2021

Improving Collaborative Efforts for Both Psychiatric and Psychotherapy Providers: A Quality Improvement Project

Daniel Gonzalez
dgona001@fiu.edu

Improving Collaborative Efforts for Both Psychiatric and Psychotherapy Providers: A Quality Improvement Project

A DNP Project Presented to the Faculty of

the Nicole Wertheim College of Nursing and Health Sciences

Florida International University

In partial fulfillment of the requirements

for the Degree of Doctor of Nursing Practice

By

Daniel R. Gonzalez, MSN, RN, ARNP-PMH-BC.

Supervised By

Eric A. Fenkl, PhD, RN, CNE

Monica Scaccianoce DNP, MSN, RN, ARNP-PMH-BC

Approval Acknowledged: _____, DNP Program Director

Date: _____

Acknowledgements

Throughout the writing and implementing of this project I have received a great deal of support and assistance.

I would like to take this opportunity to thank my family. Without their love, support, and sacrifice, this would not have been possible. To my mother Arlene Pena-Gonzalez, who never gave up on me and encouraged me to continue. You were always there for me and your support motivated and inspired me throughout this process.

My thanks to the staff and professors at the FIU Graduate Nursing Department of the Nicole Wertheim College of Nursing & Health Sciences and in particular my faculty mentors Dr. Monica Scaccianoce and Dr. Eric Fenkl for guidance in my project. And thank you to my clinical mentor Albert Garcia who was always there with whatever I needed to help me over the finish line. Additionally, to Dr. Rose Tousent for being a mentor and friend throughout this process.

Finally, I would like to offer my thanks to the Staff, Clinicians, and Administrators of Behavioral Collaborative Care Solutions. Given the extraordinary circumstances and challenges posed by the COVID pandemic and the increased difficulties of completing research in a medical setting, this project would not have been possible without their support and cooperation.

Abstract

Background: Many individuals suffering mental illness who then seek the services of mental health professionals, are often offered only one form of treatment. The treatment modalities normally offered are either that of psychotherapy or the use of psychotropic medication. Research indicates that across different mental health illnesses, patients undergoing either one of these treatment modalities saw improvements, but when both modalities were introduced under a collaborative treatment plan, they had greater rates of recovery and decreases in relapses of symptoms.

Purpose: The purpose of this study was to measure the effect on providers, and specifically on their perceptions and knowledge of psychiatric approaches and psychotherapy approaches to treating mental illness, after taking an educational module on using both treatment modalities,

Methods: In this study, each provider participated in surveys before and after the educational module, and the observations of the pre-test and post-test surveys were paired. Paired *t*-tests were used to determine the difference in providers' perceptions and knowledge before and after the educational module.

Results: The findings of the quality improvement project indicate an overall shift in perception and understanding on the benefits of collaborative treatment plans for mental health patients. However, additional resources and tools can be implemented to increase this positive shift.

Discussion: Collaborative treatment among mental health care providers appears to increase positive patient outcomes. Clinicians should evaluate their patients' perceptions of treatments for mental health, as well as barriers to treatments. Clinicians should provide patients with the option for adjunct treatment options due to the higher likelihood of positive outcomes.

Key Words: *collaborative treatment, single modality treatment, multi-modality treatment, adjunct treatment, psychiatry, psychotherapy, mental health.*

Table of Contents

Mental illness accounts for a major percentage of the population's primary illness in the United States with approximately 55.7 million people having it as their primary diagnosis (CDC, 2021). In 2019, the percent of the U.S. population over the age of 18 had persistent feelings of worrying, nervousness, or anxiety was 11.2 % and approximately 4.7% of the U.S. population over the age of 18 suffered from regular feelings of depression (CDC, 2021). Additionally, there were more than 4.9 million visits to an emergency department due an issue regarding a primary diagnosis of a mental, behavioral, or neurodevelopment disorder (CDC, 2021). Mental health diagnoses are often not looked at with the same level of severity as a medical diagnosis, and lack of adequate or appropriate mental health treatment can lead to devastating problems. In 2019, the number of suicide deaths in the United State was 47,511 (CDC, 2021). Providing mental health treatment for individuals with an available comprehensive treatment plan is critical for the overall state of the health of the U.S. population.

Problem Statement

It is not known to what degree mental health providers within both the psychiatric and psychotherapy fields understand the benefit of collaborative treatment protocols at the initial stages of treatment, as opposed to waiting a given time before incorporating an adjunct treatment modality from their counterpart in a collaborative approach.

Problem Identification

Many studies have identified that in general mental health patients benefit from a collaborative treatment point, allowing for adjunct treatment options along with the initial treatment plan, to best give the patient a positive outcome. However, a vast majority of clients who seek help when suffering mental illness often seek out only one form of treatment, either that of psychotherapy or the use of medication to alleviate symptoms. Because individual

providers of treatments have their own particular perspective of what is the best treatment modality when it comes to mental health, they will initially use only their preferred method, and because they think that their trained modality is the best form of treating mental illness, providers often fail to consider adjunct treatment for patients care early on.

Consequences of the Problem

The cost of not addressing the problem of adequate and quick treatment of mental illness can be financially detrimental to an individual patient. One study identified that often the more severe a patient's mental illness, the higher the cost of treatment and health maintenance (de Oliveira et al., 2020). The study also looked at additional factors and found that patients with severe mental illness were more prone to having medical comorbidities that also took a financial toll on patients and the healthcare system (de Oliveira et al., 2020). As a patient's prognosis improved, the overall cost decreased, indicating that faster recovery rates were ideal in helping the patient to achieve a state of wellness and in minimizing the financial impact it may have on them or the healthcare system (de Oliveira et al., 2020).

Another consequence of not offering the best and most comprehensive treatment plan to a patient is that they must disclose their health status with their employers if the burden of dealing with if their illness becomes severe. The cost of disclosure is one that not only has a potential problem for the patient financially regarding their employment, but also brings the emotional issues that an individual may undergo due to the social stigmas regarding mental health (Baldwin, 2021). In offering care at earlier stages, the risk of a patient decompensating decreases and the impact it will have on them is potentially less.

Proposal Solution

Educational modules have been shown to bridge knowledge gaps for healthcare providers at all levels. This project proposes an educational model using evidence-based literature to help bridge this knowledge gap for mental health care providers in better understanding how collaborative treatment plans from both the psychiatric and psychology departments are more effective in improving a patient's prognosis for attaining a better state of well-being.

PICO Question

Population = Mental Health providers

Intervention = Educational model on the benefits of collaborative treatment planning

Comparison = compared to single treatment modalities

Outcome = Increase in the likelihood of collaboration from their mental health counterparts and improved patient treatment.

Clinical Question

How does the implementation of an educational module for mental health providers showing the benefits of collaborative treatments compared with those who use a single treatment modality, influence the likelihood for collaborative approaches to patient care?

Literature Review

A systematic review was performed by Burkhart et al., (2019) which identified the primary health sector as one of the key sectors that diagnosed pediatric mental health disorders. These diagnoses often occur with a pediatric patient being treated for a mental health condition by their pediatrician, yet rarely being seen outside of those visits by mental healthcare providers (Burkhart et al., 2019). The review looked at six randomized controlled trials and quasi-

experimental studies that identified increasing access though integrated and collaborative care models (Burkhart et al., 2019). The research showed that clinicians could better identify mental illness and when working from a collaborative stance, there was increased adherence to the overall treatment plan (Burkhart et al., 2019).

Collaborative approaches to mental health were also seen to improve patient access and outcomes by implementing telehealth communications as a support resource when treating elderly individuals who had reduced access to providers (Gerlach et al., 2018). The study was done between August 2010 and May 2014 with a sample population of 2,151 older adults, where the Supporting Seniors Receiving Treatment and Intervention (SUSTAIN) program allowed primary care providers and non-mental health specialists the ability to treat mental illness in the initial stages, while working with mental health case managers. The study identified that elderly patients in rural areas and urban areas both benefited greatly from this collaborative approach including telehealth resources, although there was slightly higher usage of resources by patients in rural areas. One of the weaknesses of the study was the overall lack of diversity in the patients; approximately 82 percent of participants were female, and 92% of participants were non-Hispanic white and the urban-suburban sample was 98.1% non-Hispanic (Gerlach et al., 2018). Although the study had a very large population, the lack of diversity in the population is a barrier to is results being generalizable.

Another study identified that person-centered planning and collaborative work enhanced patient engagement in compliance with their treatment protocol and as well as compliance with their medication regimen. Stanhope et al. (2013) randomly assigned ten community mental health clinics as recipients to receive training on how to incorporate person centered planning and cooperative documentation as compared with other clinics which continued to provide their

usual treatment protocols. Data was collected between May of 2009 and March of 2010, and the overall findings indicated that the community mental health clinics that incorporated the person-centered planning and collaborative documentation not only saw an overall improvement in the engagement of patients using services but an increase in medication adherence (Stanhope et al., 2013). One of the key factors the study identified was that a crucial challenge for mental health agencies to begin adopting this new collaborative and patient focused modality was the willingness to reorient their care systems and ability to overcome apprehensions in making changes from their previous model (Stanhope et al., 2013). The study noted that additional research must be done to expand on the knowledge developed, including topics ranging from improving provider-client interactions to recovery-oriented provider practices for patients (Stanhope et al., 2013).

A study regarding adolescent treatment in psychiatric wards noted that there was a clear distinction between adolescents who were compliant with their treatment plans and actively participating in therapy sessions aimed at treating their mental illness, and those who were not in therapy sessions (Timlin et al., 2012). The study retroactively collected data from 72 physicians, and analyzed their patient discharge notes (Timlin et al., 2012). The patients were broken down into three subgroups: patients in adherence with their treatment plan, patients who were not in adherence to their treatment plan, and patients who had challenges or obstacles in adhering to their treatment plan. Overall, the data identified two major points of interest; those willing to comply with therapy as an adjunct treatment plan were much more likely to adhere to their treatment plan, and secondly that the context of why a patient is not adhering to their treatment plan should be identified and addressed as a means of healing to improve the patient's overall quality of treatment (Timlin et al., 2012).

A review of literature done by Kellher et al., (2015), reported general findings regarding pediatric patients with mental health disorders seen in a primary care setting. Often pediatric patients treated in primary care settings were known to have seen struggling with issues such as non-specific counseling, prescribers underdosing medication, and minimal follow through with specialty provider referrals (Kelleher et al., 2006). The study found that while a major issue is the availability of sessions with a mental health specialist, technology can potentially bridge that gap. Overall, it was noted that pediatric patients when treated by mental health provider in collaboration with the patient's primary care provider, there was an overall increase in patient compliance with treatment plans as well as increase in patient outcomes (Kelleher et al., 2006).

With respect to adding adjunct treatment models, one study found that military veterans who had a history of psychiatric treatment with and without hospitalizations and received mindfulness-based cognitive therapy as means of suicide prevention, there was an overall reduction in the number of suicide attempts (Interian et al., 2021). The study took place between December 2013 and March 2018 with a sample of 140 patients. The researchers found that although mindfulness-based cognitive therapy did not decrease the number of suicide events, there was a decrease in suicide attempts and psychiatric hospitalizations (Interian et al., 2021). The study also suggested that additional research should be done to see the impact of mindfulness-based cognitive therapy as it may benefit patients in other areas (Interian et al., 2021).

Another study of suicidal patterns and behaviors identified four main factors that greatly impacted a military veteran's risk for suicidal ideation and event; these were age, a lifetime of major depressive disorder, alcohol use disorder, and adverse childhood. These factors were seen to play a major role in 72% of patients with a history of suicide attempts (Nichter et al., 2021).

The study used data gathered from the National Health and Resilience in Veterans Study, which was a representative survey of a sample of 4,069 veterans from 2019-2020 (Nichter et al., 2021). The study also noted that only 35.5% of veterans with current suicidal ideation were actively engaged in a mental health treatment plan (Nichter et al., 2021). The study further explained that due to such a large portion of military veterans not receiving mental health treatment, there needed to be an increase in suicide prevention programs as well as outreach efforts (Nichter et al., 2021). The study did note a slight difference between military veterans who received their primary care from the Veterans Affairs clinics (54.7%), as opposed to those who saw their primary outside of those facilities with them having a higher rate of engagement (23.8%) (Nichter et al., 2021). The article failed to break down patient demographic beyond age and gender, and omitted details of what type of mental health services these patients were using or offered.

In looking at the implementation of primary care-mental health integration programs in the Veterans Affairs health systems, another study identified an overall improvement in identifying mental illness within their patients, as well as improving patient outcomes (Zivin et al., 2010). The study noted that of the 294 facilities in the study, 137 facilities used the integration program in general and were able to identify an increase in the prevalence of a multitude of psychiatric diagnoses in the patients they were seeing when comparing the data between fiscal year 2007 and fiscal year 2008 (Zivin et al., 2010). The study notes that almost no change was noted in increasing the identification of mental illness in the 157 facilities that were not using an integrated program (Zivin et al., 2010). Overall, the data supports the position that collaborative treatment in primary care setting leads to a higher likelihood of identifying mental illness in the primary care setting (Zivin et al., 2010). The study further noted that the

future research should be done to better understand trends regarding subgroups identified in the study, as well as the treatment processes and outcomes for the patients that did receive services in the integrated treatment facilities (Zivin et al., 2010).

A study by Wolk et al. (2021) looked at the implementation of a new collaborative care model referred to as the Penn Integrated Care program. Over the course of 12 months there were over 6,000 unique patient referrals to mental healthcare providers presenting symptoms which included but were not limited to psychosis, suicidal ideation, depression and anxiety (Wolk et al., 2021). Patients reporting remission of symptoms were found in approximately 33% in patients with depression and nearly 40% in patients with anxiety (Wolk et al., 2021). The study noted that the implementation of the collaborative care model was regarded as successful as means of meeting the needs of large diverse patient populations that have the full spectrum of mental health conditions that are often seen in primary care settings (Wolk et al., 2021).

