DNP Project:

Mental Health Course for

Primary Care Family Nurse Practitioners

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Abstract

Mental health conditions affect millions of people in the United States and lead to increased disability and death. Primary care providers (PCPs) are often the first clinician that a patient seeks care from, and therefore play an essential role in evaluating, diagnosing, and treating mental health conditions. Providing mental health care in primary care improves public health and reduces health disparities. As most nurse practitioners (NPs) work in primary care and have extensive knowledge and understanding of the complexities of health, NPs are ideally suited to provide mental health care. There is a need for additional mental health education for primary care NPs that focuses on common mental health conditions that are encountered in primary care. There is a scarcity of published research related to mental health education for family nurse practitioners (FNPs). This Doctor of Nursing Practice (DNP) project presents one method for teaching a mental health course to FNP students, utilizing evidence-based practice. Students' comfort level and knowledge of mental health care was measured in a pre-test and post-test and analyzed for change. At the end of the course, students reported being more comfortable with screening for, diagnosing, and treating mental health conditions. The mean score on the knowledge post-test was almost 10 percentage points higher than the knowledge pre-test. Primary care NP programs must evolve in order to provide the best possible education for their students to holistically care for each patient's unique situation and improve overall population health.

Keywords: Nurse practitioner education, nurse practitioner curriculum, nurse practitioner, FNP, APRN, primary care NP, primary care, mental health care, mental health services, barriers to mental health services, facilitators to mental health services, program development

Executive Summary

Mental health conditions affect millions of adults and children in the United States, and the numbers are increasing. At the same time, the United States is facing a mental health care provider shortage due to aging psychiatrists, rising cost of healthcare, lack of insurance or being underinsured, and primary care providers feeling they lack education and time to provide adequate mental health care. Most nurse practitioners are practicing in primary care and therefore are the first point of access to mental health care that a patient may have. It is essential for nurse practitioners to have adequate education to effectively care for mental health conditions. Unfortunately, there is a paucity of literature regarding the best way to present mental health content to family nurse practitioner (FNP) students.

Based on feedback from students, alumni, and local healthcare providers, nursing faculty at a small, midwestern, liberal arts college recognized the need for a new method of teaching mental health content to FNP students. This Doctor of Nursing Practice (DNP) project explored the needs of FNP students related to mental health education and a program was developed to teach a mental health course to FNP students. The Mental Healthcare for APRNs course was taught in the summer of 2020 and replaced a previously taught course. This allowed the provision of focused mental health content to students, without additional cost or time commitments from the students or the institution. The collaboration and relationships between nursing leadership at the college, local primary care providers, mental health providers, and community organizations all contribute to the ongoing sustainability of the project.

The DNP project collected qualitative data from the students regarding their comfort level and knowledge of mental health conditions, in a pre-test and post-test format. Frequency

distribution, means and percentiles were calculated, and pre-test and post-test scores were compared to determine change through the mental health course.

The mental health course for FNPs fits in with the vision and mission of the college where it took place. Students were encouraged to be life-long learners that are sensitive to the unique needs of each individual and provide equitable care to transform the health of individuals and populations. The mental health course was valuable to assist students in mastering core competencies that are required for independent nurse practitioner practice. Students gained comfort in choosing depression screening tools, understanding metabolic conditions related to antipsychotics, and using motivational interviewing. Students also increased knowledge in caring for mental health conditions in primary care, including nonpharmacologic treatment and pharmacotherapy. Additionally, the course content may be developed into continuing education courses for practicing nurse practitioners in the future. The Mental Healthcare for APRNs course is an example of how the DNP project may be used in program development, improve FNP education related to mental health and ultimately improve outcomes of vulnerable populations.

Dedication

This DNP project is dedicated to my children, who inspire me every day to accomplish my goals, and to my late parents, who encouraged me to be the best nurse I could be.

Daniel and Christina, you are the finest gifts I ever received. I am so proud of you both, and I love you more than you know!

Mom, you were always my hero, and the greatest nurse in the world.

Dad, thanks for believing that I could one day achieve my doctorate degree.

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Mental illness affects millions of people in the United States. Due to the increasing number of people with mental health conditions, more providers who can adequately care for mental health conditions are needed. Finding healthcare providers to care for mental health conditions is a challenge. As a result, patients experience long wait times and turn to their primary care providers (PCPs) for help. Many family nurse practitioners (FNPs) practice in primary care and have had little or no focused education regarding caring for mental health conditions. This Doctor of Nursing Practice (DNP) project explores the educational needs of FNP students and describes the development of a program to teach mental health content to FNP students. The institution where the DNP project took place is a small, private, liberal arts college located in the midwestern United States. In order to deidentify the institution, it shall hereinafter be referred to as Midwest College.

Background

Mental illness, including substance abuse, affects millions of people in the United States, and is a common cause of disability and death (Health.gov, 2020). Nearly one half of individuals in the United States will be diagnosed with a mental health condition at some time in their life according to publications by the Centers for Disease Control and Prevention (2018). The Substance Abuse and Mental Health Services Administration (2019) reports that approximately 47 million adults in the United States currently have a diagnosable behavioral, emotional, or mental disorder. That translates into nearly one of every five adults are currently living with some mental health condition (National Institute of Mental Health, 2018). Adults living with a severe mental health condition make up about 5% of the United States population while 7.7% of adults have a substance use disorder (Mental Health America, 2019).

Mental health conditions are not unique to adults. Nearly one out of every three youth in the United States suffers from depression or anxiety (Weersing et al., 2017), with 13% of children age 12-17 years reporting at least one major depressive episode in the past year and 4% of youth reporting a problem with substance use in the past year. Currently, about 9% of youth are living with severe depression (Mental Health America, 2019). Clearly, mental illness is a significant problem in the United States.

There is an increased need for mental health providers due to increasing numbers of people with mental health conditions. At the same time, there is inadequate access to mental health care. Factors that contribute to limited access for mental health care include a shortage of specialty mental health providers, financial and insurance concerns (HealthyPeople.gov, 2020), and perception of inadequate education and limited time by primary care providers to treat mental health conditions (Kroenke & Unutzer, 2017).

