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The Role of Occupational Therapy Practitioners in Evaluation and Intervention
of Sleep with Older Adult Clients

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Abstract

Objective: This study sought to explore occupational therapy practitioners' perceptions of their role in working with older adults with sleep issues. **Methods:** A mixed methods approach was used with data gathered from an online survey tool disseminated through social media platforms. Data from 17 participants was analyzed. **Results:** Respondents reported not receiving entry-level knowledge of sleep evaluation in academic programs (70.6%). Additionally, 41.2% of respondents utilized continuing education opportunities. Respondents reported lack of occupational therapy specific evaluation tools as a significant barrier to addressing sleep in practice. **Discussion:** Results indicate the need for additional research, coverage on sleep in the academic curriculum, professional development opportunities, and occupational therapy specific evaluations for addressing sleep.

Keywords: occupational therapy, older adults, sleep

Chapter 1: Introduction

Introduction to Study

It is estimated that 40-70% of older adults (OAs) experience sleeping problems, affecting overall health, well-being, and participation in occupations (Leland, Marcione, Schepens, & Fogelberg, 2014). Occupations are life activities in which people engage. These occupations include “activities of daily living, instrumental activities of daily living, rest and sleep, education, work, play, leisure, and social participation” (AOTA, 2014, S19). Occupational therapy (OT) practitioners are healthcare professionals who frequently address aging in OA clients with a focus on function, safety, and independence. In this study, OT practitioners refer to both registered occupational therapists and occupational therapy assistants (OTAs). The Occupational Therapy Practice Framework: Domain and Process 3rd Edition (OTPF3), which is utilized by OT practitioners in practice, identifies rest and sleep as an occupation related to “obtaining restorative rest and sleep to support healthy, active engagement in occupations” (AOTA, 2014, S20). Poor sleep can have a negative impact on health and well-being.

Background to Problem

More than fifty million Americans living in the US are affected by chronic sleep disorders (Gutman et al., 2017; Tester & Foss, 2018). More specifically, the OA population is at increased risk of being impacted by sleep disruption. Leland et al. (2014) state that 40-70% of OAs have reported problems associated with sleep and are more likely to experience sleep difficulties compared to younger adults. The Center for Disease Control and Prevention (2019) has recognized sleep deprivation as a public health problem with wide-reaching effects that hinders an individual’s ability to participate in everyday tasks.

Several healthcare professionals, including physicians and psychiatrists, have the education and training to evaluate sleep disorders in various settings (Miller, 2008). Unfortunately, despite the prolific symptoms individuals experience and the clinical significance of sleep conditions, they often go undiagnosed and are left untreated. In the 2005 Sleep in America poll by The National Sleep Foundation, it was reported that 70% of respondents stated that their physicians never asked about their sleep habits and routines (Miller, 2008). Physicians will often refer clients to sleep specialists who evaluate and treat sleep and sleep disorders. Sleep specialists are employed in over 4,700 sleep centers and labs in the US (Sleep Advisor, 2020). However, there remains minimal research on where OAs can go to address sleep disturbances, other than sleep centers and labs. More recent studies on sleep disturbances imply that a team-based approach, relying on professionals from multiple disciplines, is increasingly encouraged in healthcare, research, education, and policy (Shelgikar, Durmer, Joynt, Olson, Riney & Valentine, 2014).

OT practitioners have a unique role in addressing sleep within the interprofessional team. While rest and sleep are within the scope of OT practice, there is a lack of OT-specific evaluation tools that assess sleep and rest. As a result, occupational therapists utilize sleep instruments from other disciplines that do not uniquely address sleep as an occupation. The lack of standardized OT assessments creates a barrier for OT intervention plans, as outcome measures are created based on evaluation findings (Tester & Foss, 2018; Leland et al., 2014; Faulkner & Mairs, 2014).

Problem Statement

Sleep disorders and issues affect people of all ages, with up to 40-70% of OAs identifying difficulty with sleep quality, negatively impacting health and well-being (Leland et

al., 2014). Although sleep is an occupation that OT practitioners can address in professional practice, there is a lack of literature describing sleep evaluation and intervention approaches commonly used.

Purpose

This study aims to contribute to the body of evidence through a survey of OT practitioners working with OA clients. Researchers seek to understand the perceptions of OT practitioners' roles in the evaluation and intervention of sleep among OA clients.

