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Bariatric Patients and Occupational Therapy: Bridging the Gap in Acute Care

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Abstract

Background

Acute care occupational therapy practitioners (OTPs) need to be prepared to meet the unique needs of hospitalized bariatric patients. The authors developed and evaluated if an in-person educational event on bariatrics would yield in knowledge translation (KT) of applicable skills that could be implemented into current practice.

Methods

A 6-hour in-person educational event with a bariatric simulation suit, bariatric model patient, and bariatric equipment was developed for acute care OTPs. Participants completed pre-/post event surveys and a 2-month follow-up survey to evaluate the event's effectiveness of knowledge translation into participants' current acute care hospitals.

Results

In-person education demonstrated a statistically significant increase in agreement ($p<0.05$) to four statements regarding effective care of bariatric patients. Two months following the event, 85% of participants that responded reported being able to translate the knowledge learned directly into current practice.

Discussion

In-person, hands-on learning on bariatric patient care was effective for acute care OTPs to be able to provide treatment, educate colleagues, advocate for bariatric equipment, and mitigate bias. Results suggest that similar in-person education would be beneficial to fill a large knowledge gap and has the potential to produce successful outcomes for future bariatric patient care within the acute care setting.

Keywords: acute care, occupational therapy, bariatrics, obesity, hands-on learning, in-person, knowledge translation

Background

The prevalence of obesity in the United States is growing at an alarming rate and is considered to be one of the greatest public health challenges of the 21st century (Jessen-Winge, 2021). According to the Centers for Disease Control and Prevention (2021), 41.9% of the U.S. population is obese. As obesity rises, so does the number of individuals requiring hospitalization due to their comorbidities (Seida et al., 2018). Allied health professionals, including occupational therapy practitioners (OTPs), working in acute care hospitals need to possess the knowledge and skills to care for patients of the bariatric population while taking into consideration the distinct challenges that obese individuals may face. Acute care OTPs have an ideal background and skill set for treating clients with obesity within hospital settings by being able to assess needs, set goals, and implement interventions unique to the bariatric population (Ellison et al., 2020; Hamby, 2017; Muntefering et al., 2023; Reingold & Jordan, 2013).

When hospitalized, bariatric patients often experience barriers to optimal care such as lack of appropriate equipment, hospital staff at all levels who lack competence in managing the needs of a bariatric patient and bias regarding their weight (Blasco et al., 2017; Ellison et al., 2020; Ewens et al., 2022; Hales et al., 2018; Muir & Archer-Heese, 2009; Setchell et al., 2016; Yee et al., 2022). Guidelines specific to bariatric patient care have been created but are noted to be sparse, inconsistent, and insufficient resulting in underutilization within acute care systems (Seida et al., 2018). Dockrell and Hurley (2021) further highlighted the gap in obese specific knowledge citing that only 11.5% of hospital staff report ever receiving any education or training specifically for the care of bariatric patients with 93.2% stating they would like additional training. Online

educational modules exist to bridge the gap for OTPs on best practice such as *BOOTH, bariatrics, obesity, and occupational THerapy; How we can help* (Phillips, 2023) which focuses on de-stigmatization, prevalence, safe patient handling, and advocacy. Despite this, acute care OTPs are not always seeking out these educational opportunities or completing the online educational modules in their entirety, citing a lack of time as their largest barrier (Phillips et al., 2021). Additionally, Allison and colleagues (2021) found that online education had a positive effect on improving immediate knowledge about obesity related care and stigma for physical therapists. However, they noted that the results were short-term, and it was undetermined if the online education had any direct effect on the physical therapists' actual clinical competency. These experiences indicate that healthcare professionals, including OTPs, need more accessible training on how to care for the specific needs of the bariatric population and would benefit from additional educational opportunities specific to bariatric patient care that can be completed in person, in a timely manner, and implemented directly into current practice.

Aim

This research project aimed to investigate if hands-on instruction alongside other acute care OTPs in an environment using bariatric equipment, a bariatric simulation suit, and model patients who are obese would 1) allow for a safe space to ask questions and troubleshoot without fear of hurting or embarrassing themselves or a bariatric patient, 2) provide opportunities to learn new skills and knowledge that can be directly translated back into acute care hospitals in the state of Michigan and 3) increase confidence sharing de-stigmatization language and techniques when working with a bariatric patient.