Mental health provider shortage

As the burden of providing mental health care is growing in the United States, there is a simultaneous shortage of experienced healthcare providers to treat mental health conditions, including psychiatrists. There is also a lack of treatment centers for both inpatient and outpatient needs in the United States (Bentham et al., 2015; Mental Health America, 2019). Psychiatrists are not well distributed in a geographical sense, as most are centered in metropolitan areas (Bishop, Seirup, Pincus & Ross, 2016). Many counties in the United States report they have a significant shortage of providers qualified to manage and prescribe psychotropic drugs (Ramirez, 2016). In 80% of rural counties, there is no practicing psychiatrist (New American Economy, 2017). Lastly, there tend to be fewer psychiatrists in less-dense populations, areas with fewer

high school graduates, lower household incomes, and higher number of elderly residents (Bishop, Seirup, Pincus & Ross, 2016). This inequity in geographical distribution of psychiatrists leads to increasing disparities in access to mental health care.

Aside from geographical location, the aging of psychiatrists contributes to the shortage of mental health providers. In 2014, more than 25% of psychiatrists were nearing retirement and over age 65. Rural counties fair worse, where almost 1 in every 3 psychiatrists is over age 65 (New American Economy, 2017). Using data from the American Medical Association, Bishop, Seirup, Pincus and Ross (2016) reported a 0.2% decrease from 2003 to 2013 in psychiatrists actively engaged in practice. This contrasts with a 9.5% increase in physicians providing adult primary care in the same time period (Bishop, Seirup, Pincus & Ross, 2016), and a three-fold increase of psychiatric mental health nurse practitioner graduates between 2010 and 2015 (Chapman, Phoenix, Hahn & Strod, 2018). The decrease in practicing psychiatrists coupled with the increasing need for mental health services demonstrates the need for more healthcare providers who are educated to treat mental health conditions.

Lack of knowledge and resources to treat mental health conditions

There is a demonstrated need for better access to mental health care and more education for PCPs who provide care to patients with mental health conditions. Primary care providers include physicians, nurse practitioners, clinical nurse specialists and physician assistants. Historically, PCPs receive little education in caring for mental health conditions (Olfson, 2016). In addition, PCPs report lack of knowledge to treat mental health conditions, feeling ill-equipped to identify and diagnose mental health problems, limited time at appointments to adequately address mental health concerns (Kroenke & Unutzer, 2017), and lack of interest and commitment

to treat mental health conditions (Olfson, 2016). Limited access to mental health resources may be seen in the form of a local shortage of mental health specialists, lengthy waiting times to see a mental health specialist and inadequate referral sources (Brown, Moore, MacGregor & Lucey, in press; Cooper, Valleley, Polaha, Begeny, & Evans, 2006; Loeb, Bayliss, Binswanger, Candrian, & deGruy, 2012; O'Brien, Harvey, Howse, Reardon & Creswell, 2016).

Financial and insurance concerns

Lack of insurance coverage for mental health conditions and the high cost of healthcare are additional barriers to receiving treatment for mental health conditions. For example, being uninsured or underinsured, lacking financial means to pay for copays, having a provider that does not accept their insurance, or receiving treatment that is not covered by insurance are all obstacles to adequate treatment for mental health conditions (Mental Health America, 2019). Despite the introduction of the Affordable Care Act in 2010 that allows millions of people in the United States to access healthcare through improved health insurance coverage, 10% of adults nationwide with a mental health condition still do not have health insurance. In some states like Wyoming, up to 22% of adults with mental health conditions remain uninsured (Mental Health America, 2019). More than 50% of adults with mental health conditions in the United States, approximately 27 million people, were unable to access mental health care services in 2018 (Substance Abuse and Mental Health Services Administration, 2019). In some states like California, nearly 65% of adults with mental health conditions remain untreated. Among youth age 12-17 years old, 59% with a diagnosis of major depression do not receive mental health care. In North Carolina, that number is higher, with three out of every four youth with depression not being treated (Mental Health America, 2019).

Even with health insurance, many people with mental health conditions are still untreated. There are several reasons for this. Almost one half of psychiatrists who are office-based do not accept insurance reimbursement (Bishop, Seirup, Pincus & Ross, 2016). Additionally, up to 18% of children with private insurance still do not have access to insurance coverage for mental health (Mental Health America, 2019). This goes directly against the federal law called Mental Health Parity and Addiction Equity Act of 2008 (MHPAEA) which requires insurers for group health plans to cover substance abuse treatment and mental health at the same level they cover surgeries and medical problems (Centers for Medicare & Medicaid Services, 2016). Finally, among adults with mental health conditions, nearly one of every four report their treatment needs have not been met (Mental Health America, 2019).

Role of the Family Nurse Practitioner to Treat Mental Health Care

Nurse practitioners (NPs) represent a large portion of healthcare workers in primary care. There are currently more than 270,000 NPs licensed in the United States. A large majority of them, 87%, are certified in primary care specialties (American Association of Nurse Practitioners, 2019). Nurse practitioners "provide initial, ongoing, and comprehensive care, includes taking comprehensive histories, providing physical examinations and other health assessment and screening activities, and diagnosing, treating, and managing patients with acute and chronic illnesses and diseases" (APRN Consensus Work Group & National Council of State Boards of Nursing APRN Advisory Committee, 2008, p. 9).

Numerous studies show that NPs provide care that is equivalent to, and sometimes more effective, than care provided by physicians (Estes, Medina & Robertson, 2019; Naylor & Kurtzman, 2010). Nurse practitioners already serve as the PCP for thousands of patients

throughout the United States. For more than fifty years, NPs have been providing comprehensive primary care to patients in the United States (Estes, Medina & Robertson, 2019) and they will continue to adapt and change as the health care needs of their patients change. However, primary care nurse practitioner education programs and curriculum also need to change to better meet the needs of NPs who are treating mental health conditions.

