

THE DISTINCT ROLE AND IMPORTANCE OF OCCUPATIONAL THERAPY IN  
CHRONIC DISEASE MANAGEMENT IN THE PRESENT HEALTHCARE SYSTEM:  
PERSPECTIVES FROM OCCUPATIONAL THERAPY PRACTITIONERS USING A  
SURVEY APPROACH

A Thesis submitted to the faculty at Stanbridge University in partial fulfillment of the  
requirements for the degree of Master of Science in Occupational Therapy

by

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## Certification of Approval

I certify that I have read *The Distinct Role and Importance of Occupational Therapy in Chronic Disease Management in the Present Healthcare System: Perspectives from Occupational Therapy Practitioners Using A Survey Approach* by Edward Alviar, Mariah Myrna Maico, Nicholas Myers, and Rachelle Painter, and in my opinion this work meets the criteria for approving a thesis submitted in partial fulfillment of the requirements for the degree of Master of Science in Occupational Therapy at Stanbridge University.



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## Abstract

This thesis project is focused on defining occupational therapy's distinct role in chronic disease management in consideration of the present healthcare system. We conducted a survey of 10 occupational therapy practitioners to investigate the trends in current practice, including common chronic conditions treated, interventions, and barriers. In addition, we explored the viewpoints of occupational therapists to understand perceptions of the current role and significance of occupational therapy in chronic disease management, the effect of COVID-19 on practice, and the frequency of utilization of occupational therapy services. Through this survey, we found that current practice focuses on self-management, patient and caregiver education, and participation in everyday life. The most common treatment interventions to treat chronic conditions that our participants reported were education and compensatory strategies. Participants reported that the greatest impact of COVID-19 was a need for mental health support and staffing issues. Our identified barriers were access to care, lack of support, and insurance reimbursement limitations. Our purpose was to increase understanding of occupational therapy services in chronic disease management to better inform practitioners and improve patient outcomes.

*Keywords:* Occupational therapy, chronic condition, chronic disease, survey, healthcare

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**The Distinct Role and Importance of Occupational Therapy in Chronic Disease Management in the Present Healthcare System: Perspectives from Occupational Therapy Practitioners Using a Survey Approach**

Chronic conditions are defined as diseases that last at least one year and either require continuous medical attention or impact an individual's daily functioning (Centers for Disease Control and Prevention, 2021). Some of the most common chronic conditions within the United States are heart disease, cancer, and diabetes. Prevalence of individuals with chronic diseases continues to rise globally. As of 2018, 51.8% of non-institutionalized US adults had at least one chronic condition, and 27.2% had multiple comorbid chronic conditions (Boersma et al., 2020, para.1). Globally, the rates are even higher, with one in three adults living with multiple chronic conditions (Hajat & Stein, 2018). Not only do chronic conditions account for 70% of deaths in the United States, but they also significantly strain the healthcare system (Harris & Wallace, 2012). Chronic diseases are the leading driver of the United States annual health care costs, where 90% of the \$4.1 trillion health care expenditure is used treating chronic disease (Centers for Disease Control and Prevention, 2021, para.1). Chronic conditions impact individuals in all areas of their lives, including physical, social, and emotional. The effects of chronic conditions can also be felt by loved ones and caregivers. Especially when chronic conditions are comorbid, it becomes more strenuous to identify, track, treat, and manage these conditions; additionally, commonly used outcome measures are not always universally capable of capturing the full scope of the clients' needs in all aspects of their lives.

Although health care spending for this population is relatively high, the outcomes are poor due to a low-quality care system that is insufficiently designed to support the management of these conditions (Leland et al., 2017). Because the U.S. healthcare system was traditionally structured to treat acute conditions, the present healthcare system is inadequate to provide effective, client-centered care for the treatment of chronic diseases (Winship et al., 2019). Chronic conditions are typically treated by primary care physicians. However, Winship et al. (2019) explain that efficient and effective care has progressively declined due to time restraints and barriers to face-to-face patient care. Team-based care models were adopted to reduce the burden on primary care physicians. Occupational therapy practitioners are equipped to address the complex and multifaceted needs of this population, but they are still rarely included within team-based models. This can be attributed to the limited understanding of occupational therapy's unique role and skills in the treatment of chronic disease.

When treating chronic disease, occupational therapy practitioners utilize a comprehensive approach that accounts for each area in the domain of the *Occupational Therapy Practice Framework* (American Occupational Therapy Association [AOTA], 2020). This includes the consideration of personal factors, performance skills, performance patterns, context, and activity demands for occupational engagement. Interventions are employed to promote health, establish or restore skills that have been impaired by chronic disease, and maintain performance skills. Occupational therapy interventions can support occupational performance through modifications of activity demands with consideration of multiple contexts. Additionally, compensatory strategies can be taught to prevent barriers to occupational engagement. For example, energy



conservation techniques reduce the impact of fatigue in participation in daily activities. Although occupational therapy practitioners use these strategies to treat people with chronic diseases, their perceptions may vary, and there is disparate and limited knowledge about understanding the distinct role and importance of occupational therapy in chronic disease management. The purpose of our study is to obtain the views of occupational therapy practitioners and establish the distinct role and importance of occupational therapy in the present healthcare system when treating people with chronic conditions across different settings. By determining the distinct role and significance, we hope to increase the utilization of occupational therapy services for treating chronic disease to improve outcomes.

### **Literature Review**

Occupational therapy practitioners are an important resource in the management of chronic diseases, especially as the prevalence of these conditions continue to rise. There was a steady increase in chronic diseases from 2001 to 2010, especially in adults 65 and older (Ward & Schiller, 2013, para.1). Evidence by Ward and Schiller (2013) shows this will continue to increase with the aging population. Occupational therapy practitioners are unique in their treatment approaches, and a better understanding of what methods occupational therapy practitioners prefer will lead to more feasible implementation and improved client outcomes in people who suffer from chronic diseases. In this review, we will explore the themes found in the literature regarding chronic disease management. Some of the themes include the feasibility of occupational therapy interventions in different settings, the importance of self-management, providing patient education, and using a client-centered and holistic approach.

**Feasibility and Effectiveness**

The first theme among the reviewed literature was the analysis of feasibility of occupational therapy interventions in chronic condition management. This included both the effectiveness of the interventions as well as the adherence to intervention programs in primary care and community-based settings. Flexibility of the intervention program, measuring outcomes, and participation were also included in the assessment of feasibility. Effectiveness of the interventions was measured in activities of daily living (ADLs) task performance and quality of life improvement for individuals with chronic illness (Mirza et al., 2020). Some recurrent indicators of quality of life and improvement of function were pain levels and self-efficacy. The studies required clinical expertise of occupational therapists to determine participants' unique goals and performance deficits (Kos et al., 2015). The studies focused on evaluating and providing interventions for clients' daily routines.

Occupation-based intervention as a means of primary care for chronic conditions has been shown to be a feasible method of treatment (Mirza et al., 2020). The intervention method known as i-PROACTIF (Integrated PRimary care and Occupational therapy for Aging and Chronic disease Treatment to preserve Independence and Functioning) centers around functional independence. Targeted outcomes included effectiveness of the program, such as patient activation, delivery system, goal setting, and coordination. It also used Occupational Self-Assessment to measure occupational performance and participation in twenty-one different areas. Lastly, it self-tested the participants' quality of life. The results showed that occupation-based intervention can be a reliable option for primary care. Additionally, most of the outcomes of the study

showed improvement from baseline to post-intervention.

Occupational therapy can address task performance deficits of ADLs in clients with chronic conditions (Hagelskjaer et al., 2021). The occupational intervention ABLE (A Better everyday Life) is designed to enhance the performance of ADLs such as basic self-care through a home-based, client-centered, eight-week program that utilizes an adaptive approach. Through ABLE, the occupational therapist establishes a collaborative relationship and observes ADL ability by analyzing the client's physical effort, efficacy, safety, and independence. Client-centered goals are created through identification of task performance issues and interventions are implemented aiming at enhancing specific ADL deficits. The study suggests feasibility of the intervention regarding program flexibility, client satisfaction in goal setting, adherence to the program, and measuring outcomes in community settings.