Significance of Problem

Approximately 50% of OAs have difficulty sleeping, which can be linked to obesity, cardiovascular disease, diabetes, decreased physical functioning, increased risk of falls, and mental health problems, including depression, anxiety, and decline in cognitive function (Neikrug & Ancoli-Israel, 2010). In 2018, there were 52 million Americans aged 65 and older. Trends predict that by the year 2060, this number will increase to 95 million OAs in the US (Population Reference Bureau, 2019). Employment trends have reported that OT practitioners work more frequently in settings where OA clients reside, such as hospitals, long-term care facilities, and SNFs (AOTA, 2019; Bureau of Labor Statistics, 2019). Additionally, AOTA has encouraged OT practitioners to address sleep problems as they impact daily functioning with OA clients (Gutman et al., 2017).

Research Questions

What are occupational therapy practitioners' perceptions of their role in working with older adults with sleep issues?

Key Concepts

- Evaluation → "Process of obtaining and interpreting data necessary for intervention. This includes planning for and documenting the evaluation process and results" (AOTA, 2014, S42).
- Intervention → "Process and skilled actions taken by occupational therapy practitioners in collaboration with the client to facilitate engagement in occupation related to health and participation" (AOTA, 2014, S43).
- Occupational therapy (OT) → "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, S1).
- Occupational therapy (OT) practitioner → For the purpose of this research, occupational therapists and occupational therapy assistants are healthcare practitioners that work with older adults.
- Occupational therapy (OT) process → The client centered delivery of occupational therapy services including referral, evaluation, intervention, targeted outcomes, and discharge (AOTA, 2014).
- Occupation → "everyday activities that people do as individuals, in families and with communities to occupy time and bring meaning and purpose into life" (AOTA, 2014, S5)
- Older adults (OAs) → Individuals who are 65 years of age or older.
- Rest and Sleep → "Activities related to obtaining restorative rest to support healthy, active engagement in other occupations" (AOTA, 2014, S20).
- Sleep disorders → "Sleep disorders involve problems with the quality, timing and amount

of sleep, which cause problems with functioning and distress during the daytime”
(American Psychiatric Association, 2017).

Summary

Older adults are experiencing increased health issues as a result of poor sleep quality, highlighting the significance of sleep as a determinant of health and engagement in occupations. The healthcare field is moving towards a more interprofessional approach to patient care. OT practitioners are uniquely qualified to be a part of this interprofessional team, yet, there remains a lack of evidence that guides the OT process. This study aims to gather data through a survey that will contribute to the body of evidence of how OT practitioners perceive their role in addressing sleep with OAs.

Chapter 2: Literature Review: PEO Model

The Person-Environment-Occupation (PEO) model was used to guide the literature review. The PEO model examines how interactions between the person, environment, and occupation impact occupational performance (Baum, 2015). To effectively address sleep, OT practitioners must understand the person factors of the OA population, characteristics of the sleep environment, components of sleep and rest, and how they interact to influence engagement in sleep and rest.

Person

The P in the PEO model represents the person or the intrinsic factors that impact occupational engagement and performance. Intrinsic factors include physiological, spiritual, neurobehavioral, cognitive, and psychological factors. Additionally, intrinsic factors would include the personal context of the individual, which is a feature of an individual that is unrelated

to their health, such as the age and gender of an individual (AOTA, 2014).

Older Adults. The US Department of Health and Human Services' 2018 Profile of Older Americans shows an increase in adults aged 65 and older. Furthermore, 35% of OAs reported at least one disability, which is often associated with hearing, vision, cognitive, and functional mobility limitations. A portion of the research conducted in this study only considered individuals 75 years of age and older. These findings contributed to a lack of evidence to determine data for those who were between the ages of 65 and 74 (US Department of Health and Human Services, 2018). The OA population is growing and has a number of health concerns that OT practitioners need to be aware of in practice. By gaining a deeper understanding of this population, OT practitioners can appropriately address the occupation of sleep among OAs.

Evaluation Methods. A combination of standardized and non-standardized evaluation tools are utilized in OT practice. Ho and Siu's (2018) systematic review mentions that the Canadian Occupational Performance Measurement (COPM) has been used in some sleep management studies. The COPM focuses on occupational performance and satisfaction. Additional assessments identified in the review are The Pittsburgh Sleep Quality Index (PSQI) and The Patient-Reported Outcome Measurement Information System (PROMIS). The study reveals limited information on OT specific assessments existing in the literature. A key limitation is that only eleven studies were analyzed. Although this reflects the lack of evidence-based studies of sleep intervention in OT, consideration of expanding the search will allow for inclusiveness. Ho and Siu (2018) concluded that "further development of sleep management from an occupational therapy perspective will strengthen the role of sleep within clinical practice, education, and research domains" (p. 10).