Nurse Practitioners Integrate Mental Health Care into Primary Care

Providing mental health in primary care settings is essential to improve the overall health of communities worldwide and the World Health Organization recognized that need more than ten years ago. In fact, one of the World Health Organization's (WHO) top three recommendations is to integrate mental health care into routine primary care (World Health Organization [WHO], 2018). Many patients prefer to seek care for mental health conditions from their primary care providers (Loeb, Bayliss, Binswanger, Candrian, & deGruy, 2012). PCPs are often the clinicians who see patients most frequently and they are well-poised to identify and treat mental health conditions. PCPs are already managing the comorbidities that accompany mental health problems, like diabetes, obesity, cancer and other chronic and infectious diseases (WHO, 2008). Providing mental health care in primary care settings will improve public health, improve healthcare quality, and reduce health disparities (Centers for Disease Control and Prevention, 2017).

Nurse practitioners are excellent candidates to integrate mental health services into primary care settings. About three out of every four nurse practitioners who are currently practicing are working in primary care (American Association of Nurse Practitioners, n.d.). Baumann (2004) reported the advantages of having primary care NPs provide mental health care

include their nursing skills, collaborative relationships, rapport with patients, and holistic practices. With the trust and relationships NPs develop with their patients, combined with their knowledge and understanding of the complexities of health, NPs are well on their way to meet the need for expert treatment of mental health conditions in primary care.

Provision of mental health care by primary care providers continues to expand. More visits for mental health needs are provided each year in primary care offices in the United States than in psychiatry practices. Among all healthcare visits with a mental health diagnosis in 2010, approximately 60% were in a primary care office, compared to 40% in a psychiatry office. Likewise, among patient visits where a psychotropic medication was prescribed in 2010, 77% were in a primary care office. Among patients being treated for depression, 73% are treated exclusively by their primary care provider and never see a psychiatrist (Kroenke & Unutzer, 2017). Primary care providers must continue to increase their knowledge and comfort with treating mental health conditions.

Benefits of Providing Mental Health care in Primary Care

Treating mental health conditions in primary care practices is effective and increases patient comfort. Weersing et al (2017) found that a series of brief behavioral therapy sessions that were administered in the primary care office were more effective at treating youth with anxiety or depression when compared to those who were referred to an outpatient mental health center. Among youth identified as Hispanic, clinical improvement with better functioning and greater reduction in symptoms was seen in 76% of those who participated in the primary care behavior sessions as compared to improvement in only 7% of those who were referred to a mental health center (Weersing et al., 2017). Likewise, providing mental health services in

primary care practices decreases the stigma of receiving mental health care, as the patient is not singled out as a mental health patient (World Health Organization [WHO], 2008). This is further evidence of the benefits of having a trusted primary care provider in order to improve mental health.

It is estimated that almost one half of all people with mental health conditions do not receive treatment for their conditions (National Institute of Mental Health, 2018). When individuals with mental health conditions do not receive adequate care, they tend to be more ill and have higher rates of substance use, homelessness, and suicide. Their chronic illnesses like diabetes, obesity, or asthma typically progress faster when their mental health is untreated, leading to higher mortality rates (Bishop, Seirup, Pincus & Ross, 2016; Reeves et al., 2011). Due to the increasing complexity of mental health conditions and a lack of psychiatric providers to diagnose and treat mental health disorders, primary care NPs must be adequately educated and prepared to provide interdisciplinary care in various settings. The increasing number of patients with mental health conditions and multiple comorbidities in primary care has led to a need for additional mental health education for all primary care NPs that focuses on common mental health conditions that are encountered in primary care. Adding a mental health course to the curriculum for FNP students will increase the number of providers trained to provide mental health care, thus improving access and quality of care.

Purpose with Specific Objectives

The aim of this DNP project was to develop and teach a mental health course for family nurse practitioner (FNP) students at Midwest College. The purpose of the mental health course was to address the need for more consistent and focused mental health education for FNP

students, while integrating current evidence into practice. The course focused on the care of common mental health problems that are typically managed in primary care by nurse practitioners. The course reviewed screening, diagnosis, and treatment of common mental health disorders and when to refer to a specialist. General outcomes for the course were that FNP students would have increased knowledge and comfort in caring for mental health conditions in primary care. Specific course objectives are found in Appendix A.

Congruence with Organizational/System Strategic Plan

The project of developing a mental health course fits in with the vision of Midwest College, which is to "cultivate joy, growth and purpose, preparing students to thrive in life, leadership and service. Rooted in the way of Jesus, we will seek inclusive community and transformative justice in all that we do" (Midwest College, 2019, p. 5). Similarly, the mission of the nursing department at Midwest College was reflected in the course as it encouraged students to be life-long learners, as well as perceptive, caring and conscientious healthcare providers in a healthcare environment that is ever-evolving (Midwest College, 2019). As providers of mental health care to people in primary care, FNPs practice with the understanding that each person is unique, has value, and deserves equitable care. The mental health course for FNP students was consistent with the philosophy of the department of nursing:

> The goal of nursing is to promote human flourishing. The practice of nursing takes place in partnership with individuals, families and communities. The knowledge base of nursing is grounded in theory, research, and evidence-based practice. Nursing practice exercises critical thinking and perceptive decision making in the delivery of safe and effective care. The nurse is responsible to improve health through health promotion and

> restoration of health and wellbeing. Nurses are responsible to the profession and to improving healthcare through a commitment to social justice and equitable distribution of healthcare resources for all. Nurses hold the same duty to self and others to promote health, preserve wholeness of character and facilitate personal growth (Midwest College, 2019, p. 6).

Relevance to Nursing Practice

In order to improve the health of the population of the United States, Healthy People 2030 has a goal of improving mental health, through prevention, evaluation, diagnosis, and effective care of emotional, behavioral, and mental health conditions (Health.gov, 2020). Physical health and mental health are intertwined, and both must be screened for and treated to improve the likelihood that individuals will have a better quality of life. With the addition of a mental health course for primary care FNP students that improves knowledge and comfort with screening and treating mental health conditions, Midwest College will assist in the Healthy People 2030 mental health objective of increasing the percentage of primary care visits where patients age 12 years and older were screened for depression (Health.gov, 2020).

