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Impact of Training on Addressing Farmer Mental Health in Occupational Therapy Practice

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Abstract

Farmers experience high rates of mental health conditions and suicide. It is within occupational therapy's scope to address mental health conditions in patients as it pertains to their participation in meaningful occupations. The aim of this study is to assess the efficacy of training provided to occupational therapy practitioners and students on addressing farmer mental health. Participants were directly recruited from occupational therapy state associations and graduate programs in the American Midwest to attend a 1-hour presentation and complete pre- and post-training surveys. A total of 119 participants completed the pre- and post-training surveys. Both occupational therapy practitioners and students significantly increased their confidence in assessing and addressing mental health concerns and providing resources to farmers following the training. Occupational therapy-specific training can increase therapists' confidence in addressing farmer mental health. Further research should assess multi-faceted interventions related to farmers' mental health in occupational therapy practice.

Plain Language Summary

Farmers in the United States experience higher rates of mental health conditions, including anxiety and depression, as well as higher rates of suicide compared to other workforces and the general population. It is within occupational therapy's scope of practice to assess and address mental health conditions in patients as it pertains to their participation in meaningful and purposeful occupations. The aim of this study was to assess the efficacy of a one-hour training provided to occupational therapy practitioners and occupational therapy graduate students on addressing farmer mental health within their practice. Training participants were asked to take a pre and post training survey to rate their confidence in assessing and addressing mental health conditions in farmers as well as their confidence in providing appropriate community resources to farmers with mental health concerns. Results show that both occupational therapy practitioners and graduate students significantly increased their confidence in all three areas following the one-hour mental health training. Further research should strive to create multi-faceted interventions specific to clinical settings and geographic areas to increase student and practitioner knowledge and self-efficacy in addressing farmer mental health in occupational therapy practice.

Keywords

Occupational Therapy; mental health; education

Introduction

Farming is a complex, stressful job that leads to higher rates of depression, anxiety, and suicide compared to other workforces and the general public (Bjornestad et al., 2021; Miller & Rudolphi, 2022). Some risk factors associated with suicide in this population include poor physical health, past injuries, maladaptive coping strategies, financial difficulties, and increased access to firearms (Bjornestad et al., 2021; Daghigh et al., 2019). A recent study assessing suicide characteristics of farmers and non-farmers found that 33% of farmers and ranchers who committed suicide were found to have a precipitating physical health condition (Miller et al, 2022). A systematic literature review was done in 2020 to explore the risk for depression and suicide among United States' (U.S.) primary farm operators and their family members. The review concluded that people who are engaged in farming should be screened for depressive symptoms (Reed & Claunch, 2020). We also know that the mental health of a farmer affects the whole family unit. One study by Rudolphi & Berg (2023) found that among the farming community, there were strong associations between the mental health of parents and their children, as well as between parents' depressive moods and financial debt.

This population also faces barriers to accessing healthcare, especially mental health services. Some reasons for this are the lack of mental health services in rural areas, the time-consuming nature of farming, availability of affordable and appropriate health insurance for self-insured farmers, and the stigma surrounding mental health conditions in the rural and farming communities (Bjornestad et al., 2021). Farmers may also not seek out mental health services due to an inaccurate perception of their own mental health. In a recent study researchers found that when farmers were asked to rate their mental health, they tended to rate it as good or excellent, but when screened for mental health conditions, over 60% met the criteria for depression and anxiety disorders (Rudolphi & Berg, 2023).

Currently there are many resources and programs aimed at addressing farmer mental health. Many free online resources can be found through state and national agricultural organizations. Additionally, many of the programs designed to address farmer mental health are free online or have waiver options (Younker & Radunovich, 2021). In a systematic review of mental health interventions for farmers, researchers concluded that due to the complex nature surrounding farmer mental health, there is a need for multifaceted educational interventions targeted at farming communities, professionals who work closely with farm communities, and health professionals (Younker & Radunovich, 2021).

Farming is a dangerous job that poses a high risk of injury and illness. Farmers are also an aging population, with the average age being 56 years old (U.S. Bureau of Labor Statistics, 2022). Due to elevated age and physically demanding, dangerous work, farmers are likely to suffer from an acute or chronic condition that requires the attention of an occupational therapist (Hildebrand et al., 2019). Occupational therapy practitioners (occupational therapists and certified occupational therapy assistants) are rehabilitation

specialists who use a client-centered approach to address skills needed to participate in meaningful and purposeful activities, also known as “occupations”. The Occupational Therapy Practice Framework (OTPF) is a document prepared by the American Occupational Therapy Association (AOTA) which describes the role and the purview of the occupational therapy profession. According to the OTPF, the occupation of health management includes symptom management related to mental health needs (American Occupational Therapy Association, 2020).

