effects on the study process (Salkind, 2010). In studies that employ the constructivist paradigm, the use of reflexivity is necessary since the researcher's experiences and interpretations are seen as an integral part of the data (Salkind, 2010). Additionally, reflexivity within Interpretive description assists the researcher in recognizing the impact of their views, inclinations, and sensibility on data analysis (Neergard et al., 2009). In this process, the researcher tried to be aware of her personal preconceptions and ideas and tried to interpret data as authentically as she could to be reflexive.

Reflexive journaling was carried out throughout the data collection after every interview process and was referenced back during the data analysis stage, reflecting upon the notes for each participant. Personal thoughts and opinions about some parts of the data was discussed with committee members. In this process, the researcher tried to be aware of her personal preconceptions and ideas and tried to interpret data as authentically as she could to be Reflexive.

To remain transparent each decision during the research process was discussed with group members and the supervisory and research committee, documented, and described in this chapter about data collection interpretations and presentation.



## Chapter 3

### Results

Key findings from the study's data are outlined in this chapter. A description of the participants is given in the demographics section. The results presented here are to address the research questions which were to investigate the recovery process after DRF and unpaid work roles and family responsibilities. After using Thematic Analysis principles from Braun and Clarke (2006) and reflexive coding, 6 major themes were constructed out of the collected data which are shown in the diagram below,



Figure 1: Map of Themes.

All the participants of the study were in the early phase of their fracture recovery process and had a high level of restriction in terms of discomfort and cast restraint. The timing of recruitment was intended to give us a better idea of how DRF initially changes the activities of participants and what help they have around the house or outside from their friends, family, and colleagues.

To get a better understanding of the themes we must see things through a different lens, the biopsychosocial model. George Engel first suggested the concept of the biopsychosocial model in 1977. It contends that in addition to biological aspects, psychological and social factors should also be taken into account in order to comprehend a person's medical state (Gatchel et al, 2007). Critically, it is now well acknowledged that biological, psychological, and social variables interact to affect both illness and health. The themes that were constructed in this study fell under all three aspects of the biopsychosocial model, meaning, in order to understand the adaptation and coping after DRF we have to consider all the factors around the participants. The following figure illustrates the themes through the lens the of biopsychosocial model:

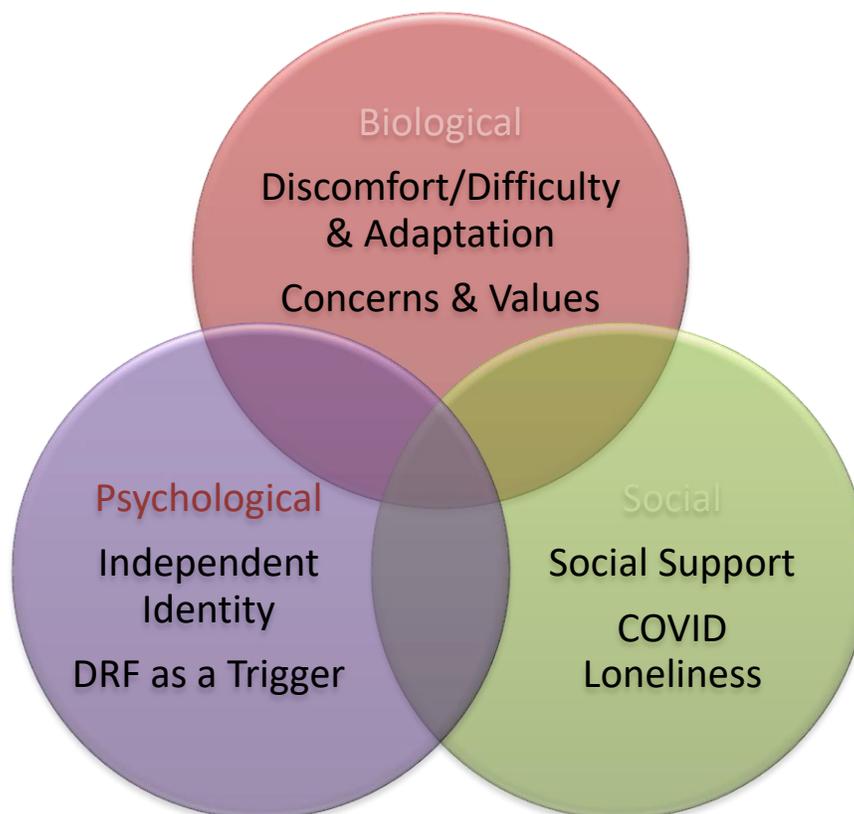


Figure 2: Themes on the biopsychosocial model.

### 3.1 Demographics

The sample consisted of 17 females and 3 males with an average age of 49.3 years, 8 married, 7 single, 3 widowed, and 1 common-law partner. Most of the participants are living with more than 1 person in their house. A complete picture of the demographics is shown in table 1.

Table 1: Demographics.

