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The Use of Occupation-Based Interventions in Hand Therapy

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Author Note

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Abstract

Certified hand therapists (CHTs) provide therapeutic rehabilitative services after injury or illness of the upper extremity (Colaianni, & Provident, 2010). The approaches to interventions that CHTs utilize differ from those more typically used by occupational therapists (OTs) because the approaches to interventions are often primarily based in the medical model of physical disabilities (Robinson, Brown, & O'Brien, 2016). There is growing concern that OTs in hand rehabilitation are not using occupations as a method to intervention, leading the occupational therapy profession away from its foundational tenets (Grice, 2015). Furthermore, according to Colaianni, Provident, Lessa, and Wheeler (2015), there is a certain level of tension present amongst occupational therapy practitioners regarding the use of biomechanical approaches, rather than occupation-based approaches, especially in the hand therapy setting. A review of current research on this topic may provide insight into the effectiveness and potential benefits of implementing the use of occupation-based interventions compared to biomechanically based interventions, in a hand therapy setting.

Introduction-Rationale

Presently, interventions used in the hand therapy setting are often biomechanically based (Grice, 2015). This may have resulted from difficulties with maintaining occupation-based interventions due to use of predetermined treatment protocols and limited time (Colaianni, & Provident, 2010). Although OTs make up the majority of CHTs (Dimick et al. 2009), the use of occupation-based intervention methods are seldom used in the hand therapy setting (Colaianni & Provident, 2010). With current evidence supporting the use of occupation-based interventions in improving overall health and well-being (Christensen & Townsend, 2010), more research needs to be done to ensure clients are receiving optimal care in all healthcare realms. Unfortunately, the

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current research surrounding the use of occupation-based interventions in hand therapy is lacking. This gap in the research may be limiting the care provided to individuals seeking optimal rehabilitative services in the hand therapy setting.

Problem statement

Many individuals requiring therapeutic services after injury or illness of the upper extremity are referred by their physicians to obtain rehabilitative therapeutic services by a CHT, who is licensed as an OT or PT (Colaiani, & Provident, 2010). According to Christiansen and Townsend (2010), engaging in occupations can have a beneficial effect on an individual's overall health and well-being. With current hand therapy services focused on the use of a biomechanical approach to treatment (Colaiani, & Provident, 2010), it is necessary to explore the potential benefits of using occupation-based methods.

Methodology

In an effort to gain a wide-ranging overview of the issue of the lack of occupation-based interventions in the hand therapy setting, a review of the literature was conducted. Several electronic databases were utilized to help discover articles that were considered pertinent to the topic. These electronic databases included CINAHL Complete, Medline, Google Scholar, and EBSCO Host. Search terms that were used included effectiveness AND occupation-based, occupation-based hand therapy, hand therapy AND interventions, and hand therapy AND occupations. Articles were selected by reading their titles then abstracts for relevance.

Background Literature

According to Grice (2015), hand therapy is a science of rehabilitation that is focused on therapeutic interventions involving the hand, wrist, elbow, and shoulder. Hand therapy services are provided by either an OT or PT who has gained the expertise necessary to deliver dedicated

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hand therapy services (Kingston, Williams, Judd, & Gray, 2015). Since the majority of hand therapists are licensed as OTs, it could be assumed, or even expected, that the primary methods by which the treatment interventions were delivered would be occupation-based, however, treatment interventions are often delivered using a biomechanical approach (Grice, 2015).

The biomechanical approach is a frame of reference based in the medical model paradigm that uses objective measurements to detail progress of impairments through interventions that are focused on improvement of physical strength, range of motion, and endurance of body functions and structures (Robinson, Brown, and O'Brien, 2016). The biomechanical frame of reference begins with evaluation of the physical structures of the human body to determine areas of deficit that affect overall functioning (Jackson & Schkade, 2001). Under this approach, it is assumed that body functions have been reestablished once the presenting signs and symptoms have decreased or have been assuaged (Mathiowetz, 1993). Moreover, the biomechanical frame of reference does not necessarily stipulate the inclusion of the client in the participation and collaboration in the treatment intervention (Reed & Sanderson, 1999).