This DNP project is relevant to nursing education as well as nursing practice. The National Organization of Nurse Practitioner Faculties (NONPF) has been involved in creating quality standards and guidelines for NP education for forty years (Pulcini, Hanson & Johnson, 2019). NONPF provides resources to nurse practitioner faculty and establishes the criteria for evaluation of NP education in the United States. Core competencies of independent practitioners include providing health care to the whole person, assessing, using screening tools, diagnosing, and managing the health of individuals and communities through the lifespan (NONPF, 2017).

By understanding interprofessional collaboration, physiology, psychosocial needs, as well as pharmacology and nonpharmacologic therapies in caring for mental health, FNP graduates of Midwest College will function as independent nurse leaders who utilize evidence-based practice.

Facilitators and Barriers

Planning for change and coordinating the details is important for successful transitions. Bridges and Mitchell (2000) offer suggestions for transitions, including brief but thorough descriptions of the change, thoughtful planning, specific assigned responsibilities for the change, and communicating care and concern to all involved. The leaders in the Nursing Department of Midwest College surveyed former and current FNP students, as well as preceptors, about the need for more education on mental health in primary care. The desire expressed by students, as well as the need in the community for more providers who are proficient at treating mental health conditions in primary care, made this an opportune time to provide a mental health course for FNP students. The fact that Midwest College is well-known and recognized as a leader in nursing education was of great benefit for the successful implementation of this DNP project. The FNP program at Midwest College has already distinguished itself as one of the top 50 nurse practitioner programs in the United States (Study.com, n.d.). Similarly, employers and local health systems seek continued collaboration with Midwest College and its students. The hard work that has been put in by generations of nursing faculty at Midwest College to pursue relationships with local organizations and employers, and work toward harmony and mutual respect in the community, was an additional facilitator for this project.

One potential barrier to the DNP project was that healthcare providers, including NPs, PCPs, and psychiatrists are sometimes unwilling to give up the old model of caring for mental

health conditions, which meant referring all mental health conditions to psychiatry. It is imperative to discard such dichotomous thinking and embrace a more holistic model of healthcare where NPs and other PCPs care for mental health conditions in primary care. Part of the shift in thinking is for providers to recognize that integration of mental health care and physical health care often leads to better outcomes. Another barrier is provider discomfort with mental health. Some FNP students taking the mental health class felt uncomfortable and unqualified to provide mental health care. Whether or not a primary care provider thought they would work in mental health, they are practicing psychiatry every day in primary care. Learning a new way of doing things takes courage, confidence, and motivation. With the support of nursing faculty, developing and teaching a mental health course for primary care NP students was attainable.

Literature Review

Search Strategies, Keywords, and Inclusion/Exclusion Criteria

To inform a primary care FNP course on mental health, an advanced search of the literature was done in CINAHL, Medline, Google Scholar and EBSCO host using articles from 2014 to 2019. Keywords included in the search were: nurse practitioner, primary care, mental health services, barriers to mental health services, facilitators to mental health services, nurse practitioner education, curriculum, affordable care act, depression, anxiety, ADHD, and scope of practice. Inclusion criteria were human subjects, peer-reviewed, and English language. Exclusion criteria were acute care setting, inpatient, chronic pain, social services. An additional search was done to explore what is the current state of nurse practitioner knowledge related to mental health, and what strategies nurse practitioners are currently using to enhance mental health care in their

practices. There is a scarcity of published research related to mental health education for primary care nurse practitioners. A total of 128 articles were reviewed (N = 128). Of those 128 articles, only 15 (n = 15) were research articles on nurse practitioners providing mental health care in primary care, while only three (n = 3) described models to prepare nurse practitioners to care for mental health conditions in primary care.

Education Needs of Family Nurse Practitioners Related to Mental Health

As nurse practitioners care for a variety of patients in primary care, they increasingly care for mental health conditions, despite lack of adequate preparation and education. Most family nurse practitioner programs provide little or no education on mental health (Balestra, 2019; Estes, Medina, & Robertson, 2019). Hart and Bowen (2016) conducted a survey of new nurse practitioners (N = 698) and their perception of preparedness for practice and found that most of the NPs felt minimally prepared or somewhat prepared to manage mental health concerns at the time of graduation. Hart and Bowen (2016) compared their survey results to a similar survey done of nurse practitioners in 2004 (N = 562). Despite taking place almost a decade apart, both studies showed similar results, with mental health being one of the areas nurse practitioners felt least prepared to manage after graduating. As healthcare becomes more complex and increasing numbers of patients are requiring treatment for mental health conditions in primary care offices, nurse practitioners need additional education in mental health to adequately meet the needs.

Current Mental Health Education Programs for Nurse Practitioners

Faculty at nurse practitioner education programs have discovered that curriculum may be outdated, and NP programs are not responding quickly enough to the complex and ever-changing state of healthcare in the United States (Estes, Medina & Robertson, 2019). However, there is a

gap in the literature related to education models for curriculum for a mental health course for nurse practitioner students. Only three articles related to educational initiatives for preparing primary care nurse practitioners to care for mental health were found after an extensive search (Estes, Medina & Robertson, 2019; Kverno, 2016; Weber & Snow, 2006). Even so, the reviewed articles provide some practical guidelines for educating nurse practitioner students on mental health.

The education initiatives in these manuscripts are varied and include a course on mental health that all NP students are required to take at The University of Texas at Arlington School of Nursing (Weber & Snow, 2006). The Johns Hopkins University School of Nursing developed a three-phase plan to allow primary care NPs to become certified as psychiatric mental health NPs (Kverno, 2016), while The University of Colorado School of Nursing created a quality improvement process that led to mental health content being integrated into all NP clinical classes (Estes, Medina & Robertson, 2019). Weber and Snow (2006) and Estes, Medina and Robertson (2019) reported on quality improvement initiatives that led to changes in FNP curriculum at two different universities. Alternatively, Kverno (2016) described one university's response to the growing need for mental health care providers by developing a program for practicing primary care nurse practitioners to achieve a post-master's certificate in mental health. Each of these programs are instrumental in bringing change to NP education and improving preparedness for caring for mental health conditions in primary care.