Methodology

This optional educational event for acute care OTPs was part of the first author's (J.D.) post-professional doctorate capstone, lasted approximately six hours, and took place on a Saturday in July of 2023 at a Michigan based university's health science campus. It included a didactic portion and a hands-on/laboratory portion led by both authors. The first author has 13 years of acute care experience, formal training in the use of bariatric beds and equipment, and extensive involvement in the evaluation and treatment for obese individuals within the hospital setting. The second author (C.D.) has formal training in knowledge translation and 10 years of experience in multiple community hospital-based settings, including specialized care for chronic disease management with bariatric patients. The didactic component lasted approximately four hours. It was led by the first author and assisted by the second author. Didactic content consisted of lecture, discussion, and case study videos of the first author providing occupational therapy services to bariatric patient. It also provided education on relevant topics including:

- the role of occupational therapy treating patients with obesity
- the five different body types and shapes a bariatric patient may exhibit
- how weight affects mobility and self-care tasks
- barriers to safe progressive mobility
- de-stigmatization education

The lab portion lasted approximately two hours, was co-led by both authors to allow for smaller ratios of hands-on instruction, and provided opportunities for hands-on training utilizing equipment recommended by the literature such as a bariatric vertical tilt

bed, a mechanical lift system, a bariatric simulation suit and bariatric lift pants (Arnold et al., 2021; Blasco et al., 2017; Gallagher et al., 2020; Noble & Sweeney, 2018; Rush, 2005; Usta et al., 2021). A bariatric model patient, who was recruited by the university's simulation center, was in attendance to allow the participants opportunities to practice using the bariatric equipment during realistic conditions to improve retention of information learned. Both the didactic and laboratory portions of the event utilized a knowledge translation (KT) approach to provide strategies to implement current research directly into practice.

The first author received an internal grant for graduate student research through the sponsoring university. This grant was utilized to compensate the bariatric model patient for three hours of his time, rent one vertical tilt bed and one bariatric bed, provide a spiral bound and colored copy of the presentation for all participants, as well as cover miscellaneous supplies the researchers deemed necessary for the event. In addition, a portion of the grant money was utilized in conjunction with the university's Simulation Center and Occupational Science and Therapy Department to purchase a bariatric simulation suit in efforts to make the hands-on learning as realistic as possible.

Participants

Participants were recruited via email blasts, social media, direct recruitment utilizing the Michigan Occupational Therapy Association, and OTPs connected with the Occupational Science and Therapy Department at the sponsoring university (program alumni and fieldwork educators). Participants were eligible to participate in the study if they: were registered and licensed as an occupational therapist or occupational therapy assistant within the state of Michigan, currently working in acute care hospital

throughout the state of Michigan, had experience in and/or plan to work in acute care, and were present in the United States of America during data collection. There were no maximal or minimal years of experience as an OTP required for eligibility. OTPs were not eligible to participate in the study if they were not currently working within an acute care hospital or not planning to be working in an acute care hospital during the month of September 2023 when the 2-month follow-up survey was distributed for data analysis purposes. Event registration was capped at 30 participants, following the university's 1:15 instructor-learner ratio for practice labs (S. Truskowski, personal communication, March 28, 2023). This allowed for more personalized attention during hands-on instruction, a non-crowded simulation space, and room to maneuver around the bariatric equipment all while still providing a large enough sample size for data collection.

Design

An analytical cross-sectional survey design was utilized, in which data was collected from participants three different times over the course of a 2-month period. Pre-event and post-event surveys (see Appendix) with qualitative and quantitative questions were administered via Qualtrics XM on the day of the event. Two months following the event, participants were emailed a follow-up survey also using Qualtrics to gain insight regarding if/how the knowledge learned was able to be translated into practice. The pre and post surveys included seven statements, which participants rated on a 5-point Likert scale of agreement, choosing from the options of: strongly disagree, disagree, neither agree or disagree, agree, or strongly agree. Each survey took under 10 minutes to complete. The Institutional Review Board (IRB) approved the research study under Exempt Review and issued a study number of 23-244-H.

Data Management

Signed consent forms were collected, scanned, and stored electronically in a secure, password-protected folder on an encrypted flash drive only available to the first and second authors on the day of the event. Paper copies of the consent forms were shredded and disposed of properly by the end of the day of the educational event. By participating in this study, participants consented to follow up contact via email, which was necessary for tracking their responses and providing professional development unit (PDU) certificates. The university's statistics department completed the data analysis without any participant deidentification. Although participant names were associated with their answers via Qualtrics, there was no sensitive or personal information associated with a name that the statistics department would have access to. In addition, there were no connections between members of the statistics department and research participants.