On the other hand, there have been multiple studies shown to provide evidence supporting the use of occupation-based therapy and its successfulness with restoring function (Christensen & Townsend, 2010). Moreover, the occupational-based approach is much more client-centered and focuses more on what is most important to the client (Reed & Sanderson, 1999). One case report by Jack and Estes (2010), describes a client having received hand therapy by a CHT who utilized a biomechanical approach in conjunction with an occupational-based approach. The study concluded that when the client began receiving the occupational-based approach, the client was much more motivated, resulting in increased performance gains

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when compared to being treated using only the biomechanical type of interventions (Jack & Estes, 2010).

Another study, by Case-Smith (2003), was conducted with 33 clients who were receiving occupational therapy services following guidelines set by the Canadian Occupational Performance Measure (COPM). The results indicated that by using a client-centered approach, as guided by the COPM and after receiving 13 hours of occupational therapy services, clients demonstrated strong, positive gains in functional outcomes (Case-Smith, 2003). One qualitative study, using interpretive phenomenological analysis, was conducted by interviewing 16 OTs with more than five years of hand rehabilitation experience (Daud, Yau, Barnett, & Judd, 2016). It examined their experiences using occupation-based interventions and concluded that most of the OTs had positive experiences using occupation-based interventions (Daud et al, 2016).

There have been multiple studies completed outside the realm of hand therapy showing the effectiveness of occupation-based interventions. One systematic review, included 39 different studies reviewing the effectiveness of occupation-based interventions post-stroke (Wolf, Chuh, Floyd, McInnis, & Williams, 2015). This study determined the effectiveness of occupation-based interventions by dividing the articles up into five different areas of occupation, including activities of daily living (ADLs), instrumental activities of daily living (IADLs), leisure, social participation, and rest and sleep. The study resulted in the improvement of areas of occupations post-stroke, supporting the use of occupation-based interventions, especially in the areas of ADLs (Wolf et al., 2015).

Furthermore, another systematic review that was conducted, included 38 studies that met the inclusion criteria to examine the effectiveness of occupation-based interventions on community-dwelling older adult's performance of IADLs. The study provided strong evidence to

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support a client-centered approach and concluded that occupation-based interventions improve IADL outcomes in older adults (Orellano, Colon, & Arbesman, 2012). Through these studies, it becomes clearer that occupation-based interventions not only work in one particular setting. The research suggests that occupation-based interventions have a positive outcome across multiple settings and disciplines.

Reflection

With the majority of CHTs being licensed as OTs, one would assume that the treatments being implemented would be primarily occupation-based. Through this review, however, it has been recognized that the use of a biomechanical approach to treatment design and implementation is more often used. Common themes regarding the use of biomechanically based methods, instead of using occupation-based methods, have been recognized as being affected by the following: a lack of sufficient time, the use of predetermined treatment protocols, and the cooperation and collaboration of treatments with PTs (Colaiani, & Provident, 2010; Grice, 2015; Reed & Sanderson, 1999; Robinson, Brown, & O'Brien, 2016;). Since PTs are not trained in the use and implementation of occupation-based treatment methods, this may be another reason why this approach is not often used.

Through this limited review, a gap in the scientific literature regarding the effectiveness and benefits of implementing occupation-based methods of intervention, specifically in the hand therapy setting, has been identified. Although many articles reviewed contained information regarding the benefits and reasons for using either of the abovementioned approaches, few contained quantitative and/or qualitative data to provide significant evidence for solely adopting either one of the approaches. Some limitations regarding the sole use of the occupation-based method in the hand therapy setting have been identified. With the hand therapy profession

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consisting of both PTs as well as OTs, incorporating the evaluation and administration of occupation-based treatments in interventions may result in challenges and confusion, due to the lack of foundational occupational perspectives by PTs and the historically perceived efficacy of using biomechanical approaches by OTs.

Discussion/Conclusion

Based on the current literature, a lack of evidence regarding the use of an occupation-based approach versus the biomechanical approach in the hand therapy setting has been identified. Additionally, it is evident that an occupation-based approach to interventions, in combination with the traditional biomechanical approach, is effective in producing positive functional outcome for clients receiving rehabilitation in a hand therapy setting. Although there is limited research about occupation-based interventions in hand therapy, current literature still provides useful and promising information of the effectiveness of occupation-based interventions compared to the traditional biomechanical approach.

With limited evidence and the gap of research, more studies are needed to provide knowledge about the significance of occupation-based interventions using a client-centered approach. This research may identify more effective interventions to which occupational therapy consumers are entitled. It is up to occupational therapy professionals, scholars, and students to go back to their roots, recognize and further research the benefits and effectiveness of occupation-based interventions, and apply these interventions in practice.

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