While adults are traditionally referred for occupational therapy services to address a physical limitation, it is also within occupational therapy’s scope of practice to address a patient’s mental and emotional health as it pertains to meaningful occupational participation. This junction provides a space for occupational therapy practitioners who are seeing farmers for physical dysfunction to assess and address mental health and wellness within their treatment sessions. Even though it is within occupational therapy’s scope of practice to address client mental health needs, many occupational therapy practitioners may not feel equipped to use these skills and may not understand how to integrate mental health interventions into their practice (Gutman, 2011).

The aim of this study was to evaluate outcomes of an educational program directed toward addressing farmer mental health within occupational therapy practice. This was done first through the development and delivery of a training session tailored to occupational therapy practitioners and occupational therapy students in a variety of forums. The session intended to (1) raise awareness about risk factors for mental health conditions related to farming, (2) promote the use of assessments to identify mental health needs, and (3) provide practitioners with strategies and resources to address farmer mental health. Second, the usefulness of the training was evaluated through pre- and post-training surveys that assessed self-reported changes in self-efficacy to address farmer mental health within occupational therapy practice.

Methods

Research Overview

The purpose of this study was to evaluate the effectiveness of a mental health training titled *OT’s Role in Farmer Mental Health*, designed for occupational therapy practitioners and students. Effectiveness was measured by advancing knowledge and self-efficacy with recognition, assessment, and treatment of farming patients with mental health conditions, within occupational therapy’s scope of practice.

The objectives of the training were that by the end of the presentation participants would: 1) understand risk factors for mental health conditions related to the occupation of farming, 2) identify screening and assessment tools to use with the farming community, 3) discuss ways to address farmer mental health within treatment sessions, and 4) provide online and community resources that could benefit the farming community. The training consisted of a 45-minute presentation with instruction on how to access handouts on the following topics covered in the presentation: 1) screens/assessments to use with farming patients, 2) financial resources to provide to farmers facing financial stressors, and 3) further education

opportunities for clinicians on the topic of farmer mental health and farmer health and safety. Participants had access to these handouts as well as the presentation slides via a webpage open to the public.

An anonymous pre- and post-training survey was administered via Qualtrics before and immediately after the presentation. A QR code and URL address displayed in the presentation slides directed participants to the pre- and post-training surveys. The survey included 5-point Likert scale questions (1 = not confident at all, 5 = extremely confident) asking participants how confident they were in addressing farmer mental health in their practice, screening/assessing farmers for mental health conditions, and providing appropriate resources to farmers struggling with their mental health. On the occupational therapy practitioner pre-training survey only, participants were asked if they currently address farmer mental health in their practice, and if so, to describe how they address it. On the post-training survey only, participants were asked to rate on a 5-point Likert scale (1 = not likely at all, 5 = extremely likely) how likely they were to address farmer mental health in their practice going forward. Additionally on the post-training survey, participants were asked to describe any additional resources that would help them feel more confident in their ability to address farmer mental health in their current or future practice.

Participants

Occupational therapy practitioners (OTPs), including both occupational therapists and occupational therapy assistants, and occupational therapy graduate students (OTs) were recruited through direct recruitment by emailing state occupational therapy organizations and occupational therapy doctoral (OTD) graduate programs in the following Midwest states: Iowa, Illinois, Indiana, Michigan, Minnesota, Missouri, Nebraska, Wisconsin. The websites of every OTD graduate program in these states were reviewed for faculty who had research interests that aligned with the study (mental health, rural populations, community programming, and older adults). One to three faculty were contacted along with the director of the program. The AOTA Rural Therapists Community of Practice (COP) director was also contacted to review opportunities to provide the training to additional occupational therapists. Twenty-eight organizations and programs were contacted between March and April 2023 resulting in ten replies stating interest in the training and ultimately two organizations and four graduate programs receiving the training. One organization had to schedule the training for June 2023 which is outside the timeline of this study and one program scheduled two trainings. Additionally, the training was delivered at the AOTA Inspire 2023 conference in-person to OTPs and OTs from around the country.