<b><i>Patient ID</i></b>	<b><i>age</i></b>	<b><i>sex</i></b>	<b><i>Gender</i></b>	<b><i>Marital status</i></b>	<b><i>Number of people in the house</i></b>	<b><i>Work/ profession</i></b>
<b>DRF 1</b>	65	Female	Woman	Married	2	Retired
<b>DRF 2</b>	65	Female	Woman	Married	2	Retired
<b>DRF 3</b>	18	Male	Man	Single	3	Student
<b>DRF 4</b>	18	Male	Man	Single	4	Student
<b>DRF 5</b>	19	Female	Woman	Single	1	Student

<b>DRF 6</b>	59	Female	Woman	Widowed	2	Part-time paid
<b>DRF 7</b>	19	Female	Woman	Single	4	Part-time paid
<b>DRF 8</b>	57	Female	Woman	Married	2	Full-time paid
<b>DRF 9</b>	67	Female	Woman	Single	2	Full-time paid
<b>DRF 10</b>	79	Female	Woman	Widowed	5	Retired
<b>DRF 11</b>	78	Female	Woman	Common-law	2	Retired
<b>DRF 12</b>	64	Female	Woman	Widowed	3	Volunteer

<b>DRF 13</b>	41	Female	Woman	Married	4	Housewife
<b>DRF 14</b>	52	Female	Woman	Married	3	Part-time paid
<b>DRF 15</b>	76	Female	Woman	Married	2	Volunteer
<b>DRF 16</b>	70	Female	Woman	Married	2	Retired
<b>DRF 17</b>	64	Female	Woman	Married	2	Full-time paid
<b>DRF 18</b>	20	Male	Man	Single	4	Student

<b>DRF 19</b>	27	Female	Woman	Single	5	Part-time paid/ student
<b>DRF 20</b>	28	Female	Woman	Single	4	Full-time paid

## 3.2 Themes:

The major themes are described one by one as follows,

### 3.2.1 *Discomfort*

### 3.2.2 *, difficulty, and adaptations:*

Almost all the participants reported discomfort with the fracture, described as having pain, or uneasiness. Some reported higher pain which woke them up at night. The discomfort and pain prevented participants from specific tasks including lifting things, opening jars, opening doors, driving, and typing or writing. Participants reported difficulty in carrying out activities of daily living such as house chores, personal hygiene, caregiving, and academics due to discomfort and/or pain in the fractured wrist.

*DRF 6*

*“Yeah, everything causes discomfort. I can't even brush my teeth, it hurts. And even when I'm sleeping, it hurts all the way up to my shoulder. So, I'm always restless with sleep.”*

*DRF 8*

*“It, I wake up a few times through the night when I move it the wrong way.”*

Difficulty with activities such as meal preparations, laundry, cleaning, and personal care like bathing or showering, eating, brushing teeth, brushing, or styling hair, putting on clothes, and skincare was the common hurdles participants reported,

*DRF 14*

*“Um, so I would say they [daily activities] haven't changed a whole lot, but they're a little bit more difficult to do. And, um, like the laundry is a bit more difficult because it's sort of one-handed. Um, it's harder to do, um, meal prep as far as like cutting and chopping. Um, and, uh, so I probably haven't been doing as elaborate meals... I'm doing most of the same things, but maybe just a little bit less.”*

*DRF 16*

*“... that's the Trick.... trying to, uh, drink a cup of tea is kind of hilarious because if you fill the cup too full and your left hand, isn't strong enough and you clean up after it, I*

*guess. Yeah, taking it out of the microwave is a hoot because it's over my head. So, you're standing on your tip toes. You get a hold of it with your left hand and on the way out, it seems, seems to hit it again. So, you get to clean up the stove as well.”*

Participants modified their activities with compensatory mechanisms like using the other hand, asking for help, cutting big chunks of vegetables to make food, driving with one hand, avoid eating food that needs cutting, buying food from outside, typing with one hand. Most of them reported leaving house chores undone. Almost all the participants reported that activities took a longer time than usual.

#### *DRF 15*

*“Uh, I've got a very sharp knife and I seem to be able to deal it with just the one hand and I hold it with my elbow with the other hand. So, if I put my elbow on it, then I can cut something. So, um, and I just change the way I cut things very carefully.... Well, I do have trouble doing it, but I can do it. takes longer Yes.”*

#### *DRF 16*

*“Well, yeah, it takes longer, but other than that, trying to tie your shoes is, um that's a little bit fun, but you can manage after the fourth time and the same with your track pants, you just run around and keep pulling that until you reach the end of the room.”*

#### *DRF 14*

*“Just it's not necessarily getting done, you know so that there's more mess and more laundry's piled up.”*

Participants providing care to family members reported difficulty in taking care of them while facing difficulties with their personal care with DRF.