Each of these universities had proactive faculty at their colleges of nursing that recognized the changing environment of healthcare, specifically related to the growing need for mental health providers. Faculty understood that primary care NPs are an ideal choice to address

the burden of mental health, but these nurse practitioners need to receive more education in treating mental health conditions. Additionally, each college of nursing identified ways their university was able to impact the health of their communities by educating primary care NPs to treat mental health conditions. Due to the lack of adequate mental health education for nurse practitioners, NP education programs must change to meet the needs of their students.

Gaps in the Literature

There is a gap in the literature pertaining to educational needs of FNP students related to providing mental health care in primary care. Little is known regarding the current state of nurse practitioner knowledge related to mental health, and what strategies nurse practitioners are presently using to enhance mental health care in their practices. There is a scarcity of published research related to ongoing mental health education for family nurse practitioners who practice in primary care.

Support for Statement of the Issue

In the current climate of a severe shortage of mental health providers, primary care NPs are well-suited to provide comprehensive primary care, including mental health care, to their patients. The trust that patients have in their nurse practitioners and the decreased stigma of attending appointments at the primary care office rather than a mental health center may increase compliance in patients. Most primary care NP programs include education about screening, motivational interviewing techniques, and problem solving. With additional education, NPs will help to close the gap in care of mental health services by providing comprehensive mental health treatment in primary care (Van Cleve, Hawkins-Walsh, & Shafer, 2013).

Conceptual and Theoretical Framework

To help fill the need for mental health providers, primary care nurse practitioners need additional mental health education. The development of a mental health course for family nurse practitioner students was the main component of this DNP project. The Stevens Star Model of Knowledge Transformation (or Star Model) was used to guide the project in a holistic way of looking at and using evidence-based practice. This model has been used as a framework for identifying and measuring competencies in nursing practice (Melnyk & Fineout-Overholt, 2019), and for moving evidence into action. The model represents a cyclical process of five phases of acquiring knowledge beginning with discovering new knowledge, summarizing the evidence, translating knowledge into practice, implementation and evaluation (Stevens, 2012).

The Star Model relies on several different sources of knowledge to find useable and relevant research for nurses to make clinical decisions. Knowledge sources include research reports from health databases, reports on systematic reviews related to clinical topics, and clinical practice guidelines that reflect current evidence-based recommendations (Stevens, 2013). While gathering research evidence from a variety of sources and utilizing clinical practice guidelines, the Star Model encourages nurses to use their own experience, expertise, and knowledge of their clinical setting, to guide their practice and set goals that include patient preferences (Melnyk & Fineout-Overholt, 2019).

With the development of the mental health course for FNP students, evidence-based guidelines were provided for the students. The principal investigator who developed and taught the course drew on her own expertise as a board-certified family nurse practitioner with nearly two decades of experience in primary care. Each student was encouraged to build on their

knowledge and experience to find ways to personalize each patient's care according to their preferences and the unique clinical setting the students find themselves. Through the mental health course for NP students, future family nurse practitioners were expected to gain knowledge and confidence in their abilities to screen for, diagnose, and treat mental health conditions of individuals in their communities. Thus, the number of primary care nurse practitioners who are proficient at managing common mental health diagnoses will increase. As nurse practitioners care for both the physical and mental needs of their patients, they are key to improving the quality of care and increasing access to treatment of mental health conditions in primary care.

Methodology

Needs Assessment

The need for a new way of teaching mental health content to FNP students at Midwest College was recognized years ago. The Mental Healthcare for APRNs course materialized out of feedback from the local community of healthcare providers, current and former FNP students at Midwest College, as well as preceptors for FNP students. The nursing leadership at Midwest College was willing to adapt to the everchanging needs of FNP education and decided to change their curriculum to implement a mental health course. Midwest College elected to replace one of the courses that was previously taught with a mental health course. This would provide focused mental health content in the curriculum, without additional cost or time commitments from the students or the institution. By assessing the needs of the local community and joining forces with a project that already had funding, there was improved likelihood of successful project implementation (Koon, Conrad, Naimoli, Saxena, Connor, & Rodriguez, 2019). The mental

health course was a result of collaboration and relationships between nursing leadership at the college, local primary care providers, mental health providers, and community organizations.

Project Design

This DNP project presented one possible method for teaching a mental health course to FNP students. The course was developed using evidence-based practice for treatment of common mental health conditions in primary care. The purpose of the mental health course was to address the educational needs of family nurse practitioner students related to care of mental health conditions and present the content in a concise and focused way. Course content was developed by synthesizing current best practice models and clinical guidelines. The project design was Program Development and was nonexperimental. A search of the literature revealed little about how best to teach mental health content to family nurse practitioner students. Therefore, the findings from this project may generate new knowledge and evidence regarding mental health education for family nurse practitioner students.

Participants and Setting

Eighteen family nurse practitioner students registered for the "Mental Healthcare for APRNs" course at Midwest College which was the setting for the DNP project. Inclusion criteria for participation were all second year FNP students who had completed at least two clinical courses in their FNP program at Midwest College. The FNP program of study at Midwest College has historically used completely face-to-face instruction. Due to the SARS-CoV-2 coronavirus pandemic, the mental health course was taught online. Class sessions for the first and the last week of class were synchronous, with the expectation that all students would attend

virtually. The other three weeks of class were asynchronous. The mental health course for FNPs was a 2-credit hour course and did not include any clinical hours.

