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Alexis Brolsma

Aleece Durbin

Casidi Pullar

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The Benefits of Habituation Altering Occupational Therapy Interventions to Improve Engagement in ADLs and IADLs for Adults with Chronic Pain

Alexis M. Brolsma, OTS, Aleece N. Durbin, OTS, & Casidi C. Pullar, OTS

Department of Occupational Therapy, University of North Dakota, Grand Forks, North Dakota, United States

Please direct correspondence to Alexis Brolsma at alexis.brolsma@und.edu

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Focus Question

How beneficial are occupational therapy interventions that change the habits and routines (habituation) of adults (18+ years of age) with chronic pain in improving engagement in activities of daily living (ADLs) and instrumental activities of daily living (IADLs)?

Case Scenario

Chronic pain was experienced by 20.5% of the United States population in 2019, meaning about 1 in every 5 adults experienced chronic pain (Yong et al., 2022). With such a high prevalence, chronic pain has become a prominent health concern for adults. In the glossary tab located on The Center for Disease Control and Prevention ([CDC], 2020) website, chronic pain is defined as “pain that lasts 3 months or more and can be caused by a disease or condition, injury, medical treatment, inflammation, or even an unknown reason” (para. 1). Chronic pain becomes more prevalent as one advances in age and is more likely to affect women, adults living in or near poverty, and rural residents (Dahlhamer et al., 2018). Chronic pain is most commonly reported in the body areas of the back, hip, knee, and foot, but can impact any region of the body (Dahlhamer et al., 2018).

Furthermore, the effect of chronic pain on the body has been shown to negatively influence individuals’ performance in ADLs and IADLs, consequently lowering their quality of life (Yong et al., 2022). Quality of Life (QOL) is a complex, but important, concept that can be interpreted and defined in numerous ways. For the purpose of this critically appraised topic (CAT) paper, QOL has been defined by the World Health Organization ([WHO], 2012) as “an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns” (para. 1). Fortunately, occupational therapy has taken the initiative to enable adults experiencing chronic pain to engage in ADLs and IADLs, which improves their quality of life.

It is also important to consider cultural differences in adults experiencing chronic pain while engaging in ADLs and IADLs. Current literature supports the idea that culture can influence various pain-related factors such as how an individual communicates pain, shows empathy for others’ pain, tolerates pain, and copes with pain (Sharma et al., 2018). According to the National Institutes of Health ([NIH], 2021) website, culture is a combination of elements including, “beliefs, ethnicity, customs, actions, geographical [location], values, language, and social groups” (para. 1). Adults of different ethnicities (Sharma et al., 2018), ages, and genders (Hickey & Mason, 2017) have different values and beliefs that make each group diverse from one another. These cultural differences lead to varying levels of motivation and participation in activities (Hickey & Mason, 2017). Therefore, cultural differences should be considered when examining the impact of chronic pain on occupational participation in ADLs and IADLs. While in this CAT paper, we examine cultural differences in ethnicity, age, and gender, it should be noted that these factors are not an all-inclusive factors representing all cultures, hence, there are many other aspects that could be tied to cultural differences that are not mentioned in this CAT paper.

The Model of Human Occupation (MOHO) encompasses components that align with the focus of chronic pain. This model, created by Gary Kielhofner, “proposes that human occupational performance is the result of an interaction of person factors and environment” (O’Brien, 2017, p. 96). Personal factors include volition (motivation), habituation (habits and routines), and performance capacity (personal ability) (O’Brien, 2017). The physical and social environment either supports or hinders engagement in occupations of adults (O’Brien, 2017). The American Occupational Therapy Association ([AOTA], 2020) purported that occupational



engagement is a result of the motivation and ability to do so. This is applicable to those with chronic pain because pain limits one's ability to engage in ADLs and IADL, therefore, affects their motivation to engage in valued occupations (Stamm, 2016). The limited motivation to engage in necessary habitational tasks not only affects performance, but overall quality of life. Additionally, habituation encompasses the unique and specific way an ADL or IADL is performed. Interventions targeting habituation focus on changing the routines and habits of an individual (O'Brien, 2017). This is extremely useful in the case of adults with chronic pain because interventions to alter one's habituation can enable one to optimize their occupational performance while they are experiencing chronic pain.