In another article, Tester and Foss (2018) outline various non-standardized tools used in OT to address sleep patterns and routines. These include qualitative assessments that are commonly completed through screens, self-reported data, diaries, scales, and caregiver reports. A limitation of this study is that the evaluation tools identified are non-standardized, presenting challenges for occupational therapists to provide objective data on the degree of sleep difficulty and quality of OA clients. There remains limited research on whether OT practitioners are utilizing non-standardized tools to guide client-centered intervention for those experiencing sleep disturbances.

Interventions. Both pharmacological and nonpharmacological intervention approaches are used to address sleep disorders. Physicians frequently use medications to manage symptoms, while OT practitioners may refer individuals to specialists or provide holistic intervention to address sleep. The literature identifies intervention approaches OT practitioners can use to address sleep with OA clients.

Smallfield and Molitor's (2018) systematic review and Leland et al.'s (2014) scoping review both discuss various sleep interventions utilized in OT practice. Relaxation approaches identified consist of stress management education, deep diaphragmatic breathing strategies, progressive muscle relaxation, guided imagery, sleep diaries, meditation, and biofeedback. These relaxation approaches help to reduce cognitive and physiological arousal, ultimately improving the performance of sleep. Environmental modifications and stimulus control are also utilized as intervention strategies to promote sleep and rest (Leland et al., 2014; Smallfield & Molitor, 2018).

Additionally, Leland et al. (2014) identified cognitive-behavioral and multi-component

approaches as effective sleep interventions. Through cognitive-behavioral therapy (CBT), OT practitioners can educate and instruct clients on relaxation strategies and sleep hygiene practices through cognitive restructuring. CBT addresses sleep by “modifying dysfunctional perceptions of sleep and unsuitable sleep behaviors” (Leland et al., 2014, p. 3). Other cognitive-behavioral interventions mentioned by Smallfield and Molitor (2018) include education approaches such as educating on sleep habits and sleep hygiene, collaborating on appropriate sleep goals, and setting up sleep schedules. Data collected from this study was subjectively measured through self-reported outcome measures, lacking objective results. Additionally, a limitation of the scoping review (Leland et al., 2014) is that occupational therapists did not lead any of these interventions, signifying a lack of occupation-based activity used in sleep intervention. Interventions identified in the literature are conducted by other healthcare professionals, showing the limited presence of OT on the interprofessional team that treats sleep issues.

Environment

The E in the PEO model signifies the environment which supports, or hinders, participation in occupations. These features can include extrinsic factors such as physical and natural environments, social environment, and technology. OAs are at an increased risk for sleep issues, therefore, more susceptible to negative effects of an inadequate sleep environment.

Desaulniers, Desjardins, Lapierre, and Desgagne (2018) studied the effects of the physical, natural, and social environment on sleep quality. The authors explored noise, brightness, pillow, and mattress comfort and their influences on OAs presenting with insomnia symptoms. A sample of 599 OAs (mean age of 79.3) completed a questionnaire regarding their sleep environment. OAs who reported moderately uncomfortable to very uncomfortable pillows,

as well as bedrooms that were not completely quiet at night, had a significant association with insomnia symptoms. Furthermore, Missildine (2008) measured light and sound levels to explore effects on OA's sleep in an acute care setting. Findings indicated significantly impaired sleep efficiency, with an average of 3.74 hours of sleep per night and 26.33 awakenings each night. The median sound level was 52.87 dB, compared to the recommended 40 dB for sleeping hours (WHO, 2009). Limitations in the Desaulniers et al. (2018) study include failure to consider depression, pain level, or hearing acuity. Data cannot confirm a causal relationship between insomnia and pillow comfort or nocturnal noise. Lastly, the average mattress and pillow age were not accounted for. Limitations in Missildine (2008) include a small sample size, an unfamiliar environment for sleep participation, and a lack of daytime napping measurement. OT practitioners can modify the sleep environment to enhance sleep quality and optimize sleep participation among OAs.

Occupation

The O in the PEO model represents occupations, or what the client wants and needs to do in everyday life. An occupation is described by the OTPF3 as being “central to a client’s identity and sense of competence and have particular meaning and value to that client” (AOTA, 2014, S5). There are several theories and definitions of occupation discussed throughout the literature.