Howard and Cox (2008) identified the use of religious leaders as adjunct mental health resources for individuals who served in ground combat units. The overall perception was that primary care providers would identify if the individual required mental health services, diagnosing and prescribing medications if necessary and then referring the individual to speak to a chaplain as a form of a therapy alternative (Howard & Cox, 2008). If the primary care provider and the chaplain were unable to fully handle the individual's needs then the patient would be referred to mental health specialist (Howard & Cox, 2008). The study indicated that the collaborative efforts led to a decrease in the number of mental-health separations from the military as well as an increase in readiness to restart missions (Howard & Cox, 2008). The study failed to note the potential bias of wanting to have mental health issues primary addressed by military primary care providers and chaplains because of the risk of losing service individuals;

pushing forth the idea of the individual staying in the armed forces could potentially reduce the overall success in patient (Howard & Cox, 2008).

In 2020, Kappelmann et al. performed a meta-analysis to determine the best form of therapy for a patient based on the individual's symptoms, whether the individual was more suited towards either psychotherapy as the treatment option or the use of psychotropic medications. The study, however, did not look at potential indicators that would account for individuals who would benefit from both. Kappelmann et al. (2020) noted that results were very similar in looking at patient outcomes, when comparing both groups, but did not evaluate the outcomes from the individuals who potentially would have improved or improved at a faster rate when offered both treatment options.

In some instances, mental healthcare providers will consider recommending adjunct treatment options when the patient fails to make improvements with just the initial protocol. Also, patients may seek out adjunct treatment when symptoms worsen even after seeking help from one type of provider, searching for additional help. One study noted that often once patients have hit what they consider their lowest possible point, they seek out additional help (Wells, Crowe, & Inder, 2020). Patients with mood disorders, have no strong indicators that determines which mental health service they primarily seek (Wells, Crowe, & Inder, 2020). Often if patients saw benefits with medication, they did not seek out psychotherapy even if the benefits from medication were not major. It was seen that only after an extended period of time, with minimal to no improvement did those patients seek out psychotherapy to help manage their mood disorders (Wells, Crowe, & Inder, 2020).

Additionally, a study by Hilbert et al. (2020), found that in treating patients with binge-eating disorder, the trends for those who used pharmacotherapy and psychotherapy showed

different rates of success early on as well as differences in the efficacy of long-term recovery. Patients who underwent the usage of pharmacotherapy as their treatment plan saw faster rates of improvement at the initial stages of treatment, noting a vast decrease in their symptoms, as well as a decrease in symptoms in additional mental health issues (Hilbert et al., 2020). It was also noted that those who underwent psychotherapy did not benefit early on in their treatment, but over longer periods of time saw improvement, as well as had less incidences of relapses with binge-eating post treatment (Hilbert et al., 2020).

Critical factors in determining treatment modality include the patients' lifestyles, beliefs, socioeconomic status, and beliefs about treatment modalities. In one study looking at the determining treatment protocols for college students with bipolar disorder, environmental factors, student lifestyles, and economic resources were found to play a fundamental role in shaping what treatments those individuals seek out (Lejeune, 2011). Financial situations may arise that impact the individual's choice in maintaining appointments with the healthcare providers, medication compliance, as well as additional expenses that may occur due to treatment planning (Lejeune, 2011). In some instances, the individual's treatment can be determined primarily by what the individual can financially cover or what their health insurance may cover.

Jorm and Wright (2007) identified that individuals' perceptions as well as those of their family members are strong factors in shaping the decision of which treatment modality a patient may first attempt. Often the type of mental illness, severity of symptoms, and impact on the individual's daily life, determine the likelihood for seeking help through the use of medication (Jorm and Wright, 2007). The study showed that regardless of the severity of symptoms and

impact on the induvial, the person will benefit from the use of psychotherapy if they are able to participate in the process (Jorm and Wright, 2007).

Definition of Terms

Adjunct treatment: secondary treatment modality used in conjunction with another treatment (Hilbert et al., 2020)

***Collaborative treatment*:** the completion of a treatment plan with input and knowledge from other healthcare providers, that may include other specialties (Burkhart et al., 2019)

***Multi-modality treatment*:** the use of two or more treatment styles to treat a patient's medical or psychiatric condition (Hilbert et al., 2020)

Psychiatric Provider: mental healthcare provider who is certified to treat psychiatric patient through the use of psychotropic medication (Kappelmann et al., 2020)

Psychotherapist: a mental health professional licensed to perform psychotherapy as a form of treatment for a patient's betterment (Kappelmann et al., 2020)

Psychotherapy: the use of talk therapy by mental health professionals to help an individual either change a behavior, overcome a problem, or reshape their way of thinking (Hilbert et al., 2020)

Psychotropic Medication: medications that are used in the treatment of psychiatric illnesses (Hilbert et al., 2020)

***Single modality treatment*:** the use of one treatment style to treat a patient's medical or psychiatric condition (Hilbert et al., 2020)

Conceptual Underpinning and Theoretical Framework

The conceptual framework or midrange theory can be a published framework or theory or developed by the DNP Candidate as an "extant mid-range theory" based on the review of the literature with referencing relevant to their specific clinical question.

The conceptual framework for the proposed project as based on the review of the literature falls in line with the mid-range Theory of Uncertainty in Illness. Individuals with depression and anxiety, even with successful treatments are always at risk for external stimuli or chance occurrences to relapse their symptoms. When referencing patients who do not have their illnesses yet managed well or new patients, principles of the theory of uncertainty are particularly relevant to patients that suffer from chronic illness (Liehr & Smith, 2014). The principles of uncertainty go hand in hand with the ebbs and flows and flows of those with mental health issues. The theory regarding the uncertainty in illness reinforces the need for additional support structures and optimal treatment methods to help improve the individual's situations (Liehr & Smith, 2014).

With the Theories of Uncertainty of Illness, research focuses on the three main aspects uncertainty of illness which are the severity of the illness, the erratic nature of the symptoms, and ambiguity or unknown aspects regarding the symptoms (Liehr & Smith, 2014).

A multitude of factors help reduce uncertainty in an individual's life, such as social support systems, event familiarity symptom patterns, credibility of their healthcare authorities (Liehr & Smith, 2014). The more protective factors promoting a higher rate of recovery and decreasing the likelihood of symptom re-emergence.

Methodology

Setting and Participants

A quantitative methodology was chosen for this project. Th scholarly project involved a pre-test survey and post-test survey by the participants. The DNP scholarly project was conducted in a mental health private practice in Miami, Florida. The clinic delivers mental health services, including psychiatric services and therapy to patients from ranging from age 5 and older. The practice is open Monday to Saturday from 8:00 AM to 5:00 PM. The target of the DNP scholarly project was the psychiatric and therapy providers currently practicing and seeing patients at the clinic. Participants either used a facility computer or owned a device capable of supporting the programs used for the pre- and post-surveys as well as a Zoom call for the education module. The educational intervention was delivered via electronic means and no face-to-face contact occurred.

Protection of Human Subjects

This scholarly project was subject to the approval of the Florida International University Institutional Review Board (IRB). As part of the University requirements, the project manager completed the Collaborative Institutional Training Initiative (CITI) online training course. During provider surveys no identifiable information was gathered, HIPPA compliance was met for only the DNP student, there were no identifiable risks to patients. Data was accessed through a direct access to the survey responses, data was directly password protected along with the computer being password protected as well without network connections. The value of the knowledge gained could vastly improve provider knowledge on the benefits of adjunct treatments and collaborative care for overall improved patient outcomes.

Recruitment Process

1. The recruitment process began by distributing an e-mail to clinicians at the office located in Miami, Florida. Interested participants contacted the co-investigator, via email or by phone to schedule a time for the educational module.

2. The co-investigator verified that inclusion criteria for healthcare providers were met: (a) licensed mental health provider (b) currently working at the clinic treating patients; (c) agrees to be a participant without compensation; (d) has access to the internet with either a computer, tablet, or smartphone; € willing to complete the pre-survey test, educational presentation, and post survey test.

3. During this telephone interview the co-investigator answered any questions and/or concerns pertinent the study that the selected participants may have had.

4. Participants who agreed to participate in the project were emailed a copy of the informed. The signed consent was automatically included in the pre-survey and post-test to allow for reinforcement of optional participation. All forms were stored via a password protected file. The file was kept in a secure location on a password protected computer.

5. The selected participants scheduled a date and time to complete the pre-test survey, educational presentation, and post-test.

6. The selected participants completed the pre-test questions using Qualtrics software. The link to the questions was sent via e-mail for the participants to complete the pre-test. The pre-test questions contain 6 demographic questions and fifty-six content questions. The estimated time to complete the pretest survey questions was about fifteen minutes

7. The selected participants sat through a ten-minute educational presentation on the benefits of collaborative treatment planning between the psychiatric department and the therapy department. Any questions were answered.

9. At the end of the educational presentation, the participants completed the post-test survey questions. The post-test questions were identical to the pre-test one.

10. The answers to the survey question were stored in Qualtrics. The co-investigator used this data to generate reports using Qualtrics. The data was transferred from Qualtrics to be analyzed via Statistical Package for the Social Sciences (SPSS) version 23 for Windows (IBM Corp., Armonk, NY). The co-investigator created a Microsoft Excel spreadsheet and imported the information, which was used for data analysis.

Data Collection Instruments

The survey consisted of four parts which was administered to mental health providers. These parts were:

1. A survey using a 5-point Likert scale which examined beliefs regarding mental health treatment (30 questions);
2. An assessment of knowledge (7 questions);
3. A survey of beliefs about patient perspectives regarding treatment (9 questions); and
4. A survey of beliefs regarding fellow clinicians (10 questions).

The survey was administered before and after the implementation of the educational module.

All data was generated and collected through Qualtrics software provided by Florida International University. Qualtrics was used to conduct the pre-test survey and post-survey research and to securely store all the information gathered from the pre-test and posttest

surveys. The co-investigator transferred the data from Qualtrics to SPSS, where it was processed and analyzed. Only the PI and the con-investigator had access to the data collected.

Analysis Methods

Data were imported into and analyzed using SPSS version 23 for Windows (IBM Corp., Armonk, NY). Frequency tables (for categorical variables) and descriptive statistics (for continuous variables) were used to summarize the survey responses. Paired t-tests were used to determine if there was a difference in providers' a) beliefs regarding treatment (measured using 30 questions), b) knowledge of psychiatric approaches and psychotherapy approaches to treating mental illness (measured using the composite score of knowledge), c) beliefs over patient perspectives in regard to treatment (measured using nine questions), and d) beliefs regarding fellow clinicians (measured as perceptions of collaborating with psychiatric/psychotherapy providers), before and after the educational module.

In a paired sample *t*-test, each subject is measured twice, resulting in pairs of observations. The paired *t*-test is a statistical procedure that can be used to determine whether the mean difference between two sets of observations (in which each subject is measured twice, resulting in pairs of observations) is zero. In this study, as each provider participated in surveys before and after the educational module, the observations of the pre-test and post-test surveys were paired. Therefore, it was appropriate to use paired *t*-tests to determine the difference in providers' perceptions and knowledge before and after the educational module.

In a paired *t*-test, the observations (i.e., the dependent variable) are defined as the differences between two sets of values, and each assumption for the paired t-test refers to these differences, not the original data values. The following assumptions need to be satisfied for the paired sample *t*-test (Field, 2013):

- The dependent variable must be continuous.
- The observations are independent of one another.
- The dependent variable should be approximately normally distributed.

As the perceptions and knowledge of providers were on a continuous scale, the observations (i.e., the dependent variable) of the paired t-test defined as the differences between two sets of values are also on a continuous scale. Thus, the first assumption for the paired *t*-test was satisfied. The independence assumption was satisfied as each participant was an independent individual and hence the observations were independent of one another. The normality assumption was checked via skewness and kurtosis. As suggested by Kim (2013) and Mishra et al. (2019), an absolute skewness value ≤ 2 and an absolute kurtosis (excess) ≤ 4 for the data may be used as reference values for determining considerable normality. If the normality assumption was not satisfied, then the non-parametric alternative of the paired t-test, Mann-Whitney U test, was performed to validate the results of the paired *t*-test.

When multiple hypothesis tests were performed within a same scale (e.g., 30 tests were performed for beliefs regarding treatment as there were 30 questions; 9 tests were performed for beliefs over patient perspectives in regard to treatment), the Bonferroni correction (Field, 2013) for multiple comparisons was employed to control the family-wise error at the 0.05 level.

Findings

Description of Samples

A total of ten providers participated in the pre-test and post-test survey to help the researcher understand the effects of an educational module on providers regarding the perceptions and knowledge of psychiatric approaches and psychotherapy approaches to treating mental illness. The demographics of these ten providers are presented in Table 1. Nearly two-

thirds of the participants were female (60.0%) and between 30 and 39 years old (60.0%). Majority of the participants were Hispanic (80.0%). Participants were working in either the psychiatry department (60.0%) or the psychotherapy department (40.0%). None of the participants had previous training on the benefits of collaborative treatment for mental health patients. Nearly half of the participants (40.0%) never worked at clinical practices.

Table 1

Demographics

Variable Category	Variable	*N*	%
Gender	Female	6	60.0
	Male	4	40.0
Age	30-39	6	60.0
	40-49	2	20.0
	50+	2	20.0
Ethnicity	White	1	10.0
	Black/African American	1	10.0
	Hispanic	8	80.0
Department	Psychiatry	6	60.0
	Psychotherapy	4	40.0
Previous training	No	10	100.0
	Yes	0	0
Number of clinical practices worked at	0	4	40.0
	1	3	30.0
	2	0	0
	3	2	20.0
	4	1	10.0

Data Collection Method

A descriptive quantitative design was implemented for the data collection. Ten mental health providers participated in the study (n=10). The participants were providers at mental

health clinic located in Miami, Florida. This quantitative study design included a pre-test survey, an educational intervention, and a posttest survey. The data collection was carried out during the months of September and October 2021. The pre-test survey and posttest survey were a five-section survey, totaling a 6-item demographic questionnaire and a 56-item questionnaire directly regarding the purpose of the project. The pre-test survey and posttest survey that were identical in content. The educational activity consisted of a digital presentation based on the latest evidence regarding collaborative treatment results in mental health, as well as information regarding patient outcomes of single modality treatment plans. The presentation was delivered to the participants via zoom.