### **Self-Management**

Self-management is another theme among the reviewed literature. Occupational therapy practitioners assist clients in developing healthy routines and habits by maintaining, establishing, and restoring techniques for self-managing symptoms of chronic disease. Self-managing techniques can improve quality of life, occupational performance, and self-efficacy.

Occupation-based self-management is one effective way to help clients manage chronic conditions (O'Toole et al., 2012). In one study of patients with at least two different chronic conditions, participants were entered into a group intervention that provided weekly education and goal setting. Components included activity and health, fatigue management, medication management, mental health, physical exercise, and

healthcare communication. Six different outcome measures were used, including the Canadian Occupational Performance Measure (COPM), that measured function and participation in ADLs, self-efficacy, mood, and quality of life. After six weeks of intervention, self-perceived occupational performance and scores for frequency of participation improved significantly. Scores for self-efficacy improved significantly at an eight-week follow up. Additionally, qualitative data from participant interviews showed that the group intervention helped clients feel safe and that peer support improved their learning.

Activity pacing self-management (APSM) is another intervention used to help people maintain daily functioning while living with chronic diseases (Kos et al., 2015). The study by Kos et al. (2015) was conducted with 33 women with chronic fatigue syndrome to test the effects of APSM on their function with ADLs and emotional states, which compared their results to a sample that only received relaxation therapy. The first phase of the study focused on teaching participants how to manage different ADLs in regard to their physical and mental capacity. Education included informational booklets, coping skills training, and tips on activity pacing. Activities were graded to each client's needs and spaced out. The second phase of the APSM program was the grading phase, where therapists worked with participants to gradually increase the activity and exercise levels of the ADLs to work toward their goals. The results showed significantly improved satisfaction, participation, and emotional scores. Checklist for Individual Strength scores, a scale that measures fatigue, significantly decreased. These results suggest that APSM as a sole treatment for this population is effective, and in some areas the outcomes were even more favorable than those of the relaxation therapy group.

Occupational therapists can use various programs and interventions to help their clients with self-management. The Stanford Chronic Disease Self-Management Program is a group intervention addressing areas including medication management, communication with healthcare providers and family, coping strategies for pain and fatigue, disease-related problem solving, decision making, and increasing overall confidence (Berger et al., 2018). Manualized pain and occupation-based self-management groups unrelated to the Stanford Chronic Disease Self-Management Program also focused on problem solving and goal setting. The systematic review suggests that all forms of self-management programs improve occupational performance and quality of life for older adults that live in a community setting. Establishing self-management techniques supported healthy behavioral changes that were implemented into daily routines.

Occupational therapy's learned pacing intervention can effectively improve performance and satisfaction for adults with chronic pain (Guy et al., 2020). Chronic pain impacts physical, cognitive, and psychological function, limiting occupations like work and sleep. Chronic pain is treated with a self-management approach and pacing is a common intervention. Research was scarce in showing the effectiveness of pacing on occupational performance, satisfaction, pain severity, and pain interference. The two measures used in the study were the COPM and Brief Pain Inventory short form. The COPM assists individuals in identifying their difficulties with occupational performance and satisfaction. The Brief Pain Inventory is a questionnaire that analyzes both cancer and non-cancer related pain with validity and reliability. Results showed pacing may

have the potential for increasing occupational performance and satisfaction but may not potentially influence severity or interference of pain for those with chronic pain.

### **Education**

Another common theme between the reviewed articles was an emphasis on education. Occupational therapists can provide courses to help address the different aspects of chronic conditions, as well as how to manage common symptoms. The literature presented the use of various programs such as Lifestyle Redesign, health literacy information, and the OPTIMAL program.

Occupational therapy programs can improve the quality of life and functioning of individuals with chronic conditions by educating clients on healthy choices and behaviors (Simon & Collins, 2017). Lifestyle Redesign, an intervention that uses modules to promote patient education and encourages behavior changes into daily routines, was implemented as primary care for individuals with chronic pain. The study by Simon and Collins (2017) surveyed for physical functioning, role limitations due to emotional issues, energy and fatigue, social functioning, overall health, pain, and emotional well-being. Occupational deficits, performance, and satisfaction were also measured. Additionally, participants reported their own efficacy of ADLs and pain levels. Significant changes were seen in occupational performance and satisfaction, as well as an increase of physical and social functioning. Emotional and physical problems had less of an impact on role limitations. Energy and fatigue, general health, and pain levels also improved.

Occupational therapists also have a role in educating clients about reliable health information regarding their condition. A one-hour health literacy program that primarily focused on the parents of children with chronic conditions was delivered by occupational

therapists. After completing the program, the participants showed significant change in finding quality health information, judging trustworthiness of online health information, and understanding health information (Armstrong-Heimsoth et al., 2019). The education course was expanded on so that it would relate to caregivers and healthcare consumers. This study suggests that health literacy programs in occupational therapy practice can be important and effective in managing chronic conditions. Occupational therapists addressing and identifying chronic disease management deficiencies in their clients can improve adherence and outcomes (Armstrong-Heimsoth et al., 2019).

The OPTIMAL was a 6-week education program beginning with an introduction to self-management, activity, health, and goal-setting (O'Toole et al., 2021). The program addressed fatigue management and healthy eating. Next, clients were educated on managing medications and maintaining physical activity and mental well-being. Lastly, a communication and programmed review was done. The participants of the study had multimorbidities and were randomly assigned. One received the OPTIMAL and the other continued with their normal care. After completing the OPTIMAL program there was significant change in their perceived health status and improvements in health-related quality of life at immediate follow up. The program showed an effect on occupational satisfaction and self-reported hospital outpatient appointments at 6 month follow up. This study suggests that education programs do provide some benefit at immediate follow up in managing chronic conditions (O'Toole et al., 2021)

**Holistic Approach**

The last commonality among the reviewed literature was the emphasis of a holistic approach in managing chronic conditions. Holistic treatment style was both desired by patients and used by clinicians as a lens to assess and treat patients.

Interventions in occupational therapy focus on the whole person, which includes their physical, emotional, social, and psychological well-being. Perspectives from occupational therapists and clients indicate the improvement of health maintenance of chronic disease through support from peers, family members, caregivers, and clinicians. Both emotional and social support can positively influence adherence to adaptive behaviors and lifestyle changes.

Acceptance and readiness for change influencing chronic pain management were consistent themes across the narratives from occupational therapists (Van Huet et al., 2012). Nine occupational therapists were interviewed and the key thematic areas between the therapist answers were person (self), meaning ascriptions, strategies used, and social influences. They were then organized into two categories: victimic and agentic narratives. Victimic narratives were the passiveness towards dealing with chronic conditions and the inability to move towards personal agency. Agentic narratives were the action and motivation to develop skills for dealing with chronic pain. Agentic themes of having valued roles and having a good social support system were key contributors to successfully managing pain. Agentic ascription themes recognized the acceptance of their condition and their readiness for change, which were important for pain management. Agentic-themed strategies like setting goals, relaxation, and cognitive behavioral therapy also contributed to pain management. All these sub-themes that are important



contributors towards successful chronic pain management are seen through the holistic lens of the client. Chronic pain, like other chronic conditions, can be mitigated by personality, gender, social support, and healthcare interventions (Van Huet et al., 2012).

Individuals with chronic conditions have complex needs and multifaceted experiences with healthcare, especially for those that have multiple conditions (Ploeg et al., 2019). These individuals experience decreased quality of life, higher mortality rates, and negative interaction with the healthcare industry. Ploeg et al. (2019) conducted in depth interviews with 21 older adults living in community settings; these adults all had at least three chronic conditions, one of which had to be diabetes, stroke, or Alzheimer's disease. Trying to stay healthy was a widely shared experience, with participants citing walking and eating habits as their main ways to stay healthy. Participants also valued mental and emotional health, as well as maintaining positive attitudes. Social support was another factor in maintaining health, and they often participated in volunteer work or social media to give themselves a sense of purpose. Similarly, they greatly relied on others for help; emotional support and social interaction from loved ones was indicated to help them work through the complexities of multiple chronic conditions. Another commonality was how participants' complex needs were often not met by the healthcare system. They complained of services focusing on specific symptoms or physical conditions instead of addressing their complete needs, including not only physical conditions, but also their psychological, social, and emotional well-being. This provides support for occupational therapy intervention and its holistic approach.