According to the Occupational Therapy Practice Framework: Domain and Process Fourth Edition (OTPF-4), occupational therapy is "the therapeutic use of occupations with individuals or groups to enhance or enable participation in roles, habits, routines in the home, school, workplace, community, and other settings" (AOTA, 2020, p. 4). By using a holistic approach, occupational therapists recognize that chronic pain can affect all areas of an individual's occupational performance and engagement. Occupations are everything people do to occupy themselves, including ADLs and IADLs (AOTA, 2020). ADLs are defined as activities that are orientated toward taking care of one's own body while IADLs are activities that support daily life within the home and community (AOTA, 2020).

Given there is no cure available for chronic pain, the ultimate goal of occupational therapy is to address the occupational needs of the client to promote health and well-being (Guy et al., 2020). Occupational therapists recognize that being involved in meaningful occupations is a determining factor of health and well-being, which requires their skills to analyze and adapt the physical, social, and cultural demands of the occupation to identify potential barriers (Lagueux et al., 2018). Although occupational therapists provide a wide range of pain management interventions, many occupational therapists face challenges in defining and deploying their role in chronic pain management. There appears to be a lack of a clear understanding by health professionals regarding the contribution of occupational therapy services with chronic pain clients (Lagueux et al., 2018).

The current literature provides multiple different approaches to use in occupational therapy intervention for adults with chronic pain including methods like pacing (Andrews et al., 2018; Guy et al., 2019; Guy et al., 2020), programs to change one's lifestyle (Nielsen et al., 2021; Simon & Collins, 2017), and yoga (Schmid et al., 2019). Published evidence indicated that chronic pain can occur in people of all ages (Dahlhamer et al., 2018). Because chronic pain can affect such a large population of people, our aim is to gather current evidence regarding occupational therapy interventions focused on chronic pain for populations over the age of 18 years. Many of these interventions include the alteration of the habits and routines that adults perform (Andrews et al., 2018; Guy et al., 2019; Guy et al., 2020; Nielsen et al., 2021; Schmid et al., 2019; Simon & Collins, 2017). Based on the multitude of current literature pertaining to interventions for chronic pain, the objective of this CAT paper was to reflect on the usefulness of altering habits and routines in interventions to optimize occupational performance to improve overall QOL.

Purpose Statement

Adults experiencing chronic pain have difficulties performing ADLs and IADLs, consequently lowering their quality of life. Current research supports multiple interventions used by occupational therapists when working with adults with chronic pain, however, there is no primary intervention identified (Andrews et al., 2018; Guy et al., 2019; Guy et al., 2020; Nielsen



et al., 2021; Schmid et al., 2019; Simon & Collins, 2017). The purpose of this CAT paper is to determine how beneficial occupational therapy interventions are at changing habits and routines (habituation) of adults (18+ years of age) with chronic pain in improving engagement in ADLs and IADLs.

Methodology

An initial literature search was conducted from March 2nd, 2022, to March 9, 2022. Searches occurred on occupational therapy, education, and multidisciplinary databases, which included the Cumulative Index to Nursing and Allied Health Literature (CINAHL), Academic Search Ultimate, EBSCO, and PubMed. Articles were excluded if they were not written in English or studied populations other than adults. The following terms were used to search databases: “occupational therapy,” “long-term chronic pain,” “long-term pain,” “chronic pain,” “adults,” “intervention,” “programs,” “quality of life,” “activity of daily living,” “ADLs” “instrumental activities of daily life,” “IADLs.” To create a more defined search “AND” or “OR” were added between keywords to create search phrases.

Types of Articles Reviewed

A total of 30 literature sources were reviewed and 24 were selected for further analysis. Of the literature selected for further analysis, 16 research articles were reviewed in-depth. Five were Level I studies (Guy et al., 2019; Guy et al., 2020; Lagueux et al., 2018; Schmid et al., 2019; Silvestri, 2017), three were Level III studies (Andrews et al., 2018; Mori et al., 2021; Simon & Collins, 2017), three were Level IV studies (Dueñas et al., 2020; Stamm et al., 2016; Yong et al., 2022), and six were Level N/A studies (Jayne, 2020; Kallhed & Mårtensson, 2018; Kielhofner & Forsyth, 1997; Lagueux et al., 2018; Nielsen et al., 2021; Sharma et al., 2018). Other resources reviewed included government websites and fact sheets (CDC, 2020; Dahlhamer et al., 2018; NIH, 2021; WHO, 2012), a textbook (O’Brien, 2017), a CAT paper (Hickey & Mason, 2017), and a practice framework (AOTA, 2020).