Results

Survey responses were obtained for beliefs regarding treatment (30 questions), assessment of knowledge (7 questions), beliefs about patient perspectives regarding treatment (9 questions), and beliefs regarding fellow clinicians (10 questions) before and after the implementation of the educational module.

Table 2 shows the pre-test and post-test survey responses for the 30 items of beliefs regarding treatment. Before the implementation of the educational module, over half of the participants agreed with the statements of 17 items (items 1, 5-13, 15-19, 27, and 28), were neutral about the statements of 4 items (items 3, 4, 29, and 30), and disagreed with the statements of 4 items (items 20, 21, 23, and 24). The same number of participants agreed (N = 4) or disagreed (N = 4) with the statements of 3 items (items 22, 25, and 26) and the same number of participants agreed (N = 4) or were neutral (N = 4) with the statement of 1 item (item 14). Three participants disagreed (N = 3) or were neutral (N = 3) with the statement of Item 2.

After the implementation of the educational module, over half of the participants ($N \geq 5$) agreed with the statements of 17 items (items 1, 2, 4, 5, 6, 9-12, 15-19, 26, 28, and 30), were neutral about the statements of 6 items (items 7, 8, 23, 24, 25, and 29), and disagreed with the statement of 1 item (item 3). The same number of participants agreed (N = 4/5) or were neutral (N = 4/5) with the statements of 6 items (items 13, 14, 20, 21, 22, and 27).

Table 2

Summary of Survey Responses for Beliefs Regarding Treatment

		Pre-test			Post-test		
Item	Description	D	N	A	D	N	A
1	I am confident in my knowledge regarding psychiatry, including psychiatric approaches to treating mental illness.	2	2	6	0	2	8
2	I am confident in my knowledge regarding psychotherapy, including psychotherapeutic approaches to treating mental illness.	3	3	4	0	3	7
3	In treating mental illness, it is best to only begin with one treatment modality.	0	6	4	7	1	2
4	In treating mental illness, it is best to begin with from a collaborative stance of using both psychotropic medication and psychotherapy	0	6	4	0	0	10
5	I am very familiar with the benefits of psychotropic medication.	2	2	6	0	0	10
6	I am very familiar with the risks of psychotropic medication.	2	2	6	0	0	10
7	I believe medication should be first line treatment for major depressive disorder (MDD).	1	3	6	0	6	4
8	I believe medication should be first line treatment for anxiety-based disorders.	1	3	6	0	6	4
9	I believe medication should be first line treatment for attention deficit hyperactive disorder (ADHD).	1	3	6	1	2	7
10	I believe medication should be first line treatment for Bipolar I.	1	3	6	1	0	9
11	I believe medication should be first line treatment for Bipolar 2 (Bipolar Depression).	1	3	6	1	0	9
12	I believe medication should be first line treatment for substance abuse disorder (Alcohol, Cannabis, and other illicit drugs).	1	3	6	0	1	9
13	I believe medication should be first line treatment for eating disorders.	1	3	6	0	5	5

(Table 2 continues)

(Table 2 continued)

		Pre-test			Post-test		
Item	Description	D	N	A	D	N	A
14	I believe after a brief period of time, if there is minimal improvement, psychotherapy may be indicated as adjunct treatment	2	4	4	0	5	5
15	I believe after an extended period of time, if there is minimal improvement, psychotherapy may be indicated as adjunct treatment	0	2	8	0	0	10
16	Most mental health illnesses can be managed in the short term with psychotropic medication.	1	3	6	0	0	10
17	Most mental health illnesses can be managed in the long term with psychotropic medication.	1	3	6	0	3	7
18	I am very familiar with the benefits of psychotherapy.	1	4	5	1	0	9
19	I am very familiar with the risks of psychotherapy.	1	4	5	1	0	9
20	I believe psychotherapy should be first line treatment for major depressive disorder (MDD).	5	1	4	0	5	5
21	I believe psychotherapy should be first line treatment for anxiety-based disorders.	5	1	4	0	5	5
22	I believe psychotherapy should be first line treatment for attention deficit hyperactive disorder (ADHD).	4	2	4	2	4	4
23	I believe psychotherapy should be first line treatment for Bipolar I.	5	1	4	2	5	2
24	I believe psychotherapy should be first line treatment for Bipolar 2 (Bipolar Depression).	5	1	4	2	6	2
25	I believe psychotherapy should be first line treatment for substance abuse disorder (Alcohol, Cannabis, and other illicit drugs).	4	2	4	1	6	3
26	I believe psychotherapy should be first line treatment for eating disorders.	4	2	4	0	4	6
27	I believe after a brief period of time, if there is minimal improvement, psychotropic medication may be indicated as adjunct treatment	1	4	5	0	5	5
28	I believe after an extended period of time, if there is minimal improvement, psychotropic medication may be indicated as adjunct treatment	0	3	7	0	0	10
29	Most mental health illnesses can be managed in the short term with psychotherapy medication.	2	5	3	0	8	2
30	Most mental health illnesses can be managed in the long term with psychotherapy medication.	1	6	3	0	1	9

Note. D = strongly disagree or disagree, N = No opinion, A = agree or strongly agree.

One missing response for item 23 of post-test survey.

Table 3 shows the questions and the numbers of participants with correct answers for each question assessing providers' knowledge of psychiatric approaches and psychotherapy approaches to treating mental before and after the implementation of the educational module. For the five true/false questions, more participants answered them correctly after the implementation of the educational module, compared to before the implementation of the educational module (Number of participants with correct answers: 9-10 for post-test vs. 5-9 for pre-test). Similarly for the two multiple-choices questions, much more participants answered them correctly after the implementation of the educational module, comparing to before the implementation of the educational module (Number of participants with correct answers: 9 for post-test vs. 2-3 for pre-test). Figure 1 is a visualization of the results for Table 3.

The answers provided for Item 6 were: a) An adolescent between the ages of 13-17 who reports no new stressors but reports feeling anxious the majority of the time, which has begun to affect her school work and sleep schedule; b) A child between the ages of 8-12 years of age with history of trauma, reporting flash backs, fear responses, and persistent nightmares; c) A middle-aged adult age 30-50years, who reports difficulty focusing at work, easily distracted, history of major depressive disorder, mild, and in remission; d) An adolescent between the ages of 13-17 who reports recent episodes of depression, anxiety, and issues with impulse control, as well as a history of being diagnosed with ADHD).

The answers for Item 7 were: a) Young adult between the ages of 18-30 reporting acute depressive episodes following the loss of a family member; b) An older adult age 65+ that has retired and feels disconnected from society due to no longer working and has minimal contact with family due to their busy schedule; c) A young adult between the ages of 18-30 who has noticed has begun to restrict their diet and increase their exercise routine, due to fears of

becoming overweight, who currently has a low BMI, but denies any patterns of starvation or binge eating with purging.

Table 3

Summary of Providers' Knowledge (Number of Participants with Correct Answers)

Item	Description	Pre-test	Post-test
1	Psychotropic medications have been shown to yield better results for treating mental illness during the initial treatment phase. (**True** or False)	7	10
2	Psychotherapy has been shown to yield better results for treating mental illness during the initial treatment phase. (True or **False**)	7	10
3	In helping to prevent relapse with mental illness, once in remission, psychotropic medications have been shown to be the better treatment option. (True or **False**)	5	10
4	In helping to prevent relapse with mental illness, once in remission, psychotherapy has been shown to be the better treatment option. (**True** or False)'	5	10
5	Patient symptom severity is the primary factor when determining the best treatment protocol. (**True** or False)	9	9
6	Which of the following patients is best suited for psychotropic medication?	2	9
7	Which of the following patients is best suited for psychotherapy?	3	9

Note. For the five true/false questions, the correct answer was in bold.

Figure 1

Summary of Providers' Knowledge (Number of Participants with Correct Answers)

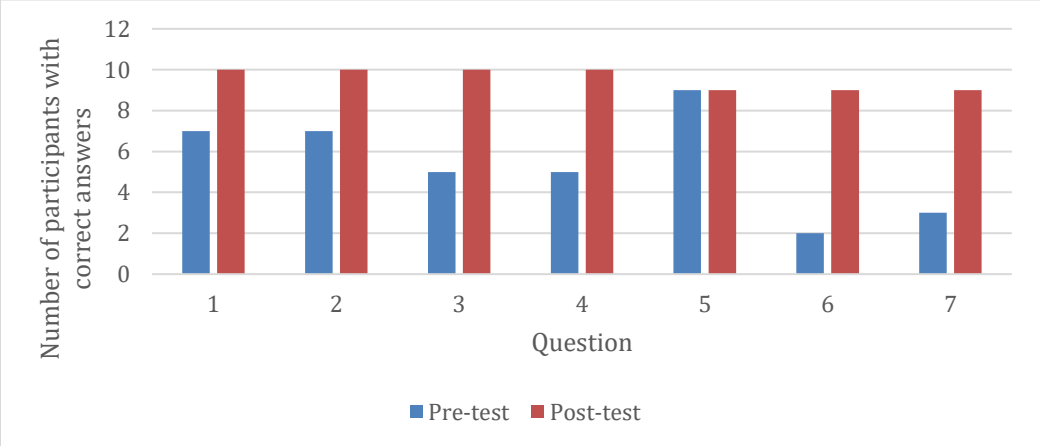


Table 4 shows the survey responses for the nine items of beliefs over patient perspectives regarding treatment before and after the implementation of the educational module.

Table 4

Summary of Survey Responses for Beliefs over Patient Perspectives in Regard to Treatment

		Pre-test			Post-test		
Item	Description	D	N	A	D	N	A
1	Patients may choose to avoid psychotropic medication as treatment option due to the stigma of mental health, preferring psychotherapy.	0	6	4	0	0	10
2	Patients may choose to avoid psychotropic medication as treatment option due to the cultural beliefs, preferring psychotherapy.	0	6	4	0	0	10
3	Patients may choose to avoid psychotherapy as treatment option due to the stigma of mental health, preferring psychotropic medication.	1	5	4	0	0	10
4	Patients may choose to avoid psychotherapy medication as treatment option due to the cultural beliefs, preferring psychotropic medication.	0	5	5	0	0	10
5	Patients may choose psychotropic medication over psychotherapy due to the cost of appointments and the frequency of those appointments.	0	7	3	0	0	10
6	Patients may choose psychotropic medication over psychotherapy due a belief that medications are a quick fix to their mental health issue.	0	7	3	0	0	10
7	Patients may choose psychotropic medication over psychotherapy due to a belief that their issue is due to a chemical imbalance and not an external stressor.	1	6	3	0	0	10
8	Patients may choose psychotherapy over psychotropic medication due to a fear of becoming dependent/addicted on medications.	0	7	3	0	0	10
9	Patients may choose psychotherapy over psychotropic medication due to a belief that their issue is due to external causes and not a chemical imbalance.	0	6	4	0	0	10

Note. D = strongly disagree or disagree, N = No opinion, A = agree or strongly agree.

Before the implementation of the educational module, participants ($N \geq 5$) appeared to be neutral about the nine statements for beliefs relating to patient perspectives regarding treatment. However, after the implementation of the educational module, participants ($N = 10$) agreed to the nine statements for beliefs over patient perspectives regarding treatment.

Table 5 shows the survey responses for the 10 items of beliefs regarding fellow clinicians before and after the implementation of the educational module. Regardless of the educational module, participants ($N \geq 5$) seemed to be neutral about almost all ten statements for beliefs regarding fellow clinicians.

Table 5

Summary of Survey Responses for Beliefs Regarding Fellow Clinicians

		Pre-test			Post-test		
Item	Description	D	N	A	D	N	A
1	I am comfortable collaborating with any clinician from the psychiatric department.	1	8	1	0	9	1
2	I am comfortable collaborating with most clinicians from the psychiatric department.	1	5	4	0	4	6
3	I am comfortable collaborating with some clinicians from the psychiatric department.	1	6	3	0	7	3
4	I am comfortable collaborating with a few clinicians from the psychiatric department.	0	5	5	0	10	0
5	I am NOT comfortable collaborating with any clinicians from the psychiatric department.	0	9	1	0	10	0
6	I am comfortable collaborating with any clinician from the psychotherapy department.	0	9	1	0	9	1
7	I am comfortable collaborating with most clinicians from the psychotherapy department.	0	7	3	0	5	5
8	I am comfortable collaborating with some clinicians from the psychotherapy department.	0	7	3	0	6	4
9	I am comfortable collaborating with a few clinicians from the psychotherapy department.	0	4	6	0	10	0
10	I am NOT comfortable collaborating with any clinicians from the psychotherapy department.	0	9	1	0	10	0

Note. D = strongly disagree or disagree, N = No opinion, A = agree or strongly agree.

Differences in Beliefs Regarding Treatment Before and After the Educational Module

To determine if there was a difference before and after reviewing the educational module, in beliefs regarding treatments measured using 30 5-point Likert scale items, 30 paired *t*-tests were performed. The Bonferroni correction for multiple comparisons was employed to

control the family-wise error at the 0.05 level. Using the Bonferroni correction, instead of $p < 0.05$, $p < 0.002$ (= 0.05/30) for a paired *t*-test would indicate a significant result. Table 6 shows the results of the paired *t*-tests. Figures 2 and 3 show the results of Table 6 in a graph format.