Occupational therapy interventions can be helpful when implemented as part of a multidisciplinary team to treat chronic diseases. This is one area occupational therapy can

be better utilized. The study conducted by Goodall and Brown (2021), surveyed nine patients from a group pain management program. These patients were interviewed to assess their experience receiving occupational therapy as part of a multidisciplinary program. The study showed that occupational therapy was helpful in three key ways: the helpfulness of activity pacing techniques, the value of participating in a therapeutic activity-based session, and an increased understanding of the importance of leisure and creative activities. This provides evidence that occupational therapy should be implemented in more settings, such as primary care. It also shows the benefits of a client-centered approach that occupational therapy practitioners use in their daily practice. Patients in this study found it helpful to use enjoyable leisure activities as a form of therapy. By educating patients on the importance of occupational activities and pacing techniques, occupational therapy practitioners can effectively reduce chronic pain.

The acceptance of living with chronic pain and determination to improve one's quality of life often has the tendency to increase the effectiveness of occupational therapy interventions targeting ADL task performance (Nielsen et al., 2021). REVEAL(OT) (Redesign your EVeryday Activities and Lifestyle with Occupational Therapy) is a lifestyle intervention that aims to improve performance in ADLs regarding self-care and leisure through individual and group sessions (Nielsen et al., 2021). Semi-structured interviews were conducted to assess patient and clinician perspectives of the intervention including satisfaction and feasibility. The results indicate that REVEAL(OT) increased acceptance of pain, self-awareness, and prompted new skills to manage living with chronic pain. In addition, social support from peers and empathetic communication from clinicians was an empowering factor for individuals with chronic disease to make

healthier lifestyle choices. Participants inspired each other to work on their goals and maintain changes to improve physical health during group sessions. The study suggests that adherence to healthy lifestyle routines is strengthened through support of individuals with shared experiences by broadening perspectives and increasing a sense of belonging.

### **Gaps in Knowledge**

The reviewed literature shows the evidence for effective occupational therapy interventions, as well as the different opportunities for occupational therapy to meet the multifaceted needs of clients with chronic conditions. However, many of the reviewed studies had small sample sizes, and did not reflect how interventions are used in clinics. Additionally, there is a gap in the knowledge of how chronic conditions are treated, managed, or prevented across different occupational therapy settings, such as community-based rehabilitation and primary care. Further research into which interventions and approaches are most effective and feasible in regard to the setting and chronic condition that is being treated will clarify the role of occupational therapy in treating this population. Another gap in knowledge is how chronic disease management in occupational therapy can benefit clients in different ways, such as improving community participation. Barriers or factors in adherence to occupational therapy's chronic disease management interventions and recommendations need to be addressed. The benefits of early access and referral to occupational therapy from primary care physicians should also be researched. Additionally, the implementation of holistic approaches needs to be studied further. Patients can benefit greatly from this approach, and literature suggests that they desire holistic care, but it is seldomly used in chronic

disease management. More research needs to be conducted regarding how occupational therapy practitioners can incorporate it into their practice.

### **Statement of Purpose, Hypothesis, and Research Question**

The role of occupational therapy practitioners in the management of chronic diseases is not entirely understood or documented. It is important to investigate the unique benefits that occupational therapy can provide to people with chronic conditions and the commonly used interventions. Our hypothesis is that occupational therapy practitioners feel they have a unique and significant role in the treatment of chronic diseases. Additionally, occupational therapy practitioners working in the same setting may have similar or different perspectives in chronic disease management. We hypothesize that some of the commonly used occupational therapy interventions that the current literature focuses on will be utilized by our participants, such as promoting and establishing healthy lifestyle routines, as well as managing symptoms (Buckland & Mackenzie, 2017).

The COVID-19 pandemic has caused many challenges and changes in the way practitioners provide effective care to their clients. By conducting our survey with questions focused on specific current interventions and procedures that occupational therapy practitioners utilize, we will address the gaps in knowledge of how chronic conditions are treated in the present healthcare system, especially post-COVID, and the difference occupational therapy makes in the lives of people with chronic conditions. The literature does not fully reflect what is currently being implemented in clinics as treatment. In our study, we will analyze the shifts in chronic disease management post-COVID, such as the emergence of telehealth.

By obtaining viewpoints from occupational therapy practitioners, we hope to establish the distinct role and significance of occupational therapy in chronic disease management in the present healthcare system, and to determine which intervention approaches support occupational therapy's role across different settings. We will accomplish this by obtaining perspectives from occupational therapy practitioners about interventions used in their setting, their preferred intervention approach, barriers to treatment implementation, how they feel occupational therapy is unique to chronic disease management, and the effects of COVID-19.

### **Theoretical Framework**

For our study, we selected three models that align with our research question and problem statement: the biopsychosocial model, the Person-Environment-Occupation-Performance model, and the wellness model of health. These models influence occupational therapy practice by treating the individual as a whole. The biopsychosocial model was created by George Engel in 1977 to broaden the viewpoint of clinical conditions by considering psychological and social aspects (Cole & Tufano, 2020). This model appeals to occupational therapy because of the holistic approach by addressing the whole aspects of a person. The biological, psychological, and social domains influence each other (see Figure 1). When evaluating and treating these areas, all need to be addressed when treating chronic conditions. Certain chronic conditions like type 2 diabetes and cardiovascular disease need to be seen from a biopsychosocial perspective as there are other factors that greatly influence outcomes. Lifestyle factors and environmental factors affect the behaviors during treatment. In contrast, the medical model primarily focuses on the illness and recovery through medical services like

medicine, surgery, and rehabilitation (Cole & Tufano, 2020). Occupational therapists carry out this model into practice by using fatigue management, developing coping strategies, and identifying social supports to managing conditions (Gentry et al., 2018).

The Person-Environment-Occupation-Performance model is an occupational therapy-based model that was first published in 1991 by Charles Christiansen and Carolyn Baum and was most recently revised in 2015 (Cole & Tufano, 2020). This model highlights the complex relationship between person factors, occupational behaviors, and the environment and its effect on occupational performance (see Figure 2). The Person-Environment-Occupation-Performance model utilizes a holistic approach that closely aligns with the biopsychosocial model through consideration of intrinsic and extrinsic factors in the treatment of chronic illness. Biological and psychological factors are considered intrinsic (person) factors while social factors are extrinsic (environmental) factors (AOTA, 2022). Other intrinsic factors include cognitive, spiritual, physiological, and neurobehavioral factors (Cole & Tufano, 2020). Physical, natural, and cultural environments are extrinsic factors. Social determinants of health and assistive technology also fall under extrinsic factors. Chronic conditions create barriers to occupational engagement that can result from changing intrinsic factors such as physical abilities or emotional challenges (AOTA, 2015). As a result, individuals with chronic illness may have trouble meeting the demands of an activity or the environment. When managing chronic illness, occupational therapy practitioners can address personal and environmental factors to increase performance, participation, and well-being.

The wellness model of health was developed by Bill Hettler (National Wellness Institute, 2022). It is defined by six different dimensions that encapsulates what it means

to have wellness (see Figure 3). The dimension of occupation recognizes the importance of having personal satisfaction with one's choice of work and employment, as well as the skills they contribute to their work that makes it feel meaningful and important, and is strengthened by choosing work that is personally rewarding and consistent with personal values. The physical dimension of wellness encourages regular exercise and proper nutrition, maintaining a strong body, and treating injury and illness. The social dimension promotes interaction with one's community and environment; wellness is promoted by contributing to those around you and having harmony with others. The intellectual dimension recognizes the importance of knowledge, creativity, and intellectual growth, and relates the path of wellness with effective problem solving. Emotional wellness is about one feeling positive and satisfied with life, as well as the healthy abilities to manage emotions and cope with stress. Finally, spiritual wellness relates to the appreciation for and exploration of the meaning of life (National Wellness Institute, 2022). The dimensions of wellness are applied by understanding the ways they connect with each other and how they impact an individual and promote holistic health.