Synthesis

Theoretical Base

The purpose of this CAT paper was to gain an understanding of the underlying effects of chronic pain on occupational performance in ADLs and IADLs, and how occupational therapy interventions can improve occupational performance and increase QOL in adults over the age of 18 years. To address this topic, the CAT paper process was grounded in an occupational perspective using the theoretical-based model, Model of Human Occupation (MOHO) (Kielhofner & Forsyth, 1997; O’Brien, 2017). The literature provided evidence that showed interventions targeting habituation had clinically significant changes in occupational performance, satisfaction, functional behavior, and quality of life (Silvestri, 2017). Individuals with chronic pain experienced problems participating in everyday occupations (Stamm et al., 2016). Researchers found that there is an additional need for interventions that focus on ADLs and IADLs (Stamm et al., 2016). Adults experiencing chronic pain who have learned to change their habits and/or routines became more competent and successful in areas of ADLs and IADLs (Andrews et al., 2018; Guy et al., 2019; Guy et al., 2020; Nielsen et al., 2021; Schmid et al., 2019; Simon & Collins, 2017). An increase in occupational performance can positively affect one’s QOL and physical, social, and emotional functioning (Mori et al., 2021). Additionally, habituation altering interventions have been correlated with empowerment to complete ADLs and IADLs, hence, improving motivation to engage in occupational participation (Nielsen et al., 2021). Together, habituation and motivation can have a significant influence on occupational



participation and performance in ADLs and IADLs (Kielhofner & Forsyth, 1997; O'Brien, 2017).

Impact of Chronic Pain on Occupational Participation

Chronic pain can hinder occupational participation in multiple ways based on severity, sensations, and prevalence perceived by each individual. In a case study about the impact of chronic pain on daily life, Jayne (2020) identified that chronic pain sensations can be described as prickling, cold or freezing, shocking, darting, or stinging. The varying terms used to describe chronic pain displayed the numerous differences between each case or degree to which individuals were impacted. In a cross-sectional-survey, pain was categorized in the amounts of “not at all,” “a little,” “somewhere between a little and a lot,” and “a lot” (Yong et al., 2022). Each category was used to determine the top locations affected by pain (Yong et al., 2022). Yong et al. (2022) found that in the category of “a lot,” pain was hindered in the top three areas which included 22.1% of respondents in the hips, knees, or feet, 20.5% for back pain, and 15.8 % in the hands, arms, or shoulders of adults. There were a multitude of factors and aspects of chronic pain that influence the overall health of an individual in the areas of sleep, feelings or mood, cardiovascular health, and QOL (Dueñas et al., 2020; Jayne, 2020; Yong et al., 2022).

The severity and prevalence of chronic pain inhibits the ability to complete and engage in the occupations of ADLs and IADLs (Stamm, 2016). In a cross-sectional epidemiological study, Dueñas et al. (2020) found that having medium to prominent levels of pain while performing ADLs created more limitations compared to adults experiencing low or no pain at all. Perceiving the impact and understanding the limitations created by chronic pain overall has a negative influence on one’s ability to perform ADLs and IADLs (Dueñas et al., 2020; Stamm, 2016). Published literature supported the findings that ADLs and IADLs requiring higher physical mobility (climbing stairs or carrying shopping bags) were identified as being more difficult compared to light ADLs or IADLs (bathing or preparing food) (Dueñas et al. 2020; Stamm et al., 2016). The inability to complete specific ADLs or IADLs is determined on a personal basis and dependent on the severity and location of chronic pain and difficulty of the task (Dueñas et al. 2020; Stamm et al., 2016). Additionally, the reduced ability to engage in activities because of chronic pain indicated that chronic pain affects one’s motivation and habituation patterns in completing regular ADLs and IADLs (Kallhed & Mårtensson, 2018). For instance, in a qualitative phenomenological study, individuals identified either using activity strategies or refraining from engaging in certain activities that caused extreme pain (Kallhed & Mårtensson, 2018). If those activities were avoided, then participants waited for a day when the pain was not as prevalent (Kallhed & Mårtensson, 2018). The delay experienced when waiting for the pain to subside changed the individual's habituation and motivation, which influenced their ability to engage in those activities.