Participants were moderately confident in their knowledge regarding psychiatry, including psychiatric approaches to treating mental illness, before and after the education module (Q1: $M = 3.60$, $SD = 1.35$ for pre-test; $M = 4.20$, $SD = 0.79$ for post-test). There was no statistically significant difference in the confidence of their knowledge regarding psychiatry, including psychiatric approaches to treating mental illness, before and after the education module ($M = -0.60$, $SD = 0.70$ for the paired difference; $t(9) = -2.714$, $p = 0.024$).

Participants were neutral about their confidence in their knowledge regarding psychotherapy, including psychotherapeutic approaches to treating mental illness, before the education module, but were moderately confident about this knowledge after the education module (Q2: $M = 3.30$, $SD = 1.16$ for pre-test; $M = 4.10$, $SD = 0.88$ for post-test). There was no statistically significant difference in the confidence of their knowledge regarding psychotherapy, including psychotherapeutic approaches to treating mental illness, before and after the education module ($M = -0.80$, $SD = 0.63$ for the paired difference; $t(9) = -4.000$, $p = 0.003$).

In treating mental illness, participants moderately believed that it is best to only begin with one treatment modality before the educational module but did not believe it as much after the educational module (Q3: $M = 3.40$, $SD = 0.52$ for pre-test; $M = 2.60$, $SD = 1.08$ for post-test). There was no statistically significant difference in this belief before and after the educational module ($M = 0.80$, $SD = 0.92$ for the paired difference; $t(9) = 2.753$, $p = 0.022$).

In treating mental illness, participants moderately believed that it is best to begin with from a collaborative stance of using both psychotropic medication and psychotherapy before the educational module, and strongly believed so after the educational module (Q4: *M* = 3.50, *SD* = 0.71 for pre-test; *M* = 4.50, *SD* = 0.53 for post-test). There was no statistically significant difference in this belief before and after the educational module (*M* = -1.00, *SD* = 0.82 for the paired difference; t(9) = -3.873, *p* = 0.004).

Participants were moderately familiar with the benefits (Q5: *M* = 3.70, *SD* = 1.16 for pre-test; *M* = 4.40, *SD* = 0.52 for post-test) and the risks (Q6: *M* = 3.70, *SD* = 1.16 for pre-test; *M* = 4.40, *SD* = 0.52 for post-test) of psychotropic medication before and after the educational module. There was no statistically significant difference in this belief for the benefits (*M* = -0.70, *SD* = 0.82 for the paired difference; t(9) = -2.689, *p* = 0.025) and the risks (*M* = -0.70, *SD* = 0.82 for the paired difference; *t*(9) = -2.689, *p* = 0.025) of psychotropic medication before and after the educational module.

For both before and after the educational module, participants moderately believed that medication should be first line treatment for major depressive disorder (Q7: *M* = 3.70, *SD* = 0.95 for pre-test; *M* = 3.50, *SD* = 0.71 for post-test), anxiety-based disorders (Q8: *M* = 3.70, *SD* = 0.95 for pre-test; *M* = 3.50, *SD* = 0.71 for post-test), attention deficit hyperactive disorder (Q9: *M* = 3.70, *SD* = 0.95 for pre-test; *M* = 3.80, *SD* = 0.92 for post-test), Bipolar I (Q10: *M* = 3.70, *SD* = 0.95 for pre-test; *M* = 4.00, *SD* = 0.82 for post-test), Bipolar 2 (Q11: *M* = 3.70, *SD* = 0.95 for pre-test; *M* = 4.00, *SD* = 0.82 for post-test), substance abuse disorder (Q12: *M* = 3.70, *SD* = 0.95 for pre-test; *M* = 4.10, *SD* = 0.57 for post-test), and eating disorders (Q13: *M* = 3.70, *SD* = 0.95 for pre-test; *M* = 3.60, *SD* = 0.70 for post-test). There was no statistically significant difference in this belief for major depressive disorder (*M* = 0.20, *SD* = 0.79 for the paired

difference; $t(9) = 0.802$, $p = 0.443$), anxiety-based disorders ($M = 0.20$, $SD = 0.79$ for the paired difference; $t(9) = 0.802$, $p = 0.443$), attention deficit hyperactive disorder ($M = -0.10$, $SD = 0.74$ for the paired difference; $t(9) = -0.429$, $p = 0.678$), Bipolar I ($M = -0.30$, $SD = 0.95$ for the paired difference; $t(9) = -1.000$, $p = 0.343$), Bipolar 2 ($M = -0.30$, $SD = 0.95$ for the paired difference; $t(9) = -1.000$, $p = 0.343$), substance abuse disorder ($M = -0.40$, $SD = 0.84$ for the paired difference; $t(9) = -1.500$, $p = 0.168$), and eating disorders ($M = 0.10$, $SD = 0.74$ for the paired difference; $t(9) = 0.429$, $p = 0.678$) before and after the educational module.

Before the educational module, participants were neutral about using psychotherapy as adjunct treatment if there is minimal improvement after a brief period of time, and this opinion changed very little after the educational module (Q14: $M = 3.30$, $SD = 0.95$ for pre-test; $M = 3.60$, $SD = 0.70$ for post-test). There was no statistically significant difference in this belief before and after the educational module ($M = -0.30$, $SD = 0.82$ for the paired difference; $t(9) = -1.152$, $p = 0.279$).

Before the educational module, participants moderately believed after an extended period of time, if there is minimal improvement, psychotherapy may be indicated as adjunct treatment, and this belief became even stronger after the educational module (Q15: $M = 3.90$, $SD = 0.57$ for pre-test; $M = 4.60$, $SD = 0.52$ for post-test). There was a statistically significant difference in this belief before and after the educational module ($M = -0.70$, $SD = 0.48$ for the paired difference; $t(9) = -4.583$, $p = 0.001$).

For both before and after the educational module, participants moderately believed that most mental health illnesses can be managed in the short term (Q16: $M = 3.90$, $SD = 1.10$ for pre-test; $M = 4.30$, $SD = 0.48$ for post-test) and long term (Q17: $M = 3.70$, $SD = 0.95$ for pre-test; $M = 3.90$, $SD = 0.74$ for post-test) with psychotropic medication. There was no statistically

significant difference in the belief of short term (*M* = -0.40, *SD* = 0.97 for the paired difference; t(9) = -1.309, *p* = 0.223) and long term (*M* = -0.20, *SD* = 0.92 for the paired difference; *t*(9) = -0.688, *p* = 0.509) use of psychotropic medication before and after the educational module.

Participants were moderately familiar with the benefits (Q18: *M* = 3.60, *SD* = 0.97 for pre-test; *M* = 4.10, *SD* = 0.88 for post-test) and the risks (Q19: *M* = 3.60, *SD* = 0.97 for pre-test; *M* = 4.10, *SD* = 0.88 for post-test) of psychotherapy before and after the educational module. There was no statistically significant difference in this belief for the benefits (*M* = -0.50, *SD* = 1.08 for the paired difference; t(9) = -1.464, *p* = 0.177) and the risks (*M* = -0.50, *SD* = 1.08 for the paired difference; *t*(9) = -1.464, *p* = 0.177) of psychotherapy before and after the educational module.

For both before and after the educational module, participants generally did not really believe that psychotherapy should be first line treatment for attention deficit hyperactive disorder (Q22: *M* = 2.90, *SD* = 1.10 for pre-test; *M* = 3.30, *SD* = 0.95 for post-test), Bipolar I (Q23: *M* = 2.70, *SD* = 1.25 for pre-test; *M* = 3.11, *SD* = 0.93 for post-test), Bipolar 2 (Q24: *M* = 2.70, *SD* = 1.25 for pre-test; *M* = 3.10, *SD* = 0.88 for post-test), and substance abuse disorder (Q25: *M* = 2.90, *SD* = 1.10 for pre-test; *M* = 3.30, *SD* = 0.82 for post-test). Before the educational module, participants generally did not really believe that psychotherapy should be first line treatment for major depressive disorder (Q20: *M* = 2.90, *SD* = 0.99 for pre-test; *M* = 3.50, *SD* = 0.53 for post-test), anxiety-based disorders (Q21: *M* = 2.90, *SD* = 0.99 for pre-test; *M* = 3.50, *SD* = 0.53 for post-test), and eating disorders (Q26: *M* = 2.90, *SD* = 1.10 for pre-test; *M* = 3.70, *SD* = 0.68 for post-test), but they moderately believed so after the educational module. There was no statistically significant difference in this belief for major depressive disorder (*M* = -0.60, *SD* = 0.84 for the paired difference; *t*(9) = -2.250, *p* = 0.051), anxiety-

based disorders (*M* = -0.60, *SD* = 0.84 for the paired difference; *t*(9) = -2.250, *p* = 0.051), attention deficit hyperactive disorder (*M* = -0.40, *SD* = 1.07 for the paired difference; *t*(9) = -1.177, *p* = 0.269), Bipolar I (*M* = -0.22, *SD* = 1.30 for the paired difference; *t*(9) = -0.512, *p* = 0.622), Bipolar 2 (*M* = -0.40, *SD* = 1.35 for the paired difference; *t*(9) = -0.937, *p* = 0.373), substance abuse disorder (*M* = -0.40, *SD* = 1.17 for the paired difference; *t*(9) = -1.078, *p* = 0.309), and eating disorders (*M* = -0.80, *SD* = 0.79 for the paired difference; *t*(9) = -3.207, *p* = 0.011) before and after the educational module.

For both before and after the educational module, participants moderately believed that after a brief period, if there is minimal improvement, psychotropic medication may be indicated as adjunct treatment (Q27: *M* = 3.50, *SD* = 0.85 for pre-test; *M* = 3.50, *SD* = 0.53 for post-test). There was no statistically significant difference in this belief (*M* = 0, *SD* = 0.82 for the paired difference; t(9) = 0, *p* = 1.000) before and after the educational module.

For both before and after viewing of the educational module, participants moderately believed that after an extended period of time, if there is minimal improvement, psychotropic medication may be indicated as adjunct treatment (Q28: *M* = 3.90, *SD* = 0.74 for pre-test; *M* = 4.40, *SD* = 0.52 for post-test). There was no statistically significant difference in this belief (*M* = -0.50, *SD* = 0.53 for the paired difference; t(9) = -3.000, *p* = 0.015) before and after the educational module.

For both before and after viewing of the educational module, participants were neutral about the belief that most mental health illnesses can be managed in the short term with psychotherapy (Q29: *M* = 3.30, *SD* = 1.06 for pre-test; *M* = 3.20, *SD* = 0.42 for post-test). There was no statistically significant difference in this belief before and after the educational module (*M* = 0.10, *SD* = 0.88 for the paired difference; t(9) = 0.361, *p* = 0.726).

Table 6

Differences in Beliefs Regarding Treatment Before and After the Educational Module

	Pre-test		Post-test		Paired difference (pre-post)				Paired t-test		
Item	*M*	*SD*	*M*	*SD*	*M*	*SD*	*Skewness*	*Kurtosis*	*t*	*df*	*p*
1	3.60	1.35	4.20	0.79	-0.60	0.70	-0.78	-0.15	-2.714	9	0.024
2	3.30	1.16	4.10	0.88	-0.80	0.63	-0.13	0.18	-4.000	9	0.003
3	3.40	0.52	2.60	1.08	0.80	0.92	-0.60	0.40	2.753	9	0.022
4	3.50	0.71	4.50	0.53	-1.00	0.82	1.53	4.50	-3.873	9	0.004
5	3.70	1.16	4.40	0.52	-0.70	0.82	-0.69	-1.04	-2.689	9	0.025
6	3.70	1.16	4.40	0.52	-0.70	0.82	-0.69	-1.04	-2.689	9	0.025
7	3.70	0.95	3.50	0.71	0.20	0.79	-0.41	-1.07	0.802	9	0.443
8	3.70	0.95	3.50	0.71	0.20	0.79	-0.41	-1.07	0.802	9	0.443
9	3.70	0.95	3.80	0.92	-0.10	0.74	0.17	-0.73	-0.429	9	0.678
10	3.70	0.95	4.00	0.82	-0.30	0.95	-0.23	-0.35	-1.000	9	0.343
11	3.70	0.95	4.00	0.82	-0.30	0.95	-0.23	-0.35	-1.000	9	0.343
12	3.70	0.95	4.10	0.57	-0.40	0.84	-0.39	0.37	-1.500	9	0.168
13	3.70	0.95	3.60	0.70	0.10	0.74	-0.17	-0.73	0.429	9	0.678
14	3.30	0.95	3.60	0.70	-0.30	0.82	0.69	-1.04	-1.152	9	0.279
15	3.90	0.57	4.60	0.52	-0.70	0.48	1.04	-1.22	-4.583	9	0.001
16	3.90	1.10	4.30	0.48	-0.40	0.97	0.11	-0.62	-1.309	9	0.223
17	3.70	0.95	3.90	0.74	-0.20	0.92	-0.60	0.40	-0.688	9	0.509
18	3.60	0.97	4.10	0.88	-0.50	1.08	1.32	2.82	-1.464	9	0.177
19	3.60	0.97	4.10	0.88	-0.50	1.08	1.32	2.82	-1.464	9	0.177
20	2.90	0.99	3.50	0.53	-0.60	0.84	0.39	0.37	-2.250	9	0.051
21	2.90	0.99	3.50	0.53	-0.60	0.84	0.39	0.37	-2.250	9	0.051
22	2.90	1.10	3.30	0.95	-0.40	1.07	-1.66	3.83	-1.177	9	0.269
23	2.70	1.25	3.11	0.93	-0.22	1.30	-1.23	1.68	-0.512	8	0.622
24	2.70	1.25	3.10	0.88	-0.40	1.35	-0.77	-0.13	-0.937	9	0.373
25	2.90	1.10	3.30	0.82	-0.40	1.17	-1.07	1.86	-1.078	9	0.309
26	2.90	1.10	3.70	0.68	-0.80	0.79	-0.41	-1.07	-3.207	9	0.011
27	3.50	0.85	3.50	0.53	0	0.82	0	-1.39	0	9	1.000
28	3.90	0.74	4.40	0.52	-0.50	0.53	0	-2.57	-3.000	9	0.015
29	3.30	1.06	3.20	0.42	0.10	0.88	1.02	1.83	0.361	9	0.726
30	3.40	0.97	4.10	0.57	-0.70	0.67	-0.43	-0.28	-3.280	9	0.010

Using Bonferroni correction, $p < 0.002$ (= 0.05/30) indicated significance for paired *t*-tests. Normality assumption of the paired t-test was not satisfied for item 4 (skewness = 1.53, kurtosis = 4.50), and hence Mann-Whitney U test was performed ($U = 50.50$, $SE = 9.25$, $Z = 2.49$, $p = 0.013$) to validate the results of the t-test. Normality assumption of the paired t-test was satisfied for the remaining items (skewness ranged from -1.66 to 1.32; kurtosis ranged from -2.57 to 3.83).