Overall, the main similarity between these models is how they address the different aspects that make up a person. The Person-Environment-Occupation-Performance model describes the person, their environment, occupations, and their performance in those occupations. The person's intrinsic and extrinsic factors can affect the treatment of chronic illness. The biopsychosocial model addresses a person's biological, psychological, and sociological influencers. A person's social support system and their ability to cope with the chronic illness can affect treatment. The wellness model defines wellness and divides it into six different areas. All these models help view a

person holistically and look past the condition itself. The different factors in each model all influence each other. These models help look at how the chronic illness impacts different aspects of a person's life as well.

### **Methodology**

We conducted a non-experimental study utilizing a survey approach to gather data from perspectives of occupational therapy practitioners who treat individuals with chronic disease in various settings. It was a descriptive survey study design in which participants responded to the survey based on their convenience and access to the occupational therapy association sites. The online survey consisted of 15 questions, and took approximately 7-10 minutes to complete. We used Google Forms to create the questions and develop the survey. The program was free, simple to use, and all research members had access. Qualitative and quantitative data was obtained through Likert scale, open-ended, and demographic based questions (see Appendix B). Three questions were used regarding demographics, including years of experience and type of setting participants currently work in. Two questions were about frequency of chronic disease treatment and the specific diagnoses seen. Three questions regarded specific occupational therapy interventions used, including using a holistic approach. Three questions explored participants' views on the distinct role of occupational therapy in chronic disease management. Two questions were about the effect COVID-19 has had on treating chronic diseases. The final two questions were open-ended and asked for any final thoughts, as well as an opportunity to enter their email for a chance to win a Starbucks gift card. The questions were a mix of multiple choice and free-response, and were aimed at answering topics such as types of evidence-based interventions used, efficacy and feasibility of



interventions, and perceptions of occupational therapy's unique role in chronic disease management. Open-ended questions allow practitioners to express their opinions so that we can understand their perspectives thoroughly. The questions were designed to reflect the data and issues represented in the current literature. The demographic questions at the start of the survey were used as screening questions to determine eligibility for survey completion.

Our target population consisted of occupational therapists and certified occupational therapy assistants who were currently treating individuals with chronic conditions across different settings in the United States. Inclusion criteria consisted of licensed occupational therapists and certified occupational therapy assistants who are members of the AOTA organization. These individuals needed to have experience treating individuals with chronic conditions during the COVID-19 pandemic. Exclusion criteria included occupational therapy students and licensed practitioners with no experience treating chronic diseases. Individuals that did not meet any of the inclusion criteria were not permitted to participate in the study.

Participants were contacted through professional occupational therapy associations on a national level. They voluntarily participated in an online survey and were recruited through the AOTA website to gain access to the survey. Informed consent was obtained from the participants prior to entry into the survey (see Appendix A). Information about the nature of research, the ethical considerations, and the rights of the participants were presented to each participant before they began answering the survey questions, and they were prompted to click continue if they agreed to and understood the terms. Participants were offered the chance to win one \$10 electronic gift card to

Starbucks in order to promote survey completion. Five total winners were selected by a random raffle. Participants were chosen and contacted by email, which they provided during the survey. Participation in the raffle was optional. We opened our survey to practitioners from various settings. These included areas like home health, outpatient clinics, skilled nursing facilities, and hospitals. We posted our survey on a national organization's website to reach participants from numerous states throughout the country. Having a range of states represented in our study allows for better representation of the nation as a whole.

Before posting the survey on association sites, we sent a draft to Stanbridge University occupational therapy faculty for their feedback, review, and comments. We made slight changes as necessary to ensure the questions were constructed well, free of bias, and were not leading. The final survey was sent to occupational therapy practitioners through professional occupational therapy organizations. Codes and themes were generated manually based on open-ended responses to see how perspectives are similar or different. The data was organized into categories based on setting, types of interventions used, and specific chronic conditions in order to organize our qualitative data. We looked at commonalities and differences across settings and created bar graphs and pie charts to show the relationship between variables based on Likert scale responses. Data was stored on password protected personal computers of the research team, as well as secured internet clouds accessed only by the research team. Collected emails from the survey will be destroyed a year post-completion of the study. Information gathered from this study will be published in the future and potentially disseminated at future occupational therapy conferences. Participants were made aware of this through the

informed consent form.

The advantages of our specific methodology include ease of access and affordability. An online survey approach is an efficient way to reach many participants in a limited timeframe. There was minimal effort required to complete the survey and the results can be used to represent the larger population. The survey was not rigorous because it mainly relies on occupational therapy practitioners' viewpoints. It could be completed at any time, during work hours or on personal time, which promoted survey completion. By posting the survey on a trusted site such as AOTA, we gained confidence that only licensed occupational therapy practitioners were included in the study. There was no financial burden associated with our survey because it is entirely free to participants. It was also affordable to the researchers because our only funding included contributing to the Starbucks gift cards. Another advantage of our study was the minimal ethical and legal risks. By making the survey anonymous and completely voluntary, participants did not have to worry about their personal information being shared. This helped avoid any ethical and legal dilemmas associated with our study.

## **Results**

### **Demographics**

Question 1 asked participants to select if they were an occupational therapist or occupational therapy assistant. There were a total of 10 participants in our survey and all were occupational therapists (n=10, 100%). Question 2 asked the participants the number of years they have been practicing. 40% (n=4) participants had more than 20 years of experience and another 40% (n=4) had between 0-4 years of experience working with chronic conditions. 10% (n=1) of participants had 16-20 years and another 10% (n=1)

had 5-10 years of experience. Question 3 asked participants their primary practice setting. 60% (n=6) of participants worked outpatient, 10% (n=1) home health, 10% (n=1) acute rehab, 10% (n=1) acute hospital, and 10% (n=1) in adult developmental/day programs.

### **Diagnosis**

Question 4 asked if chronic diseases were either a primary diagnosis or comorbidity in their setting, and if yes how often. 70% (n=7) participants answered yes and always. 30% (n=3) participants selected yes and frequently.

### **Common Chronic Conditions**

Question 5 inquired about the most common chronic conditions that they treated. Heart conditions had the most with 8 selections. Stroke and diabetes were 2nd most with a total of 7 selections. Arthritis and obesity had 6 selections. Cancer and respiratory disease each had 4 selections. Spinal cord injury, Parkinson's disease, multiple sclerosis, and other degenerative neurological disorders were selected only once. One participant had selected the "other" option and listed gastrointestinal conditions, kidney disease, musculoskeletal disorders, and swallowing dysfunction see (Figure 4).

### **Interventions**

Question 8 asked to check whichever interventions participants used in treating chronic conditions. 100% (n=10) selected energy conservation, lifestyle adaptation, and patient/caregiver education. 80% (n=8) selected coping strategies and 70% (n=7) selected self-management. Only 10% (n=1) selected "other" and wrote medication management and emergency preparedness see (Figure 5).

### **Multiple Aspects**

Question 12 asked if participants' interventions addressed their clients' needs outside of the physical aspects. Social, emotional, or spiritual needs were provided as examples. 60% (n=6) participants selected always, 20% (n=2) selected sometimes, 10% (n=1) selected frequently, and 10% (n=1) selected rarely see (Figure 6).

### **Utilization**

Question 13 asked if occupational therapy was being utilized enough in chronic disease management. 40% (n=4) of participants selected strongly disagree, 20% (n=2) selected disagree, 20% (n=2) selected agree, and 20% (n=2) selected neither agree nor disagree see (Figure 7).

### **Final Comments and Raffle**

Question 14 asked participants for final comments they would like to add. Only 30% (n=3) of participants responded to our open-ended question. Question 15 was where our participants entered their emails for our \$10 raffle. All 10 participants sent their email.

### **Qualitative Item Results**

The survey included questions asking participants about their viewpoints on occupational therapy's distinct role, the importance of occupational therapy, common interventions used, the effects of COVID-19, barriers to practice, and any final comments regarding chronic disease management (questions #6-7, 9-11, 14). The responses for each question were analyzed and four recurring themes were determined.