Intervention

The training was delivered seven times, four delivered online via Zoom and three delivered in-person. For five of the trainings there were no incentives provided. In two of the trainings, CEU credits were offered to participants. One organization that provided CEU credit advertised the training on the organization's social media page. The training was conducted by one educator with a background in occupational therapy as well as agricultural safety and health. Participants were prompted to choose either the QR code/URL for OTPs or the QR

code/URL for OTSs for both the pre and post training survey depending on their status. Due to technical difficulties, one group of OTSs completed paper pre- and post-training surveys.

Data Analysis

Results were exported from Qualtrics into Excel for data analysis. Frequencies were calculated to describe changes from pre to post training in confidence associated with addressing farmer mental health as well as the likelihood of addressing farmer mental health in future practice. The Mann Whitney U test was used to examine differences between pre- and post-training responses (De Winter & Dodou, 2010). Tied ranks within the Mann Whitney U test were resolved by assigning each rank in the tied set the average of the ranks for which they tie. Due to a large sample size, the Mann Whitney U test statistic was converted to a z-score and then analyzed for significance using a Gaussian distribution. Statistics were done at a 95% confidence level ($\alpha = 0.05$). Qualitative questions were analyzed through thematic analysis in which similar answers were combined into groups. Responses matching specific themes were tallied and frequencies were calculated.

Results

A total of 119 participants (39 OTPs and 80 OTSs) completed the pre-training survey and 119 participants (46 OTPs and 73 OTSs) completed the post-training survey. OTPs were asked if they currently addressed farmer mental health in their practice and if they did, how did they address it. Thirty-seven OTPs answered the question with the majority (76%) reporting that they did not address farmer mental health in their practice. Of the nine OTPs who reported that they did currently address farmer mental health in their practice, four practitioners specified the following settings: specialized nursing (SNF) and long-term care (LTC) facilities, inpatient rehabilitation, inpatient psychiatric unit, and community programs. Six OTPs specified ways they address farmer mental health. One OTP reported tying in agricultural leisure activities to address quality of life in the SNF and LTC setting. One OTP reported addressing farmer mental health following traumas. One OTP reported addressing substance use. One OTP reported addressing mental health with older farmers and ranchers.

There was a significant increase ($p \leq 0.001$) in confidence in addressing mental health with the farming population for both OTPs and OTSs (Table 1). In the pre-training survey, 18% of OTPs and 39% of OTSs reported being not confident at all in addressing farmer mental health. 38% of OTPs and 39% of OTSs reported feeling slightly confident while 11% of OTPs and 1% of OTSs felt very or extremely confident in addressing farmer mental health before the training. In the post-training survey, the number of OTPs and OTSs who reported feeling very or extremely confident increased to 42% and 28% respectively with no participants reporting feeling not confident at all.

There was a significant increase ($p \leq 0.001$) in confidence in screening/assessing a farmer for mental health concerns for both OTPs and OTSs (Table 2). In the pre-training survey, 21% of OTPs and 41% of OTSs reported being not confident at all in screening/assessing a farmer for mental health concerns. 33% of OTPs and 36% of OTSs reported feeling slightly confident while 13% of OTPs and 2% of OTSs felt very or extremely confident in screening/assessing a farmer for mental health concerns before the training. In the post-training survey,

the number of OTPs and OTSs who reported feeling very or extremely confident increased to 61% and 41% respectively with no participants reporting feeling not confident at all.

There was a significant increase ($p \leq 0.001$) in confidence in ability to provide appropriate community resources to a farmer struggling with mental health for both OTPs and OTSs (Table 3). In the pre-training survey, 23% of OTPs and 38% of OTSs reported being not confident at all in providing appropriate community resources to a farmer struggling with mental health. 44% of OTPs and 43% of OTSs reported feeling slightly confident while 16% of OTPs and 5% of OTSs felt very or extremely confident in providing appropriate resources. In the post-training survey, the number of OTPs and OTSs who reported feeling very or extremely confident increased to 42% and 42% respectively and one OTP reported feeling not confident at all.

When asked on the post-training survey how likely they were to address farmer mental health in their practice going forward, 22% of OTPs and OTSs reported being extremely likely to address it. Additionally, 43% of OTPs and 60% of OTSs reported being somewhat likely to address farmer mental health in their future practice. Only one OTP and one OTS reported being extremely unlikely to address farmer mental health in their future practice.

In the post-training survey, ten total OTPs and twenty-nine OTSs provided feedback on what additional resources would help them feel more confident to address farmer mental health in their future practice. Two OTPs and one OTS felt that the training provided sufficient resources, while one OTP requested “any and all” resources. The remaining respondents specified additional needs, which were grouped into seven categories: resources for farmers, practice scenarios, occupational therapy-specific resources, training access, exposure to the farming population, raising other professionals’ awareness, and further education and training for occupational therapists. The most requested resources were for farmers and practice scenarios. See Table 4 for specific data related to additional resources.