Participants were neutral about the belief that most mental health illnesses can be managed in the long term with psychotherapy, but moderately believed so after the educational module (Q30: $M = 3.40$, $SD = 0.97$ for pre-test; $M = 4.10$, $SD = 0.57$ for post-test). There was no statistically significant difference in this belief before and after the educational module ($M = -0.70$, $SD = 0.67$ for the paired difference; $t(9) = 3.280$, $p = 0.010$).

Figure 2

Mean Response Scores for Items of Beliefs Regarding Treatment Before and After the Educational Module

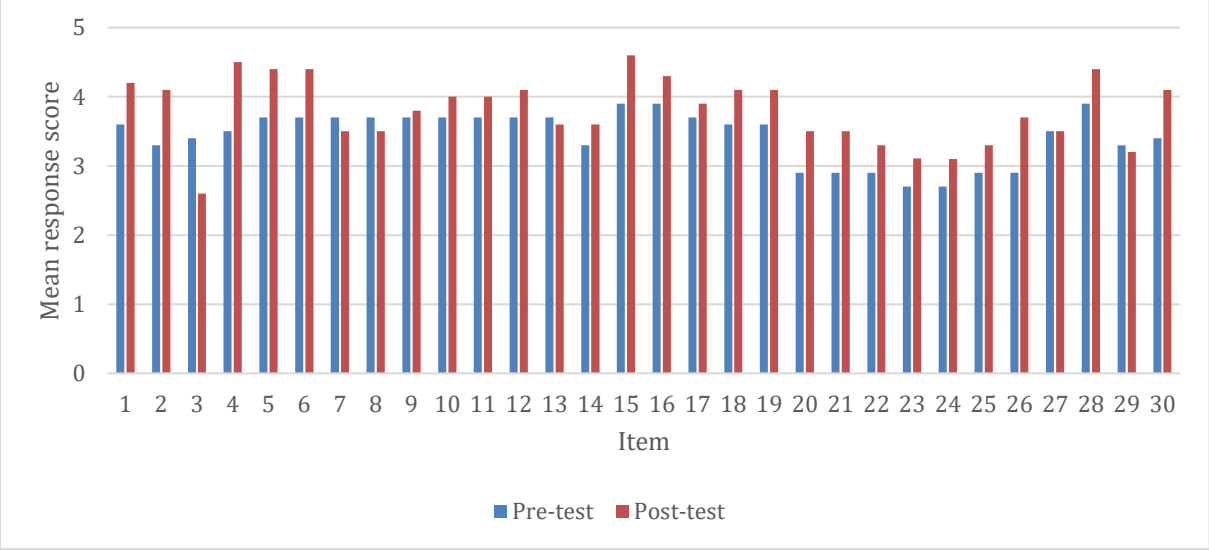
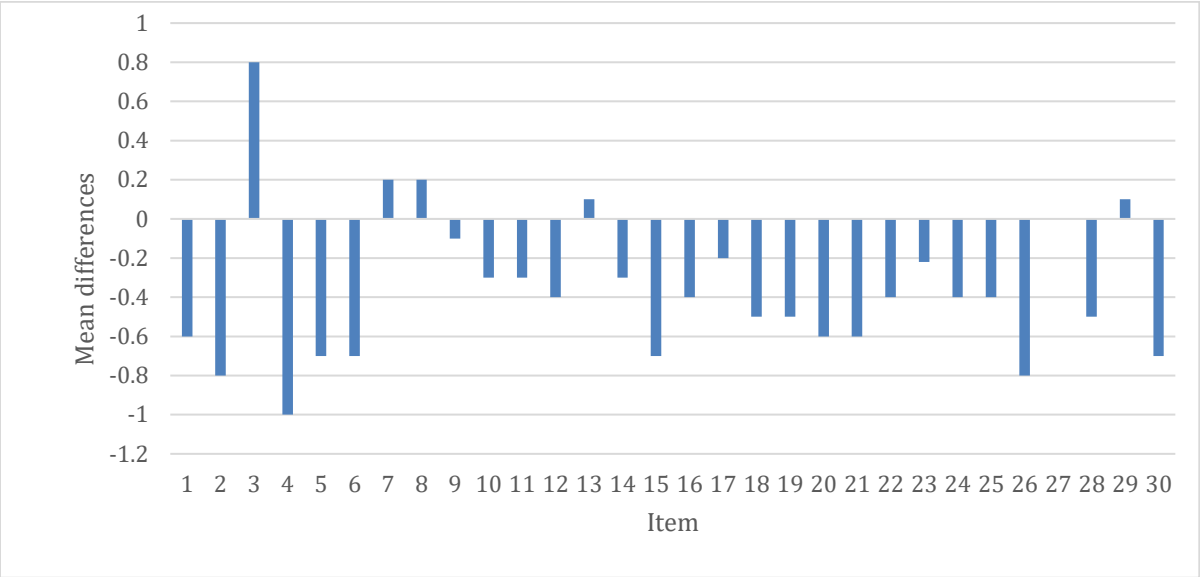


Figure 3

Mean Differences (Pre-test – post-test) in Response Scores for Items of Beliefs Regarding Treatment Before and After the Educational Module

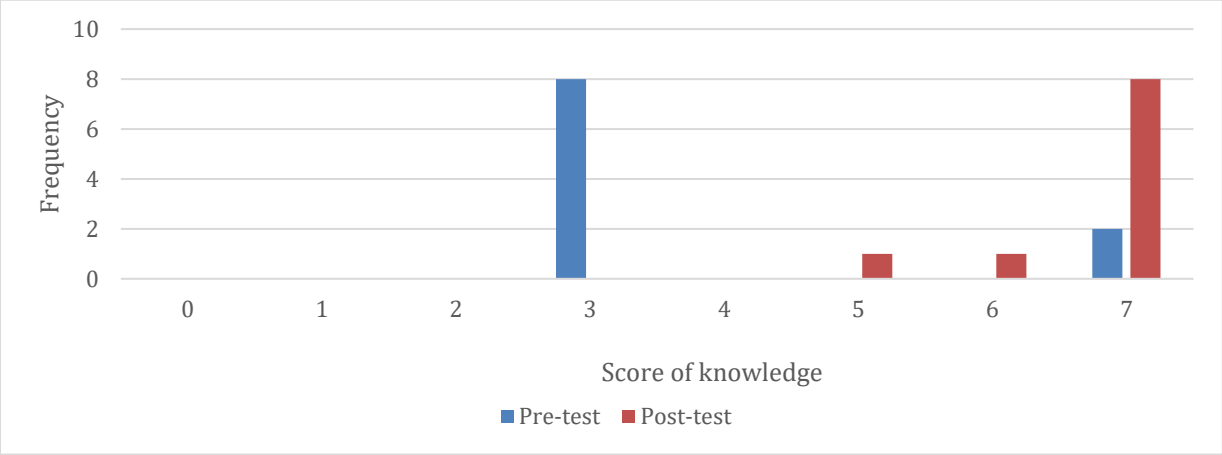


Differences in Providers' Knowledge of Psychiatric Approaches and Psychotherapy Approaches to Treating Mental Illness Before and After the Educational Module

Composite scores of the knowledge part of the survey were used to assess providers' knowledge of psychiatric approaches and psychotherapy approaches to treating mental illness before and after the educational module. Figure 4 shows the frequency count of scores of providers' knowledge of psychiatric approaches and psychotherapy approaches to treating mental illness before and after the educational module. Before the educational module, majority of the participants (N = 8) scored 3 for the assessment of knowledge. However, after the educational module, majority of the participants (N = 8) scored 7 for the assessment of knowledge.

Figure 4

Frequency Count of Score of Providers' Knowledge of Psychiatric Approaches and Psychotherapy Approaches to Treating Mental Illness Before and After the Educational Module



The average scores for the knowledge survey were 3.80 (*SD* = 1.69) and 6.70 (*SD* = 0.67) before and after the educational module, respectively (Table 7). Comparing to before the educational module, participants had statistically significantly better knowledge of psychiatric approaches and psychotherapy approaches to treating mental illness after the educational module (*M* = -2.90, *SD* = 1.66 for the paired difference; t(9) = -5.513, $p < 0.001$; Table 7). Figure 5 shows the bar chart for the mean scores of providers' knowledge of psychiatric approaches and psychotherapy approaches to treating mental illness before and after the educational module.

Table 7

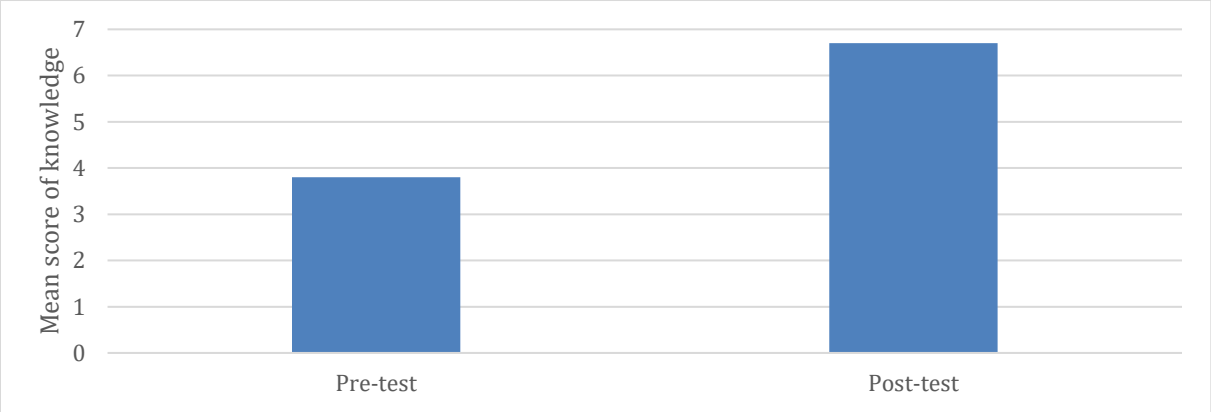
Differences in Providers' Knowledge of Psychiatric Approaches and Psychotherapy Approaches to Treating Mental Illness Before and After the Educational Module

	Pre-test		Post-test		Paired difference (pre-post)				Paired t-test		
Variable	*M*	*SD*	*M*	*SD*	*M*	*SD*	*Skewness*	*Kurtosis*	*t*	*df*	*p*
Knowledge	3.80	1.69	6.70	0.67	-2.90	1.66	1.25	-0.04	-5.513	9	< 0.001

Note. Normality assumption of the paired t-test was satisfied (skewness = 1.25, kurtosis = -0.04).

Figure 5

Mean Score of Providers' Knowledge of Psychiatric Approaches and Psychotherapy Approaches to Treating Mental Illness Before and After the Educational Module



Differences in Beliefs over Patient Perspectives in Regard to Treatment Before and After the Educational Module

To determine if there was a difference in beliefs over patient perspectives in regard to treatment (measured using 9 5-point Likert scale items) before and after the educational module, 9 paired *t*-tests were performed. The Bonferroni correction for multiple comparisons was employed to control the family-wise error at the 0.05 level. Using Bonferroni correction, instead

of $p < 0.05$, $p < 0.006$ (= 0.05/9) for a paired *t*-test would indicate a significant result. Table 8 summarized the results of the paired *t*-tests. Figures 6 and 7 visualized the results of Table 8.

Before the educational module, participants were neutral about the fact that patients may choose to avoid psychotropic medication as treatment option due to the stigma of mental health (Q1: $M = 3.40$, $SD = 0.52$ for pre-test; $M = 4.20$, $SD = 0.42$ for post-test) and the cultural beliefs (Q2: $M = 3.40$, $SD = 0.52$ for pre-test; $M = 4.20$, $SD = 0.42$ for post-test), but were moderately believed about these statements after the educational module. Comparing to before the educational module, participants statistically significantly believed more that patients may choose to avoid psychotropic medication as treatment option due to the stigma of mental health ($M = -0.80$, $SD = 0.42$ for the paired difference; $t(9) = -6.000$, $p < 0.001$) and the cultural beliefs ($M = -0.80$, $SD = 0.42$ for the paired difference; $t(9) = -6.000$, $p < 0.001$) after the educational module.

Before the educational module, participants were neutral about the fact that patients may choose to avoid psychotherapy as treatment option due to the stigma of mental health but were moderately believed so after the educational module (Q3: $M = 3.30$, $SD = 0.68$ for pre-test; $M = 4.20$, $SD = 0.42$ for post-test). Comparing to before the educational module, participants statistically significantly believed more that patients may choose to avoid psychotherapy as treatment option due to the stigma of mental health after the educational module ($M = -0.90$, $SD = 0.57$ for the paired difference; $t(9) = -5.014$, $p = 0.001$).

For both before and after the educational module, participants were neutral about the fact that patients may choose to avoid psychotherapy as treatment option due to the cultural beliefs (Q4: $M = 3.50$, $SD = 0.53$ for pre-test; $M = 4.20$, $SD = 0.42$ for post-test). Comparing to before the educational module, after the educational module, participants statistically

significantly believed more that patients may choose to avoid psychotherapy as treatment option due to the cultural beliefs (M = -0.70, SD = 0.48 for the paired difference; t(9) = -4.583, p = 0.001).