While chronic pain affects participation in ADLs and IADLs, culture should also be noted because it can affect one's beliefs about chronic pain (Sharma et al., 2018) as well as predisposed participation levels (Hickey & Mason, 2017). For example, some individuals in various cultures avoid talking about their pain or believe that chronic pain is normal as one ages (Sharma et al., 2018). People in some cultures rarely complain of pain and resist seeking medical examination resulting in continual pain in ADLs (Sharma et al., 2018). Additionally, levels of participation, even prior to chronic pain, differ between groups of people depending on age and gender (Hickey & Mason, 2017). People of younger generations perceive more barriers to participation in exercise compared to older generations (Hickey & Mason, 2017). Perceived differences were attuned to life responsibilities associated with specific stages of life (Hickey &



Mason, 2017). Therefore, different age groups of adults have different beliefs about the obstacles affecting their participation in occupations. Additionally, men were identified to have more motivation to participate in exercise activities than women (Hickey & Mason, 2017). The increased motivation men had furthermore increased their level of participation (Hickey & Mason, 2017). The differences in motivation based on gender exemplify the fact that gender also affects the amount of participation with which one engages in (Hickey & Mason, 2017). Altogether, factors of ethnicity (Sharma et al., 2018), age (Hickey & Mason, 2017), and gender (Hickey & Mason, 2017) have an influence on the beliefs of chronic pain and levels of motivation and participation.

Role of Occupational Therapy in Chronic Pain Intervention

Benefits of Occupational Therapy

The goal of occupational therapy for individuals living with chronic pain is to guide individuals to integrate new skills into their daily life or improve on existing skills (AOTA, 2020). These skills may include but are not limited to proactive pain control modalities, safe body mechanics, neuromuscular re-education, communication skills, and proactive problem solving (AOTA, 2020; Nielsen et al., 2021; Simon & Collins, 2017). Occupational therapists use the holistic approach to address potential barriers, set functional goals, encourage healthy habits, and teach individuals new ways of doing things (AOTA, 2020). Based on the holistic approach within occupational therapy, it is important to identify how cultural differences may influence an individual's beliefs about chronic pain and how it may affect their prognosis and pain management (Sharma et al., 2018). This is important to ensure that interventions are both meaningful and appropriate to the client (Sharma et al., 2018). Occupational therapy interventions have a strong focus on education and remediation, which are designed to improve occupational performance and participation (AOTA, 2020). Chronic pain can significantly affect an individual's occupational performance and participation, which can influence QOL (Guy et al., 2020). Researchers have found that occupational therapy interventions for adults with chronic pain focus on facilitating patient development of healthy self-care routines and habits to prevent and manage chronic conditions (Nielsen et al., 2021; Simon & Collins, 2017). If chronic pain affects an individual's ability to participate in everyday occupations (ADLs & IADLs), the role of occupational therapy is to assess the client's performance problems, identify valued activities, and make adaptations to increase occupational performance and satisfaction (AOTA, 2020).

Limitations of Occupational Therapy

Although occupational therapy is effective in managing chronic pain, more education and training is needed to understand the specific role of occupational therapy for individuals with chronic pain. Lagueux and colleagues (2018) reported that there is a lack of understanding by health professionals regarding the contribution of occupational therapy services to individuals living with chronic pain. Occupational therapy has the potential to address the occupational performance disruption caused by chronic pain; however, occupational therapists' contemporary practice may not meet the occupational needs of people with chronic pain (Lagueux et al., 2018). Occupational therapists urgently need to establish their role and importance on the interdisciplinary team when working with chronic pain.

Current Interventions

Intervention Programs

There have been many different intervention programs used by occupational therapists to improve occupational performance in ADLs and IADLs in adults experiencing chronic pain.



Some of the most favored interventions used for this population were pacing interventions (Andrews et al., 2018; Guy et al., 2019; Guy et al., 2020) and lifestyle pattern interventions (Nielsen et al., 2021; Simon & Collins, 2017). Pacing interventions included training adults with chronic pain to take breaks periodically when engaging in activities that provoke chronic pain (Andrews et al., 2018; Guy et al., 2019; Guy et al., 2020). The use of the pacing interventions emphasized the change of typical activity routines to a new routine involving breaks to manage chronic pain, hence, altering habituation (Andrews et al., 2018; Guy et al., 2019; Guy et al., 2020). Alternatively, lifestyle pattern interventions included the Lifestyle Redesign program (Simon & Collins, 2017) and the REVEAL(OT) program (Nielsen et al., 2021), which both have multiple training sessions educating adults with chronic pain about lifestyle changes to habits and routines that can optimize performance in ADLs and IADLs. Both programs emphasized the importance of implementing new habituation patterns in the lives of adults experiencing chronic pain (Nielsen et al., 2021; Simon & Collins, 2017). Additionally, other methods with less research, like the implementation of routine yoga sessions, have demonstrated the effectiveness of improving ADL and IADL performance by changing habituation (Schmid et al., 2019). Altogether, pacing (Andrews et al., 2018; Guy et al., 2019; Guy et al., 2020), lifestyle pattern programs (Nielsen et al., 2021; Simon & Collins, 2017), and yoga (Schmid et al., 2019) have been documented to improve performance in ADLs and IADLs, illuminating the effectiveness of habituation altering interventions to improve occupational performance.