Tools

Two tools were developed for collection of data for this DNP project. The Comfort scale was developed by the principal investigator of this project, who is a board-certified Family Nurse Practitioner. The principal investigator has almost two decades of clinical experience as an advanced practice nurse in a variety of outpatient settings, including caring for mental health conditions in people of all ages. Input and validation for the tool were received from the lead faculty and practice mentor. The lead faculty is a nurse practitioner with more than 30 years of experience and has worked with adolescents hospitalized in an inpatient behavioral health hospital, as well as managed a variety of mental health conditions in college-age students for almost a decade. The practice mentor is a board-certified medical doctor with more than 20 years of family practice experience and has extensive experience managing mental health conditions in the primary care setting. The Comfort scale is an ordinal rating system utilized to assess the student's comfort and confidence level for treating mental health conditions. This assessment was done as a pre-test, prior to the first class session, as well as a post-test at the end of the five-week course (see Appendix B for the Comfort pre-test and Appendix C for the Comfort post-test). Several open-ended qualitative questions were used to assess student perceptions and learning.

Additionally, a knowledge-based pre-test and post-test was administered to students (see Appendix D). The 15-item knowledge-based test was also developed by the principal investigator. The Knowledge test included fill-in-the-blank, True/False and multiple-choice

questions from content in the course textbook, *Association of Medicine and Psychiatry Primary Care Psychiatry* (McCarron, Xiong, Rivelli, Muskin, Summergrad & Suo, 2019). The test was modeled after questions found in FNP certification review courses and was developed with guidance from experts in the field, including the lead faculty and practice mentor. The purpose of the tools was to capture information on each student's growth in the areas of comfort and knowledge about caring for mental health conditions.

Project Plan

Intervention

The Intervention for this DNP project was a mental health course for FNP students in their second year of study at Midwest College. The 5-week course taught FNP students to screen for, identify, diagnose, and treat common mental health conditions that are cared for in primary care. They also learned when to refer for emergency care and when to refer for psychiatric specialty care. The course was taught by the principal investigator, who is a board-certified Family Nurse Practitioner. The course instructor was supported by the Midwest College FNP program director who is acting as the DNP Project lead faculty and has many years of clinical and teaching experience. The practice mentor is a family physician with more than 20 years of experience in primary care and was available for consultation on course content and practice guidelines.

Resources Needed

Resources needed for the DNP project included practice experts for input on mental health conditions commonly treated in primary care, as well as curriculum experts to assist in course development. Practice guidelines were utilized to guide evidence-based care. Multiple

textbooks were reviewed for student use during the course, and *Association of Medicine and Psychiatry Primary Care Psychiatry* (McCarron, Xiong, Rivelli, Muskin, Summergrad & Suo, 2019) was chosen as the best fit for primary care NPs to use.

No new equipment was required for the DNP project. The mental health course was taught in an online learning management system called Moodle. The students were familiar with this learning platform and already had the necessary technology required. However, the course instructor needed to learn how to develop a course using the online learning management system. The lead faculty was instrumental in assisting with this process.

The DNP project was financially feasible, with no additional budget required. As one existing FNP course was replaced with the mental health course, the full-time equivalent was already allocated in the budget. This was a budget-neutral project for Midwest College. Likewise, the mental health course was the same number of credit hours as the course that it replaced, making the course time-neutral for the students' plan of study.

Timeline

Planning for the mental health course project began years ago, after Midwest College recognized the need for such a course. In the Spring of 2019, the FNP Program Director at Midwest College approached the principal investigator about the possibility of designing a mental health course for primary care nurse practitioners, as well as teaching the course. Ongoing conversations occurred during the Summer of 2019. In the Fall of 2019, an advanced search of the literature was done related to mental health education for family nurse practitioners. There is a scarcity of published studies in this area. A total of 128 articles were reviewed (N = 128). Of those 128 articles, only 15 (n = 15) were research articles on nurse practitioners

providing mental health care in primary care, while only three (n = 3) described models to prepare nurse practitioners to care for mental health needs in primary care.

In April 2020, the DNP project was proposed, including course objectives and anticipated outcomes. The proposed DNP project to develop and teach a mental health course for FNP students was accepted by the college in May 2020. Frequent meetings were held with the DNP project lead faculty in May – June 2020 to collaborate on the IRB application, course objectives, course outline, syllabus, grading rubrics, and setting up the online classroom. The Course Outline and Schedule is found in Appendix E and the Course Syllabus is in Appendix F.

On June 7, 2020, an email was sent to the FNP students in the Mental Health Course by the DNP project lead faculty. The purpose for the email was to inform students about the DNP project associated with the course and reassure the students that participation in or choosing not to participate in the pre-tests and post-tests would not affect their grade in the mental health course. The principal investigator then emailed the informed consent to all the students in the course. On June 14, 2020, the pre-tests were sent by email to the 16 students who had signed and returned the informed consent forms. Thirteen students completed the Comfort pre-test, and 10 students completed the Knowledge pre-test.

Each week from June 14, 2020 through July 18, 2020, the principal investigator spent many hours implementing the project through the mental health course by reading the student textbook, preparing PowerPoint slides to accompany the readings for the students and writing questions for the weekly quizzes. Topics for weekly discussion forums were developed, posted on the online learning platform, and the posts were monitored for student participation.

Synchronous virtual classes were held on June 16, 2020 and July 14, 2020, from 3:30pm to 5:30pm, EST. For the synchronous classes, an online conferencing platform (Zoom) was used, hosted by the principal investigator. A short lecture was given, and a case study was discussed by students in small groups utilizing breakout rooms in the online conferencing platform. In weeks 3 and 4, an optional online class session was hosted by the principal investigator for students to review quiz questions and answers. The principal investigator was also available for office time outside of class sessions.

An additional email was sent by the DNP lead faculty Member on July 15, 2020 to the 13 students who had participated in the pre-tests. The purpose of the email was to thank students for participating in the research and to complete the post-tests. An email with the link to the Comfort and Knowledge post-tests was then sent to the same students by the principal investigator. Eleven students completed the Comfort post-test and eight students completed the Knowledge post-test. By July 29, 2020, all assignments for the course had been graded and the students' final grades were available for viewing. Using the two tools previously mentioned, data for the project was collected through an online link to a Google survey for each of the pre-tests and post-tests. Participants read the pre-tests and answered them in an online format. Each student's response was recorded and deidentified in order to pair the data and assess for changes in the pre-test and post-test scores.