Before the educational module, participants were neutral about the fact that patients may choose psychotropic medication over psychotherapy due to a) the cost of appointments and the frequency of those appointments (Q5: M = 3.30, SD = 0.48 for pre-test; M = 4.10, SD = 0.32 for post-test), b) a belief that medications are a quick fix to their mental health issue (Q6: M = 3.30, SD = 0.48 for pre-test; M = 4.10, SD = 0.32 for post-test), and c) a belief that their issue is due to a chemical imbalance and not an external stressor (Q7: M = 3.20, SD = 0.63 for pre-test; M = 4.10, SD = 0.32 for post-test), but were moderately believed so after the educational module. Comparing to before the educational module, participants statistically significantly believed more that patients may choose psychotropic medication over psychotherapy due to a) the cost of appointments and the frequency of those appointments (M = -0.80, SD = 0.42 for the paired difference; $t(9) = -6.000$, $p < 0.001$), b) a belief that medications are a quick fix to their mental health issue (M = -0.80, SD = 0.42 for the paired difference; $t(9) = -6.000$, $p < 0.001$), and c) a belief that their issue is due to a chemical imbalance and not an external stressor (M = -0.90, SD = 0.57 for the paired difference; $t(9) = -5.014$, $p = 0.001$) after the educational module.

Before the educational module, participants were neutral about the fact that patients may choose psychotherapy over psychotropic medication due to a fear of becoming dependent/addicted on medications (Q8: M = 3.30, SD = 0.48 for pre-test; M = 4.10, SD = 0.32 for post-test) and a belief that their issue is due to external causes and not a chemical imbalance (Q9: M = 3.40, SD = 0.52 for pre-test; M = 4.10, SD = 0.32 for post-test), but were moderately believed so after the educational module. Comparing to before the educational module,

participants statistically significantly believed more that patients may choose psychotherapy over psychotropic medication due to a fear of becoming dependent/addicted on medications (M = -0.80, SD = 0.42 for the paired difference; $t(9) = -6.000$, $p < 0.001$) and a belief that their issue is due to external causes and not a chemical imbalance (M = -0.70, SD = 0.48 for the paired difference; $t(9) = -4.583$, $p = 0.001$) after the educational module.

Table 8

Differences in Beliefs over Patient Perspectives in Regard to Treatment Before and After the Educational Module

	Pre-test		Post-test		Paired difference (pre-post)				Paired t-test		
Item	*M*	*SD*	*M*	*SD*	*M*	*SD*	*Skewness*	*Kurtosis*	*t*	*df*	*p*
1	3.40	0.52	4.20	0.42	-0.80	0.42	1.78	1.41	-6.000	9	< 0.001
2	3.40	0.52	4.20	0.42	-0.80	0.42	1.78	1.41	-6.000	9	< 0.001
3	3.30	0.68	4.20	0.42	-0.90	0.57	0.09	1.50	-5.014	9	0.001
4	3.50	0.53	4.20	0.42	-0.70	0.48	1.04	-1.22	-4.583	9	0.001
5	3.30	0.48	4.10	0.32	-0.80	0.42	1.78	1.41	-6.000	9	< 0.001
6	3.30	0.48	4.10	0.32	-0.80	0.42	1.78	1.41	-6.000	9	< 0.001
7	3.20	0.63	4.10	0.32	-0.90	0.57	0.09	1.50	-5.014	9	0.001
8	3.30	0.48	4.10	0.32	-0.80	0.42	1.78	1.41	-6.000	9	< 0.001
9	3.40	0.52	4.10	0.32	-0.70	0.48	1.04	-1.22	-4.583	9	0.001

Note. Using Bonferroni correction, $p < 0.006$ (= 0.05/9) indicated significance for paired t-tests. Normality assumption of the paired t-test was satisfied for all items (skewness ranged from 0.09 to 1.78; kurtosis ranged from -1.22 to 1.50).

Figure 6

Mean Response Scores for Items of Beliefs over Patient Perspectives in Regard to Treatment Before and After the Educational Module

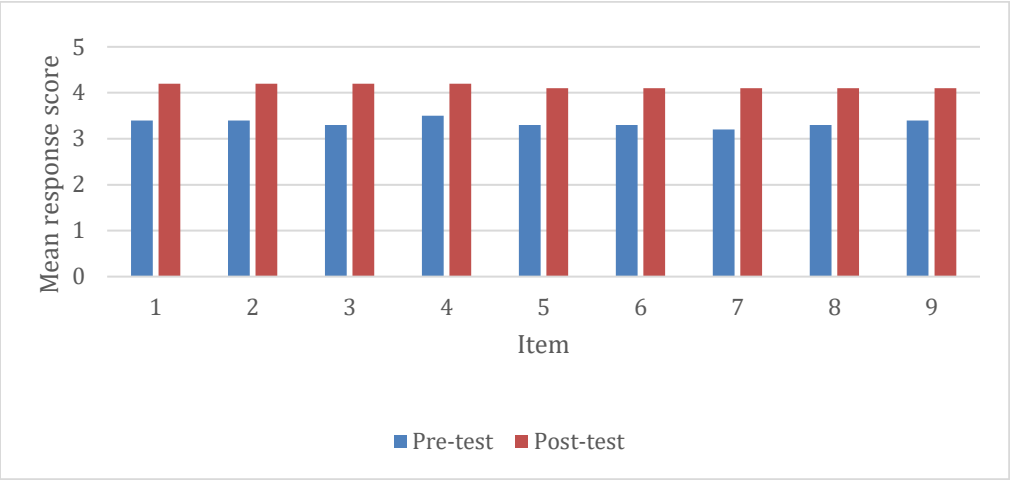
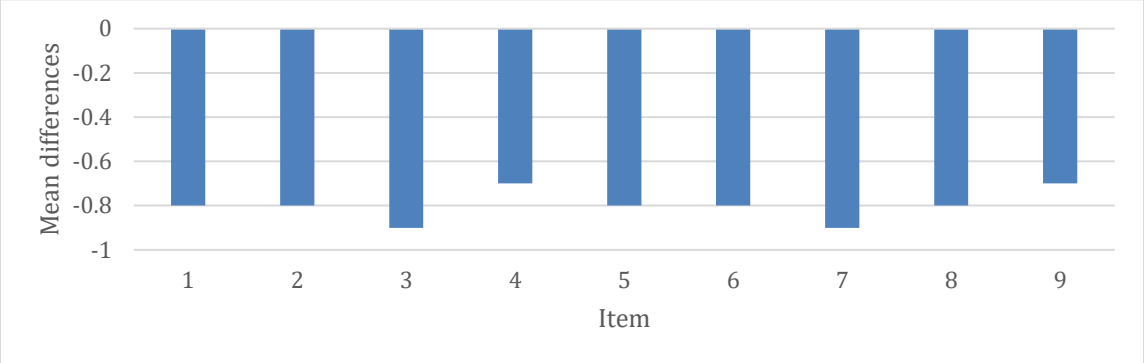


Figure 7

Mean Differences (Pre-test – post-test) in Response Scores for Items of Beliefs over Patient Perspectives in Regard to Treatment Before and After the Educational Module



Differences in Perceptions of Collaborating with Psychiatric and Psychotherapy Providers Before and After the Educational Module

To determine if there was a difference in perceptions of collaborating with psychiatric and psychotherapy providers before and after the educational module, composition scores perceptions of collaborating with psychiatric and psychotherapy providers were computed and

two paired *t*-tests were performed. Table 9 summarized the results of the paired *t*-tests. Figure 8 visualized the results of Table 9.

For both before and after the educational module, participants had neutral perceptions of collaborating with psychiatric providers (M = 3.20, SD = 0.38 for pre-test; M = 3.34, SD = 0.10 for post-test). There was no statistically significant difference in perceptions of collaborating with psychiatric providers before and after the educational module (M = -0.14, SD = 0.39 for the paired difference; t(9) = -1.137, p 0.285).

For both before and after the educational module, participants had neutral perceptions of collaborating with psychotherapy providers (M = 3.26, SD = 0.13 for pre-test; M = 3.28, SD = 0.10 for post-test). There was no statistically significant difference in perceptions of collaborating with psychotherapy providers before and after the educational module (M = -0.02, SD = 0.15 for the paired difference; t(9) = -0.429, p 0.678).

Table 8

Differences in Perceptions of Collaborating with Psychiatric and Psychotherapy Providers Before and After the Educational Module

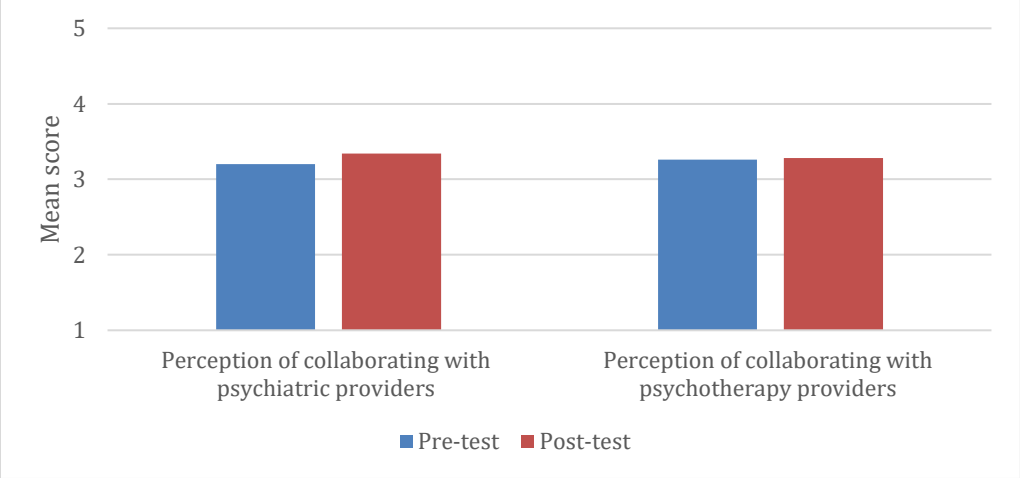
	Pre-test		Post-test		Paired difference (pre-post)				Paired t-test		
Variable	*M*	*SD*	*M*	*SD*	*M*	*SD*	*Skewness*	*Kurtosis*	*t*	*df*	*p*
Psychiatric	3.20	0.38	3.34	0.10	-0.14	0.39	-2.67	7.81	-1.137	9	0.285
Psychotherapy	3.26	0.13	3.28	0.10	-0.02	0.15	0.17	-0.73	-0.429	9	0.678

The normality assumption of the paired t-test was not satisfied for perceptions of collaborating with psychiatric providers (skewness = -2.67, kurtosis = 7.81), and hence Mann-Whitney U test was performed (U = 8.00, SE = 2.65, Z = 1.13, p = 0.257) to validate the results of the t-test.

Normality assumption of the paired t-test was satisfied for perceptions of collaborating with psychotherapy providers (skewness = 0.17, kurtosis = -0.73).

Figure 8

Mean Scores for Perceptions of Collaborating with Psychiatric and Psychotherapy Providers Before and After the Educational Module



Discussion

Summary of Findings

This primary purpose of this quality improvement project was to evaluate the effectiveness of an educational intervention on the benefits of collaborative treatment for patients with mental illness. An educational module was delivered virtually to the mental healthcare providers of a private practice clinic in Miami, Fl who completed pre-test and post-test surveys regarding the educational intervention. The data collected from those surveys demonstrated an overall increase in providers' perceptions of the benefits of collaborative treatment plans, and a decrease in belief that single modality treatment plans should be the first line treatment for every mental illness, as well as an increase in their comfort with collaborating with another provider.

Educating healthcare providers on the benefits patients receive from collaborative treatment planning requires a change in the belief that first line treatments should be a single modality for a prolonged period before adding an adjunct treatment. In order to make this change in the overall process of treatment, it will require adjustments to providers' beliefs and additionally updates to the standard processes an practices used by treatment facilities. Expanding provider knowledge is the foundational step in working to improve the overall system of how mental healthcare providers see and develop their patient's treatment plans, which ultimately will lead to improved patient outcomes for both psychiatric and psychotherapy providers

Strengths and Limitations

This quality improvement project explored the perceptions of mental health care providers with respect to adjunct treatment at the initial stage of treatment planning. The survey encompassed a wide array of mental health topics in order to gauge provider perceptions of their own beliefs and practices, as well as their counterparts. This constitutes a major strength of this study quality improvement project. The results of the research showed an overall increase provider awareness of the benefits of collaborative treatment planning with adjunct treatment modalities. The research also answered the PICO question of this quality improvement project. A limitation of the study was having a small sample size (n = 10). The sample size being small, prevents the study from generalizable and may incorrectly demonstrate the effectiveness of the educational intervention. Because the sample size may not be large enough to provide an accurate representation of this population it could overestimate any significance f the findings.

Implications for Advanced Nursing Practice

Clinical Practice

Management of mental health illness is a complex and multi leveled problem that requires treatment providers to think in systems. Advanced practice registered nurses (APRNs) will be some of the first line providers for many patients with mental illness in either a primary care setting or within the specialty of mental health. As leaders in the healthcare field, APRNs need to be informed on the appropriate and most effective ways of treating patients with mental illness to avoid the many complications that can come from the patient decompensating because of that illness. By understanding that collaborative treatment plans within mental health can promote the best patient outcomes, it prompts the overall need to increase the foundational knowledge of APRNs with respect to psychiatric medication and psychotherapy treatment modalities. In doing so, APRNs will be best equipped to offer their clients the best treatment options and increase their patient's likelihood of a positive patient outcome.