### *DRF 9*

*“Yeah. A good example is this morning... It's hard for her to put on her socks and normally prior to falling, uh, my injury, I would have helped her to put on her socks for, I mean, it's just such a simple task, but in actual fact, I can't very easily do that. I try to help her, you know, kind of start the socks over her toes is just such a simple task, but it actually does require two hands and I can't do that. So, we kind of do it together. She tugs, I tug, I started she tugs a little bit more. It falls off. We try again like that. Yeah, we get there, but it's really, it's really not a great way to start the day. It's really not just wanting to pull your hair out.”*

Difficulties in household chores, personal care, caregiving, and academics were reported by all the participants due to the discomfort awkward cast, and the fracture itself.

### **3.2.3 Social Support and Expectations**

More than two third of the participants were satisfied with the physical and emotional support they received from their friends, family, paid caregivers, and colleagues. Physical support included help with house chores, dropping off or preparing food, doing groceries, help with dressing, showering, and cutting food, shoveling snow off the driveway,

academic notetaking, driving to appointments, and workplace compensation. The physical support was reported to be voluntary most of the time. Emotional support was described as offering help checking in by phone calls, visits, and texts from friends, family, and neighbors.

*DRF 11*

*“Yeah, I don't vacuum my granddaughter does that. So, my husband's doing the cooking and he makes a beautiful salad. I tell you for sure (laughs).”*

*DRF 2*

*“Yes, absolutely. Yeah. Like for signing birthday cards and all that, he's been doing it where normally I would do it. And, uh, he's doing a lot more of the vacuuming cleaning. Um, like I said, helping me with my, with the cooking and that sort of thing. And, um, he's offering, so I'm not having to ask him all the time. As soon as he sees me get up and go towards the kitchen, he's like, uh, you know, do you need my help kind of thing? Yeah.”*

*DRF 19*

*“For my friends, they've just been checking in and seeing if I need anything after one of my friends drove me to the hospital on Friday where I needed to get the cast. And then in terms of my family, my dad came to visit for the weekend. And then my family has been talking to the family friends has given me food and everything. And the mom checks in as well.”*

Some participants reported insufficient physical support around the household chores, and personal care from their family and friends.

*DRF 5*

*“At first, I thought that my friends were kind of lacking like they kind of took it as a fall was just sprained. It's not that bad. But then like, when it was broken, they did ask how I was doing within the first week, I kind of thought, oh, like, they're not checking in on me versus my mom, like my mom. But she was like, really stressed. And she just wanted to make sure that I was good. And they were just trying to tell me what to do. They're like, okay, let's go to the doctor do this and go to other options. Whereas my friends, like, didn't really come to see me and which I get because they live kind of far. But like in terms of that, I think I'm sure that they could have done more.”*

Some participants had a higher level of expectation of support from family and friends as they felt their disability due to fracture and cast is for a short period, whereas on the other hand, some participants did not feel like they need extra help with their tasks.

*DRF 14*

*“Um, I'm as satisfied, I guess, as I was before. So, I guess like, I always would appreciate more help than I'm getting, but I wouldn't say I'm any less than satisfied, or dissatisfied than I was before If that makes sense.*

*DRF 17*

*” Yeah, no, he's always helping me, he always has been helping me out, you know, but right now he does more. Yeah. Because right now, I cannot do it. Right now, I need more help from him, and he is providing it very well you know”*

Overall participants reported having good emotional and physical support around them from their friends, family, neighbors, caregivers, and colleagues. Some of the participants had higher expectations of both physical and mental health which were not fulfilled and caused dissatisfaction among the participants.

### 3.2.4 Independent Identity:

A common theme that was identified across participants was independent identity, meaning they did not want to ask for help or were deemed as dependent on others for help with their daily living activities, like eating showering, or household chores. They, despite knowing it was not good for their fractured hand kept on with their tasks as much as they could.

*DRF 8*

*“I mean, I do what I can do, I'm stubborn that way. So, you know, I, I, I will try it before I asked for help. So, I mean, that's maybe a little bit detrimental to myself, but I'm not really one, I would never really make a good patient. And I know that. (laugh) Because I'm not really great at asking for help. So, you know, like, try things one hand in and I'll do it, you know, it might hurt but I'll just do it and get it done. But that's my own doing. That's not for lack of, of offers, or, you know, the lack of not having somebody to take care of that because I do, I just have to be willing to let it happen.”*

*DRF 7*

*“So, they've been there to support me and where I need. So that's been good. As much as I don't like it when people do help me with stuff I. Yeah, I just I'm very, like independent. So, I don't like asking for help. But I've had to just because of the break, so they've been really helpful.”*

Participants identified themselves as independent and did not feel good about dependency or having to ask for help.

### 3.2.5 You're aging and it sucks concerns and values:

An emergent theme among female participants above 50 years was concerned about healing and aging. Some were worried about their bone health and others worried about healing. A common concern was being careful in the future to prevent events like falls or fractures.

