7-2021

Scoping Review of Eating Disorders and Occupational Therapy Interventions

Jessica Goethals
Grand Valley State University

Olivia Keeley
Grand Valley State University

Justyna Leja
Grand Valley State University

Anna Riccius
Grand Valley State University

Scoping Review of Eating Disorders and Occupational Therapy Interventions

Jessica Goethals, Olivia Keeley, Justyna Leja, & Anna Riccius

Grand Valley State University

Abstract

Background/Aim/Objective: A scoping review was conducted to determine which occupational therapy interventions are used with individuals with eating disorders and what effect they have, if any.

Methods: Four databases were searched to identify sources of evidence published before May 8, 2020. The initial search resulted in 527 sources of evidence. Inclusion and exclusion criteria were used to further review and determine the eligibility of each source. Pieces of literature were included in the results if they were written in English, focused on an eating disorder diagnosis within the DSM-IV-TR, and explained the interventions that occupational therapists can use in the treatment of individuals with eating disorders.

Results: A total of 48 studies were included in the final scoping review. Diagnoses reported on among articles that were eligible for data extraction include anorexia nervosa, bulimia nervosa, binge eating disorder, eating disorder not otherwise specified, eating disorder not yet classified and severe and enduring eating disorder. The results from data extraction resulted in 11 categories of eating disorder based interventions.

Conclusion: The research showed the significant role occupational therapy can play in the treatment of individuals with eating disorders, although there is a gap in the literature of data-driven research regarding an ideal treatment framework. Occupational therapists are using a combination of intervention modalities and frequently work among an interprofessional team to work with this population.

Background

Eating disorders are defined as being "characterized by a persistent disturbance of eating or eating-related behavior that results in altered consumption or absorption of food and that significantly impairs physical health or psychosocial functioning" (Diagnostic and Statistical Manual of Mental Health 5th ed. [DSM 5]; American Psychiatric Association [APA], 2013, p. 329). Eating disorders can take many forms, including anorexia nervosa, binge-eating disorder, and bulimia nervosa. Anorexia nervosa is characterized by "restriction of energy intake relative to requirements, leading to significantly low body weight in context of age, sex, developmental trajectory, and physical health" (APA, 2012, p. 338). Binge-eating disorder is defined as "recurrent episodes of binge eating (characterized by both of the following): eating, in a discrete period of time, an amount of food that is definitely larger than what most individuals would eat in a similar period of time under similar circumstances and a sense of lack of control over eating during the episode" (APA, 2013, p. 350). Bulimia nervosa is characterized by binge-eating episodes, as previously defined, along with "recurrent inappropriate compensatory behaviors in order to prevent weight gain" (APA, 2013, p. 345).

Symptoms vary greatly for each diagnosis, but a few examples that could potentially indicate an eating disorder include self-induced vomiting, extreme fear of weight gain, or eating large amounts of food in a short amount of time while feeling out of control (DSM 5; APA, 2013). Eating disorders often impair the quality of the individual's life by affecting physical health, mental health, emotional health and interpersonal relationships (Hay & Mond, 2005; Muñoz et al., 2009). Occupational therapy is a profession that can be an asset to individuals with eating disorders in their recovery (American Occupational Therapy Association, [AOTA], 2017b). Occupational therapy is defined as "the therapeutic use of everyday life activities, or

occupations, with individuals or groups for the purpose of enhancing or enabling participation in roles, habits, and routines in home, school, workplace, community, and other settings." (AOTA, 2014, p. S1). Occupational therapists are equipped with the skills, perspective, and education to offer the appropriate support and encouragement individuals with eating disorders need to progress in their recovery (AOTA, 2017b).

Literature Review

Statistics

Eating disorders are prevalent worldwide and have devastating impacts. Over 30 million people in the United States will have an eating disorder in their lifetime and, on average, every 62 minutes someone dies as a direct result from an eating disorder (Eating Disorders Coalition, 2016). Eating disorders have the second highest mortality rate of all mental health disorders worldwide, behind opioid addiction (Chesney, Goodwin, & Fazel, 2014). Eating disorders do not discriminate based on race, social status, sex, gender, or any other characteristic (National Eating Disorders Collaboration [NEDC], 2020). Although the proportion of males and females is not equal, both sexes and all genders are represented among individuals who experience eating disorders (NEDC, 2020). In a study of individuals with eating disorders, males represented 23-41% of participants (Mitchison, Mond, Slewa-Younan, & Hay, 2013).

Race is another demographic component that can affect likelihood and treatment, although the risk is still present for any race (Yanovski, 2000). All races are impacted by eating disorders; However, accessing treatment varies. Within the United States, non-Hispanic Whites, Hispanics, African-Americans, and Asians have similar rates of eating disorders; however, people of color receive help at a significantly lower rate (Marques et al., 2011).

While adolescence is the time of highest risk of developing an eating disorder, individuals younger and older experience eating disorders as well (NEDC, 2020). By six years old, girls begin to have concerns about their weight or body shape and this evolves into 40-60% of girls in elementary school having body concerns (Cash & Smolak, 2011). In individuals with anorexia between 15 and 24 years old, the risk of dying is ten times greater than their peers (Smink, van Hoeken, & Hoek, 2012). Continuing further into the lifespan, individuals older than 45 accounted for a quarter of hospitalizations related to eating disorders in 2009 (Zhao & Encinosa, 2011). While age is a factor, it is evident eating disorders affect people at all stages of the lifespan. These statistics demonstrate the significance of eating disorders among all demographics.

Impact of Eating Disorders

Direct impacts on individuals with eating disorders. Eating disorders can have a significant impact on an individual's mental and physical state, potentially causing premature death (Fichter & Quadflieg, 2016; Herzog et al., 2000). It is also important to consider the life-altering challenges individuals with eating disorders face regarding their quality of life. Individuals with eating disorders display impaired quality of life as evidenced by the results from both the World Health Organization Brief Quality of Life Assessment Scale and the medical items short form 12-item component summary scales (Hay & Mond, 2005). Using the Health-Related Quality of Life for Eating Disorders Assessment (HeRQoLED), additional support has been found for the statement that quality of life among individuals with eating disorders is impaired compared to the general population (Muñoz et al., 2009).

Impact of eating disorders on a global scale. Eating disorders impact the world on a larger scale, specifically economically (Krauth, Buser, & Vogel, 2002; Hay & Mond, 2005).

There is a gap in the literature in terms of recent estimates of the economic burden internationally; however, there are estimates for Germany. The cost of inpatient treatment in Germany alone for anorexia nervosa and bulimia nervosa was estimated in 2002 to be 59.1 million and 6.9 million dollars respectively (Hay & Mond, 2005; Krauth et al., 2002). These estimates were made in 2002 and in Germany alone. The numbers are likely higher today due to the prevalence of anorexia nervosa and bulimia nervosa in 2005 being in an upward trajectory (Micali, Hagberg, Petersen, & Treasure, 2013; Hay, Mond, Buttner, & Darby, 2008). In addition to the inpatient cost of eating disorders, the money lost due to inability to work has been estimated to be 8 million euros (8.81 million U.S. dollars) and 1.7 million euros (1.87 million U.S. dollars) for anorexia nervosa and bulimia nervosa respectively (Hay & Mond, 2005; Krauth et al., 2002). The economic facet of eating disorders is the final component to take into consideration when calculating the overall impact on an individual and society.

Contributing Factors to Eating Disorders

Individualized risk factors. There are a variety of external factors that contribute to the prevalence of eating disorders; However, factors inherent to an individual can amplify the likelihood of developing an eating disorder. In America, NEDA identifies two categories of risk factors for developing an eating disorder beyond sociocultural, including psychological and biological risk factors (NEDA, 2012). The psychological risk factors listed are perfectionism, anxiety, depression, emotional dysregulation, and obsessive compulsive disorder tendencies (NEDA, 2012). Personality traits such as novelty-seeking and neuroticism also appear to be relevant in the etiology of eating disorders (Hilbert et al., 2014). Biological risk factors include having a close family member with an eating disorder, a family or personal history of anxiety, depression, or addiction, presence of food allergies, and presence of Type 1 Diabetes (NEDA,

2012). The impact of these personal characteristics can be exaggerated when considering a history of childhood obesity and weight-related teasing, as well as a parental history of disordered eating such as dieting and overeating (Hilbert et al., 2014). Considering the complexity and variety of influences on an individual's eating disorder, there is a need for a diverse treatment team in order to address all facets.

Interprofessional Team in the Treatment of Eating Disorders

The need for an interprofessional team. In order to treat eating disorders effectively, a wide range of knowledge, experience, and perspectives is needed (Halmi, 2009). This standard can be met by utilizing an interprofessional team (Halmi, 2009). The American Psychiatric Association's published guidelines advise that care for individuals with eating disorders should include nutritional rehabilitation, counseling, and medical monitoring (DeJesse & Zelman, 2013). In addition to occupational therapy, a comprehensive treatment team for eating disorders typically consists of psychiatrists, psychologists, dietitians, nutritionists, primary care physicians, and social workers (Halmi, 2009). Many individuals with mental health disorders benefit from an interprofessional treatment approach, especially complex diagnoses such as eating disorders (Pettersen, Rosenvinge, Thune-Larsen, & Wynn, 2012).