The OTPF3 defines eight areas of occupation, including rest and sleep, which is defined as “activities related to obtaining restorative rest and sleep to support healthy, active engagement in other occupations” (AOTA, 2014, S20). The occupation of rest and sleep is divided into three subcategories: rest, sleep preparation, and sleep participation. Buysse (2014) writes from the perspective of psychiatry in his review on the topic of sleep health. Buysse concludes that “sleep

health” is a term that is infrequently used in the literature, and when it is used, it is not defined. Similarly, student researchers had difficulty locating definitions of sleep from other health disciplines such as nursing, psychiatry, and psychology. More frequently, the literature defined terms associated with sleep, such as sleepiness, fatigue, insomnia, or sleep apnea. Sleep itself or the process of sleep was less often the focus in these disciplines. The OTPF3 provides a unique definition of sleep, contributing to the significance of OT’s role within the interprofessional team.

A chapter titled “An Introduction to Occupation,” by Christiansen and Townsend (2004) defines occupations as occupying and controlling one’s time and space. The authors also reveal that humans spend one-third of their lives sleeping. They mention the controversy in naming sleep as an occupation because occupations are usually equated with action. However, sleep requires preparation such as making the bed, engaging in relaxing routines, and creating the proper environment, such as closing the curtains and turning off the lights. Only four paragraphs were dedicated to sleep as an occupation, with six references dated from 1985-1995. While the 2004 book is the most current edition of this textbook, the references used when constructing the content are outdated. Similarly, In a book chapter authored by Christiansen and Baum (2005), sleep is classified as a personal care occupation vital to health for its restorative functions. Though the authors acknowledge the importance of sleep as an occupation, only two paragraphs are dedicated to the occupation of sleep throughout the book.

Green (2008) published an article bringing light to the neglected occupation of sleep and the historical debate as to whether addressing sleep is within the realm of OT. Green recalls how previous research stated that sleep is an unconscious process that cannot be influenced, and

therefore cannot be considered an occupation. Another justification for excluding sleep as an occupation includes that occupations must be consciously executed and equated with action. Current research argues that the goal of sleep is to recuperate the body, and that intrinsic and extrinsic factors can influence sleep quality. The profession reasoned that occupations involve more than just doing and that “occupation and time use are two sides of the same coin” (Green, 2008, p. 342). Though Green’s article provides historical context to the idea of sleep as an occupation, it is over a decade old.

More recent literature mentions AOTA’s support in embracing sleep treatment following their 2008 reclassification of rest and sleep from an activity of daily living to its own domain of occupation (Tester & Foss, 2018). This change in an official OT document shows progress in the acceptance of sleep as an occupation. Still, more recent discussion on the current consideration of sleep in OT intervention is missing from the literature.

Summary and Implications

The three elements of PEO, person, environment, and occupation, are vital to consider when addressing OAs and the occupation of sleep. Literature indicates that the person’s intrinsic factors and their interaction with the environment are determinants of their occupational engagement and performance. However, there are limited evaluation tools occupational therapists can use to analyze sleep in OAs. Additionally, while the literature includes interventions commonly used to treat sleep from other disciplines, there remains a gap in how OT can contribute to the interprofessional team. Further research is needed to contribute to the literature of OT and sleep in OAs. This study’s primary purpose is to understand the perceptions of OT practitioners’ roles in the evaluation and intervention of sleep among OA clients.

Chapter 3: Methodology

Study Design

The aim of the study was to determine what OT practitioners' perceived roles are in addressing sleep with OA clients. An exploratory design was utilized to gather data through a questionnaire survey. A virtual platform was used to recruit a convenience sample from two social media groups. A combination of qualitative and quantitative data was utilized to understand how sleep is addressed with OAs within OT practice through a mixed-methods design. A cross-sectional design was used and solely based on gathering statistics from one point in time (Taylor, 2017). Quantitative data was gathered through standardized questions based on Likert scales, which offer response choices to elicit opinions (Taylor, 2017). Qualitative data was gathered through open-ended questions based on thoughts and perceptions, which allowed researchers to examine the respondents' underlying reasoning and motivations regarding the research question.

Population

The sample consisted of both occupational therapists and OTAs with varying levels of experience, practice settings, and education levels. Student researchers disseminated the survey through a virtual platform to interact with a diverse population of OT practitioners. Participants were recruited through two OT Facebook groups. To increase variation, OT practitioners throughout the US and other countries were included in the study. The first three questions of the survey were designed to ensure potential participants met the inclusion criteria. The survey was designed to end if participants did not consent, signified they were neither an occupational therapist nor an OTA, or reported zero years of experience. The study did not include volunteer,

fieldwork experience, or other professional experience. Additionally, participants were excluded from data analysis if they did not report at least one year of experience working with OAs.