#### *DRF 2*

*“I think the only other thing is knowing that you're aging, and it sucks to have to. You know, I don't want to slow down because I think if you don't move, you lose, you know? Um, but, uh, I think that is the biggest thing that's going to be stuck in my mind now is, uh, cause I've never had a fracture before. Like I, is this what life is going to be for me now that I'm going to have to be so very, very careful and not, you know, take the, have the fun risks of doing things anymore.”*

#### *DRF 11*

*“There's nothing positive about it, but I am not 37 like I told you, and, uh, I'm just going to have to be a little more careful.”*

*DRF 14*

*...the doctor had just started me on some medication because I have bone density issues has just started. And I don't like taking medicine and I didn't want to take any, but I think now I'm taking it and religiously taking my vitamin Ds, which I never did before, but I think now I realized how important that whole, uh, the diagnosis was. And I wish I would've listened to her before I, now, but there you go."*

Younger people were not very concerned about aging but still expressed an intention to be careful and behave more cautiously in the future with outdoor activities.

### 3.2.6 COVID loneliness:

An intriguing theme that was identified from the dataset was loneliness caused by the global COVID-19 pandemic. Participants described COVID as a reason for their loneliness because their friends and families were unable to visit them or spend time with them. After DRF people wanted to spend time with their loved ones but due to the pandemic, they could not do that which caused loneliness and sadness.

*DRF 10*

*"Well, um, because of COVID, I really don't have very many friends. Uh, I mean, I have a couple of people who email me, and I talk to them over email."*

*DRF 11*

*"Uh, my neighbor, a couple of my neighbors are, well, they call, they don't come over, but you know, and that's, that's COVID too. It would be nice to have people over"*

### DRF 9

*Researcher: I would like to know how your family, or your friends have provided you with emotional support, have they been there for you emotionally?*

*Participant: Well, in so far as COVID will allow it. Right. So, my, I, you know, I'm here in London, but my friends are actually not here. My friends are in another city.*

Some reported being unable to go to their yoga or Pilates classes due to covid or being unable to visit family and friends.

### 3.2.7 Distal Radius Fracture, a Trigger:

While distal radius fracture might not be a hugely traumatic event in itself, the cumulative stresses of daily life combined with this new injury appeared to allow the DRF to serve as a trigger to temporarily overwhelm them. Participants positioned their injury as being a trigger or the cause of throwing them over the edge.

### DRF 12

*“It's just that when you're overwhelmed..... (pause).....You only need one more thing...to make you more over the top overwhelmed. (pause)And I'm at that stage right now, but I was in you know, teetering on the edge of being overwhelmed. And now I'm over, I'm over the edge, but not considering that I will do anything to myself. That's not, that's not what I'm talking about. I'm just overwhelmed.....(Crying)”*

*DRF 12*

*“I think that's the biggest part for me is that I'm so used to going, going, going, going, going then I broke my knee then. Went to my clinic visit for my knee and they shut down the hospital for COVID the day that I was there. And now two years later, I'm just getting back on my feet from COVID and from everything else. And here I am landed back at square one again..... (deep breath)”*

*DRF 13*

*“It's really really bad like I'm 41 years old and I have never felt this kind of feeling in my whole life. Never ever, because if we have something difficulty financially, that will be fine. If we will have some other issue that will be fine. But this situation is Oh, stressful learning meant that I because I never imagined that before because I never think like that this going to happen with me.”*

Some participants found talking to the researcher cathartic, which depicted how much emotionally the DRF had overwhelmed them on top of other things,

*DRF 12*

*“Yes. It is helping to even just to talk to you and I know that that's what you are. Working on it, it's not on my emotional well-being, but...”*

In conclusion, the major themes arising from the data set were discomfort/ difficulties with activities of daily living and adaptations to activities with DRF and cast, support people received from their families, friends, neighbors, and colleagues, and their expectations from family and friends for providing emotional and physical support, being

mindful of aging and slow healing, people upholding their independent identities, loneliness caused by COVID-19 and DRF being a trigger for emotional upheaval.



## Chapter 4

### DISCUSSION

This chapter discusses the findings concerning the standing body of knowledge and relates it to other thoughts and studies, along with the strengths and limitations of the study.

#### 4.1 Discussion

This study was designed to understand how patients are impacted by and cope with a distal radius fracture (DRF), concerning their daily activities, work roles, and family role responsibilities. The study focused on the fracture healing immobilization phase of the injury and the experience of the injury. The findings highlight adaptations and social support after distal radius fracture, along with the impact of COVID-19, recovery concerns and values, independent identity, and DRF as an emotional trigger, which perfectly fits into the biopsychosocial model of rehabilitation.

Discomfort and pain were reported to be a cause of disability to fulfill household chores, personal care activities, and caregiving, which were consistent with qualitative research on a range of mixed wrist disorders by (Borcha et al, 2021), and (Bialocerkowski, 2001). This study also reported the adaptations participants used to complete their activities, which were consistent with both studies. Bialocerkowski's work was qualitative giving us a deeper insight, whereas MacDermid's work was quantitative and more generalizable. This study on the other hand shows a deeper picture by using a comprehensive qualitative method focusing only on DRF, of how the participants are coping with DRF in the early stages when they are still in their cast and the level of disability is maximum (MacDermid, 2003).