Professions involved in the treatment of eating disorders. A primary care physician, such as a pediatrician, internist, or family doctor, will give an initial provisional diagnosis of an eating disorder for an individual and refer them to treatment professionals who specialize in eating disorders. Local therapists and dietitians who have experience in treating eating disorders will likely be members of the treatment team (NEDA, 2012). The registered dietitian (RD) may be the first to recognize an individual's eating disorder symptoms or be the first health care professional consulted by a patient (Ozier & Henry, 2011). RDs working with individuals with

eating disorders offer a complete understanding of professional boundaries, nutrition intervention, and the psychodynamics of eating disorders (Ozier & Henry, 2011). Furthermore, a psychologist may be consulted to help identify the underlying issues and develop a treatment plan to help one work through their destructive thoughts and behaviors in order to replace them with healthier coping mechanisms (APA, 2020). Psychiatrists may also be involved in the treatment team to assess for comorbid disorders or address suicidal thoughts and behaviors in individuals with eating disorders (Jones, Saeidi, & Morgan, 2013). If family therapy is needed, social workers will provide the skillset to carry this out (Shekter-Wolfson et al., 1997). In addition to these valuable members of the interprofessional team, occupational therapy is a profession that can provide further support and resources to the process of treating individuals with eating disorders.

Occupational Therapy

Occupational therapy background. Individuals experiencing eating disorders require a dynamic treatment approach, and occupational therapists can be a distinct asset to this population (AOTA, 2017b). Occupational therapists are valuable because of their holistic perspective, meaning they treat the entire individual, including their physiological, psychosocial, cultural, and environmental factors (AOTA, 2017b). Occupational therapy is "the therapeutic use of everyday life activities (occupations) with individuals or groups for the purpose of enhancing or enabling participation in roles, habits, and routines at home, school, workplace, community and other settings," (AOTA, 2014, p. S1). In addition to being described as everyday life activities, occupations are activities that "occur in context and are influenced by the interplay among client factors, performance skills, and performance patterns," (AOTA, 2014, p. S6). Examples of occupations include bathing, dressing, eating, home management, meal preparation, sleep, work,

and social participation (AOTA, 2014). An individual is referred to occupational therapy when it is evident that they are experiencing occupational performance issues (OPIs).

Occupational performance issues. Occupational performance issues occur when an individual is experiencing "illness, injury, disease, disorder, condition, impairment, disability, activity limitation, or participation restriction" that limits their ability to perform daily tasks or engage in meaningful occupations (AOTA, 2014, p. S1). According to Sheppard Pratt (2020), the complex symptoms that individuals with eating disorders often experience can hinder their ability to engage in important daily activities. Therefore, there are a variety of OPIs that can occur. Eating disorders can cause performance issues in basic activities of daily living, such as dressing, grooming, and bathing, and instrumental activities of daily living, such as meal preparation and grocery shopping. Additionally, OPIs may be seen in the occupation areas of work, education, social participation, sleep, and leisure, (AOTA, 2014).

The treatment of eating disorders is within occupational therapy's scope of practice due to the negative impact they have on the occupational performance of individuals who experience them. Not only can occupational performance be disrupted, but an individual's roles, routines, and rituals have the potential to be affected by an eating disorder as well. For instance, the habit and routine of purging may become a new part of the individual's life that interferes with occupations such as sleep, work, or social participation (AOTA, 2014).

Occupational therapists' holistic approach includes the consideration of the individual's mental health as well as their other health components. This can come into play especially with individuals who are considering self harm. Occupational therapy could help patients with eating disorders manage their suicidal thoughts and self-destructive tendencies by improving their self-image and in turn, increase their lifespan (Custer & Wassink, 1991). Along with an individual's

occupations being impacted, their roles can be as well. If the individual's focus is on the eating disorder that they are experiencing, that mindset could potentially influence relationships with their families and friends, while also affecting their possible roles as a student, employee, and/or boss.

There is a demand for treatment other than medication in primary care standards for individuals with eating disorders (Robinson, 2001). Studies expressed high rates of strong therapeutic alliance between therapist and client for treatment and care of eating disorders (Allen & Dalton, 2011). Adding occupational therapy to the interprofessional team brings a distinct approach to the care of individuals with eating disorders.

Model of Human Occupation. A common guiding model used by occupational therapists is the Model of Human Occupation (MOHO). It addresses the following: the motivation for occupation, the routine patterning of occupations, the nature of skilled performance, and the influence of environment on occupation (Kielhofner, 2008). Occupational therapists that use MOHO consider how individuals with eating disorders are motivated to participate in occupations (self-care, productivity and leisure occupations), how they organize their activities of daily living, and how they perform in the context of their environment. MOHO is used by occupational therapists for guidance when providing skilled interventions to enable clients to participate in adaptive meaningful occupation through educational, creative, and other rehabilitative activities (Kielhofner, 2008). In order to treat individuals with eating disorders, occupational therapists target many aspects of the illness such as self-awareness, self-esteem, open expression of feelings, and greater independence (Harries, 1992). In addition, understanding an individual's routine and habits of eating or purging will allow occupational therapists to better understand their performance patterns when providing treatment.

Role of occupational therapy. The role of an occupational therapist in the treatment of individuals with eating disorders is to enhance occupational performance in everyday life activities with individuals, groups, populations, or organizations to support participation, performance, and function in the roles in home, school, workplace, and other settings (AOTA, 2017a). Occupational therapists often use projective media, menu planning, crafts, stress management training, relaxation therapy, and assertiveness training as treatment modalities with this population (Rockwell, 1990). In addition, education, discussion groups, cognitive-behavioral groups, social skills training, movement therapy, and clothes shopping are also utilized as effective treatments (Rockwell, 1990). These modalities can be used along with MOHO through reinforcement and shaping the individual's behavior using a client-centered approach. After reviewing the literature, occupational therapy has a valuable perspective and treatment approach to be utilized alongside other health professions.

Identifying the Research Question

After conducting a literature review, it is evident that occupational therapy holds a distinct value in the treatment of eating disorders. Research highlighted the prevalence of eating disorders and the devastating impact they can have on the lives of the individuals who are experiencing them. The significance of the problem calls on an interprofessional team in the treatment process. Occupational therapists' skill set and holistic perspective allows them to fit into this team with a distinct lens. The researchers aimed to gather information regarding the role of occupational therapy in treatment of individuals with eating disorders, specifically what strategies, interventions, and treatment plans they are using by conducting a scoping review. The research questions studied are "What are the occupational therapy interventions used with individuals with eating disorders (specifically anorexia nervosa, bulimia nervosa, and binge-

eating disorder) and what effect does occupational therapy have (if any) on individuals with eating disorders in the treatment or recovery process?"

Methods

The researchers chose to conduct a scoping review in order to do an exhaustive search of literature available regarding occupational therapy interventions in the treatment of individuals experiencing eating disorders. A scoping review is a comprehensive means of mapping key concepts related to a topic that has not been extensively reviewed before (Arksey & O'Malley, 2005). In contrast, a systematic review involves using statistical techniques to synthesize the data from several studies into a single concentration (Petticrew & Roberts, 2006). A scoping review was more appropriate because it provides an extensive overview of existing literature without assessing quality of included studies and therefore data synthesis is minimal (Armstrong, Hall, Doyle, & Waters, 2011). Conducting a scoping review allowed the researchers to gain background knowledge in the topic to identify key concepts and thoroughly explore occupational therapy's role in the treatment of individuals with eating disorders.

This scoping review followed the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) checklist (Tricco et al., 2018). The researchers worked with a research librarian to identify keywords and subject terms for eating disorders including bulimia nervosa, anorexia nervosa, binge-eating disorder, and occupational therapy. In order to capture a broad range of articles for this scoping review, the PubMed, CINAHL Complete, Web of Science Core Collection, PsycInfo, and OTseeker databases were searched. In consultation with the librarian, these databases are considered appropriate to search allied health professions topics, including eating disorders and occupational

therapy. The search was limited to English articles published before May 8, 2020. No further limitations were put in place. The full search strategy for PubMed is included in Appendix A.

The inclusion criteria included all sexes, all genders, all ages, all geographical locations, any date of publication, and all types of publication. Broad inclusion criteria was used in order to collect the most information possible and complete the most comprehensive search on the topic because eating disorders affect people from all demographics. Researchers aimed to gather knowledge in all facets of the research question, which was achieved by minimizing criteria limitations. The specific eating disorders that were included are mental health diagnoses from the feeding and eating disorder section in the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition Text Revision including anorexia nervosa, bulimia nervosa, and binge-eating disorder.

Articles were excluded if they focused solely on a diagnosis that was not an eating disorder. Utilizing criteria for eating disorders recognized by the DSM-IV eliminated any eating disorders with primarily physical causes. This was done in order to support the goal of determining the role of OT in a mental health setting treating individuals with eating disorders. Articles were also excluded if they did not focus on interventions done by occupational therapists. In order to answer the research question, the role of occupational therapy involved in the treatment team needed to be discussed in the article. Conference proceedings were eliminated secondary to lack of access to information beyond the abstract. Non-English articles were eliminated. Articles focusing solely on treatment for caregivers of individuals with eating disorders were excluded as they did not include the effect of treatment on the individuals with eating disorders. In addition to eliminating articles because of their inability to answer the

research question, there were sources of evidence that were inaccessible to the researchers due to the COVID-19 pandemic causing libraries to have limited resources.

Data and article information were stored on a private Google drive only accessible to the researchers and their research committee, including the research mentor and librarian. Once the search results were obtained by the researchers, duplicate items were removed. After duplicates were removed, the titles and abstracts were reviewed by two researchers to determine eligibility. If there was a discrepancy between the two researchers, a third was involved to make a decision. Once research was eliminated after not having met inclusion criteria, a full text review was done with the same process used to review titles and abstracts. This was done in order to confirm each source of evidence was appropriate to answer the research questions. After the full text review was completed, the researchers extracted data from the research and filled out the data extraction chart shown in Table 1. The chart was created by all research members in collaboration with the research librarian and was used in the data extraction process. The chart includes the author, year of publication, type of publication, research methodology, practice setting, role of occupational therapy and intervention, and treatment duration.