It is important to note that some treatments developed by clinicians in one culture may not necessarily be relevant or effective in another culture and should be adapted to maximize efficacy (Sharma et al., 2018). From studies included in this CAT paper, there were limitations identified pertaining to cultural factors. The studies in this CAT paper vary in geographical origin. Research was provided from the continents of North America (Guy et al., 2019; Lagueux et al., 2018; Mori et al., 2021; Simon & Collins, 2017; Yong et al., 2022), Europe (Guy et al., 2019; Kallhed & Mårtensson, 2018; Lagueux et al., 2018; Nielsen et al., 2021), Northeastern Africa (Dueñas et al., 2020; Lagueux et al., 2018), and Australia (Andrews et al., 2018; Stamm et al., 2016). Research was not identified for populations found in South America, Asia, most of Africa, or Antarctica. The listed countries do not encompass a full picture of ethnic cultural differences within the world, therefore, may not be generalizable to other geographical regions. Furthermore, multiple studies have discrepancies in the ratio of genders studied (Andrews et al., 2018; Dueñas et al., 2020; Guy et al., 2020; Schmid et al., 2019; Simon & Collins, 2017; Stamm et al., 2016). Literature has focused on a greater number of female participants than male participants, with some studies having over 50% of participants being female (Andrews et al., 2018; Dueñas et al., 2020; Guy et al., 2020; Schmid et al., 2019; Simon & Collins, 2017; Stamm et al., 2016). The high number of females researched in studies may influence their predisposed motivation and participation levels as compared to men (Hickey & Mason, 2017). Lastly, while all research was conducted on adults ages 18 years and older, several studies had an average age of between 42 and 57 years of age (Dueñas et al., 2020; Schmid et al., 2019; Simon & Collins, 2017). The average age included in the studies evaluated may indicate that one generation was over-represented, impacting the perceived barriers to participation for the participants (Hickey & Mason, 2017).

Impact of Interventions of Occupations

The use of interventions targeting change in habituation for adults with chronic pain have been documented to improve performance in ADLs and IADLs (Andrews et al., 2018; Guy et al., 2020; Schmid et al., 2019; Simon & Collins, 2017). Furthermore, the use of habituation altering



interventions have been shown to increase client physical functioning (Guy et al., 2019; Nielsen et al., 2021). Improved client functioning and occupational performance emphasizes the ability of habituation altering interventions to physically and positively affect adults with chronic pain. Furthermore, habituation altering interventions have been noted to promote positive changes in mental health (Nielsen et al., 2021). The REVEAL(OT) program resulted in patients feeling empowered to make lifestyle changes and felt more acceptance towards chronic pain (Nielsen et al., 2021). Other habituation altering programs were found to increase patients QOL and well-being (Schmid et al., 2019; Simon & Collins, 2017). Overall, the use of interventions that alter the habituation of adults with chronic pain increased both aspects of mental health and physical ability to perform occupations.

Summary

Overall, 16 research articles were identified and used for further review. The research included topics on chronic pain with impact on ADLs and IADLs as well as interventions to improve overall QOL. The general synopsis of the article's outcomes is as follows:

- Chronic pain has been shown to impact ADLs and IADLs in adults based on the severity, sensations, and prevalence of the pain (Jayne, 2020; Yong et al., 2022). Adults experiencing chronic pain have hindered mental and physical health, overall affecting QOL (Andrews et al., 2018; Guy et al., 2019; Guy et al., 2020; Nielsen et al., 2021; Schmid et al., 2019; Simon & Collins, 2017).
- There are multiple interventions used to improve performance in ADLs and IADLs for adults experiencing chronic pain including pacing (Andrews et al., 2018; Guy et al., 2019; Guy et al., 2020), programs to change one's lifestyle (Nielsen et al., 2021; Simon & Collins, 2017), and yoga (Schmid et al., 2019).
- Multiple interventions used to improve performance of ADLs and IADLs focus on redefining habituation for adults who have chronic pain. Habituation altering interventions have been shown to improve engagement and participation in ADLs and IADLs (Andrews et al., 2018; Guy et al., 2019; Guy et al., 2020; Nielsen et al., 2021; Schmid et al., 2019; Simon & Collins, 2017).