The study focused on social support from family friends and colleagues in the form of physical and emotional support. The majority of the participants reported receiving satisfactory physical and emotional support from their family and friends. While some were dissatisfied, their expectation of support from the people around them may have been different: participants could assume they were in a cast for only 6 weeks, so they deserved much more help with activities than what they were receiving. Alternatively, they may have perceived a higher risk of a poor outcome and felt this could be mitigated by support. Prior work found social support is helpful in the rehabilitation process after distal fractures. Regardless of demographic factors like age and gender one year after surgery, baseline emotional/informational social support was reported to explain 4.7 % of the variability of the pain and disability outcome score (Symonette, MacDermid, & Grewal, 2013), which falls in consistency with this study as social support as reported to be helpful in the recovery process.

Some participants reported how maintaining an independent identity was important to them and asking for help or relying on others did not feel good to them so they tried to avoid it as much as they could. Another study by Chan & Spencer about DRF found a similar sentiment among the people recovering from DRF (Chan & Spencer, 2004). This independent behavior is identified as an “Assertion of Autonomy” in which individuals tend to downplay either dependency or attachment. They express a preference for independence and solitude (Hirschfeld et al, 1977).

The biomedical concept of sickness, which continues to be the predominant healthcare paradigm, gave rise to the biopsychosocial model described by Engel (Engel,1977). The biopsychosocial model suggests that in order to understand a person’s medical condition, not just the biological (physiological pathology) factors should be considered but psychological (thoughts, emotions, and behaviors such as psychological distress, fear/avoidance beliefs, current coping methods, and attribution) and social (socio-economical, socio-environmental, and cultural factors such as work issues, family circumstances, and benefits/economics) factors should also be acknowledged. The

biopsychosocial model has been discussed in great detail and is utilized relatively frequently in several clinical settings, particularly in rehabilitation. and "the majority of healthcare professionals, including managers, are uninformed of it, as are commissioners and other financing organizations, as well as the general public" (Wade, 2015 Page no. 1) This model supports and paves the way for client-centered treatment, which can enhance patient outcomes, (Smith et al, 2013, Kiston et al, 2012, Dulmen et al, 2013, Weiner et al, 2013) Additionally, it supports the widely used goal-setting approach in rehabilitation (Wade et al, 2015). This more varied approach enables the therapist to explore and address a far wider range of issues that may have a substantial impact on client outcomes, moving beyond a strictly defined focus on biological aspects. For that purpose, this model offers an explanation of the dynamic interactions between psychological components and outcomes, specifically how they influence and are affected by interim and final rehabilitation results (WieseBjornstal et al, 1998).

Following a distal radius fracture, appropriate rehabilitation and treatment can facilitate functional gains and prevent long-term disability. However, the ideal management approach, including informational support, should consider potential complications and individual patient contexts. Some studies reported that a home-based exercise program provided by a physician had better outcomes compared to supervised rehabilitation by occupational OT or physiotherapist PT ((Souer et al, 2011, Watt et al, 2000, Krishak et al, 2009). Other studies suggested that home-based exercise programs had better outcomes compared to Supervised programs by PTs or OTs (Wakefield et al, 2001, Christensen et al, 2002, & Maciel et al, 2005). All these studies excluded patients with complications. It is well understood that complications following a distal radius fracture can have an impact on patient outcomes. Patients and physicians reported complication rates after DRF range between 21 and 27 percent (McKay & MacDermid et al, 2001). These studies did not use patient-reported outcome measures like PRWEB. A systematic review looking at various rehabilitation interventions after primarily conservative fracture treatment with plaster cast immobilization of DRF found fifteen randomized controlled trials (Handoll et al, 2006). Of these, five studies compared home program instruction to a formalized therapy program. The authors concluded that there is insufficient evidence

to determine the most effective interventions for distal radius fracture functional recovery (Handoll et al, 2006). Another systematic review looked at the impact of exercise on impairment and activity after upper limb fractures. One of the two upper limb fractures studied was the distal radius fracture (Bruder et al, 2011). In the DRF population, seven studies comparing a supervised exercise program to a home exercise program (HEP) were evaluated. They also discovered that there is insufficient evidence to determine the best rehabilitative management following distal radius fracture reduction (Bruder et al, 2011). One other systematic review assessed the current evidence for the management of distal radius fractures, focusing on studies comparing the effectiveness of treatment in two different settings (the home or the clinic), and reported that subjects without complications benefit from either home program instruction or supervised therapy provided in a clinic. However, because the current studies do not accurately represent the patient population with comorbidities or complications seen by therapists after a distal radius fracture, the findings should not be generalized to the broader patient population (Valdes et al, 2014).