Table 1. Data Extraction Chart

Author/Year	Publication Type	Research Method	Practice Setting	Role of OT & Intervention	Treatment Duration
Abeydeera, Willis, Forsyth, (2006)	Research Article	Not specified	Not specified	Group interventions: Therapeutic arts and crafts, cooking group around menu planning, food shopping, cooking, and eating. Creative expressive group aimed at improving communication of difficult feelings verbally and through creative mediums, such as	Not specified

				drama. Individual interventions: Facilitating engagement in educational and vocational pursuits.	
Affleck, et al., (1984)	Research Article	Quantitative - Case Studies	Acute Care	Concentration, listening, and breathing activities, relaxation techniques including guided imagery, progressive relaxation, and meditation, cutaneous stimulation, assertiveness training, and body-image interventions.	Not specified
Allen, Giles, Scott, (1988)	Book Chapter	Not specified	Inpatient	Coping techniques such as yoga, relaxation, behavioral therapy, cooking, clothes shopping, movement groups, therapeutic arts and crafts, social skills training, assertiveness training, exercise, body image improvement.	Not specified
Bailey, (1986)	Research Article	Not specified	Inpatient	Assertive communications group & cooking group. OT interviews and assesses individuals. OT runs group treatments to assess control and self-esteem issues.	1 hour group session, 30-90 days
Barris, (1986)	Research Article	Not specified	Not specified	Leisure participation, self-care, time management. OT enables an individual to feel in control of and satisfied with his/her participation in meaningful occupations.	Not specified
Biddiscombe, Scanlan, Ross, Horsfield, Aradas, Hart, (2018)	Research Article	Quantitative retrospective study	Outpatient day program	Group consisting of meal preparation, restaurant outings, and nutritional education. The occupational therapist's role was to provide the just right challenge,	6 hours/day, 4 days per week, average 5 weeks

				provide adaptations, and support the individuals.	
Bowers, Andersen, (1994)	Research Article	Not specified	Inpatient	Psychoeducation, food shopping, cooking, meal preparation, dining, increase social recreation and leisure activities. The occupational therapist can confront distorted perceptions and behaviors surrounding food and dining.	Not specified
Bradford, Holliday, Schultz, Moser, (2015)	Literature Review	Qualitative	Not specified	Focus on body image and self-care with use of Dialectical Behavior Therapy, Family Therapy, Cognitive-Behavioral Treatment, Cognitive Remediation Therapy, Basic Body Awareness Therapy approach, and Mindfulness-Based Eating Awareness Training. Assess meal planning, meal preparation, and eating using Meal Preparation Skills Assessment (EMPSA).	Not specified
Breden, (1992)	Research Article	Case Study	Psychiatric	Group intervention: Stress management group including time management, deep breathing, and progressive relaxation, meal preparation group, tasks skills group including therapeutic arts and crafts, vocational rehabilitation. OT interviews and assesses new clients, establishes goals, refers to appropriate rehabilitation groups or individual therapies, and modifies goals and groups as treatment progresses.	Two 1-hour sessions/week
Bridges, (1993)	Research Article	Not specified	Inpatient	Body image improvement, self-care, time management, stress management, relaxation techniques.	3x/week for 45 minute sessions during an average LOS of 3 months.

Clark & Shoba (2012)	Research Article	Not specified	Community-based	Management of anxiety through creative activity, clothes shopping, going out in public, exercise, leisure. Recovery approach, group therapies, involving friends and family, and supporting the development of social skills in the community context. Activities like eating in restaurants, shopping, and engaging in leisure activities like going to the movies, in the community.	Not specified
Costa, (2009)	Opinion Piece	Not specified	Not specified	The occupational therapist's role is to help the individual organize daily routines and roles, engage them in IADLs such as a cooking group, decrease maladaptive occupations, and increase participation in healthier occupations.	Not specified
Crouch & Alers, (2014)	Book Chapter	Qualitative	Not specified	Re-establishing physical and nutritional health, developing commitment and motivation for treatment, encouraging individuals to begin making significant changes in their thoughts and behaviours, preparing and planning, and develop skills and strategies to manage, maintain, and strengthen thoughts, behaviors, self-esteem, and relationships.	Not specified
Elliot, (2012)	Literature Review	Not specified	Not specified	Lifestyle balance, occupational analysis, environmental/temporal/social reorganization. The occupational therapist should help the individual create meaning through occupation.	Not specified
Folts, Tigges, Jackson, (1993)	Book Chapter	Qualitative	Not specified	Stress management, communication, and social skills.	Not specified
Gardiner & Brown, (2010)	Opinion Piece	Not specified	Outpatient	Clothes shopping, social skills training, exercise, vocational rehabilitation. OT will address food	Not specified

				related fears and rituals and graded reintroduction of food selection/meal preparation/eating in social settings.	
Giles, (1985b)	Opinion Piece	Not specified	Inpatient, Outpatient	Yoga, meal planning, meal prepping, eating, therapeutic art, assertiveness training, group discussions, crafts, cognitive behavioral group, food diary, stress management techniques, psychodrama, clothes shopping, use video to eliminate body distortions. Occupational therapists "emphasize the restoration and maintenance of functional abilities (Giles, 1985b, p. 513).	Not specified
Giles & Allen (1986)	Research Article	Not specified	Eating Disorder Unit/Hospital	Cooking assessment & practice, clothes shopping, teaching behavioral strategies, social skills training, relaxation, such as deep breathing, visualization, & contract-relax methods, exercise, body image distortion, expressive techniques such as creative media, art therapy, and creative movement.	Not specified
Giles & Chng (1984)	Research Article	Not specified	Outpatient ,Inpatient	Yoga, cooking assessment & practice, art as therapy, assertiveness training, group discussion, craft activity, education/information, teaching behavioral strategies, psychodrama, clothes shopping.	Not specified
Hagerty, Williams, & Richards, (2015)	Research Article	Qualitative	Inpatient	Creative scrapbook, time capsule, group interventions focused on quality of life.	Not specified
Hannay & White (2003)	Opinion Piece	Qualitative	Inpatient, Outpatient , Day patient	Goal-setting, leave planning, meal-planning, life-skills, helping patients to develop constructive coping skills and deal with life on a day to day basis, shopping trips to help the patient explore issues	12 weeks

				around body image and clothing. OT will visit patients at home to follow-up the practical aspects of shopping, budgeting, and meal preparation.	
Harries, (1992)	Opinion Piece	Not specified	Inpatient	Projective art, dramatherapy, assertiveness training, yoga, menu planning, grocery shopping, cooking, clothes shopping, time management, physical exercise, social skills training, vocational training. The occupational therapist works among an interprofessional team to develop the individual's self awareness, self esteem, and self expression.	Discharge occurs 2 weeks after the individual achieves healthy weight.
Holmgren et al., (1984)	Research Article	Not specified	Inpatient	OTs train patients to handle shopping for food, cooking, and eating under more normal conditions.	Not specified
Ibrahim, & Tchanturia (2018)	Research Article	Qualitative	Day program	Tree of Life Group aimed to support patients to construct less problem-saturated narratives and externalize their EDs; share stories & create a sense of community in order to help each other create alternative stories; and reduce the power imbalance between clinical teams & patients.	1 hour sessions, 8 sessions
Kerr, Piran, Kaplan, (1990)	Book Chapter	Not specified	Day Hospital Program	Individual interventions: Relaxation training, therapeutic arts and crafts, cooking activities, meal outings, clothes shopping, vocational rehabilitation. Group interventions: Psychoeducation, time management, assertiveness training, exercise, coping strategies.	Not specified
Kloczko, & Ikiugu, (2006)	Research Article	Qualitative	Inpatient	Coping skill development, group therapy, self-expression, psychoeducation, cooking, shopping, meal sharing, and cognitive-behavioral interventions	Not specified

				to improve body image and self-control.	
Levens, & Duncan, (1987)	Opinion Piece	Not specified	Inpatient, day patient	Creative therapies, communication and assertion groups, social skills practice, psychodrama, art therapy, relaxation techniques, movement groups, menu planning, shopping, and cooking.	Not specified
Lock (2000)	Book	Case studies	Inpatient	Individual Interventions: Work, leisure support activities, weekly budget plan. Therapeutic groups: meal cookery, communication skills assertion skills and anger management, living skills, stress management and relaxation, projective art, and body image.	Not specified
Lock, Williams, Bamford, & Hubert, (2012)	Research Article	Naturalistic Cohort Study	Inpatient, day patient	Menu planning, meal preparation, eating, establishing healthy eating habits, and developing coping skills.	10 sessions
Mahaffey, (2006)	Opinion Piece	Not specified	Acute Care	Time management skills, alert program to learn about sensory modulation, and animal assisted therapy. The occupational therapist promotes mental health through exploring non-traditional treatment methods, advocating for the client, and understanding mental health rehab.	Not specified
Martin, (1985a)	Literature Review	Not specified	Behavioral setting/Psychodynamic setting	The occupational therapist is responsible for understanding the side effects of medication the individual they are working with is on. In a behavioral setting, the occupational therapist works among an interprofessional team to develop a behavioral program with the goal of the individual gaining weight. In the psychodynamic	Not specified

				setting, the occupational therapist encourages restructuring the ideas of the individual surrounding occupations and activities that were tainted in the past.	
Martin, (1990)	Review Article	Not specified	Hospital, day-patient, outpatient	Cognitive behavioral therapy (monitor meals), behavioral therapy (body image, self esteem), group therapy focused on coping strategies, depression, anger, cultural expectations. The occupational therapist should help support the individual to develop new skills and take the focus off of eating.	Not specified
Martin, (1985b)	Research Article	Not specified	Inpatient	Therapeutic arts and crafts, clothes shopping, social skills training, relaxation training, menu planning, cooking, dining out, physical activity, drama, dressmaking.	Not specified
Martin, (1991)	Research Article	Not specified	Not specified	Psychoeducational groups, body image groups, therapeutic arts and crafts, cooking, clothes shopping, assertiveness training, leisure pursuits, relaxation training, yoga, dance, & drama.	Not specified
Matusevich, García, Gutt, De La Parra, Finkelsztein, (2002)	Research Article	Not specified	Inpatient	Body image improvement. OT will create an atmosphere of support and affection to help individuals with eating disorders explore their feelings and emotions.	Not specified
McColl, Friedland, Kerr, (1986)	Literature Review	Qualitative	Inpatient	Therapeutic arts and crafts including knitting, calligraphy, bead work, and tangible objects produced from resource materials, such as clay, yam, leather or wood.	Not specified