Instruments

Student researchers generated an electronic questionnaire with the assistance and professional expertise provided by the Grand Valley State University Statistical Consulting Center (SCC). Qualtrics, an online survey software tool was utilized to create our survey. The survey was specifically created for this study, since no existing survey was available. Elements of the survey were grounded in best practice concepts of survey development. The process included generating questions that measured the participant's experiences, ordering questions in a logical way, and using concrete and appropriate language while avoiding biased words (Pew Research Center, 2020). The survey included a variety of questions to identify current OT knowledge on the evaluations and interventions used in practice with older adults to address sleep.

Validity and Reliability. The internal validity of the survey was evidenced by prolonged engagement, open-ended interview questions, and member checking. Additionally, the survey ensured external validity as it reflected real-world practice in the field of OT. To strengthen reliability, a pilot survey was disbursed to two experienced occupational therapists who have worked with OAs to evaluate how respondents would understand and respond to the questions. The survey was then modified based on the feedback received from the pilot responses.

Trustworthiness. Qualitative questions sought to understand the unique experiences of the respondents. Transferability was checked with the inclusion of demographics of the respondents to determine whether the findings could be generalized (Brown, 2017). Student

researchers individually coded data and compared results to ensure dependability of the study. Confirmability was based on how the evidence supported the research question.

Procedure

A variety of social media groups were considered for this study. The primary group, Sleep4OT, was chosen based on the group members' personal and professional interest in the research area of OT and sleep. The secondary group, Occupational Therapy New Grads and Students, was chosen to gain insight from practitioners with various levels of experience in the field. Quantitative and qualitative survey questions were developed by student researchers and were reviewed and modified by the GVSU SCC. The research proposal and survey were submitted to and approved by GVSU's Institutional Review Board (IRB) (See the Appendix for survey questions). Following IRB approval, student researchers piloted and edited the survey according to the occupational therapists' results and feedback.

Researchers then contacted the social media platform for permission to post the link to the survey. Once permission was obtained, the survey link and instructions were uploaded to the Facebook group, Sleep4OT. The survey remained open for two weeks, with a one-week reminder post for members to complete. There were less than 20 respondents following the closing of the survey. Consistency was established by repeating this process with the second Facebook group, Occupational Therapy New Grads and Students, to reach the desired number of participants.

The participants were provided with a letter of consent and information regarding the study. Participants were informed that the survey would take approximately 10 minutes to

complete. To protect the participants' privacy, no personal information was gathered and all survey responses were anonymous.

After closing the survey, student researchers collaborated with the GVSU SCC to analyze quantitative data using Statistical Analysis Software. Qualitative data was analyzed by coding and theming responses. The researchers individually coded and themed responses and collaborated to compare data.

Chapter 4: Results

Data Analysis

Student researchers gathered and analyzed quantitative and qualitative data from 60 survey participants using a mixed-methods analysis. Statistical Analysis Software was used to analyze quantitative data. The Fisher's Exact test and Monte Carlo method were used to obtain exact p-values. Due to small sample sizes, p-values were not significant or adequate to interpret the data analysis results. Therefore, descriptive statistics were used to report the results of the survey. Due to the small sample size, quantitative findings could not be generalized to all OT practitioners working with OA clients.

The survey contained qualitative questions addressing continuing education, evaluations, and interventions. To analyze qualitative data, a thematic analysis was performed. To increase reliability and trustworthiness, student researchers coded the data individually to ensure intercoder agreement (Creswell & Creswell, 2018). Following individual analysis, student researchers compared findings and identified two main themes: professional development and the occupational therapy process. These two themes were further divided into sub-themes based on the context.

Quantitative Data

In total, 60 participants initiated the survey. Thirty-eight of the 60 participants completed and submitted the survey. However, 16 respondents did not meet the inclusion criteria of being an occupational therapist or OTA and having at least one year of experience. Additionally, five respondents were excluded on the criteria that they did not have experience working with OAs. Therefore, a total sample size of 17 was used in the data analysis. Seven respondents did not complete the qualitative portion of the survey. Only quantitative data were analyzed for these respondents. Table 1 summarizes the characteristics of the 17 eligible respondents whose data was analyzed.

Of the 17 responses analyzed, 47.0% (n=8) had 1-2 years of experience. Respondents represented a wide array of experiences in various settings, with SNFs being the most common place of employment (58.8%, n=10). This finding is consistent with AOTA's salary and workforce survey, where SNFs and long term care facilities are consistently one of the highest employment settings for occupational therapists and OTAs (AOTA, 2019). The highest number of respondents were from the USA (58.8%, n=10), while OT practitioners from Canada made up 29.4% (n=5) of respondents. Finally, 76.5% (n=13) of respondents received a master's degree, compared to those with associate, bachelor's, and OTD/PhD degrees.