Data Analysis

Evaluation of the effectiveness of knowledge translation occurred through the post-event survey and 2-month follow-up survey. Language used in these surveys indicated if knowledge was able to be implemented into practice if the participants could demonstrate a change in one of the following areas:

- usefulness indicators (satisfied with the usefulness of content, knowledge gained, views changed)
- use indicators (using the information to inform policy or advocacy, training, education)

- knowledge change (Learning new information, ability to apply information strategically)
- attitude change (de-stigmatization, implicit bias; Barwick, 2008, 2013, 2019).

Participants rated a set of seven statements regarding OT and bariatric care using a 5-point Likert scale of agreement, where 1 is strongly disagree and 5 is strongly agree, prior to the in-person educational event (pre-event survey), then immediately following the event (post-event survey) via Qualtrics. To examine the difference between the pre and post survey responses, the respondents were categorized as:

1. Having indicated stronger agreement in the post-survey
2. Having no change in agreement in the post-survey
3. Having indicated a decrease in agreement in the post-survey

Categorical data from the pre and post-surveys were summarized with counts and percentages and statistically analyzed using the Clopper-Pearson confidence interval in partnership with the university's Statistical Counseling Center.

Results

Participant Characteristics

Twenty OTPs registered to attend the educational event to learn about the care of bariatric patients within the acute care setting. Of the 20 participants registered, 17 attended. Participant demographics are depicted in Table 1. It was the goal of the first author to have participants in attendance who were geographically diversified throughout the state of Michigan, however this was not required.

Table 1

Demographics

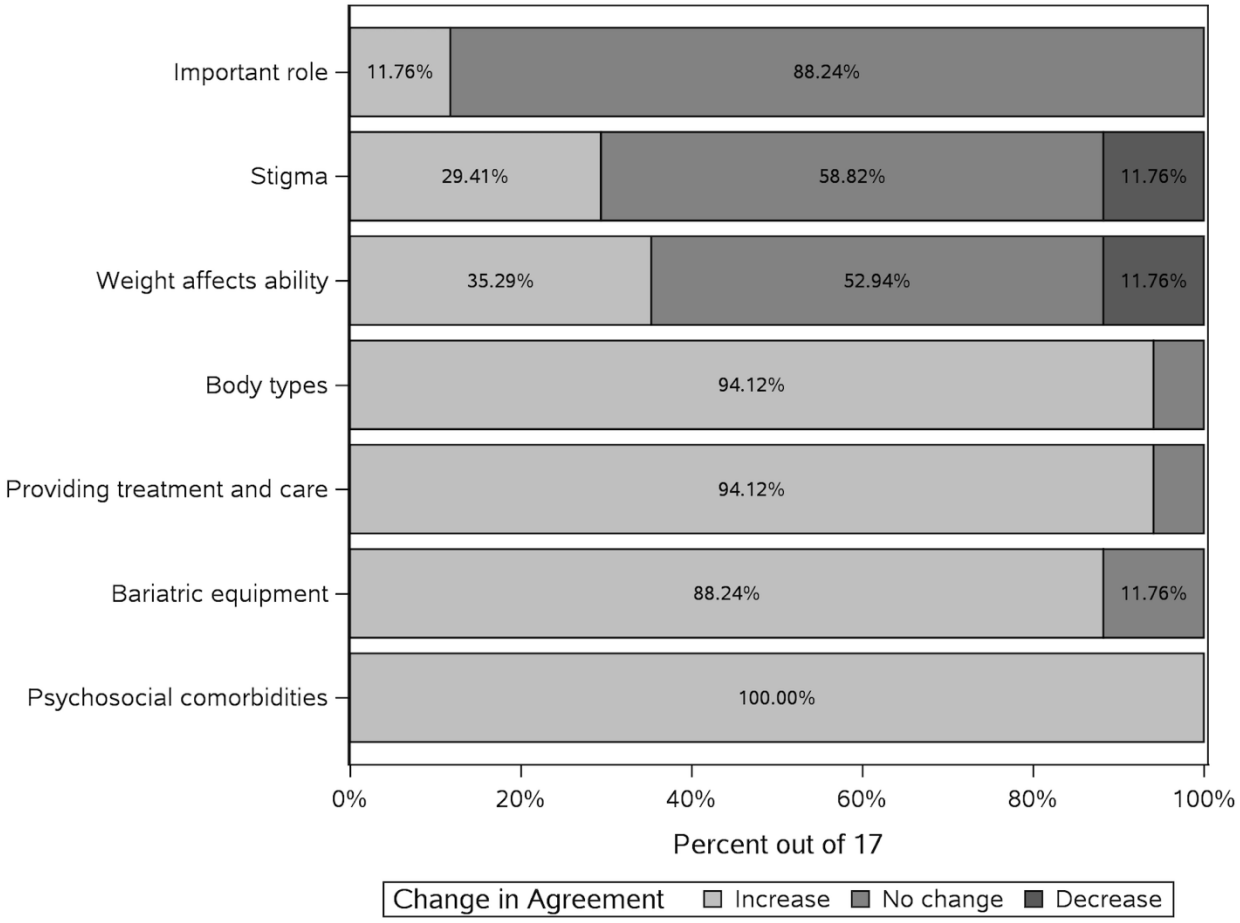
Characteristic	n=17
Level of Education	
OTR	16(19%)
COTA	1(8%)
Years of Experience	
<5	8(57%)
6-14	6(35%)
15+	3(18%)
Prior education on bariatric patient care	
Yes	2(13%)
No	14(87%)