### *Management*

The first recurring theme analyzed was the importance of management of the clients' conditions. Four participants indicated that general management of the client's health and symptoms was a core component of occupational therapy's distinct role. Two submissions listed balancing the variety of client needs, including managing "dynamic interactions between a client's condition, abilities, challenges, contexts, and activities" to help the client develop habits, routines, and strategies. Similarly, one of the responses indicated that managing a person's lifestyle was an important part of management. Lastly, mental health management and coping was also part of this theme. Another subtheme was helping clients self-manage their conditions. Two submissions indicated that they promoted self-management to help clients be more independent, including being able to adapt to the "flux of their own lives" and to "manage daily routines in a sustainable way." And another said that it was important to help them self-manage so they could be independent without putting extra work on top of them.

The other main interventions used to help clients manage their chronic condition are lifestyle modifications. One participant mentioned "training people to look into their routines and habits". Another participant noted changing lifestyle-based habits and routines as their common intervention. Lifestyle modifications are important since modifications can be provided as the disease progresses or persists throughout the patient's life. Five participants mentioned answers that line up with the sub theme of compensatory strategies. One submission mentioned "work modifications, adaptive equipment, and energy conservation" as their compensatory strategies. One submission mentioned activity adaptations and environmental modifications". Three submissions had

listed energy conservation as another compensatory strategy. Occupational therapists can apply all these different types of compensatory methods in order for their patients to perform their ADLs and instrumental activities of daily living to become more independent.

### ***Education***

The second recurring theme analyzed was education of both the client and their caregiver. In response to the question asking the participants to identify interventions used in chronic disease management, six participants identified education as a vital component in the treatment of their clients. Occupational therapists educate their clients about problem-solving skills, coping mechanisms, and self-management techniques. One participant highlighted the importance in educating their clients on self-management techniques, in order for them to incorporate their recommendations and newly taught skills “into their daily life in a sustainable way.” By educating the clients about common patterns seen with their diagnosis and the energy costs of activities, occupational therapy practitioners allow their clients to be more independent and proactive in managing their care as they adapt to changes throughout their lives. One participant mentioned that psychoeducation and lifestyle-based habit and routine education is utilized in their practice. In addition to client education, occupational therapists provide information to their patient’s caregivers to promote adherence to interventions and safety precautions.

### ***Participation in Occupations***

The third recurring theme identified from the submissions is occupational therapy’s role in increasing participation of individuals with chronic conditions in meaningful occupations. When addressing occupational therapy’s role in chronic disease

management, three participants mentioned that their role is to help patients improve their quality of life by helping them engage in their everyday activities. This is accomplished by incorporating aspects of interventions into their habits and daily routines. One participant stated that the role of occupational therapy is to “balance medical needs and access to care with everyday life activities for overall optimal quality of life”. Another noted that their role is to help “manage the person’s lifestyle” to “encourage the client to participate in the hobbies that they used to love”. Two participants mentioned that occupational therapy is important in chronic disease management to maximize function so that their patients can live “as much of a functional life as possible”.

To increase participation in daily activities, participants identified the importance of delivering interventions through a client-centered, holistic approach. Five participants identified the utilization of a holistic approach in their responses, where the therapist considers multiple aspects of a person and how they are interrelated. Three of those participants indicated that occupational therapy focuses on all changes that occur from chronic disease, looking beyond just the physical effects. One participant stated that occupational therapists have “unique skills in psychology” and have a background with mental health to well address these needs. In addition to a holistic approach, the participants highlighted the utilization of client-centered interventions, where practitioners take into consideration the uniqueness of each client. This includes activity analysis and scaffolding interventions to provide adequate challenge. One client stated that “no two persons are alike” and that occupational therapists “develop customized plans for each individual person and the activity” in an appropriate and thorough manner.



Occupational therapists use a client-centered, holistic approach to increase engagement in meaningful activities, which is a concept unique to occupational therapy.

### *Access to Care*

After analyzing the responses from our survey, the last major theme we identified was access to care. When asked about the barriers that occupational therapists face when treating chronic diseases in the present healthcare system, five participants identified the insurance reimbursement system as a limitation to adequate care. For example, one participant mentioned that the “length of stay in the system which reimburses for visits is too short to appropriately provide patients with what they need.” Another participant mentioned that there is “no payment or support for preventative care” and that the cost of medications causes financial strain on their clients. Additionally, there are no Current Procedural Terminology codes to accurately bill for common interventions used in chronic disease management. One participant stated that they worry about reimbursement, since the current codes are “discreet activities, but chronic condition management is a global task that can be sliced in many ways and the codes do not reflect the complexity and scope of this work”. As a result of this reimbursement system, three participants identified inadequate time spent with their clients, including breaks in care and the absence of follow up sessions to increase adherence to self-management techniques.

Furthermore, factors limiting access to occupational therapy services that participants identified include a lack of funding, transportation, poor health literacy, and intrinsic factors of patients. Two participants identified a lack of resources as a barrier to their practice. One participant mentioned that it is significantly more difficult for low-

income and homeless clients to acquire resources for chronic disease, including difficulty for this population to access transportation to these resources. Additionally, three submissions listed client motivation as a limitation to care access. For example, one participant stated that individuals with chronic conditions at times “feel ‘hopeless’ or state ‘it will never get better.’” Another stated that a lack of motivation results in “settling for a new normal instead of exploring more options.”

Although three participants identified that COVID-19 had no effect on their practice, three participants reported that access to care for chronic conditions had been impacted due to a lack of support, including financial, staff, and social support for their clients. Environments became less supportive to help individuals manage chronic conditions. For example, social distancing requirements created barriers for individuals to receive social support and the ability to access supportive environments became difficult. In addition, one participant shared that during the pandemic, there was “less funding” and “not enough healthcare staff” to treat these individuals. Two participants mentioned that mental health became more of a focus, as the pandemic caused increased declines in mental health, but there were not enough practitioners to address these mental health concerns. However, one participant stated that COVID-19 highlighted the benefits of telehealth in accessing occupational therapy services, noting that patients were “able to attend sessions more consistently, as there was less cognitive and physical work involved in getting to the appointment”.

In the final comment submissions, two out of three participants mentioned that there are still unmet needs of individuals with chronic conditions and occupational therapy services would be helpful to fill these needs. One participant stated that although

national groups exist for individual diseases, “more needs to be done” for this population because they are not adequate in treating chronic conditions. The other mentioned that occupational therapy in primary settings would be greatly beneficial, however “it is difficult to get a foot in the door”, thus creating a barrier to sufficient care.

### **Discussion**

This study aimed to provide insight into the distinct role of occupational therapy in treating clients with chronic disease by collecting data on the preferred intervention approaches and experiences of occupational therapy practitioners in this setting. Our goal was to flesh out a broad understanding of how occupational therapy practitioners uniquely provide benefit for clients with complicated and multifaceted conditions. Our findings indicate that occupational therapy practitioners use a variety of approaches to treat this vulnerable population. Patient and caregiver education, as well as compensatory strategies such as energy conservation, were among the highest reported interventions used. Participants emphasized the importance of balancing the many aspects of chronic disease and helping clients self-manage their symptoms and needs. A holistic approach that addresses client needs outside of physical aspects, such as social, emotional, and spiritual needs, was also a recurring theme in this survey. These themes align with the approaches stated in the *Occupational Therapy Practice Framework* and AOTA’s fact sheet on occupational therapy’s role in chronic disease management. The two major themes when asked about the impact of COVID-19 were the need to address mental health concerns and lack of financial and social support. Surprisingly, only one participant reported the increased benefit of telehealth. Similarly, 30% of participants

reported that COVID-19 had no effect on their treatment approaches and perspectives when treating patients with chronic diseases.

All participants reported seeing clients with chronic conditions in their settings, including 70% marking 'always' as the frequency. However, when asked if occupational therapy is utilized enough in chronic disease management, 60% of participants marked that they either disagree or strongly disagree on the Likert scale. Based on our survey question regarding barriers experienced in the present healthcare system, participants reported insurance and reimbursement as having a significant impact. Lack of support, whether from family or from the inability of occupational therapy practitioners to follow-up, and lack of access to care were also reported. Participants expressed that national disease groups are not doing a sufficient job at addressing client needs, and incorporating occupational therapy into primary care settings can greatly extend our reach to clients. These findings indicate a clear need for occupational therapy in the treatment of chronic conditions, however barriers are preventing clients from getting the care they need.