Table 1. Characteristics of Occupational Therapy Practitioner Survey Respondents.

Years of experience	
1-2	47.0% (8)
3-4	5.88% (1)
5-10	17.6% (3)
11+	29.4% (5)
Geographical Region	
USA	58.8% (10)
Canada	29.4% (5)
Not specified	11.8% (2)
Settings Where Participants have Worked	
SNF	58.8% (10)
Acute Care	47.0% (8)
Community Mental Health	52.9% (9)
Subacute (Inpatient)	52.9% (9)
Outpatient	52.9% (9)
Mental health	52.9% (9)
Home Health	47.0% (8)
Palliative Care	29.4% (5)
Assisted Living	35.3% (6)
Level of Education	
Associate's Degree	5.88% (1)
Bachelor's Degree	11.8% (2)
Master's Degree	76.5% (13)
OTD/PHD	5.88% (1)

Qualitative Data

Professional development.

Formal education. Respondents reported that a lack of knowledge and comfort were among the top barriers to addressing sleep in their practice (n=9). Researchers further explored in what context and to what extent the topic of sleep was being included in formal education settings. Results indicate that 70.6% (n=12) of respondents did not receive entry-level knowledge of sleep evaluation and intervention in their academic OT program. Beyond the academic curriculum, respondents identified formal education opportunities available through continuing education and advanced training. Additionally, 41.2% of respondents reported receiving continuing education opportunities

that addressed sleep. Several formal educational opportunities were mentioned, including attending conferences, webinars, and certification training as ways to obtain continuing education and advanced training on the topic of sleep and OAs.

Informal education. In addition to formal education, various informal education experiences were identified as methods practitioners used to gain knowledge regarding sleep. These include self-directed learning via reading books, articles, and conducting research. Other learning methods that respondents mentioned were discussion and collaboration with peers on topics addressing sleep.

Occupational Therapy Process.

Evaluation. The results indicated that respondents utilized standardized and non-standardized evaluation methods when addressing sleep in OAs. Nine out of the 17 (52.9%) respondents provided a detailed response to evaluation tools used to address sleep. The most commonly reported standardized evaluation tools were the Pittsburgh Sleep Quality Index (PSQI) (17.6%, n=3), the COPM (11.8%, n=2), and the Insomnia Severity Index (ISI) (11.8%, n=2). Other evaluation tools reported were the Epworth Sleepiness Scale (ESS), STOP-Bang Questionnaire, and the PROMIS. Additionally, several non-standardized evaluations were mentioned, including self-report measures, screening assessments, sleep diaries, scales, and subjective findings provided through caregiver reports. Although OT practitioners utilize these evaluation tools, there are no standardized assessments specific to OT and sleep. Respondents identified this as the most common barrier to addressing sleep with OA clients (n=9)

Intervention.

Person. Several interventions were identified to address person factors of the OA client. These include structured individual and group interventions such as Acceptance and Commitment Therapy (ACT) and CBT. Other interventions include patient education and pain management through various methods, including biofeedback, relaxation, workbooks on chronic pain, and self-managing pain. Lastly, occupational therapists can refer OA clients to sleep specialists for needs outside OT's scope of practice.

Environment. The results indicate that the environment has an impact on both OT practitioners when addressing sleep and OA clients when engaging in sleep. In community settings, respondents answered *always* or *often* addressing sleep in practice. On the contrary, SNFs, acute care, and subacute inpatient rehabilitation answered *never* or *rarely* addressing sleep in practice. Researchers also investigated the comfort level of practitioners addressing sleep in their practice. Practitioners in community health and mental health expressed increased comfort addressing sleep among OA clients. In contrast, practitioners working in SNFs, acute care, home health, and subacute care were uncomfortable addressing sleep in practice.

Modifying the environment was the most common support in addressing sleep in OA clients (n=12). Respondents identified incorporating various modifications to the built environment, including bedroom layout, positioning, and mattress and pillow features. Aromatherapy and music were identified as ways to enhance the environment during sleep routine. Additionally, it was reported that the natural environment can be

modified to promote sleep participation by being mindful of light exposure throughout the day and during sleep.

Occupation. OT practitioners can enhance sleep participation by altering the way OAs engage in the occupation of sleep. Strategies and techniques reported include sleep hygiene education, energy conservation techniques, mindfulness exercises, and calming techniques. Additionally, 29.4% of respondents (n=5) reported establishing routines and schedules to promote sleep.

Chapter 5: Discussion and Conclusion

Discussion of Findings

The purpose of the study was to explore how sleep is being addressed in OT practice with OA. The research question was: What are occupational therapy practitioners' perceptions of their role in working with older adults with sleep issues? Based on the results, key factors that influence OT practitioners addressing sleep are evaluations, practice settings, and education.