This study, as well as previous studies, strongly advocates the importance of social support during recovery and rehabilitation. A home-based program may limit a person's ability to socialize and obtain the necessary support and knowledge for their mental and physical health. All aspects of the biopsychosocial model should be considered when managing a DRF, as this study demonstrated that recovery from DRF is not solely biological, but also involves psychological and social factors. This study was conducted during the pandemic, when the need to socialize to obtain adequate social support physically and emotionally was limited, which was reported to hurt participants' mental health.

This study strongly supports the biopsychosocial model of health, as the constructed themes fall into all three aspects of the model, and thus form a complete recovery after DRF: therefore, all these factors should be kept in mind, for better health outcomes. The study added deeper insight into recovery from DRF during the COVID pandemic,

the difficulty of adaptations, and the emotional impact of DRF on participants during COVID.

## 4.2 Strengths and Limitations:

The participant's experiences during the acute phase (1-3 weeks) of recovery in this study provided deeper insight into the recovery process. As with other qualitative studies, it contributes to a better understanding and grasp of how various factors influence the recovery process after DRF. It must also be acknowledged that the context of the pandemic both generated new insights into enforced 'home programs and the challenges of doing research during a pandemic.

Even though we used purposive sampling, men were underrepresented in the sample, so gender differences could not be observed. Because DRF is more common in women, the sample was dominated by women, and our low recruitment rate for interviews with men in the clinic further limited the sample's representation. As the interviews were conducted via telephone calls, the researcher-participant rapport could not be established as deep as qualitative research methods prescribe. The phone calls also limit the depth of interviews as opposed to in-person interviews; people tend to talk more openly during in-person interviews; indeed, the role of fatigue-related even to holding the phone cannot be fully known. Another limitations that was noticed with phone calls was the privacy, participants might not have privacy during the phone calls and be unable to talk openly about their experiences and thoughts.

## 4.3 Implications:

We can use the findings of this research in providing patients with adequate information and preparing them for limitations and suggesting coping strategies. Implying client-centered health care and making decisions that patients decide are best for them.

Encouraging the informational dimension of social support from the healthcare providers. Implying the biopsychosocial model of health and sickness and counting in all the factors which might support patients socially psychologically as well as biologically.

#### 4.4 Future Research

For future research, we need to capture a gendered perspective on social support and recovery. Intimate partners' role during the recovery process, social support, and perceived support provided by the partners needs to be discovered. We also need to research the fractures and their healing or complications that occurred during the COVID-19 pandemic and how they might have been affected by it in recovery, health services, and social support.

#### 4.5 Conclusion

To conclude this study captured the experiences of people with DRF in the early phase of their recovery, the challenges faced by them, the social support received, and their daily lives in detail. The major themes that surfaced from this research were the discomfort, difficulties, and adaptations implied by participants for their daily life activities, and the social and emotional support they received. It also reported the emotional experiences of people with DRF during the global COVID-19 pandemic, their concerns, and values regarding aging. How people uphold their independent identities, and the impact of covid on the emotional well-being of people were also important findings.

## References or Bibliography

Abdul-Razzak A, You J, Sherifali D, Simon J, Brazil K. 'Conditional candor' and 'knowing me': an interpretive description study on patient preferences for physician behaviors during end-of-life communication. *BMJ Open* [Internet]. 2014 Oct; [cited 2018 Feb 23]; 4(10):e005653

Archibald MM, Caine V, Ali S, Hartling L, Scott SD. What is left unsaid: an interpretive description of the information needs of parents of children with asthma. *Res Nurs Health* [Internet]. 2015 Feb; [cited 2018 Feb 23]; 38(1):19-28.

Benjumea CC. La calidad de la investigación cualitativa: deevaluarla a lograrla. *Texto Contexto Enferm* [Internet]. 2015 Jul/Sep; [cited 2018 Feb 23]; 24(3):883-90

Braun, V.; Clarke, V. Qualitative Research in Psychology Using thematic analysis in psychology. *Qual. Res. Psychol.* **2006**, 3, 77–101. [[CrossRef](#)]

Kalengayi FKN, Hurtig A-K, Ahlm C, Ahlberg BM. “It is a challenge to do it the right way”: an interpretive description of caregivers’ experiences in caring for migrant patients in Northern Sweden. *BMC Health Serv Res.* 2012;12(1):433

Brisbois MD. An interpretive description of chemotherapy-induced premature menopause among Latinas with breast cancer. *Oncol Nurs Forum* [Internet]. 2014 Sep; 41(5): E282-9.

Bruder A, Taylor NF, Dodd KJ, Shields N. Exercise reduces impairment and improves the activity in people after some upper limb fractures: a systematic review. *J Physiother.* 2011;57:71e82

Clark MI, Spence JC, Holt NL. In the shoes of young adolescent girls: Understanding physical activity experiences through the interpretive description. *Quality Res Sports Exerc Health [Internet]*. 2011 Oct; [cited 2018 Feb 23]; 3(2):193-210

Christensen OM, Kunov A, Hansen FF, Christiansen TC, Krasheninnikoff M. Occupational therapy and Colles' fractures. *Int Orthop.* 2001;25:43e45.