Survey Results

The results for each question are shown in Figure 1. For the first three statements, most of the respondents indicated strong agreement in the pre-survey and stayed the same or increased their level of agreement in the post-survey. For the remaining four statements, the in-person educational intervention increased the level of agreement in the post-event survey.

Figure 1

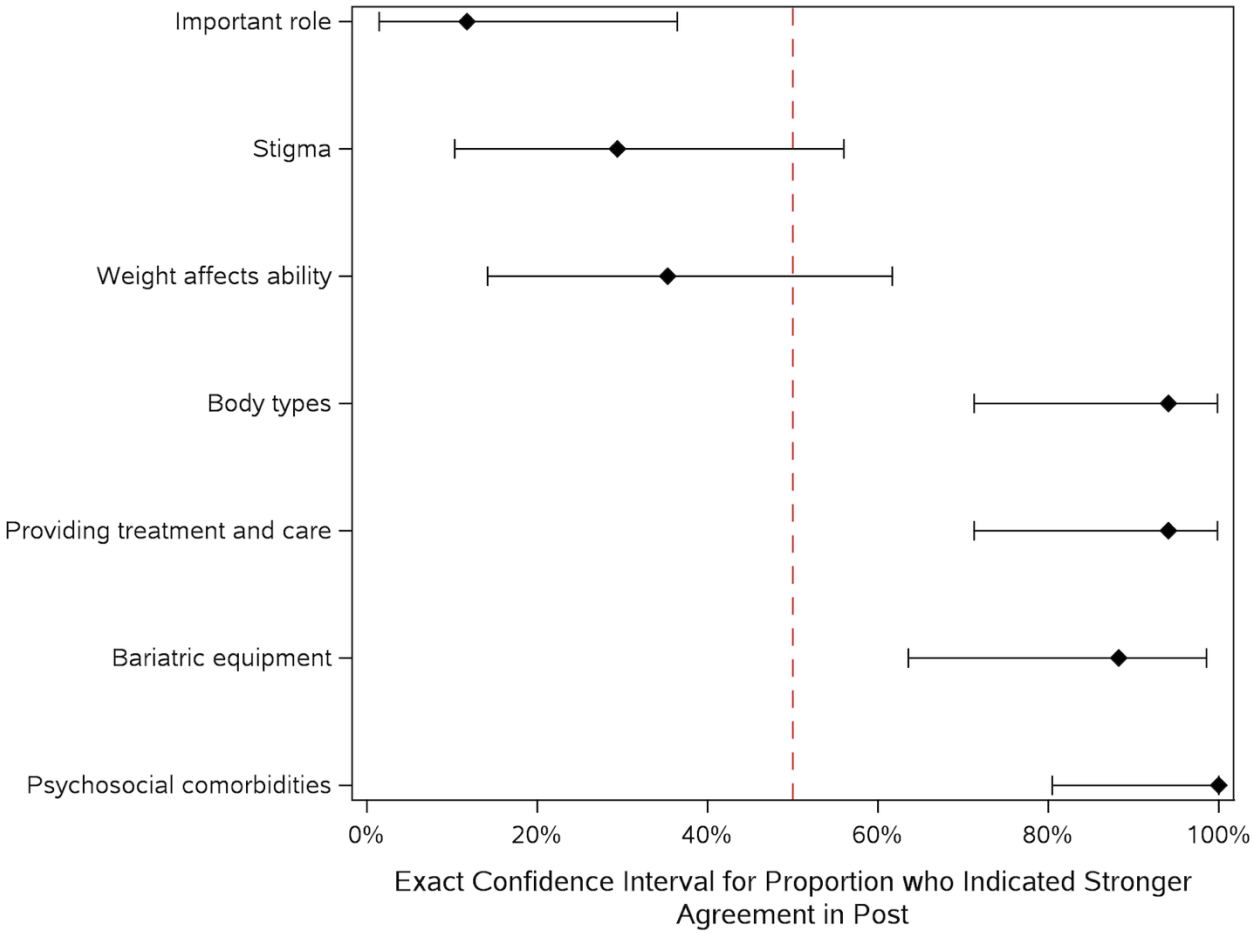
Change in Agreement from the Pre and Post-Event Surveys