Evaluations. Respondents indicated there are a lack of standardized OT evaluations that address sleep. These findings support Tester and Foss (2018), who identified challenges preventing current OT practitioners from treating sleep in OA clients due to the lack of standardized OT evaluation tools. Respondents reported the COPM, PQSI, ISI, and self-reported measures as the most common evaluation tools used in OT practice. These results are consistent with Ho and Sui (2018), who identified the COPM, PQSI, and PROMIS, among other evaluation tools in the systematic review.

Practice Setting. According to the BLS (2019), employment trends have shown that OT practitioners frequently work in settings where OAs reside, such as SNFs, hospitals, and home

health. This supports the current findings, as respondents reported their previous and current practice settings working with OAs, with SNFs being the most common place of employment. Though SNFs were the most common practice setting, respondents were not comfortable addressing sleep in this setting. Respondents working in community health and mental health settings indicated the greatest comfort addressing sleep compared to all other settings.

Education. The results contribute new information to the literature, including OT practitioner's comfort level and how it relates to the inclusion of sleep as a topic in the academic curriculum. Approximately 71% of respondents indicated receiving no entry-level knowledge regarding sleep interventions and evaluations in OT academic education. Additionally, the results offer information about the access and experience of continuing education opportunities. Approximately 53% of respondents reported never receiving continuing education opportunities that addressed sleep. Finally, 53% of participants indicated *unclear roles of the interprofessional team* as a top barrier in addressing sleep. Further research should be conducted to determine whether the lack of sleep in the OT curriculum or limited opportunities for continuing education contribute to unclear roles within the interprofessional team.

Application to OT Practice

Evaluation. The literature provides examples of evaluation tools from other disciplines that can be used by OT practitioners to analyze sleep performance and satisfaction. While respondents report familiarity with these tools, the lack of OT specific standardized evaluation tools limits the OT practitioner during the evaluation process with identifying pertinent information based on performance in the occupation of rest and sleep. Occupational science has the ability to take the lead in developing and testing OT specific screening and evaluation tools

used to identify sleep issues. Sleep problems are significantly impacting older adults in their homes and long-term care facilities, both of which are settings where OT practitioners work. These specific OT evaluation tools should guide OT practitioners in assessing clients' intrinsic factors and their environments as they influence sleep performance.

Practice Setting. Settings where OT practitioners are frequently employed are not evaluating and intervening on various occupation areas, including rest and sleep. This could potentially be due to productivity demands and insurance reimbursement mandating that only medically necessary treatment be provided. In contrast, practitioners working in mental health and community health settings report high comfort levels and high frequency of addressing sleep in practice. Additionally, 47% of respondents only had 1-2 years of experience as an OT practitioner. As new graduates navigate learning the rules and regulations of facilities, outdated or nonholistic practice guidelines may be relied upon for intervention planning. These practice and treatment guidelines could be updated to reflect AOTA's new classification and the importance of sleep as an occupation.

Education. Entry-level practitioners need to have foundational knowledge on the evaluation and treatment of sleep. Current OT academic programs should cover all occupation areas defined in the OTPF, including more content on sleep to prepare students for entry-level practice. There is emphasis on activities of daily living and instrumental activities of daily living in readings, assignments, and labs in OT curriculums. Covering sleep implications, evaluations, and interventions across the lifespan in academic curriculum may help students become more comfortable addressing sleep. It is recommended that OT programs and professors partner with healthcare professionals specializing in sleep to help prepare students for entry-level practice.

A search of online continuing education on the topic of sleep yields various courses and webinars available for OT practitioners; however, 53% of respondents are not accessing these opportunities. Researchers hypothesize that this could be due to out of pocket costs to complete the continuing education and lack of time in practitioners' busy schedules. Professional organizations such as AOTA should consider providing free or discounted interprofessional education opportunities to entice practitioners to stay up to date on current sleep evaluation and intervention trends.

Limitations

There are several limitations to this study. Researchers analyzed 17 of 60 total responses collected, creating a relatively small sample size. A second limitation was the design and distribution of the survey. There were no existing surveys available on OT evaluation and sleep intervention with OAs, therefore, the tool was created by the students, which may have limited the validity and reliability. Additionally, the survey was distributed through Facebook groups. Therefore, OT practitioners who were not members of these groups, or did not have access to the internet, did not have access to the survey. Not every question on the survey explicitly stated that answers should be directed towards experience with OA clients. This could have led to confusion among respondents or inaccurate responses geared towards pediatric or adult populations. The qualitative questions were designed to provide essential insight into the problem; however, there were only 10 responses, limiting the qualitative perspective.