Constantinou CS, Georgiou M, Perdikogianni M. A comparative method for themes saturation (CoMeTS) in qualitative interviews. *Qual Res.* 2017;17(5): 571–88

Gatchel, Robert J., Peng, Yuan Bo, Peters, Madelon, L.; Fuchs, Perry, N.; Turk, Dennis C. 2007 The biopsychosocial approach to chronic pain: Scientific advances and future directions. *Psychological Bulletin*, Vol 133(4), 581-624

Engel GL. The need for a new medical model: a challenge for biomedicine. *Science* 1977; 196: 129-1 36

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N.K. Denzin & Y.S.

Handoll HH, Madhok R, Howe TE. Rehabilitation for distal radius fractures in adults. *Cochrane Data Base Syst Rev.* 2006 July 19;(3): CD0003324.

Krishak GD, Krasteva A, Schneider F, Gulkin D, Gebhard F, Kramer M. Physiotherapy after volar plating of wrist fractures is effective using a home exercise program. *Arch Phys Med Rehabil.* 2009;90:537e544.

Lincoln (Eds.), Handbook of qualitative research (1st ed., pp.105-117). Thousand Oaks, CA: Sage.

Maciel JS, Taylor N, McIleven C. A randomized clinical trial of activity-focused physiotherapy on patients with distal radius fractures. Arch Orthop Trauma Surg. 2005;125:515e520

McKay SD, MacDermid JC, Roth JH, Richards RS. Assessment of complications of distal radius fractures and development of complication checklist. J Hand Surg. 2001;26:916e922

Milne, J., & Oberle, K. (2005). Enhancing rigor in the qualitative description. Journal of Wound, Ostomy and Continence Nursing, 32(6), 413-420

Murphy AL, Martin-Misener R, Kutcher SP, O'Reilly CL, Chen TF, Gardner DM. From personal crisis care to convenience shopping: an interpretive description of the experiences of people with mental illness and addictions in community pharmacies. BMC Health Serv Res [Internet]. 2016 Oct; [cited 2018 Feb 23]; 16(1):569

Neergaard, M. A., Olesen, F., Andersen, R. S., & Sondergaard, J. (2009). Qualitative description – the poor cousin of health research? BMC Medical Research Methodology, 9(52). <https://doi.org/10.1186/1471-2288-9-52>

Ponterotto, J. G. (2005). Qualitative Research in Counseling Psychology: A Primer on Research Paradigms and Philosophy of Science. Journal of Counseling Psychology, 52(2), 126–136. <https://doi.org/10.1037/0022-0167.52.2.126>

Salkind, N. J. (2010). Encyclopedia of research design: Naturalistic inquiry. SAGE Reference, 881-885. <http://dx.doi.org/10.4135/9781412961288.n262>

Souer JS, Buijze G, Ring D. A prospective randomized controlled trial comparing occupational therapy with independent exercises after volar plate fixation of a fracture of the distal part of the radius. *J Bone Joint Surg Am.* 2011;93:1761e1766.

Suri, H. (2011). Purposeful sampling in qualitative research synthesis. *Qualitative Research Journal*, 11(2). doi:10.3316/QRJ1102063

Thorne S. *Interpretive Description - Qualitative Research for Applied Practice* Second Edition ed. New York, London: Routledge; 2016.

Thorne S, Stephens J, Truant T. Building qualitative study design using nursing's disciplinary epistemology. *J Adv Nurs [Internet]*. 2016 Feb; [cited 2018 Feb 23]; 72(2):451-60.

Thorne S, Oliffe JL, Stajduhar KI. Communicating shared decisionmaking: cancer patient perspectives. *Patient Educ Couns [Internet]*. 2013 Mar; [cited 2018 Feb 23]; 90(3):291-6.

Tracy, S. J. (2010). Qualitative quality: Eight “big tent” criteria for excellent qualitative research. *Qualitative Inquiry*, 16(10), 837-851. doi:10.1177/1077800410383121

UK Essays. (November 2013). Theoretical Perspective Constructivism And Naturalistic Inquiry Psychology Essay. Retrieved from <https://www.ukessays.com/essays/psychology/theoretical-perspectiveconstructivism-and-naturalistic-inquiry-psychology-essay.php?vref=1>

Valdes K, Naughton N, Michlovitz S. Therapist supervised clinic-based therapy versus instruction in a home program following distal radius fracture: a systematic review. *J Hand Ther.* 2014 Jul-Sep;27(3):165-73; quiz 174. doi: 10.1016/j.jht.2013.12.010. Epub 2014 Jan 3. PMID: 24508093

Watt CF, Taylor NF, Baskus K. Do Colles' fracture patients benefit from routine referral to physiotherapy following cast removal? *Arch Orthop Trauma Surg.* 2000;120:413e415.

Wakefield AE, McQueen MM. The role of physiotherapy and clinical predictor outcome after fracture of the distal radius. *J Bone Joint Surg Br.* 2000;82-B:972e976.