Meyers (1989)	Research Article	Case study	Acute psychiatric care unit in hospital	Crafts (valentine's), process groups, body image group (traced bodies on piece of paper), clothes shopping, body image group on sexuality,	3-5 hours of group treatment daily? 2.5 months of hospitalization, 8-12 weeks
Morris, (2012)	Book Chapter	Not specified	Inpatient, Outpatient, Daypatient	The occupational therapist is responsible for being part of an interdisciplinary team, grading activities up and down, and collaborating with the individual to create goals. Interventions: menu planning, vocational training, assertiveness training, therapeutic art, and independent living skills.	Not specified
Orchard, (2003)	Literature Review	Qualitative	Day program	Motivational interviewing is an approach used to explore the client's difficulties and fears. It is also used to promote communication between the client and occupational therapist. The OT is able to use motivational interviewing to create a supportive and trusting relationship with the client.	Not specified
Lim & Agnew (1994)	Research Article	Questionnaire	Psychiatric settings	Cookery groups, assertiveness training, group discussions & communication skills groups, art therapy, crafts, stress management, & social skills training.	Not specified
Robinson, Kane, Leicht, (2005)	Research Article	Survey research design	Not specified	Projective media, menu planning, crafts, stress management training, relaxation therapy, and assertiveness training. Also use education, discussion groups, cognitive-behavioral groups, social skills training, movement therapy, and clothes shopping. Behavioral strategies education, vocational training, weight & exercise	Not specified

				training, dining out, and nutrition classes	
Rockwell, (1990)	Literature Review	Survey of practicing occupational therapists	Inpatient, outpatient	Therapeutic art, cooking, menu planning, crafts, stress management training, and group discussions. Occupational therapists work alongside an interprofessional team to provide these interventions.	0-8 weeks with patient progress determining length of stay
Schmidt et al. (2006)	Research Article	Randomized Controlled Trial	Inpatient	The occupational therapist worked among an interprofessional team to support individuals with bulimia nervosa and eating disorder otherwise not specified. The team worked together to provide feedback to the individuals as they completed cognitive behavioural guided self-care. Feedback included personalised letters, a specially designed feedback form, and computerized feedback.	Fourteen 50 minute sessions
Sporild & Bonsaksen, (2014)	Research Article	Quantitative - Case Study	Inpatient, outpatient	Expressive art therapy groups designed to support group cohesion, self-revelation, interpersonal learning, psychological work, and expressing thoughts and feelings.	Weekly for two hours
Stephenson et al., (1988)	Book Chapter	Qualitative	Inpatient, outpatient	Expressive and creative arts, cooking practice, eating a meal, clothes shopping, psychotherapy, psychodrama, and movement and exercise.	Not specified
Stockwell et al. (1987)	Research Article	Questionnaire	Inpatient	Relaxation, social skills, dance therapy, drama therapy, art groups, and social and sport-type activities.	3-18 months
Thien et al. (2000)	Research Article	Quantitative	Outpatient	Developed a graded exercise program which has a clear exercise prescription, including type, duration, and level of activity.	3 months
Van Deusen, (1996)	Literature Review	Not specified	Not specified	Cognitive therapy, behavior therapy, and group therapy. The occupational therapist supports the	Not specified

				individuals with eating disorders to improve their body image in order to improve function in occupations and quality of life.	

Results

Results of the scoping search and review process are shown in Figure 1. The search resulted in 527 sources of evidence. After removing 114 duplicates, 413 titles and abstracts were screened, and 198 full texts were evaluated for inclusion. One record was identified through other sources that was not generated in the original search. Application of the inclusion and exclusion criteria resulted in data extraction from 48 pieces of literature. Out of the 48 pieces of research used for data extraction, 20 were from the United States, 10 were from the United Kingdom, 3 were from Ireland, and 15 were from other countries, including Australia, Sweden, Great Britain, Argentina, Canada, New Zealand, South Africa, and Norway. The research publication dates included 26 from before the year 2000, 16 from 2000-2014 and 4 from 2015-2020. Twenty-six sources of evidence were research-based, 15 were opinion pieces/literature reviews, and seven were books or book chapters.

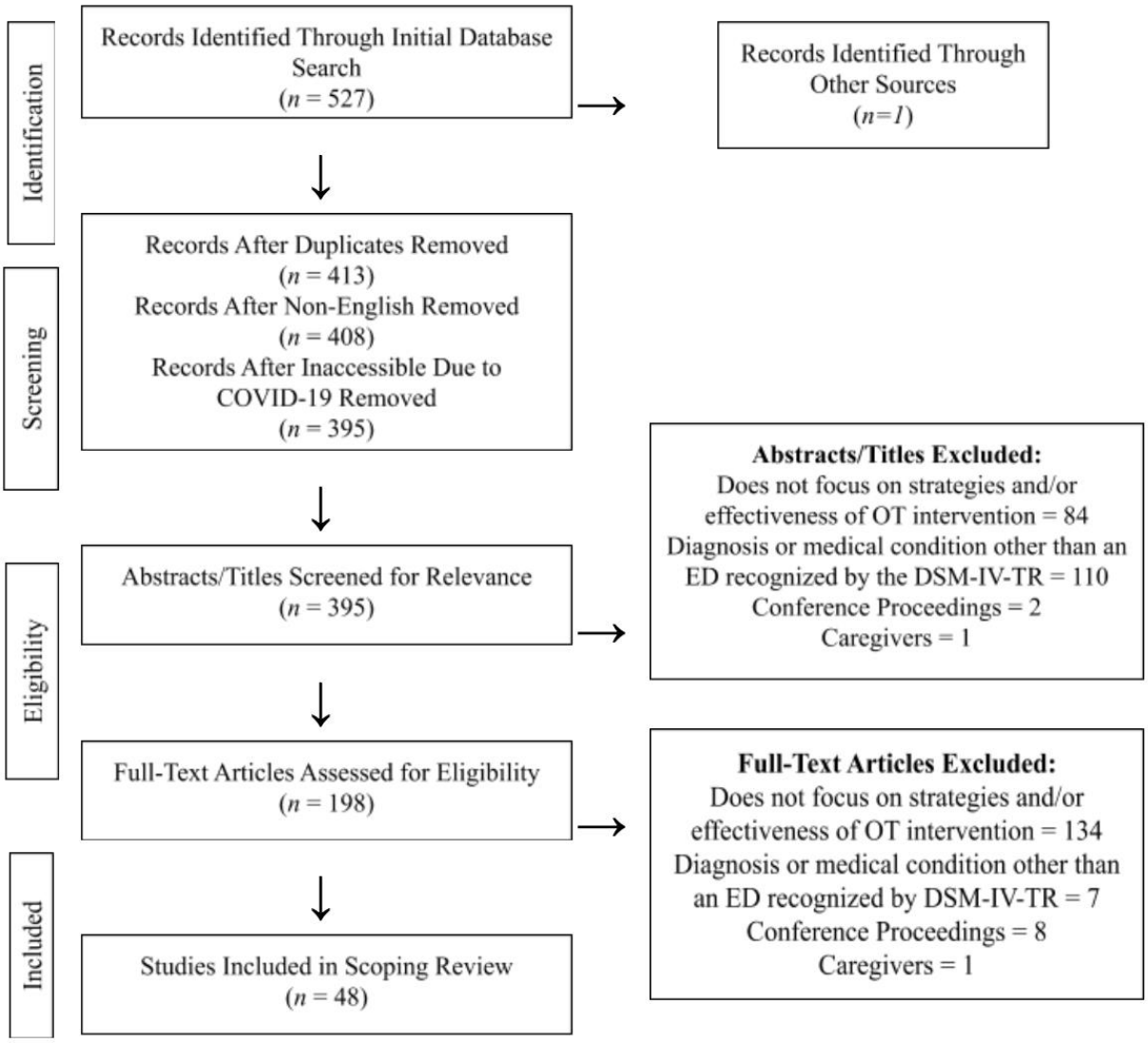

Figure 1. Search and Inclusion Flow Diagram

Settings and Diagnoses

Several settings were noted among the 48 sources of evidence: outpatient setting (*n* = 13), inpatient setting (*n* = 26), day patient/day program setting (*n* = 8), community-based setting (*n = 2)* and two sources of evidence did not report a specific setting. Additionally, many sources of evidence discussed more than one setting. Based on DSM-IV-TR criteria, publications included in this review discussed individuals diagnosed with anorexia nervosa (n=40), bulimia nervosa

(n=30), binge eating disorder (n=6), eating disorder not otherwise specified (n=6), eating disorder not yet classified (n=1) and severe and enduring eating disorder (n=1).