Both our literature review and our collected data supports that specific occupational therapy interventions, such as energy conservation and lifestyle modification, provide benefit to clients. Our survey results also suggest that, along with interventions, occupational therapy plays an important role in the overall management of chronic conditions, and that occupational therapists can help clients learn to balance the many aspects of their lives impacted by their conditions. Our data also supports that education is a vital aspect of occupational therapy treatment for this population. Our participants emphasized educating clients and offering solutions to meet their individual needs to help them manage their conditions and maintain their lifestyles. These results

indicate that holistic, top-down approaches are at the core of occupational therapy services from the perspective of practitioners. Additionally, our data suggests that while occupational therapy is useful for this population, it is underutilized. This appears to be due to both client and family factors, as well as systemic healthcare issues not providing, reimbursing, or understanding occupational therapy services, including insurance coverage issues. This indicates a disconnect between the broad, holistic way that occupational therapy provides treatment and the more specific interventions that can be reimbursed through Current Procedural Terminology codes. This raises the question of how occupational therapists can fulfill their distinct role in client care given this barrier and implicates further advocacy as necessary to provide better care for individuals with chronic conditions.

We did not investigate the effectiveness of treatment strategies or client perspectives because we were specifically interested in occupational therapy practitioners' viewpoints. Further studies should be conducted to evaluate clients' experiences with occupational therapy and their viewpoints on occupational therapy's distinct role in their healthcare. Our study consisted of a few limitations. One limitation is due to the small sample size. This reduces the generalizability of the findings. The results may be skewed because only occupational therapists, and no occupational therapy assistants, participated in the survey. Occupational therapy assistants could have provided valuable insight into treatment approaches and helped us gain a broader view of occupational therapy's role. Another limitation involved only receiving responses from one professional organization due to poor communication from other organizations and time restraints of the study.

### **Ethical and Legal Considerations**

There were no identifiable risks for participating in our survey. We obtained informed consent from all participants by explaining the purpose of the study and having them agree to the terms at the beginning of the survey. Survey questions were primarily focused on the demographics and their viewpoints on occupational therapy interventions in chronic disease management in the present health care system. Participation in the study was voluntary and participants were able to withdraw at any point in time. Participants could disregard any questions that they did not feel comfortable answering or lacked the background to answer. The participants' identities were confidential and their responses were anonymous. The survey questions did not require any personal information. We maintained anonymity throughout the process of analyzing the data by excluding any personal information. Bias was minimized by asking neutrally worded questions, avoiding answer choices that were leading, and maintaining confidentiality. Survey questions were designed to fit the specific gap in knowledge based on our research. We ensured the quality of the questions by getting the opinions of Stanbridge faculty members.

### **Conclusion**

Chronic diseases are common conditions that affect many people worldwide. Occupational therapy helps individuals with chronic conditions by teaching them self-management skills, modifying daily activities, and working through emotional challenges (AOTA, 2015). Occupational interventions focus on patient education, improvement on quality of life, occupational balance, functional independence, and ADL task performance in a variety of settings. Research supports the feasibility and effectiveness of

occupational therapy interventions in goal setting, adherence, participation, and measuring outcomes. Previous literature shows that lifestyle interventions, education, and self-management programs are all effective interventions for a variety of populations with various chronic conditions. Clients' experiences of their journey with chronic conditions reflect a crucial need for a holistic treatment and social support, and relevant literature reveals that acceptance and readiness for change are important factors that influence wellness and management of a variety of conditions. Occupational therapy's holistic approach is apt to meet these specific needs.

Our clinical research question consisted of a population, intervention, and outcome which helped guide our research in further clarifying the distinct role and importance of occupational therapy in treating clients with chronic conditions. We surveyed occupational therapy practitioners and recruited the participants through the professional occupational therapy organization, AOTA. The results of the surveys were organized into categories such as specific chronic disease interventions and settings of practice. Our data analysis led us to the conclusion that education about chronic conditions and teaching clients how to manage their many symptoms are common themes amongst the surveyed occupational therapy practitioners.

We hope to further the current knowledge of occupational therapy practitioner perspectives as it relates to treating various chronic conditions to better define the role and purpose of occupational therapy. We hope that this will lead to a better understanding of how occupational therapy is unique, and how occupational therapy practitioners can refine their intervention and treatment to provide the best possible patient care.

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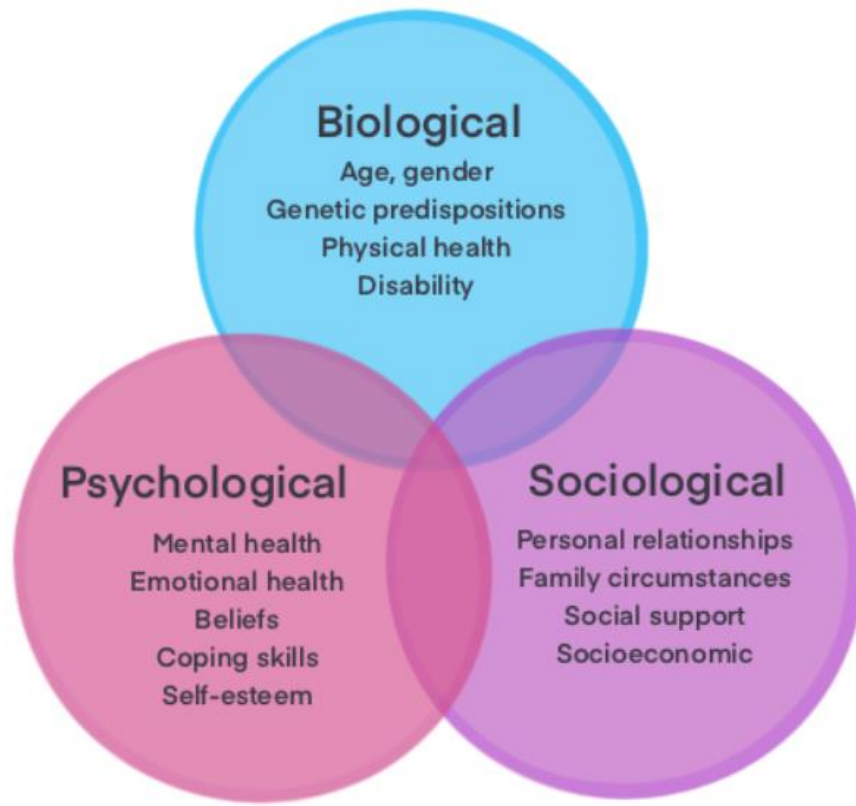
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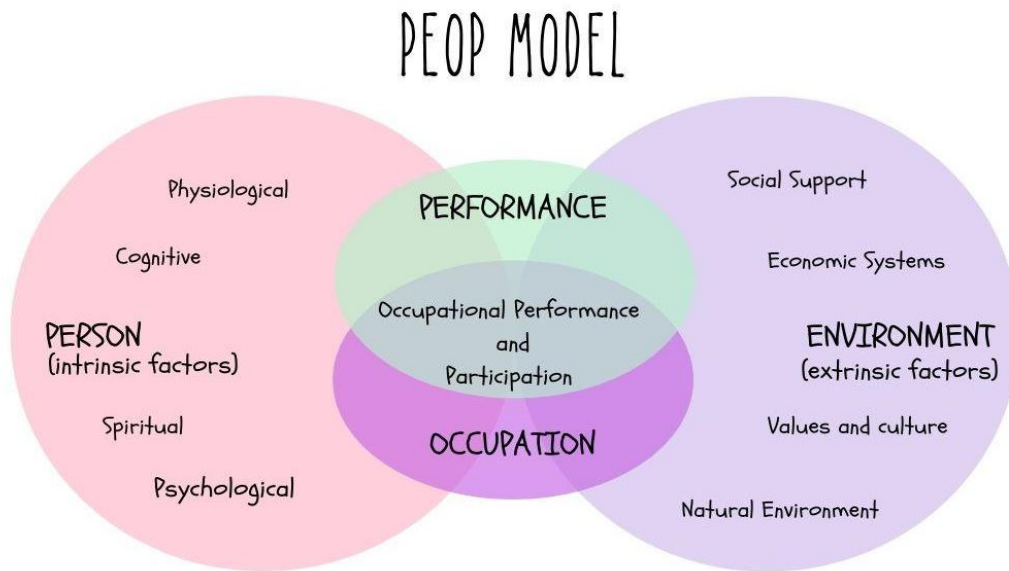
**Figure 1**