## Appendices

This section has the interview guide and demographic form

### Appendix A: Demographic form

<p>1. What is your marital status?</p>	<p><input type="checkbox"/> Single</p> <p><input type="checkbox"/> Common-law married</p> <p><input type="checkbox"/> Married</p> <p><input type="checkbox"/> Divorced</p> <p><input type="checkbox"/> Widowed</p> <p><input type="checkbox"/> Other _____</p>
<p>2. How many <u>children</u> <i>who are dependent on you</i> currently live in your home?</p>	<p>_____</p>
<p>3. Do you currently care for a sick or disabled adult in your home (spouse</p>	<p><input type="checkbox"/> Yes, my spouse</p> <p><input type="checkbox"/> Yes, another adult person</p> <p><input type="checkbox"/> No</p>
<p>4. How many people <i>in total</i> currently live in your home, <u>including yourself</u>?</p>	<p>_____</p>
<p>5. Indicate all of the people who perform some part of caring for your home and family (check all that apply)</p>	<p><input type="checkbox"/> Myself</p> <p><input type="checkbox"/> My spouse/partner</p> <p><input type="checkbox"/> My children</p> <p><input type="checkbox"/> Friends</p>

	<input type="checkbox"/> Other family members who also live in my home <input type="checkbox"/> Other family members who live outside of my home <input type="checkbox"/> Paid staff (like babysitters or cleaners) <input type="checkbox"/> Support workers (like healthcare workers) <input type="checkbox"/> Other _____
6. Do you work outside the home?	<input type="checkbox"/> Yes, full-time paid work <input type="checkbox"/> Part-time paid work <input type="checkbox"/> Yes, Volunteer work <input type="checkbox"/> No
7. What is your age (in years)?	_____
8. What sex were you assigned at birth?	<input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Other _____
9. With which gender do you identify?	<input type="checkbox"/> Man <input type="checkbox"/> Woman <input type="checkbox"/> Other _____
10. If you are currently in a relationship, what is the gender of your partner?	<input type="checkbox"/> Man <input type="checkbox"/> Woman <input type="checkbox"/> Other _____

## Appendix B: Interview Guide

### Interview Guide – Home and Family Work Roles Following Distal Radius Fracture (DRF)

**Length:** 30-60 minutes

**Goal:** To better understand participants' adaptation to injury. How and why the participant may have changed his or her roles following the DRF.

**Format:** Semi-structured interview questions (marked with numeric numbers) with probing questions (in the alphabetical listing) to elicit responses that are most relevant to the participant.

### Patient Question Guide

#### Introduction:

- a) What is your profession?
- b) Whom/Who do you live with?

- 1) Fracture Experience  
Can you tell me what is like to have a wrist fracture?
  - a) Have you had much discomfort? What has bothered you?
  - b) What things have you done to help with the discomfort?
  - c) What things have your spouse, family member, or friends did that help your discomfort?
  - d) Are there any things they have done that have increased your discomfort? (Explore who/why)
  - e) Who lives in your home, and are people around most of the time?
  
- 2) Household Chores

What household chores indoors and outdoors do you normally do (before injury)?

What indoor household chores (e.g., laundry, house cleaning) or outdoor household chores (e.g., mowing the lawn) do you find difficult to do since your injury?

Who helped you with these chores? Friends? Family members? (Explore Who/How)

- a. Do you normally prepare meals for your family? Do you have any difficulty preparing meals for yourself or your family?
- b. What strategies have you tried to cope with this? (Explore which worked/failed)
- c. Has anyone helped you since your injury? Has your partner helped you? (Explore how, the level of satisfaction with help, whether volunteer or recruited)

### 3) Family Roles

now we want to talk about family responsibilities like caring for family members or your house

- a. Who do you normally care for? Has any of that changed with your injury?
- b. What do you find difficult to participate in caring for others in since your injury?
- c. How do you feel about this difficulty in carrying out your family role responsibilities?
- d. What strategies have you tried to cope with this?
- e. Has anyone helped you since your injury? Has your partner helped you? (Explore who/how)
- f. Are you satisfied with the level of help you received in your family role responsibilities whether voluntary or recruited?

### 4) Support

What support have you received with household chores or family roles since your injury?

- a. If you have a partner/spouse/family member, how has he/she helped you?
- b. From whom would you like more support/help with household chores? With family roles?
- c. Elaborate on the emotional and physical support?

### 5) Opinions/Perceptions (*use if needed to elicit further responses*)

How do you think your home responsibilities are affecting your ability to cope with your injury?

Are they positive or negative factors in your recovery?

- a. Is any activity, in particular, making it difficult to cope with your injury?
- b. Is any activity, in particular, helping you cope with your injury?
- c. Would you like more/less emotional support from your partner? From anyone else? Family/friends

## Curriculum Vitae

**Name:** Hajra Batool

**Post-secondary Education and Degrees:** Khyber Medical University  
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Doctor Of Physical Therapy (DPT)  
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**Related Work Experience**

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