Interventions

According to the results from data extraction, 11 categories of interventions were identified in at least 10 pieces of research as shown in Figure 2. The meal cookery groups, meal preparation, menu planning and/or grocery shopping category (*n* = 28) were the most common interventions discussed throughout the literature. Additionally, stress management, coping strategies, and relaxation training interventions were identified in 23 sources of evidence. The therapeutic arts and crafts category was identified in 22, and communication and/or assertiveness training was identified in 14. Exercise training, including yoga, dance, movement therapy, or sports was reported in 16. Clothes shopping interventions appeared in 15 different pieces of literature. Less frequent but still prevalent among sources of evidence were vocational interventions (*n* = 11), body image improvement (*n* = 12), social skills training (*n* = 13), and behavioral therapy (*n* = 10) were reported. Further intervention categories included meal outings and dining experiences, group therapy and or/discussion, promotion of leisure and self-care, and time management.

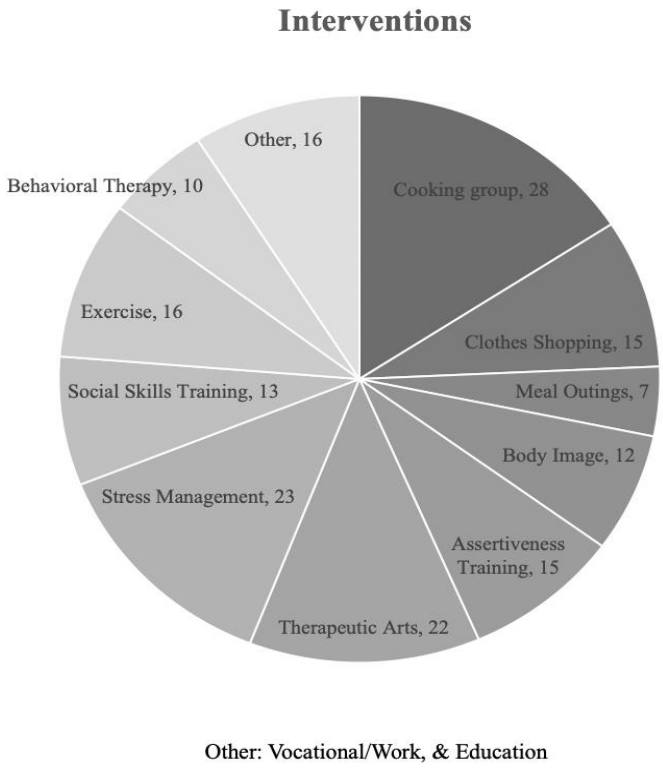

Figure 2. Interventions

The process of data extraction focused on intervention type including ten pieces of research that specifically discussed group interventions, five that discussed individual interventions, and 16 that discussed both. Nineteen pieces of research did not specify whether the interventions used were group, individual, or both. Additionally, eight pieces of research discussed the role of occupational therapy on an interprofessional team during the treatment of individuals with eating disorders.

Treatment Duration

Treatment duration varied among settings and even between sources of evidence discussing similar settings. Nine sources reported treatment durations, as listed in Table 2. An additional six mentioned treatment duration but did not offer concrete lengths for treatment to be calculated in the table. The average treatment duration for the inpatient/acute mental health

setting was 16.5 weeks (Bailey, 1986; Bridges, 1993; Meyers, 1989; Schmidt et al., 2006; Stockwell et al., 1987). The outpatient setting had an average reported treatment duration of 8.5 weeks (Biddiscombe et al., 2018; Thien et al., 2000). There were two pieces of literature which reported on multiple settings without specifying differentiating lengths depending on setting. The average of these were eight weeks (Hannay, 2003; Rockwell, 1990).

Setting	**Treatment Duration**
Inpatient/Acute Mental Health	**Average: 16.5 weeks**
(Bailey, 1986)	30-90 days
(Bridges, 1993)	3 months
(Meyers, 1989)	8-12 weeks
(Schmidt et al., 2006)	10 weeks
(Stockwell et al., 1987)	3-18 months
Outpatient	**Average: 8.5 weeks**
(Biddiscombe et al., 2018)	5 weeks
(Thien et al., 2000)	3 months
Multiple Settings Reported	**Average: 8 weeks**
(Hannay, 2003)	12 weeks
Inpatient, outpatient, day-patient	
(Rockwell, 1990)	0-8 weeks
Inpatient, outpatient	

Table 2. Treatment Duration Based on Setting

Effect

Four articles had numerical reports for effect, while the majority reported opinions of usefulness without quantitative data to support the evidence. Although this number is a small percentage of the research reviewed, the numerical effects did show that the interventions may have had a positive impact on individuals with eating disorders.

Biddiscombe et al. (2018) reported the usefulness of practical food groups for individuals with eating disorders . The group consisted of food-based outings and cooking groups within a day program for individuals with eating disorders. Ninety-nine individuals completed the study. The study consisted of questionnaires regarding the participants' perceived usefulness of the group. Questionnaires were completed at discharge and up to three follow up points at 6, 12, and 24 months after commencement of the group. Participants were asked to answer open-ended questions as well as indicate responses on a rating scale. At discharge participants rated the importance of the group as a 4.73 out of 5 on average, while they rated the usefulness as 4.43 out of 5 on average. The enjoyment of the group was rated an average of 3.5 out of 5 at discharge. Skill transfer was rated as 3.92 out of 5 on average at discharge. The theme of "success through participation" was evident in the open-ended comments and responses.

Thien et al. (1999) reported quality of life and change in body fat among individuals with anorexia nervosa who participated in an outpatient graded exercise group. This study was a randomized controlled trial including 15 females and one male. The individuals were randomized into an experimental and control group. The experimental group was overseen by the occupational therapist, who reviewed and adjusted their exercise programs based on the participants' percentage of ideal body weight and their body fat percentage. The control group was encouraged to limit exercise, as usual. The participants were followed for 3 months with

body fat and weight measured and activity level reported every 2-3 weeks. Both groups completed the Medical Outcomes Survey SF-36 Quality of Life Questionnaire at baseline and the end of the three months. The experimental group increased BMI by an average of 1 kg/m^2, compared to a .8 kg/m^2 increase for the control group. The experimental group had an increase in body fat percentage by .9% on average, while the control group had a .5% increase on average but these improvements were not found to be statistically significant. The experimental group improved baseline measurements of quality of life in all aspects of the Medical Outcomes Survey Short-Form 36-Item Quality of Life Questionnaire (11.7 point increase overall when summing Role Physical component score, social functioning score, and vitality component score). These scores were not found to be statistically significant.

Hagerty, Williams, & Richards (2015) examined the effects of focus groups, staff engagement activities, and the developmental and implementation of a quality of life group on individuals with eating disorders . In addition to its focus on quality of life, this project also aimed to collaborate with participants to develop group interventions and later evaluate the impact that those group interventions had. Out of the 21 participants that were identified for participation in this project, five attended the focus group and three engaged in the quality of life group. Participants who engaged in the quality of life group were asked to complete the Eating Disorders Examination Questionnaire (EDE-Q), the Clinical Impairment Assessment (CIA), the Clinical Outcomes in Routine Evaluation (CORE-OM), and the World Health Organisation Quality of Life questionnaire (WHOQOL Brief) prior to beginning. These are four self-report assessments that examine eating disorder symptoms, psychosocial impairments due to eating disorders, psychological distress, and quality of life. One out of the three participants who engaged in the quality of life group attended all of the group sessions; this participant completed

the four self-report assessments for a second time after attending all of the sessions. The participant demonstrated improvement for all four assessments. The researcher did not report if the results were statistically significant.

Schmidt et al. (2006) examined the effects of personalized feedback to a guided cognitive behavioral therapy (CBT) self-help program for individuals with bulimia nervosa or eating disorders otherwise not specified, the bulimic type. A randomized controlled trial study was done with 61 individuals diagnosed with DSM-IV-TR bulimia nervosa or eating disorders otherwise not specified. Individuals received 14 sessions of a guided CBT self-help program with or without added personalized feedback on current physical and psychological status, risk and problems, and variables facilitating or hindering change. Feedback was provided to individuals through personalized letters after the assessment and after treatment, a specially designed feedback form administered halfway through treatment, or computerized feedback. These programs were supervised by an interprofessional team involving occupational therapists, psychologists, psychiatrists, and nurses. Each professional was trained in delivering feedback and letter-writing. With the added feedback, symptoms were reduced more effectively, such as self-induced vomiting and severe dietary restrictions. Outcome of the feedback was measured by using patient-rated measures of bulimic symptom at the end of treatment and at 6-month follow-up. Schmidt et al. suggests that repeated personalized feedback improves outcomes from guided CBT self-help treatment for individuals with bulimia nervosa or eating disorder otherwise not specified.