IRB Exempt Status

After having completed the online training for Protecting Human Research Participants, request for IRB approval from Midwest College was sought by the principal investigator in May 2020. The Midwest College IRB reviewed the project titled "Mental Health Course for Primary

Care Family Nurse Practitioners" and determined it to be exempt from continuing IRB oversight on June 11, 2020. The DNP project was assigned tracking number 0211920. The letter from Midwest College IRB is in Appendix G.

Evaluation

Data Analysis

Qualitative data for the mental health course was collected from students prior to the first class and at the end of the course. Data was collected utilizing an ordinal scale to assess comfort level with treating mental health conditions, as well as a knowledge-based test related to treating mental health conditions. To analyze the ordinal variables, frequency distribution, means, and percentiles were calculated. Comparisons of the pre-test and post-test Knowledge scores were made to determine any change through the mental health course (Motulsky, 2018).

Key Findings

Eighteen students registered for and completed the Mental Healthcare for APRNs course in the Summer of 2020. All students were invited to participate in the collection of data and 16 students signed the informed consent and agreed to participate. A total of 13 students completed the pre-test for comfort level with mental health, while 11 students completed the post-test for comfort level with mental health. Ten students completed the pre-test for Knowledge, and eight students completed the post-test for Knowledge.

Comfort Level

Among the 13 students who completed the pre-test for comfort, 12 students marked at least one item with a 1 (Strongly Disagree) or 2 (Disagree), demonstrating a lower level of comfort with that item prior to the course. On the post-test for comfort, only five students chose

Strongly Disagree or Disagree on any one item, showing an increased comfort level. Additionally, six of the 11 students who completed the post-test scored a 3 (Agree) or 4 (Strongly Agree) on all items. This is confirmation that students gained comfort with a variety of items related to mental health conditions through the course. Table 1 shows the aggregate gains in comfort from pre-test to post-test.

Table 1

Gains in Comfort Level from Pre-test to Post-test

	Pre-test Comfort	Post-test Comfort
Marked "Strongly Disagree" or "Disagree" on at least 1 item	12	5
Marked all items with "Agree" or "Strongly Agree"	1	6
Total Responses	13	11

When comparing comfort pre-test and post-test scores for individual students, 10 out of the 11 students gained comfort on at least one item on the comfort scale. Six of the students demonstrated an increase in comfort level in at least half of the 10 items on the scale, as shown in Table 2. None of the students showed increased comfort level in all the items, and three students had a decreased comfort level on at least one item from the pre-test to the post-test.

Table 2

Increased Comfort from Pre-test to Post-test

Comfort Level Increased on	Number of Students
0 items	1
1 item	1
2 items	1
3 items	1
4 items	1
5 items	1
6 items	3
7 items	1
9 items	1
Total Students	11

Students showed an appreciable increase in comfort on several items on the Comfort Scale. In response to the pre-test question "I am comfortable choosing a screening tool for depression in adolescents," eight out of the 11 students answered Disagree or Strongly Disagree. For the same item on the post-test, 10 out of the 11 students chose Agree or Strongly Agree (see Table 3).

Table 3

Choosing a Screening Tool for Depression

"I am comfortable choosing a screening tool for depression in adolescents."	Pre-test Comfort	Post-test Comfort
Strongly Disagree or Disagree	8	1
Agree or Strongly Agree	5	10
Total Responses	13	11

Regarding pharmacologic treatment options, students demonstrated improved comfort on the item "I understand the metabolic conditions that may be affected by using antipsychotics."

Nine students chose Disagree or Strongly Disagree on the pre-test, while the same number of students chose Agree or Strongly Agree on the post-test (see Table 4).

Table 4

Understanding Metabolic Conditions Affected by Antipsychotics

"I understand the metabolic conditions that may be affected by using antipsychotics."	Pre-test Comfort	Post-test Comfort
Strongly Disagree or Disagree	9	2
Agree or Strongly Agree	4	9
Total responses	13	11

Students also gained comfort in non-pharmacologic treatment through the mental health course. For the item "I have the skills needed for successful motivational interviewing," six students chose Disagree or Strongly Disagree in the pre-test. On the post-test, 8 out of 11 students chose Agree or Strongly Agree for the same question. Table 5 shows the increase in comfort level of students related to motivational interviewing from pre-test to post-test.

Table 5

Motivational Interviewing Skills

"I have the skills needed for successful motivational interviewing."	Pre-test Comfort	Post-test Comfort
Strongly Disagree or Disagree	6	3
Agree or Strongly Agree	5	8
Total responses	11	11

Overall, students gained knowledge in each of the 10 items on the Comfort scale through the mental health course. Table 6 shows each item and the number of students who increased or decreased comfort level through the course. More than half of the students gained comfort level related to explaining black-box warnings to patients. Almost half of the students felt more

comfortable after the course with referring to specialty care, obtaining a psychiatric review of systems, and describing different treatments for depression. On seven out of the 10 comfort items, students demonstrated a decreased in comfort level after the course. There was no pattern identified and there was no correlation with student Knowledge test scores to explain the decrease in comfort level.

Table 6

Number of Students who gained or decreased Comfort from Pre- to Post-test

Item	Number of students who gained Comfort from Pre-test to Post-test	Number of students who decreased in Comfort from Pre-test to Post-test
I am able to distinguish major depression from bipolar disorder.	4	1
I am comfortable choosing a screening tool for depression in adolescents.	8	1
I know when to refer mental illness to a psychiatric specialist.	5	0
I am confident in my ability to use the AMPS screening tool to obtain a psychiatric review of systems.	5	1
I am comfortable asking patients about self-harm and suicidal ideation.	3	1
I can describe several treatment modalities for major depression.	5	1
I have the skills needed for successful motivational interviewing.	3	0
I am able to educate patients on the common side effects of antidepressants.	1	1
I understand the metabolic conditions that may be affected by using antipsychotics.	8	1
I can explain the black box warning on antidepressants to patients.	7	0

Knowledge

Ten students completed the pre-test for Knowledge, and eight students completed the post-test for Knowledge. The mean score on the pre-test was 72.67%, while the mean score on the post-test was 82%. Four out of the eight students who completed both the pre-and post-test for Knowledge had an increase in their scores from the pre-test to the post-test. As a whole, the group of eight students demonstrated an increase in Knowledge score on nine out of 15 test questions. There was no correlation between increased comfort level and improved score on the Knowledge test.