Discussion

There is an opportunity for occupational therapy practitioners to be involved in the mental healthcare of farmers through mental health screening and intervention, as well as dissemination of mental health resources. Physical health conditions are often addressed by occupational therapists throughout the rehabilitative process. While occupational therapy practitioners address physical dysfunction in patients, it is also within their scope of practice to address the mental health needs of patients. There is an opportunity for occupational therapy practitioners to assess and address farmer’s mental health needs during the physical rehabilitation process with potentially less mental health related stigma. Additionally, farmers are more likely to engage with mental health interventions if they feel their practitioner understands the specific stressors farmers face and can provide tailored interventions to meet their needs (Hagen et al, 2019).

The aim of this pilot study was to develop and evaluate an educational training on addressing farmer mental health in occupational therapy practice. The training was evaluated by comparing pre and post training survey data between two groups, OTPs and OTSs.

The results from this comparison indicate that both groups significantly increased their confidence in addressing farmer mental health, assessing farmers for mental health concerns, and providing appropriate community resources to a farmer struggling with his/her mental health. Additionally, when asked at the end of the training how likely they were to address farmer mental health in their practice going forward, 65% of OTPs reported that they were somewhat or extremely likely “to address it compared to 76% of OTPs who reported that they did not currently address farmer mental health in the pre-training survey. Overall, the majority of respondents in both groups reported that they were somewhat or extremely likely to address farmer mental health in their practice with only one respondent from each group saying they were extremely unlikely to address farmer mental health in their practice. When asked what resources would be most helpful, respondents generally reported a desire for resources for occupational therapists and for farmers, specific to practice settings and geographic regions. Some respondents reported that having some sort of role play scenario or case study to work through would have helped them to feel more confident in addressing farmer mental health. These items should be considered in future programming of this nature. It is important to note that five OTS respondents felt they would benefit from access to the resources and information from the training. All participants, as well as the general public, have access to the presentation slides as well as handouts detailing assessments, financial resources, and further education programs covered in the training on a public webpage. The educator discussed how to access these resources at the end of every training session, however, this result indicates that more time may need to be spent directing participants to resources or providing participants with a physical handout of how to access resources.

Limitations

This article presents a program evaluation completed as part of scholarly work done towards the fulfillment of requirements for a doctoral experiential component (DEC) project in an OTD program. Therefore, there was a limited amount of time to recruit participants and conduct the training, leading to a smaller sample size that may not be representative of all occupational therapy practitioners and students. The pre- and post- training survey administered was relatively short, consisting of three to five questions. This was done intentionally to encourage participants to complete the surveys as there was no incentive provided to participants that was contingent on completion of the surveys. This resulted in data limited to participant’s feelings of self-efficacy related to addressing farmer mental health and did not provide much insight on why this might be. For example, participants may have responded that they did not address farmer mental health within their practice because they worked in a large city where there were few farmers. Additionally, no demographic information was collected aside from the participant’s status as a practitioner or a student and the data was unpaired, meaning that a participant’s pre-training survey results were not associated with their post-training survey results. Therefore, the data was analyzed using statistical tests that resulted in associations with relatively low statistical power.

Future Research Directions

In a systematic review of mental health programming for farmers, researchers concluded that there is a need for more multifaceted, holistic interventions to address farmer mental health as well as more robust outcome measures evaluated (Younker & Radunovich, 2021). Future research should focus on the implementation of specific occupational therapy interventions and their effect on farmer mental health outcomes. Research should explore occupational therapists' current knowledge of addressing farmer mental health within occupational therapy practice as well as farmer perception of occupational therapy interventions in relation to their mental health.

Conclusion

Farmers have higher rates of suicide and mental health conditions like anxiety and depression compared to other workforces as well as the general public (Bjornestad et al., 2021; Miller & Rudolphi, 2022). It is within occupational therapy's scope of practice to address the mental health needs of farmers as it pertains to their engagement in meaningful and purposeful occupations (American Occupational Therapy Association, 2020). This pilot study evaluated the efficacy of a one-hour mental health training provided to occupational therapy practitioners and graduate students on addressing farmer mental health within occupational therapy practice. Results from the study indicate that occupational therapy practitioner and student self-efficacy in addressing farmer mental health increased after the training session. Future research on occupational therapy's role in the prevention and treatment of farmer mental health conditions as well as farmer perception of occupational therapy intervention should be explored.