Discussion

This scoping review evaluated research that focused on occupational therapy interventions and the effectiveness of occupational therapy interventions with individuals with

eating disorders. The reviewed research presents that there are many professional opinions and qualitative data that do not have data or research methodology to support their conclusions. Gaps were identified in the literature regarding quantitative research for current occupational therapy interventions used in the treatment for individuals with eating disorders. There were ten conference proceedings among the research but researchers were not able to access the original research or presentation from the conference. This shows that although research has been done, it may not be accessible to occupational therapists. In addition, there is minimal research on the effectiveness of occupational therapy for treating eating disorders. There were only four sources of evidence out of the 48 that were between 2015 and 2020. This shows that less and less research is being done on occupational therapy and eating disorder interventions, despite the steady prevalence of eating disorders. The gap in the literature demonstrates the need for current randomized controlled trials and journal articles presenting the data.

The length of time which occupational therapists often treat individuals with eating disorders was not consistent among the literature. Very few reported specific details about frequency and length of treatment. The inconsistencies may be due in part to the intensity and frequency of treatment affecting the overall duration an individual would benefit from occupational therapy. Further research following the entire treatment process is needed in order to deduce the average frequency and duration of occupational therapy treatment in various settings.

The studies included in the review indicate that occupational therapists use a variety of interventions when working with individuals with eating disorders. These include, but are not limited to, meal cookery groups, clothes shopping, strategies to improve body image, assertiveness/communication training, social skills training, exercise programs, and stress

management techniques. Literature is still limited on what effect these interventions have on individuals with eating disorders, although many sources of evidence reported opinions of positive effects of occupational therapy with individuals with eating disorders. While similarities existed, patterns and themes could not be discerned from the sources of evidence and therefore a framework can not be proposed.

Among many sources of evidence, occupational therapists were co-treating individuals with eating disorders with multiple professionals including psychologists, psychiatrists, physicians, nurses, physical therapists, recreational therapists, dietitians, and social workers when providing interventions (Biddiscombe et al., 2018; Breden, 1992; Harries, 1992; Kloczko, 2006; Martin, 1985a; Matusevich et al., 2002; Schmidt et al., 2006; Stevenson et al., 1998). The reason for this may be because eating disorders are complex and involve a variety of factors. By incorporating several professionals, a variety of perspectives can be used to address the individualized risk factors. For instance, there are psychological, biological, and sociocultural variables which can lead to a higher likelihood of developing an eating disorder or amplify the symptoms (NEDA, 2012). There were seldom instances where occupational therapists treated an individual with an eating disorder alone. This suggests that the need for an interprofessional team is significant when working with this population.

The language used surrounding individuals with eating disorders is evolving to be more client-centered and destigmatized. The researchers observed an evolution of terminology throughout the decades from “the anorectics” and “patient” to terms such as “individual with eating disorder.” This is likely due to the holistic perspective occupational therapy uses today. In the articles that pre-date 2000, the terms used to describe the individuals were often focused

solely on their diagnoses. Today, articles are more frequently using terminology that reflects the idea that individuals are more than just a diagnosis or person in a hospital.

During the full-text review process of data extraction, the researchers found that many sources of evidence directly identified how the Model of Human Occupation (MOHO) is used to guide occupational therapists' treatment of individuals with eating disorders (Abeydeera, Willis, & Forsyth, 2006; Barris, 1986; Breden, 1992; Crouch & Alers, 2014; Lock et al., 2012; Kloczko & Ikiugu, 2006; Morris, 2012; Rockwell, 1990). Characteristics of this model that were highlighted include motivation, habits, routines, and performance patterns. Additionally, a number of sources discussed interventions incorporating these components but did not directly state the use of MOHO. This model is likely used due to its appropriateness for eating disorders, as they can be linked to habits and routines and it is important to understand what the motivation is behind the eating disorder behaviors.

A prevalent topic among the research related to MOHO was impaired performance patterns and habits, which often impact one's ability to engage functionally in occupations. A principle of MOHO is that a person's inner capacities, motives, abilities and routines are shaped, maintained, and changed through occupation (Kielhofner, 2008). When an individual begins to experience an eating disorder, their capacities, motives, and abilities can change to make the eating disorder the center of their focus and their primary occupation. Among the literature, occupational therapists often intervened in order to combat this change and support the individual in engaging in healthy occupations. This was done by targeting stress management, time management, establishing balance in daily life, and mitigating common destructive behaviors of eating disorders. Volition, or motivation, was targeted by working with the individuals to form new hobbies and leisure pursuits or explore vocational options. Individuals

can be more likely to be motivated if they are interested in what they are engaged in. By discovering new interests, the hope is that the individual will begin to step away from activities and habits related to their eating disorder and adopt healthier habits and occupations. By supporting the individual to reform habits and interests, the goal is to improve their quality of life.

The quality of life of the individuals with eating disorders was often a topic among interventions reported in the literature. For instance, Thien et al. (2000) was discussed in the results section regarding the effect of the intervention. It was found that the participants' quality of life improved and their body fat increased, which is not an easy feat for individuals with an eating disorder. Typically an increase in body fat can be a trigger for individuals with eating disorders, which can decrease quality of life. Although, with occupational therapists on the treatment team providing a variety of interventions, individuals with eating disorders' quality of life can be improved as body fat increases. By improving an individual's quality of life, they could not only become healthier physically, but they also may decrease the likelihood that they have mental health barriers that lead to death by suicide or premature death.

Limitations

This study was limited due to inaccessibility of additional sources of evidence secondary to the COVID-19 pandemic taking place during the data collection process. The pandemic caused libraries to have limited resources and/or a lack of access to books that researchers could not access freely online. For that reason, researchers were unable to complete a full text review of some books that could have had valuable data within them. Furthermore, it was challenging to reach general conclusions of the effectiveness of the occupational therapy interventions due to the lack of quantitative data and limited reports on effectiveness of interventions. Lastly, this

scoping review only included sources of evidence published in English. The researchers could have potentially missed relevant publications written in other languages.

Implications for Occupational Therapy Practice

The findings of this scoping review indicate that there are numerous professional opinions regarding best practice when working with individuals with eating disorders. Although there is a lack of rigorously applied research methodology among these reports, these reports have the following implications for occupation-based practice:

- The same interventions for eating disorders are often used for various subsets of diagnoses without a distinction among the diagnoses.
- Occupational therapy can positively impact an individual's quality of life, which can hopefully mitigate premature death through self injury and suicide.
- Treatment must incorporate a variety of professionals, and often use several modalities in order to treat the individual in a holistic manner.
- An ideal treatment framework cannot be produced from this scoping review, due to the lack of data-driven research regarding occupational therapy and eating disorders. More research is needed in order to provide evidence-based treatment protocols.
- The treatment of individuals with eating disorders has been and will continue to be provided along a continuum of care with various levels of stabilization among the inpatient, day-patient, outpatient, and community-based settings.

Conclusion

The research showed the significant role occupational therapy can play in the treatment of individuals with eating disorders, although there is a gap in the literature of data-driven research regarding an ideal treatment framework. Occupational therapists are using a

combination of intervention modalities and frequently work among an interprofessional team to work with this population. Further research is needed to determine effectiveness of interventions and current interventions used with this population.

Acknowledgements

We acknowledge Professor Kelly Machnik, MS, OTRL, Grand Valley State University, for her guidance and mentorship throughout the research process by way of her expertise in the field of mental health. Many thanks to Emily Welles, MS, RD, CDE, Spectrum Health, for sharing her knowledge and experience regarding the field of eating disorders and adding a valuable perspective beyond the scope of occupational therapy. Additionally, we acknowledge Betsy Williams, health professions librarian, Grand Valley State University, for her support and guidance throughout the research and writing process.

References

Abeydeera, K., Willis, S., & Forsyth, K. (2006). Occupation focused assessment and intervention for clients with anorexia. *International Journal of Therapy and Rehabilitation, 13*(7), 296-296. doi: 10.12968/ijtr.2006.13.7.21403

Affleck, A., Bianchi, E., Cleckley, M., Donaldson, K., McCormack, G., & Polon, J. (1984). Stress management as a component of occupational therapy in acute care settings. *Occupational Therapy in Health Care, 1*(3) 17-41. doi: 10.1080/J003v01n03_04

Allen M. E., Giles, G., & Scott, D. (1988). Occupational therapy in the rehabilitation of the eating disordered patient. In D. Scott (Ed.), *Anorexia and bulimia nervosa: Practical approaches* (pp. 148-160). New York University Press.

Allen, S., & Dalton, W. T. (2011). Treatment of eating disorders in primary care: A systematic review. *Journal of Health Psychology*, *16*(8), 1165–1176. doi: 10.1177/1359105311402244

American Occupational Therapy Association. (2014). Occupational therapy practice framework: Domain and process (3rd ed.). *American Journal of Occupational Therapy, 68*(Suppl. 1), S1-S48. doi: 10.5014/ajot.2014.682006

American Occupational Therapy Association (2017a). Definition of occupational therapy practice for the AOTA model practice act. Https://www.aota.org/~/media/Corporate/Files/Advocacy/State/Resources/PracticeAct/Model%20Definition%20of%20OT%20Practice%20%20Adopted%2041411.pdf

American Occupational Therapy Association. (2017b). The practice of occupational therapy in feeding, eating, and swallowing. *American Journal of Occupational Therapy, 71*, 1-13. doi: 10.5014/ajot.2017.716S04

American Psychiatric Association. (2013). Feeding and Eating Disorders. In *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Association.