Education

The key focus of this project was the educational effects of expanding provider knowledge on using multiple modalities and collaborative treatment in mental health treatment. The management of mental illness for patients requires a complete view of the patient and resources available to them to best guide the clinicians when developing patient treatment plans. Clinicians can use this educational module to further their understanding of the benefits of collaborative treatment planning. In particular expanding provider knowledge at the initial stage of developing their style of practice can lead to better overall practice outcomes as well helping providers be more receptive to alternate treatment options. This expanse of knowledge provides APRNs and other mental healthcare providers with the ability to deliver the best treatment plan

by working with other specialties that may also help the patient achieve superior outcome. Expanding on the knowledge and willingness of mental healthcare providers to work from a collaborative standpoint will position APRNs and other clinicians as leaders in healthcare who are willing to use every resource to help the patients overcome their struggles with mental illness and achieve a better quality of life.

Dissemination

Locally, the results will be distributed with the primary stakeholders at the mental health clinic used in the research located in Miami, Florida. Local community clinics will be informed of the research findings via small group presentations held at their clinics. Nationally, the findings will be submitted for publication to a peer-reviewed nursing journal such as the Journal for the American Psychiatric Association and Journal of Psychiatric Practice. These publications have large followings reaching psychiatric providers across the globe. A poster presentation is planned for the Nursing World Conference in October 2022.

Conclusion

Patients will receive an overall better health care experience if from the initial date of treatment their mental healthcare providers consider benefits of collaborating with a provider that uses an adjunct treatment modality. Many individuals who would have seen minimal results with their initial treatment plan will see faster and stronger results, earlier on, leading to increased rates in compliance and positive patient outcome. Additionally, overall knowledge of the clinicians will allow for better insight as to why their specific chosen treatment option may be complementary to their collaborating counterparts. Overall, patients will see not only an improvement in the status of their mental illness, but improvements in many of the secondary

areas that they may suffer from an unmanaged mental illness and the impact on them socially, personally, medically, and financially.

References

Baldwin, M. L. (2021). The three Cs of disclosing serious mental illness at work: Control, conditions, costs. *Psychiatric Services*, *72*(3), 344–346. https://doi.org/10.1176/appi.ps.202000160

Burkhart, K., Asogwa, K., Muzaffar, N., & Gabriel, M. (2019). Pediatric integrated care models: A systematic review. *Clinical Pediatrics*, *59*(2), 148–153. https://doi.org/10.1177/0009922819890004

Centers for Disease Control and Prevention. (2021, September 13). *FastStats - Mental Health*. Centers for Disease Control and Prevention. Retrieved September 16, 2021, from https://www.cdc.gov/nchs/fastats/mental-health.htm.

de Oliveira, C., Mason, J., & Kurdyak, P. (2020). Characteristics of patients with mental illness and persistent high-cost status: A population-based analysis. *Canadian Medical Association Journal*, *192*(50). https://doi.org/10.1503/cmaj.200274

Field, A. (2013). Discovering statistics using IBM SPSS statistics. Sage Publication Ltd.

Gerlach, L. B., Mavandadi, S., Maust, D. T., Streim, J. E., & Oslin, D. W. (2018). Improving access to collaborative behavioral health care for rural-dwelling older adults. *Psychiatric Services*, *69*(1), 117–120. https://doi.org/10.1176/appi.ps.201700026

Hilbert, A., Petroff, D., Herpertz, S., Pietrowsky, R., Tuschen-Caffier, B., Vocks, S., & Schmidt, R. (2020). Meta-analysis on the long-term effectiveness of psychological and medical treatments for binge-eating disorder. *International Journal of Eating Disorders*, *53*(9), 1353–1376. https://doi.org/10.1002/eat.23297

Howard, M. D., & Cox, R. P. (2008). Collaborative intervention: A model for coordinated treatment of mental health issues within a ground combat unit. *Military Medicine, 173*(4), 339–348. https://doi.org/10.7205/milmed.173.4.339

Interian, A., Chesin, M. S., Stanley, B., Latorre, M., Hill, L. M., Miller, R. B., King, A. R., Boschulte, D. R., Rodriguez, K. M., & Kline, A. (2021). Mindfulness-based cognitive therapy for preventing suicide in military veterans. *The Journal of Clinical Psychiatry, 82*(5). https://doi.org/10.4088/jcp.20m13791

Jorm, A. F., & Wright, A. (2007). Beliefs of young people and their parents about the effectiveness of interventions for mental disorders. *Australian & New Zealand Journal of Psychiatry, 41*(8), 656–666. https://doi.org/10.1080/00048670701449179

Kappelmann, N., Rein, M., Fietz, J., Mayberg, H. S., Craighead, W. E., Dunlop, B. W., … Kopf-Beck, J. (2020). Psychotherapy or medication for depression? Using individual symptom meta-analyses to derive a Symptom-Oriented Therapy (SOrT) metric for a personalised psychiatry. *BMC Medicine, 18*(1). https://doi.org/10.1186/s12916-020-01623-9

Kelleher, K. J., Campo, J. V., & Gardner, W. P. (2006). Management of Pediatric Mental Disorders in primary care: Where are we now and where are we going? *Current Opinion in Pediatrics, 18*(6), 649–653. https://doi.org/10.1097/mop.0b013e3280106a76

Kim, H. Y. (2013). Statistical notes for clinical researchers: Assessing normal distribution (2) using skewness and kurtosis. *Restorative Dentistry & Endodontics, 38*(1), 52.

Liehr, P. R., & Smith, M. J. (2014). *Middle range theory for nursing*. Springer Pub. Co.

Lejeune, S. M. (2011). Special considerations in the treatment of college students with bipolar disorder. *Journal of American College Health*, *59*(7), 666–669. https://doi.org/10.1080/07448481.2010.528100

Mishra, P., Pandey, C., Singh, U., Gupta, A., Sahu, C., & Keshri, A. (2019). Descriptive statistics and normality tests for statistical data. *Annals of Cardiac Anaesthesia*, *22*(1), 67.

Nichter, B., Stein, M. B., Norman, S. B., Hill, M. L., Straus, E., Haller, M., & Pietrzak, R. H. (2021). Prevalence, correlates, and treatment of suicidal behavior in US military veterans. *The Journal of Clinical Psychiatry*, *82*(5). https://doi.org/10.4088/jcp.20m13714

Stanhope, V., Ingoglia, C., Schmelter, B., & Marcus, S. C. (2013). Impact of person-centered planning and collaborative documentation on treatment adherence. *Psychiatric Services*, *64*(1), 76–79. https://doi.org/10.1176/appi.ps.201100489

Timlin, U., Riala, K., & Kyngäs, H. (2012). Adherence to treatment among adolescents in a psychiatric ward. *Journal of Clinical Nursing*, *22*(9-10), 1332–1342. https://doi.org/10.1111/jocn.12024

Wells, H., Crowe, M., & Inder, M. (2020). Why people choose to participate in psychotherapy for depression: A qualitative study. *Journal of Psychiatric and Mental Health Nursing*, *27*(4), 417–424. https://doi.org/10.1111/jpm.12597

Wolk, C. B., Last, B. S., Livesey, C., Oquendo, M. A., Press, M. J., Mandell, D. S., Ingram, E., Futterer, A. C., Kinkler, G. P., & Oslin, D. W. (2021). Addressing common challenges in the implementation of collaborative care for mental health: The Penn Integrated Care Program. *The Annals of Family Medicine*, *19*(2), 148–156. https://doi.org/10.1370/afm.2651

Zivin, K., Pfeiffer, P. N., Szymanski, B. R., Valenstein, M., Post, E. P., Miller, E. M., & McCarthy, J. F. (2010). Initiation of primary care—mental health integration programs in the VA Health System. *Medical Care*, *48*(9), 843–851. https://doi.org/10.1097/mlr.0b013e3181e5792b

Appendix A: Written Consent Form

FIU | FLORIDA INTERNATIONAL UNIVERSITY

ADULT CONSENT TO PARTICIPATE IN A RESEARCH STUDY

Improving collaborative efforts for both psychiatric and psychotherapy providers: A quality improvement project

SUMMARY INFORMATION

Things you should know about this study:

- **Purpose:** The purpose of the study is to improved knowledge on the benefits of collaborative care between psychiatric and psychotherapy providers.
- **Procedures**: If you choose to participate, you will be asked to complete a survey prior to an educational session and survey post educational session.
- **Duration:** This will take about 60 minutes, total time to complete the pre-survey, educational module, and post survey.
- **Risks**: The main risk or discomfort from this research is none.

- **Benefits:** The main benefit to you from this research is expanded clinical knowledge and improved patient outcomes over a shorter period of time for patients who do receive treatment from a collaborative stand-point
- **Alternatives:** There are no known alternatives available to you other than not taking part in this study.
- **Participation:** Taking part in this research project is voluntary.

Please carefully read the entire document before agreeing to participate.

PURPOSE OF THE STUDY

The purpose of this study is to improved knowledge on the benefits of collaborative care between psychiatric and psychotherapy providers when caring for patients with mental illness, resulting in improved patient outcomes over a shorter period of time.

NUMBER OF STUDY PARTICIPANTS

If you decide to be in this study, you will be one of 10 people in this research study.

DURATION OF THE STUDY

Your participation will involve a total of 60 minutes for the total participation time.

PROCEDURES

If you agree to be in the study, we will ask you to do the following things:

1. Pre-Survey reviewing current knowledge on the benefits of psychotherapy, psychotropic medication, and use of both with mental health patients
2. A one-time educational session on the benefits of collaborative care for mental health patients, with results presented. As well as comparisons when patients undergo single treatment modalities.
3. Pos-Survey reviewing knowledge after the educational session on the benefits of psychotherapy, psychotropic medication, and use of both with mental health patients

RISKS AND/OR DISCOMFORTS

The study has the following possible risks to you: No Risk

BENEFITS

The study has the following possible benefits to you improved knowledge on the benefits of collaborative care between psychiatric and psychotherapy providers when caring for patients with mental illness.

ALTERNATIVES

There are no known alternatives available to you other than not taking part in this study Any significant new findings developed during the course of the research which may relate to your willingness to continue participation will be provided to you

CONFIDENTIALITY

The records of this study will be kept private and will be protected to the fullest extent provided by law. In any sort of report we might publish, we will not include any information that will make it possible to identify you. Research records will be stored securely, and only the researcher team will have access to the records. However, your records may be inspected by authorized University or other agents who will also keep the information confidential.

COMPENSATION & COSTS

There will be no compensation or cost for you participation.

RIGHT TO DECLINE OR WITHDRAW

Your participation in this study is voluntary. You are free to participate in the study or withdraw your consent at any time during the study. You will not lose any benefits if you decide not to participate or if you quit the study early. The investigator reserves the right to remove you without your consent at such time that he/she feels it is in the best interest.

RESEARCHER CONTACT INFORMATION

If you have any questions about the purpose, procedures, or any other issues relating to this research study you may contact Daniel Gonzalez at Behavioral Collaborative Care Solutions, 786-290-5071, dgona001@fiu.edu.

IRB CONTACT INFORMATION

If you would like to talk with someone about your rights of being a subject in this research study or about ethical issues with this research study, you may contact the FIU Office of Research Integrity by phone at 305-348-2494 or by email at ori@fiu.edu.

PARTICIPANT AGREEMENT

I have read the information in this consent form and agree to participate in this study. I have had a chance to ask any questions I have about this study, and they have been answered for me. I understand that I will be given a copy of this form for my records.

_____ _____

Signature of Participant Date

_____

Printed Name of Participant

_____ _____

Signature of Person Obtaining Consent Date

Appendix B: Pre-Survey/Post-Survey

FIU | FLORIDA INTERNATIONAL UNIVERSITY

Pre-Survey/Post-Survey

Improving collaborative efforts for both psychiatric and psychotherapy providers: A quality improvement project

Introduction

This survey is an integral portion of a quality improvement project aimed to increase a clinician's knowledge on the benefits of collaborative care between psychiatric providers and psychotherapy providers.

Please answer each question honestly and to the best of your ability. Your responses will help identify any gaps in knowledge, previous bias, and areas for improvement. The questions within the survey are formatted to assess your understanding on principles used withing psychiatry, psychotherapy, individual treatment outcomes, and collaborative treatment outcomes.

- ***Please do not write your name or any information that is personal or may be used to identify you anywhere on the questionnaire.***
- ***Your answers are anonymous and will be kept confidential***

- ***Your participation is voluntary and will not have any bearing on your position***

Demographic:

Gender: Female____ Male_____ Other_____ Wish not to disclose_____

Age: 20-30yrs._____ 30-40yrs._____ 40-50yrs._____ >50yrs._____

Ethnicity: White_____ Black_____ Hispanic_____ Asian_____ Native American/Pacific Islander_____ Other_____

Department: Psychiatry_____ Psychotherapy_____

Survey

1. Have you ever had any training previously on the benefits of collaborative treatment for mental health patients

NO_____ YES_____

If yes, how long ago? ____Years _____Months _____Days

Was is during your _____Education or _____while working as a clinician?

2. How many clinical practices have your worked at or continue to work (excluding BCCS)?

____0 ____1 ____2 ____3 ____4 ____5+

3. Please respond to the following statements regarding provider beliefs regarding treatment:

Statement	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
I am confident in my knowledge regarding psychiatry, including psychiatric approaches to treating mental illness.					
I am confident in my knowledge regarding psychotherapy, including psychotherapeutic approaches to treating mental illness.					
In treating mental illness, it is best to only begin with one treatment modality.					
In treating mental illness, it is best to begin with from a collaborative stance of using both psychotropic medication and psychotherapy					
I am very familiar with the benefits of psychotropic medication.					
I am very familiar with the risks of psychotropic medication.					
I believe medication should be first line treatment for major depressive disorder (MDD).					
I believe medication should be first line treatment for anxiety-based disorders.					
I believe medication should be first line treatment for attention deficit hyperactive disorder (ADHD).					
I believe medication should be first line treatment for Bipolar I.					
I believe medication should be first line treatment for Bipolar 2 (Bipolar Depression).					