Due to a small sample size, confidence intervals based on the exact binomial distribution were used. The proportion who increased their level of agreement from the pre-event survey to the post-event survey is displayed in Figure 2 for each statement. The confidence intervals for statements 4-7 do not contain 0.5, which indicates that the in-person educational session caused a statistically significant increase in agreement for those statements.

Figure 2

Exact Confidence Interval per Participant Rated Statement



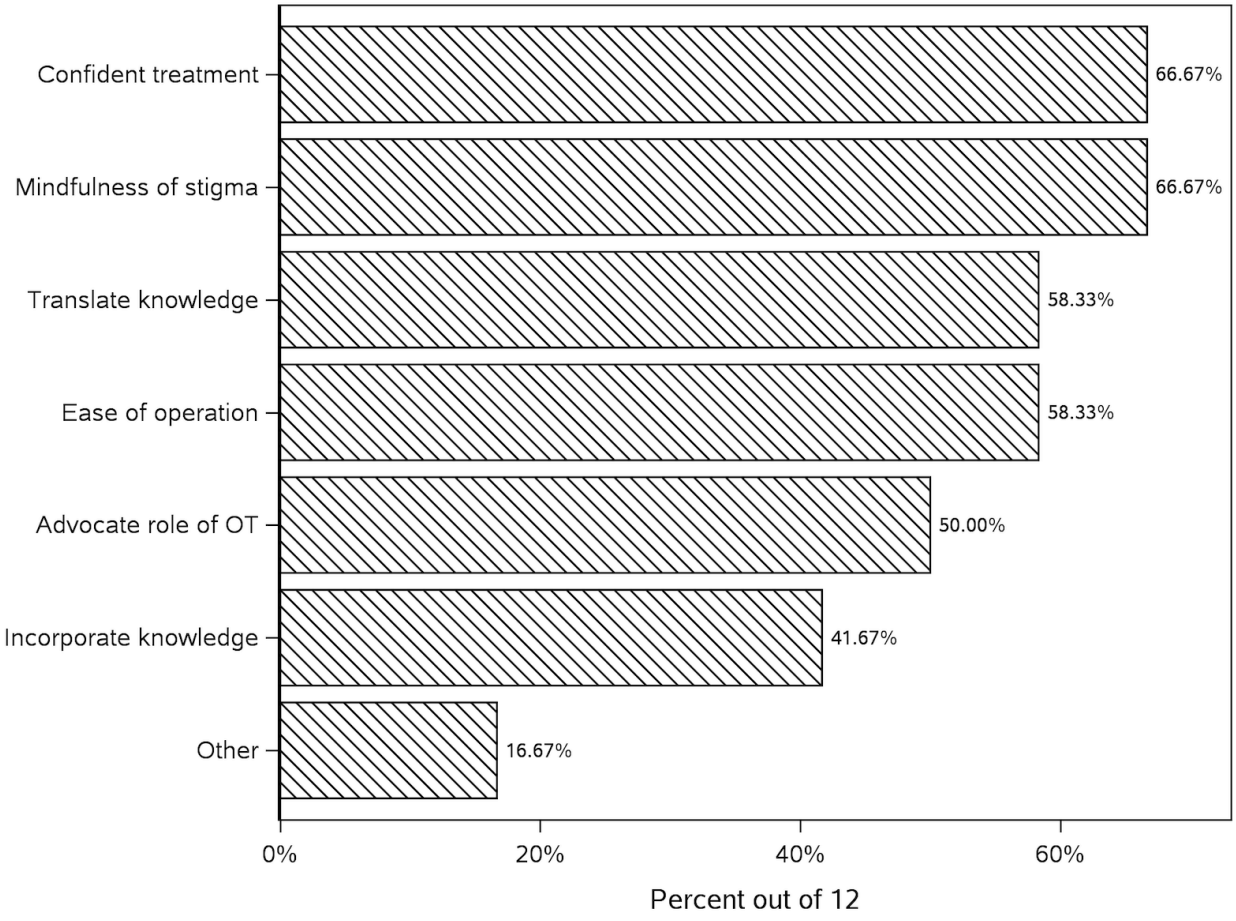
Follow-Up Survey

The seventeen participants who attended the in-person education session were emailed a 2-month follow-up survey via Qualtrics to examine if knowledge learned at the in-person educational event on bariatrics was able to be translated into current practice within each participants' acute care hospital. Thirteen participants responded. Of those, 11 (85%) indicated that they were able to take the knowledge learned and implement change within their healthcare organization. Figure 3 differentiates different ways in

which participants felt they could translate the knowledge learned from the in-person educational event back into their healthcare organization. Two (15%) participants reported they were unsuccessful with KT into their acute care hospitals, citing lack of bariatric equipment, poor management support, and little buy-in from colleagues as the primary reasons.

Figure 3

Percent Change of Knowledge Translation



Discussion

The purpose of this research was to evaluate the effectiveness of a hands-on, in-person educational event on the care of bariatric patients for OTPs working in Michigan

acute care hospitals. In addition, it sought to examine if the knowledge learned at the event was able to be translated directly into practice two months after the event. The study results indicate that in-person, hands-on bariatric education enabled participants to be successful in:

- gaining new knowledge and confidence regarding bariatric specific care (instant knowledge)
- using the information learned within current practice in real-life scenarios and sharing information with colleagues a few months after the knowledge was gained (knowledge translation)

Bariatric Education

During the in-person event, participants were given the opportunity to get hands-on practice with bariatric equipment and beds while utilizing a bariatric model patient in addition to a bariatric simulation suit to provide realistic patient scenarios. Since all participants were OTPs in current practice within Michigan based acute care hospitals, there were opportunities to problem solve and ask questions amongst