American Psychological Association. (2020). *Eating disorders.* http://www.apa.org/topics/eating-disorders

Arksey, H., & O'Malley, L. (2005). Scoping studies: Towards a methodological framework. *International Journal of Social Research Methodology, 8*(1), 19–32. doi: 10.1080/1364557032000119616

Armstrong, R., Hall, B. J., Doyle, J., & Waters, E. (2011). 'Scoping the scope' of a Cochrane review. *Journal of Public Health (Oxford, England), 33*(1), 147-150. doi: 10.1093/pubmed/fdr015

Bailey, M. K. (1986). Occupational therapy for patients with eating disorders. *Occupational Therapy in Mental Health, 6*(1), 89-116. doi: 10.1300/J004v06n01_06

Barris, R. (1986). Occupational dysfunction and eating disorders: Theory and approach to treatment. *Occupational Therapy in Mental Health*, *6*(1), 27-45. doi: 10.1300/J004v06n01_03

Biddiscombe, R. J., Scanlan, J. N., Ross, J., Horsfield, S., Aradas, J., & Hart, S. (2018). Exploring the perceived usefulness of practical food groups in day treatment for individuals with eating disorders. *Australian Occupational Therapy Journal, 65*(2), 98-106. doi: 10.1111/1440-1630.12442

Bowers, W. A., & Andersen, A. E. (1994). Inpatient treatment of anorexia nervosa: Review and recommendations. *Harvard Review of Psychiatry*, *2*(4), 193-203. doi: 10.3109/10673229409017137

Bradford, R., Holliday, M., Schultz, A., & Moser, C. (2015). The role of the occupational therapist in the treatment of children with eating disorders. *Journal of Occupational Therapy, Schools, & Early Intervention, 8*(3), 196-210. doi: 10.1080/19411243.2015.1077053

Breden, A. K. (1992). Occupational therapy and the treatment of eating disorders. *Occupational Therapy in Health Care, 8*(2-3), 49-68. doi: 10.1080/J003v08n02_03

Bridges, B. (1993). Occupational therapy evaluation for patients with eating disorders. *Occupational Therapy in Mental Health, 12*(2), 79-89. doi: 10.1300/J004v12n02_05

Cash, T. F., & Smolak, L. (2011). *Body image: A handbook of science, practice, and prevention (2nd ed.)*. New York: Guilford Press.

Chesney, E., Goodwin, G. M., & Fazel, S. (2014). Risks of all-cause and suicide mortality in mental disorders: A meta-review. *World Psychiatry, 13(2),* 153-160. doi: 10.1002/wps.20128

Clark, M., & Nayar, S. (2012). Recovery from eating disorders: A role for occupational therapy. *New Zealand Journal of Occupational Therapy*, *59*(1), 13–17.

Costa D. M. (2009). Eating disorders: occupational therapy's role. *OT Practice*, *14*(11), 13–16.

Crouch, R., & Alers, V. (2014). The treatment of eating disorders in occupational therapy. In R. Crouch (Eds.), *Occupational therapy in psychiatry and mental health* (5th ed., pp. 408-418). Wiley Blackwell.

Custer, V. L., & Wassink, K. E. (1991). Occupational therapy intervention for an adult with depression and suicidal tendencies. *American Journal of Occupational Therapy, 45*(9), 845-848. doi: 10.5014/ajot.45.9.845

DeJesse, L. D., & Zelman, D. C., (2013). Promoting optimal collaboration between mental health providers and nutritionists in the treatment of eating disorders. *Eating Disorders*, *21*(3), 185-205. doi: 10.1080/10640266.2013.779173

Eating Disorders Coalition. (2016). Facts about eating disorders: What the research shows. Http://eatingdisorderscoalition.org.s208556.gridserver.com/couch/uploads/file/fact-sheet_2016.pdf

Elliot, M. L. (2012). Figured world of eating disorders: Occupations of illness. *Canadian Journal of Occupational Therapy*, *79*(1), 15–22. doi: 10.2182/cjot.2012.79.1.3

Fichter, M. M., & Quadflieg, N. (2016). Mortality in eating disorders - results of a large prospective clinical longitudinal study. *International Journal of Eating Disorders*, *49*(4), 391–401. doi: 10.1002/eat.22501

Folts, D. J., Tigges, K., Jackson, G. (1993). Occupational therapy treatment of anorexia nervosa. In A. Giannini, & A. Slaby (Eds). *The eating disorders* (pp. 227-228). New York: Springer.

Gardiner, C., & Brown, N. (2010). Is there a role for occupational therapy within a specialist child and adolescent mental health eating disorder service?. *British Journal of Occupational Therapy*, *73*(1), 38-43. doi: 10.4276/030802210X12629548272745

Giles, G. M. (1985). Anorexia nervosa and bulimia: An activity-oriented approach. *American Journal of Occupational Therapy*, *39*(8), 510-517. doi: 10.5014/ajot.39.8.510

Giles, G. M., & Allen, M. E. (1986). Occupational therapy in the rehabilitation of the patient with anorexia nervosa. *Occupational Therapy in Mental Health*, *6*(1), 47-66. doi: 10.1300/J004v06n01_04

Giles, G. M., & Chng, C. L. (1984). Occupational Therapy in the Treatment of Anorexia Nervosa: A Contractual-Coping Approach. *British Journal of Occupational Therapy, 47*(5), 138–141. doi: 10.1177/030802268404700503

Hagerty, E., Williams, B., & Richards, V. (2015). Developing a recovery based quality of life service for people with severe and enduring eating disorders. *Foundation of Nursing Studies.* https://www.fons.org/Resources/Documents/Project%Reports/Developing-a-Recovery-Based-Quality-of-Life-Service-for-People-with-Severe-and-Enduring-Eating-Disorders-final.pdf

Halmi, K. A. (2009). Salient components of a comprehensive service for eating disorders. *World psychiatry: Official Journal of the World Psychiatric Association (WPA), 8*(3), 150–155. doi: 10.1002/j.2051-5545.2009.tb00235.x

Hannay, M., & White, S. (2003). Stabilisation programme. *Mental Health Occupational Therapy, 8*(3), 97–98.

Harries, P. (1992) Facilitating change in anorexia nervosa: The role of occupational therapy. *The British Journal of Occupational Therapy. 55*(9), 334-339. doi: 10.1177/03080226920 5500903

Hay, P. J., & Mond, J. (2005). How to 'count the cost' and measure burden? A review of health-related quality of life in people with eating disorders. *Journal of Mental Health, 14*(6), 539-552. doi: 10.1080/09638230500400274

Hay, P. J., Mond, J., Buttner, P., & Darby, A. (2008). Eating disorder behaviors are increasing: Findings from two sequential community surveys in South Australia. *PlOS one, 3*(2), doi: 10.1371/journal.pone.0001541

Herzog, D. B., Greenwood, D. N., Dorer, D. J., Flores, A. T., Ekeblad, E. R., Richards, A., ... &

Keller, M. B. (2000). Mortality in eating disorders: A descriptive study. *International Journal of Eating Disorders, 28*(1), 20-26. doi: 10.1002/(sici)1098-108x(200007)28:1 <20::aid-eat3>3.0.co;2-x

Hilbert, A., Pike, K. M., Goldschmidt, A. B., Wilfley, D. E., Fairburn, C. G., Dohm, F. A., Walsh, B. T., & Striegel Weissman, R. (2014). Risk factors across the eating disorders. *Psychiatry Research, 220*(1-2), 500–506. doi: 10.1016/j.psychres.2014.05.054

Holmgren, S., Sohlberg, S., Berg, E., Johansson, B.M., Norring, C., & Rosmark, B. (1984). Phase 1 treatment for the chronic and previously treated anorexia. Bulimia nervosa patient. *International Journal of Eating Disorders*, 3: 17-36. doi: 10.1002/1098-108X(198424)3:2<17::AID-EAT2260030204>3.0.CO;2-K

Ibrahim, J., & Tchanturia, K. (2017). Patients' experience of a narrative group therapy approach informed by the "Tree of Life" model for individuals with anorexia nervosa. *International Journal of Group Psychotherapy*. 68. 1-12. doi: 10.1080/00207284.2017.1315586

Jones, W. R., Saeidi, S., & Morgan, J. F. (2013). Knowledge and attitudes of psychiatrists towards eating disorders: Eating disorder mental health literacy of psychiatrists. *European Eating Disorders Review, 21*(1), 84-88. doi:10.1002/erv.2155

Kerr, A. (1990). Occupational therapy. In N. Piran & A.S. Kaplan (Eds.). A day hospital group treatment program for anorexia nervosa and bulimia nervosa (3rd ed., pp. 110-127). New York, NY: Brunner/Mazel.

Kielhofner, G. (2008). Introduction to the model of human occupation. In G. Kielhofner (Ed.), model of human occupation: theory and application (4th ed.). (pp. 1e7) Baltimore: Lippincott Williams & Wilkin

Kloczko, E., & Ikiugu, M. N. (2006). The role of occupational therapy in the treatment of adolescents with eating disorders as perceived by mental health therapists. *Occupational Therapy in Mental Health, 22*(1), 63-83. doi: 10.1300/J004v22n01_05

Krauth, C., Buser, K. & Vogel, H. (2002). How high are the costs of eating disorders - anorexia nervosa and bulimia nervosa – for German society? *The European Journal of Health Economics, 3,* 244–250. doi: 10.1007/s10198-002-0137-2

Levens, M., & Duncan, S. (1987). The contribution of occupational therapy to the in-patient treatment of patients with eating disorders. *British Review of Bulimia & Anorexia Nervosa, 2*(1), 17-24. doi: 10.1177/0533316490233008

Lim, P. Y., & Agnew, P. (1994). Occupational therapy with eating disorders: A study on treatment approaches. *British Journal of Occupational Therapy, 57*(8), 309–314. doi: 10.1177/030802269405700808

Lock, L. C. (2000). Reoccupying the preoccupied: Occupational therapy for sufferers of eating disorders. In T.H (ed.) *Eating disorders: A multiprofessional approach* (pp. 70-87) Philadelphia, PA: Whurr Publishers.