*Biopsychosocial Model*



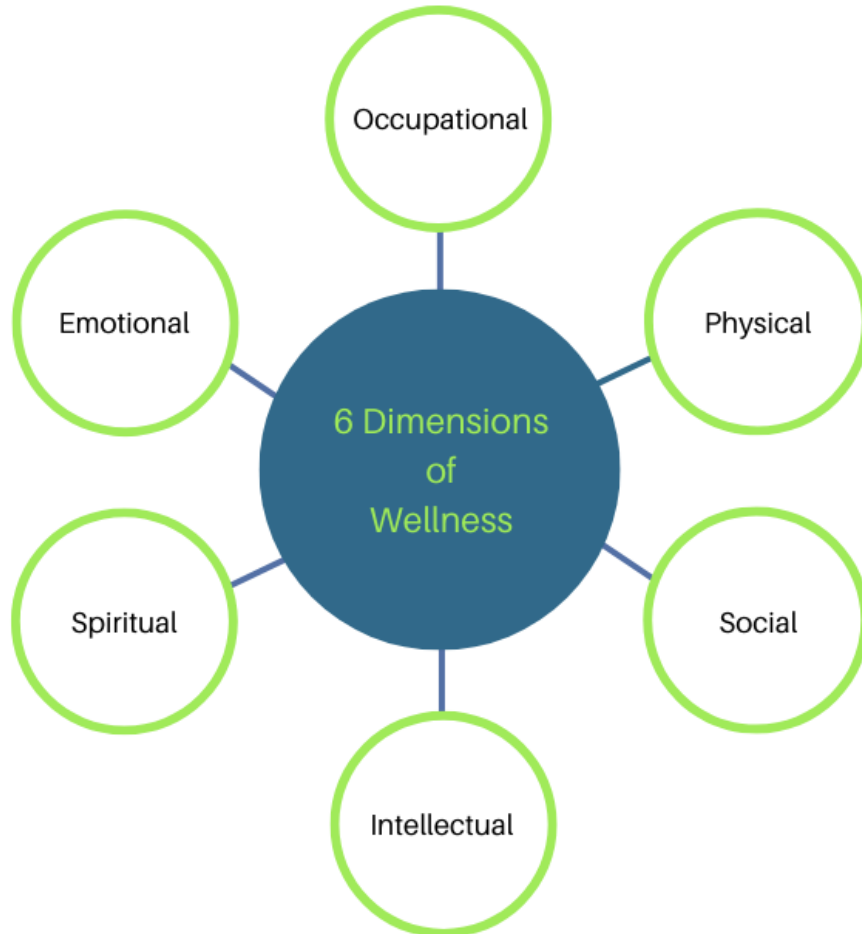
**Figure 2**

*Person Environment Occupation Performance Model*



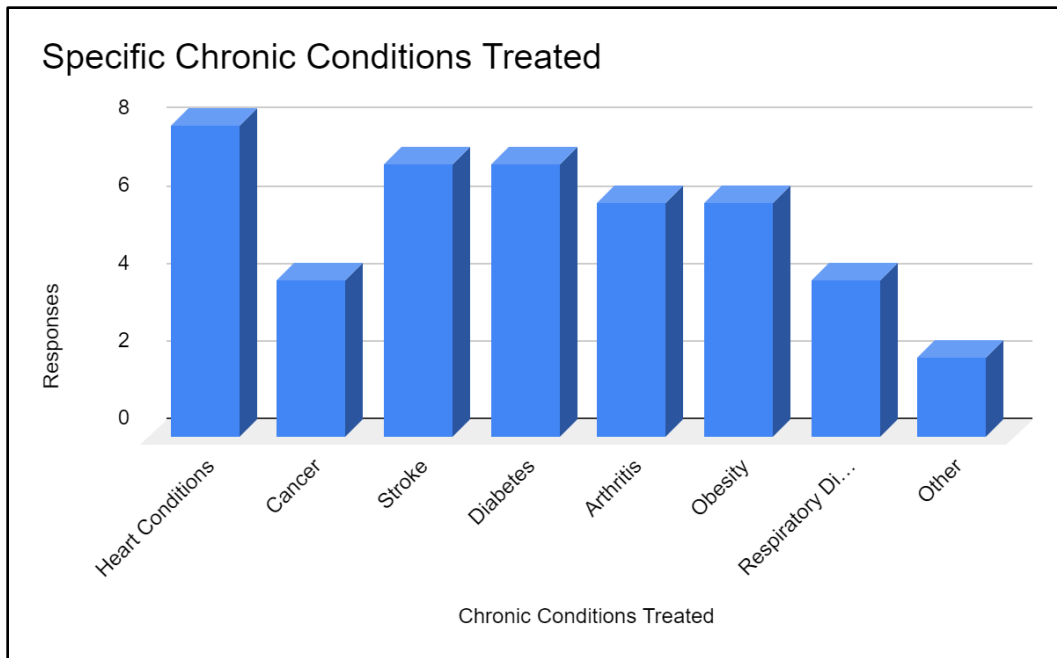
**Figure 3**

*Wellness Model of Health*



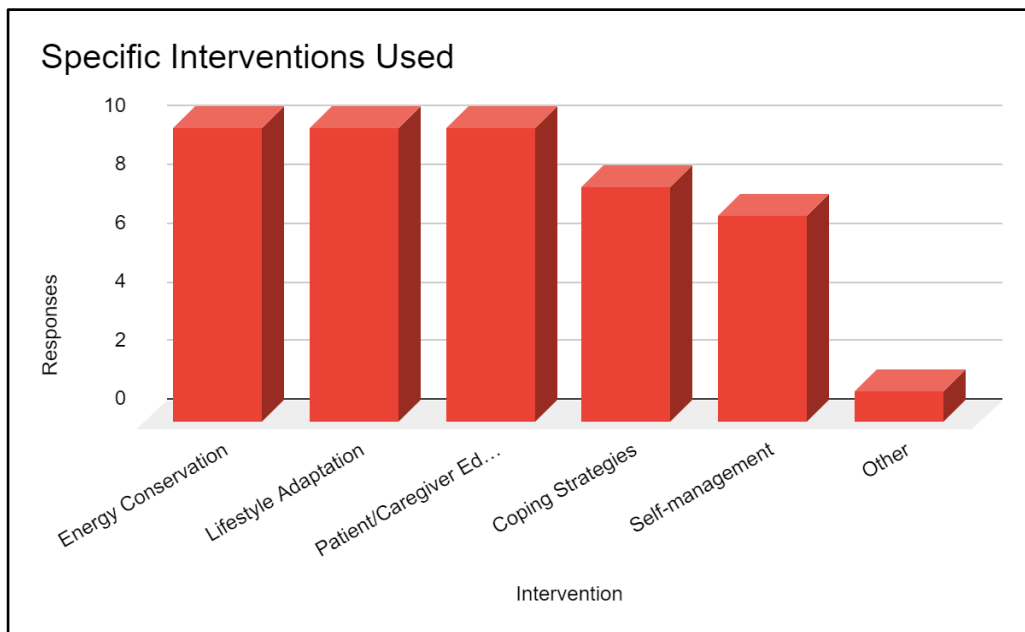
**Figure 4:**

*Survey Question 5*



**Figure 5:**

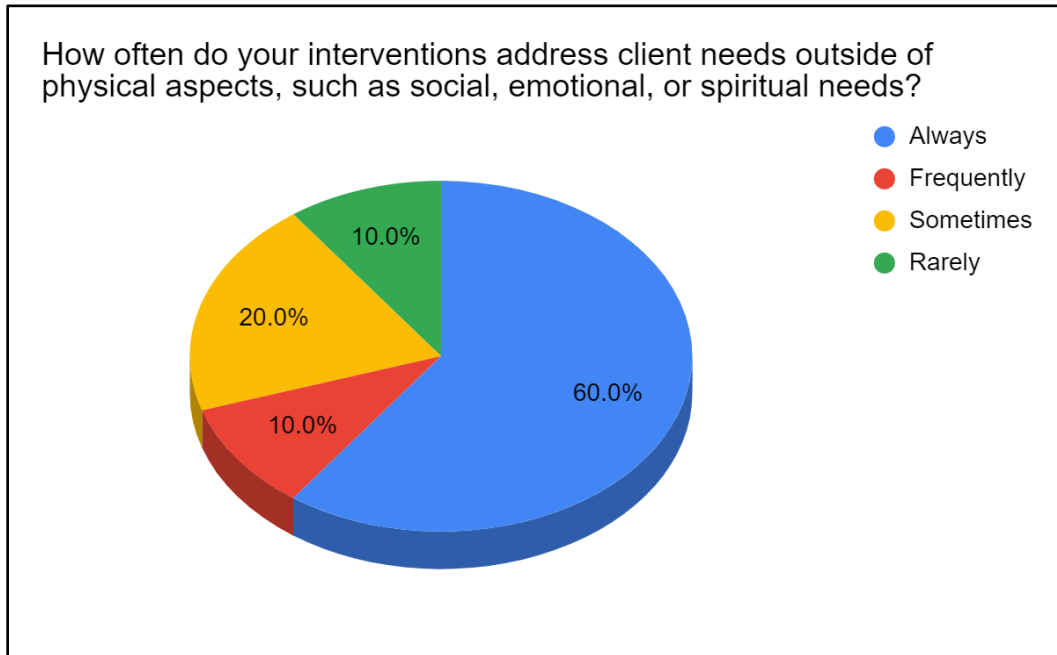
*Survey Question 8*





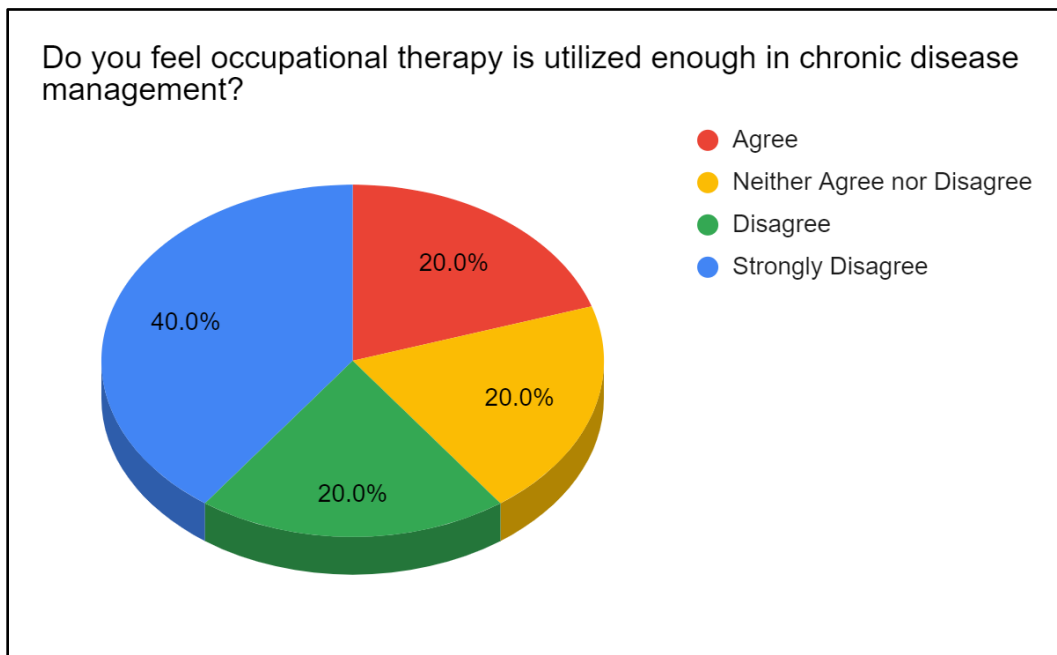
**Figure 6**

*Survey Question 12*



**Figure 7**

*Survey Question 13*



## Appendix A

### Informed Consent Form

1. Before continuing with this survey, please read this page to understand the purpose of this study, as well as associated risks, ethical considerations, and confidentiality agreements.

The purpose of this study is to better understand the current perspectives of occupational therapy practitioners who work with clients with chronic conditions, and to define the distinct role and importance of occupational therapy services in treating this population in the present health care system.

As such there are no potential risks involved to participate in this survey, however at any time if you feel you don't want to answer any question or would like to voluntarily withdraw from the survey, you can do so.

If you have been harmed in any way by this research, please contact the research team at [vsharma@stanbridge.edu](mailto:vsharma@stanbridge.edu).

If you have questions or concerns regarding your rights as a research participant, you may contact the Institutional Review Board (IRB). If you feel you have any questions, complaints, or concerns you cannot discuss with the research team, please contact the IRB coordinator for Stanbridge University at: [irb@stanbridge.edu](mailto:irb@stanbridge.edu).

By submitting this survey, participants consent for their anonymous responses to be used for data collection and analysis by the research team. Participants understand that in order to be entered into the gift card raffle, they must complete the survey and provide a valid email address. Participants understand that the research team may contact them at this email to discuss their winnings. Emails will only be used to contact winners unless otherwise specified.

By clicking continue, participants understand that their participation in the study is completely voluntary, and they can withdraw from the study at any time without penalty.

Participants understand that all responses and collected data will be anonymous. All data will securely be kept through Stanbridge University. Submitted emails will be destroyed one year after completion of the research study. Participants understand that the results of this survey may be discussed at future OT conferences keeping all the ethical considerations for the purpose of benefiting the occupational therapy profession.