Suggestions for Further Research

The results indicate a variety of leads for future research regarding OAs and sleep. In future studies, researchers should inquire about practice settings and knowledge addressing sleep

separately. This would provide a better understanding of whether practitioners' comfort levels were based on employment setting or intrinsic factors. Future research should also examine which evaluation tools and interventions are used in specific settings to expand on the study's findings. Surveying OT educators or program directors could provide further insight into the inclusion of sleep within the academic curriculum. Furthermore, research is needed to determine the availability of continued education and training opportunities for OT practitioners to address sleep in OAs effectively.

Conclusion

In summary, the survey results indicate a need for further research development regarding sleep as an occupation with OA clients. The findings, along with existing literature, indicate the need for standardized OT evaluations that specifically address sleep. The results are consistent with the lack of literature surrounding the inclusion of sleep in academic OT programs and continuing education opportunities. This emphasizes the need for further professional development opportunities for practitioners to be more competent and confident in addressing sleep among OA clients. Currently, up to 70% of the OA population is experiencing significant sleep problems (Leland, Marcione, Schepens, & Fogelberg, 2014). With the population of OAs projected to double by the year 2060 (Population Reference Bureau, 2019), OT practitioners will continue to see a decrease in health, well-being, and participation in occupations in their clients (Leland, Marcione, Schepens, & Fogelberg, 2014). There is a vital need to effectively address sleep within OT practice. Taking action now will have immediate effects on the quality of life of OAs, while also preparing for the future of the rapidly growing OA population.

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Appendix

Survey Questions:

The Role of Occupational Therapists in Evaluation and Intervention of Sleep with Older Adults Client

Start of Block: Default Question Block

Q17 Thank you for participating in our study! Please review our terms of consent before proceeding.

Informed consent

- I consent (1)
- I do not consent (2)

Skip To: End of Survey If Thank you for participating in our study! Please review our terms of consent before proceeding. I... != I consent

Q1 Are you an occupational therapist or occupational therapist assistant?

- OT (1)
- OTA (2)
- Neither (3)

Skip To: End of Survey If Are you an occupational therapist or occupational therapist assistant? = Neither

Q2 How many years of experience do you have:

As an occupational therapy practitioner? (1)	
Working with older adults? (adults age 65+)	
(2)	

▼ 0 (1) ... 30+ (31)

▼ 0 (1) ... 30+ (31)

Skip To: End of Survey If How many years of experience do you have: = As an occupational therapy practitioner? [0]

Community (8)	0	0	0	0	0	0
Mental Health (9)	0	0	0	0	0	0
Other (10)	0	0	0	0	0	0

Q7 In each of the settings you have worked, how comfortable are you with addressing sleep among older adults?

	Not comfortable at all (1)	Somewhat uncomfortable (2)	Neither comfortable nor uncomfortable (3)	Somewhat comfortable (4)	Very comfortable (5)	N/A (6)
SNF (1)	0	0	0	0	0	0
Home Health (2)	0	0	0	0	0	0
Assisted Living (3)	0	0	0	0	0	0
Palliative Care (4)	0	0	0	0	0	0
Acute Care (5)	0	0	0	0	0	0
Subacute (inpatient) Care (6)	0	0	0	0	0	0
Outpatient (7)	0	0	0	0	0	0
Community (8)	0	0	0	0	0	0
Mental Health (9)	0	0	0	0	0	0
Other (10)	0	0	0	0	0	0

Q8 In your practice, have you ever had any continuing education or training to address sleep?

Yes (Please comment on the continued education/training) (1)

No (2)

I don't recall (3)

Q9 What barriers do you experience when addressing sleep with clients? Please check all that apply.

- Lack of standardized OT evaluations (5)
- Limited continuing education opportunities (6)
- Insurance reimbursement (7)
- Lack of support from management (8)
- Unclear roles of the interprofessional team (9)
- Lack of knowledge/uncomfortable (10)
- Unable to modify the environment (12)
- Other (11) _____

Q10 What supports do you experience when addressing sleep with clients? Please check all that apply.

- Access to standardized OT evaluations (4)
- Continuing education opportunities (5)
- Management support (6)
- Knowledgeable on sleep (7)
- Reimbursement is not an issue (8)
- Interprofessional roles are clearly defined (9)
- Able to modify the environment (10)
- Other (11) _____

Q11 What evaluation tools do you utilize to address sleep?

Q12 What interventions do you use when addressing sleep?

End of Block: Default Question Block