peers who shared a commonality in scope of practice and patient care setting. This communication exchange likely aided in success with gaining and retaining new knowledge as well as increased confidence in teaching back the information learned to colleagues and other healthcare professionals who were not in attendance at the event. Although various online forms of education exist on the training and education of bariatric patient care (Phillips, 2023), having the hands-on realistic component likely increased the success rate of attendees being able to use the information learned, translate that knowledge into patient care, and thus make a positive change within their acute care organizations.

Pre and Post Test Knowledge

Allowing participants to rate the same seven statements (see Appendix) regarding bariatric patient care and occupational therapy prior to the educational event then immediately following the event allowed the researcher to gain insight into the effectiveness of the education provided during the in-person event. Although the first three statements (see Figure 1) did not elicit a large change from the pre to post survey, it is important to note that these statements already had a high level of agreement during the pre-event survey and then remained high following the event when rated on the post-event survey. The remaining four statements each had a high percentage increase (88.24% - 100%) in level of agreement with zero participants having a decrease in agreement in the post-event survey. This information concludes that in-person, hands-on bariatric education was impactful for successful learning of bariatric patient care.

Follow Up Survey

Two months after the event occurred, 85% of respondents reported being able to retain the knowledge learned, implement it into bariatric patient care, and utilize it within their current acute care organizations. Additionally, the two-month follow-up survey provided valuable feedback on specific ways the knowledge was able to be translated, with a high percentage of respondents reporting success in implementing knowledge learned in a variety of ways including: more confident OT led treatment sessions, being mindful of stigma and bias, successful operation of bariatric equipment, feeling they could educate colleagues on bariatric patient care as well as advocating for OT's role with the bariatric patient population (see Figure 3). The benefit of the hands-on

component in particular was evident in the 2-month follow-up survey results as many participants shared anecdotal success with operating bariatric equipment with greater ease, specifically the bariatric bed, after practicing with it in person.