Principal Investigator: Dr. Vikas Sharma - [vsharma@stanbridge.edu](mailto:vsharma@stanbridge.edu)

## Appendix B

### Survey Questions

This survey will take anywhere between 7-10 minutes or more to complete. If participants agree to participate, they may click continue to be redirected to the survey. Thank you for your time!

1. Are you an OT or OTA?
  - a. OT
  - b. OTA
  
2. How many years have you been practicing?
  - a. 0-4
  - b. 5-10
  - c. 11-15
  - d. 16-20
  - e. More than 20
  
3. What kind of setting do you primarily work in?
  - a. Outpatient
  - b. Skilled nursing facility
  - c. Home health
  - d. Acute Hospital
  - e. Acute Rehab Unit
  - f. Primary Care
  - g. Other: (write in)
  
4. Do you see clients with chronic diseases (either as a primary diagnosis or comorbidity) at your setting, if yes, how often?
  - a. Always
  - b. Frequently
  - c. Rarely
  - d. Other (write-in)
  
5. In your primary setting, what are the most common chronic conditions that you treat?
  - a. Heart conditions
  - b. Cancer
  - c. Stroke
  - d. Diabetes
  - e. Arthritis
  - f. Obesity
  - g. Respiratory diseases
  - h. Other: (write in)

6. In your opinion, what do you think is the distinct role of occupational therapy in the treatment of chronic disease?
  - a. Open-ended question
7. What are the most common interventions you use in chronic disease management?
  - a. Open-ended question
8. Based on your experiences and the choices given, please check if you use the following interventions in treating people with chronic diseases.
  - a. Energy conservation
  - b. Lifestyle adaptation
  - c. Patient/Caregiver Education
  - d. Coping strategies
  - e. Self-management
  - f. Other: (write in)
9. Why is occupational therapy important in chronic disease management in your experience?
  - a. Open-ended question
10. How did COVID-19 shift or change your treatment approaches and perspectives in treating people with chronic disease management?
  - a. Open-ended question
11. What are some of the barriers you encounter when you treat people with chronic disease management in the present health care system?
  - a. Open-ended question
12. How often do your interventions address client needs outside of physical aspects, such as social, emotional, or spiritual needs?
  - a. Always
  - b. Frequently
  - c. Sometimes
  - d. Rarely
  - e. Never
13. Do you feel occupational therapy is utilized enough in chronic disease management?
  - a. Strongly agree
  - b. Agree
  - c. Neither agree nor disagree
  - d. Disagree
  - e. Strongly disagree

14. Any final comments that you would like to add:

a. Open-ended question

15. Please list your email if you would like to participate in an online raffle to win a \$10 Starbucks e-gift card.