Lock, L., Williams, H., Bamford, B., & Lacey, J. H. (2012). The St George's eating disorders service meal preparation group for inpatients and day patients pursuing full recovery: A pilot study. *European Eating Disorders Review, 20*(3), 218-224. doi: 10.1002/erv.1134

Mahaffey, L. (2006). Building a mental health practice: tradition and innovation in an acute care setting. *OT Practice, 11*(8), 14–18.

Marques, L., Alegria, M., Becker, A. E., Chen, C., Fang, A., Chosak, A., & Diniz, J. B. (2011). Comparative prevalence, correlates of impairment, and service utilization for eating disorders across US ethnic groups: Implications for reducing ethnic disparities in health

care access for eating disorders. *The International Journal of Eating Disorders, 44(5)*, 412-420. doi: 10.1002/eat.20787

Martin, J. E. (1985a). Anorexia nervosa: A review of the theoretical perspectives and treatment approaches. *The British Journal of Occupational Therapy, 48*(8), 236-240. doi: 10.1177/030802268504800804

Martin, J.E. (1985b). Occupational therapy in anorexia nervosa. *Journal of Psychiatric Research, 19*(2-3), 459-463. doi: 10.1016/0022-3956(85)90054-8

Martin, J. E. (1990). Bulimia: A review of the medical, behavioural and psychodynamic models of treatment. *British Journal of Occupational Therapy, 53*(12), 495–500. doi: 10.1177/030802269005301204

Martin, J.E. (1991). Occupational therapy in bulimia. *The British Journal of Occupational Therapy, 54*(2), 48-52. doi: 10.1177/030802269105400205

Matusevich, D., García, A., Gutt, S., De La Parra, I., & Finkelsztein, C. (2002). Hospitalization of patients with anorexia nervosa: A therapeutic proposal. *Eating and Weight Disorders, 7*(3), 196-201. doi: 10.1007/BF03327457

McColl, M. A., Friedlander, J., & Kerr, A. (1986). When doing is not enough. *Occupational Therapy in Mental Health, 6*(1), 137-150. doi: 10.1300/J004v06n01_08

Meyers, Susan K. (1989). Occupational therapy treatment of an adult with an eating disorder. *Occupational Therapy in Mental Health, 9*(1), 33-47. doi: 10.1300/J004v09n01_03

Micali, N., Hagberg, K. W., Petersen, I., & Treasure, J. L. (2013). The incidence of eating disorders in the UK in 2000-2009: findings from the General Practice Research Database. *BMJ Open, 3*(5). doi: 10.1136/bmjopen-2013-002646

Mitchison, D., Mond, J., Slewa-Younan, S., & Hay, P. (2013). The prevalence and impact of eating disorder behaviours in australian men. *Journal of Eating Disorders, 1(S1)*, O23-O23. doi: 10.1186/2050-2974-1-S1-O23

Morris, R. (2012). Assessment of occupation and social performance. In J. Fox, & K. Goss (Eds.), *Eating and its disorders; eating and its disorders* (pp. 61-74, Chapter xix, 504 Pages) Wiley Blackwell. doi: 10.1002/9781118328910.ch5

Muñoz, P., Quintana, J., Hayas, C., Aguirre, U., Padierna, A., & González-Torres, M. (2009). Assessment of the impact of eating disorders on quality of life using the disease-specific, health-related quality of life for eating disorders (HeRQoLED) questionnaire. *Quality of Life Research, 18*(9), 1137-1146. doi: 10.1007/s11136-009-9542-7

National Eating Disorders Association. (2012). *Factors that may contribute to eating disorders*. Https://www.nationaleatingdisorders.org/sites/default/files/ResourceHandouts/FactorsthatmayContributetoEatingDisorders.pdf

National Eating Disorders Collaboration. (2020). *Who is affected?* https://www.nedc.com.au/eating-disorders/eating-disorders-explained/something/who-is-affected/

Orchard, R. (2003). With you, not against you: Applying motivational interviewing to occupational therapy in anorexia nervosa. *British Journal of Occupational Therapy, 66*(7), 325-327. doi: 10.1177/030802260306600707

Ozier, A. D., & Henry, B. W. (2011). Position of the American Dietetic Association: Nutrition intervention in the treatment of eating disorders. *Journal of the American Dietetic Association, 111*(8), 1236-1241. doi: 10.1016/j.jada.2011.06.016

Pettersen, G., Rosenvinge, J. H., Thune-Larsen, K. B., & Wynn, R. (2012). Clinical confidence following an interprofessional educational program on eating disorders for health care

professionals: A qualitative analysis. *Journal of Multidisciplinary Healthcare, 5*, 201–205. doi: 10.2147/JMDH.S33089

Petticrew, M., & Roberts, H. (2006). Systematic reviews in the social sciences: A practical guide. Oxford;Malden, MA;: Blackwell Pub.

Robinson, A., Kane, M., & Leicht, S. (2005). Psychologists' Perceptions of Occupational Therapy in the Treatment of Eating Disorders. *Occupational Therapy in Mental Health*, 21:2, 39-53, DOI: 10.1300/J004v21n02_03

Rockwell, L. E. (1990). Frames of reference and modalities used by occupational therapists in the treatment of patients with eating disorders. *Occupational Therapy in Mental Health. l0*(2), 47-63. doi: 10.1300/J004v10n02_04

Schmidt, U., Landau, S., Pombo-Carril, M. G., Bara-Carril, N., Reid, Y., Murray, K., . . . Katzman, M. (2006). Does personalized feedback improve the outcome of cognitive-behavioural guided self-care in bulimia nervosa? A preliminary randomized controlled trial. *British Journal of Clinical Psychology, 45(1)*, 111-121. doi:10.1348/014466505X29143

Sheppard Pratt. (2020). *The center for eating disorders at Sheppard Pratt.* https://www.sheppardpratt.org/care-finder/the-center-for-eating-disorders-at-sheppard-pratt/

Shekter-Wolfson, L. F., Woodside, D. B., & Lackstrom, J. (1997). Social work treatment of anorexia and bulimia: Guidelines for practice. *Research on Social Work Practice, 7*(1), 5. doi: 10.1177/104973159700700101

Smink, F. R. E., van Hoeken, D., & Hoek, H. W. (2012). Epidemiology of eating disorders: Incidence, prevalence and mortality rates. *Current Psychiatry Reports, 14*(4), 406-414. doi:10.1007/s11920-012-0282-y

Sporild, I. A., & Bonsaksen, T. (2014). Therapeutic factors in expressive art therapy for persons with eating disorders. *Groupwork, 24*(3), 46-60. doi: 10.1921/10201240104

Stephenson, J., Olrich, E. S., McClintock, J. H., Foster, S. W., Reinke, J. A., Allen, M. E., & Giles, G. M. (1988). The multidisciplinary team approach to the treatment of eating disorders in youth. In K. Clark, R. Parr, & W. Castelli (Eds.), *Evaluation and management of eating disorders* (pp. 261-278). Champaign, IL: Life Enhancement Publications.

Stockwell, R., Powell, A., Bhat, A., & Evans, C. (1987). Patients' views of occupational therapy in a therapeutic milieu. *British Journal of Occupational Therapy*, *50*(12), 406–410. doi: 10.1177/030802268705001203

Thien, V., Thomas, A., Markin, D., & Birmingham, C. L. (2000). Pilot study of a graded exercise program for the treatment of anorexia nervosa. *The International journal of eating disorders*, *28*(1), 101–106. doi: 10.1002/(sici)1098-108x(200007)28:1<101::aid-eat12>3.0.co;2-v

Tricco, A. C., Lillie, E., Zarin, W., O'Brien, K. K., Colquhoun, H., Levac, D., . . . Straus, S. E. (2018). PRISMA extension for scoping reviews (PRISMA-ScR): Checklist and explanation. *Annals of Internal Medicine, 169*(7), 467. doi: 10.7326/M18-0850

Van Deusen, J. (1996) Body image of non-clinical and clinical populations of men. *Occupational Therapy in Mental Health, 13*(1), 37-57. doi: 10.1300/J004v13n01_04

Yanovski, S. Z. (2000). Eating disorders, race, and mythology. *Archives of Family Medicine*,

9(1), 88.

Ying Lim, P., & Agnew, P. (1994). Occupational therapy with eating disorders: A study on treatment approaches. *British Journal of Occupational Therapy, 57*(8), 309-314. doi: 10.1177/030802269405700808

Zhao, Y., & Encinosa, W. (2011). An update on hospitalizations for eating disorders, 1999 to 2009: Statistical brief #120. *Rockville: Healthcare Cost and Utilization Project (HCUP) Statistical Briefs.*

Appendix A

Full PubMed search:

(("Anorexia Nervosa"[Mesh]) OR ("Binge-Eating Disorder"[Mesh]) OR ("Bulimia Nervosa"[Mesh]) OR ("Hyperphagia"[Mesh]) OR (“bulimia”[Mesh]) OR (“anorexia”[Mesh])) OR (“anorexia”[tw] OR “binge-eating” OR “binge eating”[tw] OR “eating disorder”[tw] OR “eating disorders”[tw] OR “bulimia”[tw] OR “hyperphagia”[tw]))
AND
(("Occupational Therapy"[Mesh]) OR ("Occupational Therapists"[Mesh]) OR ("occupational therapy"[tw] OR “occupational therapies”[tw] OR “occupational therapist”[tw] OR “occupational therapists”[tw]))