Although 15% of respondents felt they were unsuccessful implementing change within their current healthcare organization, it is important to note the reasoning had to do with not having access to bariatric equipment as well as lack of support from management and colleagues. Despite these barriers, both participants reported having the knowledge to put education learned into practice as well as felt confident executing the skills learned to safely mobilize a patient of the bariatric population. In addition, these participants took action by having conversations with upper management about bariatric equipment needs and advocated for future bariatric patients by attempting to get the right equipment into place. This suggests that the in-person, hands-on learning yielded successful translation of knowledge into practice for all participants, even those who reported a lack of success in implementing change within their organization.

Knowledge Translation

KT was successfully achieved as evidenced by participants' reports of utilizing knowledge and skills gained from the course in practice months after the education occurred, which highlights the benefit of hands-on learning in a low stakes environment. The purpose of KT is to be able to apply the best available evidence clinically (Cramm et al., 2013) and the present study demonstrates hands-on learning with bariatric patients and equipment is effective for achieving the goals of KT, which ultimately leads to a positive change for current and future patients of the bariatric community.

Implications for Occupational Therapy

OTPs within acute care are often called on to work alongside other allied health professionals in the care, treatment, and progressive mobility of patients with obesity. Since many health care professionals report low confidence and knowledge in bariatric patient care, OTPs who receive this education can use KT and act as a change agent to positively highlight the many skills, abilities, and unique needs of people within the bariatric community. OTPs should be encouraged to lead the way in facilitating hands-on educational opportunities within their facilities related to bariatric patient care to bring allied health professionals together, positively promote the role of occupational therapy, and give a voice to this marginalized patient population. OTPs who are educated on topics related to obesity will likely be more confident to share their knowledge with patients, families, and healthcare staff, which yields in true knowledge translation and further highlights the necessity of occupational therapy services.

Limitations

All study participants were OTPs currently living and working within the state of Michigan, whose obesity rate of 35.2% surpasses the national average of 32.2% (Hicks, 2022). Since weight bias is well documented as being prevalent amongst healthcare professionals, there is a possibility that participants may have had an implicit bias towards patients of the bariatric community when answering survey questions and as a result, respondent bias may have skewed the results. Efforts were made to minimize bias, such as consultation with people of the bariatric community and utilization of bariatric experts when developing survey questions, didactic content, and laboratory simulation. Future studies should also consider input from the bariatric community when

designing content to ensure inclusivity and a more accurate depiction of the unique needs of this patient population.

Recommendations for Future Research

There are several areas where future research could occur. First, as this research event was limited to Michigan-based OTPs, it would be advantageous to see if the results could be replicated in different states. Secondly, it would be beneficial to investigate effects on cost and length of stay if a similar bariatric training events were held with interdisciplinary groups (i.e. OTPs, physical therapists, and registered nurses).

Conclusion

It is well documented that occupational therapy practitioners and other allied health professionals lack the skills and training to safely mobilize and provide skilled treatment to bariatric patients. However, after completion of a 6-hour, hands-on, in-person learning event working alongside other acute care OTPs with bariatric equipment, a bariatric simulation suit, and a bariatric model patient, all participants reported an increase in their knowledge and confidence surrounding bariatric patient care. More importantly, many participants were able to take knowledge learned and implement it directly into their healthcare organizations, educate colleagues, raise awareness of the need for proper bariatric equipment, and confidently provide care to a bariatric patient. This hands-on learning aids in filling an essential need and large knowledge gap and demonstrates the importance of hands-on learning to positively promote knowledge translation. Future hands-on learning on this subject has the potential to increase competency and produce successful outcomes for current and future bariatric patient care within the acute care setting.

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Appendix

Pre and Post-Event Surveys

To what extent do you agree with the following:

	1 Strongly disagree	2 Disagree	3 Neither agree or disagree	4 Agree	5 Strongly agree
Occupational therapy practitioners have an important role in the treatment and care of bariatric patients.					
Stigma surrounding obesity negatively affects the care bariatric patients receive in the acute care setting.					
I understand how a person's weight affects their ability to complete mobility and self-care tasks.					
I can distinguish between the different body types an obese patient may have and implement that knowledge into treatment.					
I feel confident providing treatment and care for a patient of the bariatric population.					
I feel competent using bariatric equipment to safely mobilize an obese patient.					
I understand the psychosocial comorbidities associated with obesity.					

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