I believe medication should be first line treatment for substance abuse disorder (Alcohol, Cannabis, and other illicit drugs).					
I believe medication should be first line treatment for eating disorders.					
I believe after a brief period of time, if there is minimal improvement, psychotherapy may be indicated as adjunct treatment					
I believe after an extended period of time, if there is minimal improvement, psychotherapy may be indicated as adjunct treatment					
Most mental health illnesses can be managed in the short term with psychotropic medication.					
Most mental health illnesses can be managed in the long term with psychotropic medication.					
I am very familiar with the benefits of psychotherapy.					
I am very familiar with the risks of psychotherapy.					
I believe psychotherapy should be first line treatment for major depressive disorder (MDD).					
I believe psychotherapy should be first line treatment for anxiety-based disorders.					
I believe psychotherapy should be first line treatment for attention deficit hyperactive disorder (ADHD).					
I believe psychotherapy should be first line treatment for Bipolar I.					
I believe psychotherapy should be first line treatment for Bipolar 2 (Bipolar Depression).					

I believe psychotherapy should be first line treatment for substance abuse disorder (Alcohol, Cannabis, and other illicit drugs).					
I believe psychotherapy should be first line treatment for eating disorders.					
I believe after a brief period of time, if there is minimal improvement, psychotropic medication may be indicated as adjunct treatment					
I believe after an extended period of time, if there is minimal improvement, psychotropic medication may be indicated as adjunct treatment					
Most mental health illnesses can be managed in the short term with psychotherapy.					
Most mental health illnesses can be managed in the long term with psychotherapy.					

Assessment of Knowledge:

True or False (Please circle your choice)

4. Psychotropic medications have been shown to yield better results for treating mental illness during the initial treatment phase. True/False

5. Psychotherapy has been shown to yield better results for treating mental illness during the initial treatment phase. True/False

6. In helping to prevent relapse with mental illness, once in remission, psychotropic medications have been shown to be the better treatment option. True/False

7. In helping to prevent relapse with mental illness, once in remission, psychotherapy has been shown to be the better treatment option. True/False

8. Patient symptom severity is the primary factor when determining the best treatment protocol. True/False

Select all that apply

9. Which of the following patients is best suited for psychotropic medication?

_____. Young adult between the ages of 18-30 reporting acute depressive episodes following the loss of a family member.

_____. An adolescent between the ages of 13-17 who reports no new stressors but reports feeling anxious the majority of the time, which has begun to affect her school work and sleep schedule.

_____. A child between the ages of 8-12 years of age with history of trauma, reporting flash backs, fear responses, and persistent nightmares.

_____. An older adult age 65+ that has retired and feels disconnected from society due to no longer working and has minimal contact with family due to their busy schedule.

_____. A middle-aged adult age 30-50years, who reports difficulty focusing at work, easily distracted, history of major depressive disorder, mild, and in remission.

_____. An adolescent between the ages of 13-17 who reports recent episodes of depression, anxiety, and issues with impulse control, as well as a history of being diagnosed with ADHD).

_____. A young adult between the ages of 18-30 who has noticed has begun to restrict their diet and increase their exercise routine, due to fears of becoming overweight, who currently has a low BMI, but denies any patterns of starvation or binge eating with purging.

Select all that apply

10. Which of the following patients is best suited for psychotherapy?

_____. Young adult between the ages of 18-30 reporting acute depressive episodes following the loss of a family member.

_____. An adolescent between the ages of 13-17 who reports no new stressors but reports feeling anxious the majority of the time, which has begun to affect her school work and sleep schedule.

_____. A child between the ages of 8-12 years of age with history of trauma, reporting flash backs, fear responses, and persistent nightmares.

_____. An older adult age 65+ that has retired and feels disconnected from society due to no longer working and has minimal contact with family due to their busy schedule.

_____. A middle-aged adult age 30-50years, who reports difficulty focusing at work, easily distracted, history of major depressive disorder, mild, and in remission.

_____. An adolescent between the ages of 13-17 who reports recent episodes of depression, anxiety, and issues with impulse control, as well as a history of being diagnosed with ADHD).

_____. A young adult between the ages of 18-30 who has noticed has begun to restrict their diet and increase their exercise routine, due to fears of becoming overweight, who currently has a low BMI, but denies any patterns of starvation or binge eating with purging.

11. Please respond to the following statements regarding provider beliefs over patient perspectives in regard to treatment:

Statement	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
Patients may choose to avoid psychotropic medication as treatment option due to the stigma of mental health, preferring psychotherapy.					
Patients may choose to avoid psychotropic medication as treatment option due to the cultural beliefs, preferring psychotherapy.					
Patients may choose to avoid psychotherapy as treatment option due to the stigma of mental health, preferring psychotropic medication.					
Patients may choose to avoid psychotherapy medication as treatment option due to the cultural beliefs, preferring psychotropic medication.					
Patients may choose psychotropic medication over psychotherapy due to the cost of appointments and the frequency of those appointments.					
Patients may choose psychotropic medication over psychotherapy due a belief that medications are a quick fix to their mental health issue.					
Patients may choose psychotropic medication over psychotherapy due to a belief that their issue is due to a chemical imbalance and not an external stressor.					
Patients may choose psychotherapy over psychotropic medication due to a fear of becoming dependent/addicted on medications.					
Patients may choose psychotherapy over psychotropic medication due to a belief that their issue is due to external causes and not a chemical imbalance.					

12. Please respond to the following statements regarding provider beliefs regarding fellow clinicians:

Statement	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
I am comfortable collaborating with any clinician from the psychiatric department.					
I am comfortable collaborating with most clinicians from the psychiatric department.					
I am comfortable collaborating with some clinicians from the psychiatric department.					
I am comfortable collaborating with a few clinicians from the psychiatric department.					
I am NOT comfortable collaborating with any clinicians from the psychiatric department.					
I am comfortable collaborating with any clinician from the psychotherapy department.					
I am comfortable collaborating with most clinicians from the psychotherapy department.					
I am comfortable collaborating with some clinicians from the psychotherapy department.					
I am comfortable collaborating with a few clinicians from the psychotherapy department.					
I am NOT comfortable collaborating with any clinicians from the psychotherapy department.					

Appendix C: Recruitment Letter

Recruitment Email for Improving collaborative efforts for both psychiatric and psychotherapy providers: A quality improvement project

Dear BCCS Clinician,

My name is Daniel Gonzalez, and I am a student from the Graduate Nursing Department at Florida International University. I am writing to invite you to participate in my quality improvement project. The goal of this project is to expand on the clinician's knowledge on the benefits of using collaborative care in developing treatment plans for mental health patients. You are eligible to take part in the project because you are a clinician at Behavioral Collaborative Care Solutions, and you provide either psychiatric care or psychotherapy to mental health patients. I am contacting you with the permission of Hernan Pabon, MD, Medical Director at Behavioral Collaborative Care Solutions.

If you decide to participate in this project, you will be asked to complete and sign a consent form for the participation. You will complete a pre-survey questionnaire, which is expected to take approximately 10-15 minutes. Then you will be asked to view an educational presentation online, which is approximately 20 minutes. After the presentation, you will be asked to complete the post-survey questionnaire, which is expected to take approximate 10-15 minutes. No compensation will be provided.

Remember, this is completely voluntary. You can choose to be in the study or not. If you would like to participate, please click on the link provided (link for Qualtrix questionnaire). If you have any questions about the study, please email or contact me at.

Thank you for your time.

Sincerely,

Daniel Gonzalez, MSN, APRN, PMH-BC

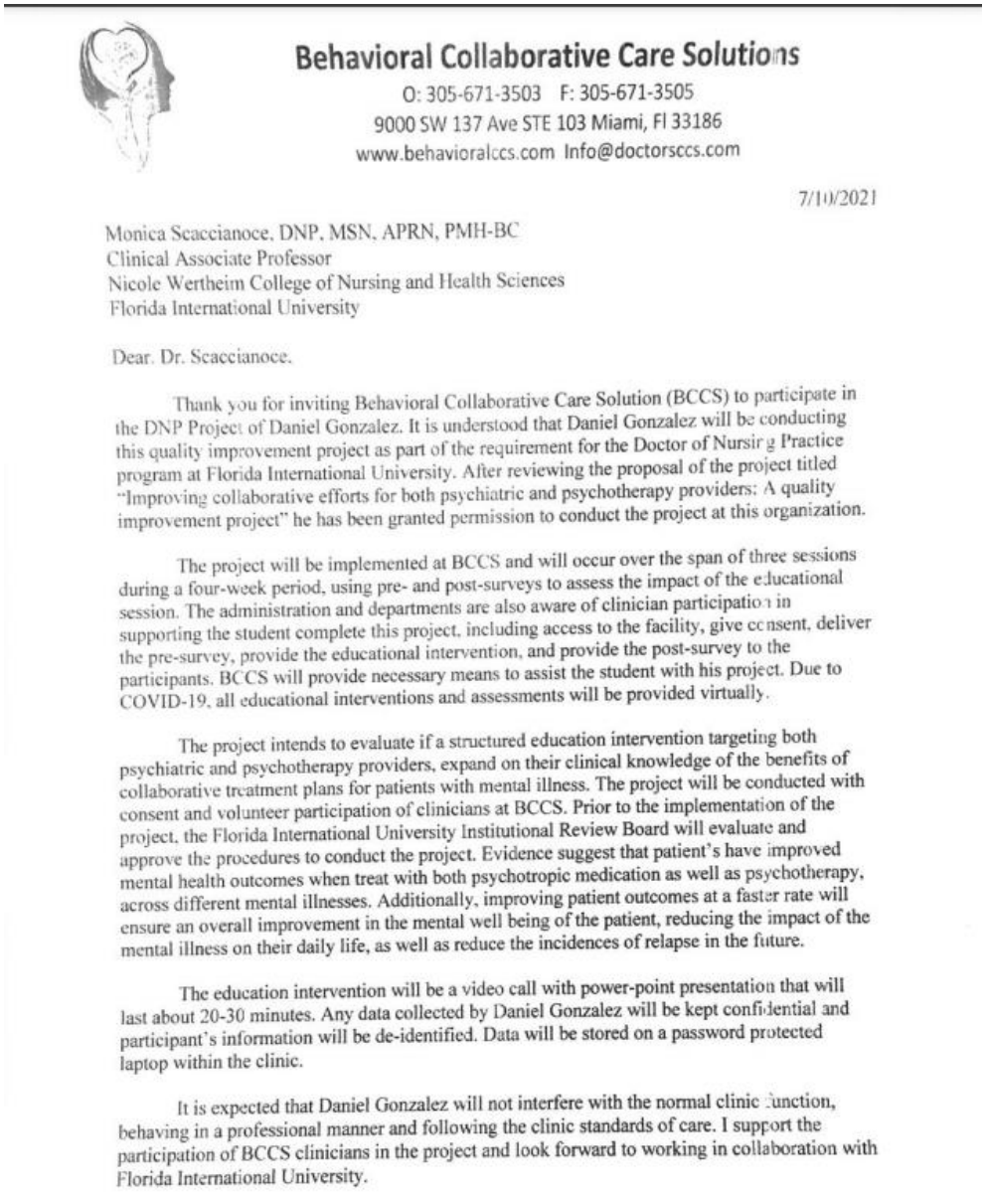
Appendix D: Educational Plan Outline

IV. Educational Plan Outline

Outline for Education Plan

1. Fundamentals of Psychotropic medications for different mental illnesses
2. Benefits and Risks of using psychotropic medications
3. Fundamentals of psychotherapy for different mental illnesses
4. Benefits and Risks of using psychotherapy
5. Overview on benefits of collaborative planning
6. Benefits to patients on adjunct treatments

Appendix E: Letter of Support from the Facility



Behavioral Collaborative Care Solutions

O: 305-671-3503 F: 305-671-3505
9000 SW 137 Ave STE 103 Miami, Fl 33186
www.behavioralccs.com Info@doctorsccs.com

7/10/2021

Monica Scaccianoce, DNP, MSN, APRN, PMH-BC
Clinical Associate Professor
Nicole Wertheim College of Nursing and Health Sciences
Florida International University

Dear. Dr. Scaccianoce.

Thank you for inviting Behavioral Collaborative Care Solution (BCCS) to participate in the DNP Project of Daniel Gonzalez. It is understood that Daniel Gonzalez will be conducting this quality improvement project as part of the requirement for the Doctor of Nursing Practice program at Florida International University. After reviewing the proposal of the project titled "Improving collaborative efforts for both psychiatric and psychotherapy providers: A quality improvement project" he has been granted permission to conduct the project at this organization.

The project will be implemented at BCCS and will occur over the span of three sessions during a four-week period, using pre- and post-surveys to assess the impact of the educational session. The administration and departments are also aware of clinician participation in supporting the student complete this project, including access to the facility, give consent, deliver the pre-survey, provide the educational intervention, and provide the post-survey to the participants. BCCS will provide necessary means to assist the student with his project. Due to COVID-19, all educational interventions and assessments will be provided virtually.

The project intends to evaluate if a structured education intervention targeting both psychiatric and psychotherapy providers, expand on their clinical knowledge of the benefits of collaborative treatment plans for patients with mental illness. The project will be conducted with consent and volunteer participation of clinicians at BCCS. Prior to the implementation of the project, the Florida International University Institutional Review Board will evaluate and approve the procedures to conduct the project. Evidence suggest that patient's have improved mental health outcomes when treat with both psychotropic medication as well as psychotherapy, across different mental illnesses. Additionally, improving patient outcomes at a faster rate will ensure an overall improvement in the mental well being of the patient, reducing the impact of the mental illness on their daily life, as well as reduce the incidences of relapse in the future.

The education intervention will be a video call with power-point presentation that will last about 20-30 minutes. Any data collected by Daniel Gonzalez will be kept confidential and participant's information will be de-identified. Data will be stored on a password protected laptop within the clinic.

It is expected that Daniel Gonzalez will not interfere with the normal clinic function, behaving in a professional manner and following the clinic standards of care. I support the participation of BCCS clinicians in the project and look forward to working in collaboration with Florida International University.