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Table 1

Occupational therapy practitioners and students showed a significant increase in confidence from pre to post training when asked, “How confident do you feel addressing mental health with the farming population?”

Response	Pre-training Survey		Post-training Survey	
	Practitioner % (N=39)	Student % (N=80)	Practitioner % (N=46)	Student % (N=73)
Extremely Confident	3% (1)	1% (1)	9% (4)	5% (4)
Very Confident	8% (3)	0% (0)	33% (15)	23% (17)
Moderately Confident	33% (13)	21% (17)	50% (23)	60% (44)
Slightly Confident	38% (15)	39% (31)	9% (4)	11% (8)
Not Confident at All	18% (7)	39% (31)	0% (0)	0% (0)

Note. A Mann Whitney U test was performed to evaluate whether practitioner and student pre- training survey data differed from post- survey data. There was a significant difference in practitioner responses ($z = -4.57$, $p \leq 0.001$), as well as student responses ($z = -8.09$, $p \leq 0.001$).

Table 2

Occupational therapy practitioners and students showed a significant increase in confidence from pre to post training when asked, “How confident do you feel screening/assessing a farmer for mental health concerns?”

Response	Pre-training Survey		Post-training Survey	
	Practitioner % (N=39)	Student % (N=80)	Practitioner % (N=46)	Student % (N=73)
Extremely Confident	3% (1)	1% (1)	11% (5)	7% (5)
Very Confident	10% (4)	1% (1)	50% (23)	34% (25)
Moderately Confident	33% (13)	20% (16)	28% (13)	49% (36)
Slightly Confident	33% (13)	36% (29)	11% (5)	10% (7)
Not Confident at All	21% (8)	41% (33)	0% (0)	0% (0)

Note. A Mann Whitney U test was performed to evaluate whether practitioner and student pre- training survey data differed from post- survey data. There was a significant difference in practitioner responses ($z = -4.88$, $p \leq 0.001$), as well as student responses ($z = -8.37$, $p \leq 0.001$).

Table 3

Occupational therapy practitioners and students showed a significant increase in confidence from pre to post training when asked, “How confident do you feel you would be able to provide appropriate community resources to a farmer struggling with his/her mental health?”

Response	Pre-training Survey		Post-training Survey	
	Practitioner % (N=39)	Student % (N=80)	Practitioner % (N=46)	Student % (N=73)
Extremely Confident	3% (1)	1% (1)	9% (4)	10% (7)
Very Confident	13% (5)	4% (3)	33% (15)	32% (23)
Moderately Confident	18% (7)	15% (12)	43% (20)	52% (38)
Slightly Confident	44% (17)	43% (34)	13% (6)	7% (5)
Not Confident at All	23% (9)	38% (30)	2% (1)	0% (0)

Note. A Mann Whitney U test was performed to evaluate whether practitioner and student pre- training survey data differed from post- survey data. There was a significant difference in practitioner responses ($z = -4.31$, $p \leq 0.001$), as well as student responses ($z = -8.45$, $p \leq 0.001$).

Table 4

Occupational therapy practitioner and student post training survey responses answering question: “What additional resources would help you to feel more confident in your ability to address farmer mental health in your future practice?”

Type of Resource	Practitioner Responses % (N=7)	Student Responses % (N=33)	Total Responses % (N=40)
Resources to provide to farmers ^a	57% (4)	12% (4)	20% (8)
Practice scenarios ^b	14% (1)	21% (7)	20% (8)
Additional resources for occupational therapy practice ^c	14% (1)	21% (5)	15% (6)
Further education and training for occupational therapists ^d	0% (0)	12% (6)	15% (6)
Access to resources from training ^e	0% (0)	15% (5)	12.5% (5)
More experience/exposure to farming population	0% (0)	12% (4)	10% (4)
Increasing other professionals' awareness/role ^f	14% (1)	6% (2)	7.5% (3)

^aHandouts to refer farmers to further information and resources for specific groups of farmers (i.e., geographic specific, veteran farmers, spouses, and children of farmers).

^bRole play conversations and the opportunity to work through case studies centered around addressing mental health concerns with farmers and farm families.

^cResources specific to occupational therapy practice (assessments, intervention ideas, practice setting specific resources, employment opportunities working with farming population).

^dOpportunities to learn more about farmer mental health through access to research, training, and continuing education.

^eRequests for information that was covered in the training (presentation slides, assessment links, and mental health and financial resource links).

^fAccess to resources to increase other professionals' knowledge on farmer mental health and role in addressing farmer mental health.