This CAT paper determined whether the use of occupational therapy interventions targeting habituation for adults with chronic pain improved their engagement and performance in ADLs and IADLs. Published literature indicated that there was a wide variety of interventions in use that may improve performance of ADLs and IADLs as a result of alteration to habits and routines. There is not one specified intervention to improve performance, but the interventions included in our search incorporated techniques of altering habituation of adults experiencing chronic pain.

Clinical Bottom Line

How beneficial are occupational therapy interventions that change habits and routines (habituation) of adults (18+ years of age) with chronic pain in improving engagement in ADLs and IADLs?

Currently habituation alteration is the most prevalent intervention used for chronic pain to improve ADLs and IADLs (Andrews et al., 2018; Guy et al., 2019; Guy et al., 2020; Nielsen et al., 2021; Schmid et al., 2019; Simon & Collins, 2017). To understand the factors that influence the performance of a person, we viewed the person through the lens of MOHO by identifying personal factors (volition, habituation, personal capacity) of adults with chronic pain to engage in the occupations of ADLs and IADLs (O'Brien, 2017). The alteration of habituation facilitates building knowledge and new skills that influence the performance of ADLs and IADLs



(Andrews et al., 2018; Guy et al., 2019; Guy et al., 2020; Nielsen et al., 2021; Schmid et al., 2019; Simon & Collins, 2017). Current literature supports the phenomenon that occupational performance while experiencing chronic pain as an adult can be optimized using habituation altering interventions (Andrews et al., 2018; Guy et al., 2019; Guy et al., 2020; Nielsen et al., 2021; Schmid et al., 2019; Simon & Collins, 2017). Habituation altering interventions target the education, training, and implementation of new lifestyle habits and/or routines, in this case, for adults experiencing chronic pain (Andrews et al., 2018; Guy et al., 2019; Guy et al., 2020; Nielsen et al., 2021; Schmid et al., 2019; Simon & Collins, 2017). While habituation altering interventions are emphasized in this CAT paper, it should be noted that there was not one outstanding intervention approach noted in the literature to optimize the performance of ADLs and IADLs. There are multiple interventions used in this domain including pacing (Andrews et al., 2018; Guy et al., 2019; Guy et al., 2020), programs to change one's lifestyle (Nielsen et al., 2021; Simon & Collins, 2017), and yoga (Schmid et al., 2019). These interventions all vary in what aspects of habituation were altered. Therefore, habituation altering interventions are the most frequent interventions used to improve occupational performance of ADLs and IADLs for people with chronic pain. However, there is not currently any specific intervention or program used as a gold standard for this population.

The information gathered from the current literature is beneficial to occupational therapists working with adult clients who experience chronic pain to begin planning interventions for use. In relation to chronic pain, occupational therapists' role is to help clients engage in meaningful or necessary tasks a client is no longer able to complete without pain (AOTA, 2020). Many interventions have been used to target continual engagement or participation in the occupations of ADLs or IADLs with adults experiencing chronic pain. The most successful intervention occupational therapists may want to utilize is to focus on changing daily routines or habits that severely hinder engagement or influence the ability to complete ADLs or IADLs (Andrews et al., 2018; Guy et al., 2019; Guy et al., 2020; Nielsen et al., 2021; Schmid et al., 2019; Simon & Collins, 2017). Each intervention or routine focus should be on an individual basis with relation to age, the severity of pain, and impacted body area. Additionally, practitioners should consider cultural differences affecting the patient's communication and tolerance of pain levels (Sharma et al., 2018). Specific cultural areas previously presented in this CAT paper, including the primary factors of age (Hickey & Mason, 2017), gender (Hickey & Mason, 2017), and ethnicity (Sharma et al., 2018) are specific factors within culture that are recommended to be included within client interactions and intervention practices (NIH, 2021). Intervention approaches from published studies can be used as interventions such as education, changing routines, creating adaptations, or adapting the amount of time used to complete the occupation (Andrews et al., 2018; Guy et al., 2019; Guy et al., 2020; Nielsen et al., 2021; Schmid et al., 2019; Simon & Collins, 2017). Occupational therapists should create their own or identify an intervention that matches the clients' habitational needs and cultural influences. Implementing a change in habituation of ADLs or IADLs of an adult experiencing chronic pain will positively improve motivation to engage in these occupations, overall improving participation and engagement in ADLs or IADLs (Nielsen et al., 2021).



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