The Knowledge item with the most striking improvement in score was the item "_____ is preferred as first-line therapy for chronic insomnia in most patients." Of the eight students who took the Knowledge pre-test, only three gave the correct answer of "Cognitive Behavioral Therapy," with the remainder of the students choosing medications to treat insomnia. On the post-test, six out of the eight students were able to name the correct answer.

Questionnaire

Qualitative information gathered in the questionnaire portion of the Comfort pre- and post-tests was insightful. Students were asked "What are your thoughts about family nurse practitioners treating mental health conditions in the primary care setting?" Eight out of the 13 students who took the pre-test for Comfort noted that it was necessary. Four students felt that FNPs treating mental health conditions in primary care was not the best option but would be okay to get the patient started on treatment and then refer, and two students felt that FNPs could treat mental health conditions in primary care if collaboration was available (see Table 7).

Table 7

Pre-test Thoughts on FNPs Treating Mental Health in Primary Care

Pre-test thoughts on FNPs treating mental health conditions in primary care:	Number of responses
It is a necessity	8
Not ideal but FNPs could start treatment and then refer	4
FNPs could treat mental health conditions if collaboration was available	2
Nervous	1

For the same question on the Comfort Post-test, opinions were about the same with eight of the 11 students noting that it was a necessity and a reality for FNPs to treat mental health conditions in primary care. Seven students reported that FNPs should be able to treat mild or uncomplicated mental health disorder with additional training, and knowledge of when to refer and utilize additional resources (see Table 8).

Table 8

Post-test Thoughts on FNPs Treating Mental Health in Primary Care

Post-test thoughts on FNPs treating mental health conditions in primary care:	Number of responses
It is a necessity	8
Can treat mild or uncomplicated mental health conditions with more training	4
FNPs could treat mental health if they know when to refer and use additional resources	3

On the Comfort Post-test, students were also asked to name three things they had learned from the mental health course. Six out of the 11 students reported increased understanding of first line therapies for depression and anxiety. Five of the 11 students named mental health screening tools as an important lesson learned from the class. Additionally, students mentioned

increased knowledge of medications to use, SSRIs versus SNRIs, and side effects of commonly prescribed psychotropic medications. Several students noted that learning about the mental health resources (or paucity of resources) in the county where they practice was a valuable exercise (see Table 9).

Table 9

Post-test Three Things Learned from the Mental Health Course

Post-test Three things learned from the mental health course:	Number of responses
First line therapies for depression and anxiety	6
Mental health screening tools	5
Side effects of commonly prescribed psychotropic medications	3
Learning mental health resources (or paucity of resources) in their county	2
Medications to use	2
When to refer	2
CBT	2
Nonpharmacologic treatment	1
SSRIs versus SNRIs	1
Taking a history	1
Signs and symptoms of mental illness	1
General understanding of mental health	1

Finally, students were asked to name three ways their practice would change as a result of the course. Most of the 11 students reported being more comfortable with mental health conditions in general, as well as increased comfort with screening for, diagnosing, and treating mental health conditions. More than half of the students reported that they now know when to refer patients with mental health conditions and collaborate with mental health providers. One student reported that the course did not change anything for them (see Table 10).

Table 10

Post-test Three Ways Practice Will Change Due to the Mental Health Course

Post-test Three ways your practice will change as a result of the mental health course:	Number of responses
More comfortable treating mental illness	5
Knowing when to refer	5
More comfortable with mental health (general)	4
More comfortable screening for mental illness	4
More comfortable diagnosing mental illness	3
Collaborating with community mental health providers	1
Using CBT	1
Did not change anything	1

Discussion

Summary of major findings and outcomes

Students demonstrated increased knowledge and comfort in several areas pertaining to mental health. Most of the students demonstrated an increase in comfort level in at least one item on the comfort scale, while six of the students increased their comfort in at least half of the items on the comfort scale. Students gained confidence in their ability to use motivational interviewing techniques, use appropriate screening tools for adolescents with depression, and understand the metabolic conditions that are associated with antipsychotic use. Additionally, knowledge was gained on nine out of the 15 items on the knowledge test. Finally, students were able to identify several things they learned through the course, and name ways the course would change their practice as FNPs.

Implications for the organization

Students recognized that caring for mental health conditions will be essential in their practice as a family nurse practitioner. Students also recognized that they need further education in this area, suggesting an ongoing need for the mental health course for NP students. The course was valuable and should continue to be offered to Midwest College FNP students. There is also the potential to utilize the course content and develop continuing education courses for practicing NPs.

Implications for practice change, future research, and health policy change

The Mental Healthcare for APRNs course increased the knowledge and confidence of FNP students to screen for, diagnose, and treat mental health conditions. By increasing the number of FNPs who are proficient at managing common mental health diagnoses in primary care, the health outcomes of communities, individuals, and vulnerable populations will improve.

After the course, students demonstrated increased comfort with choosing a screening tool for adolescents with depression. The United States Preventive Services Task Force (USPSTF) recommends that children, adolescents, adults, and women in the perinatal period should be screened for depression (U.S. Preventive Services Task Force, 2019). More than half of the students who completed both the pre- and post-test for comfort demonstrated an increase in comfort level in five or more of the 10 items on the scale. The National Organization of Nurse Practitioner Faculties (2017) has noted that screening, diagnosing and managing a patient's mental and physical health are part of a core competency of independent nurse practitioner practice. This demonstrates that the FNP students at Midwest College are better prepared to meet the core competencies required of NPs.

Understanding metabolic conditions related to antipsychotics was another area where students gained comfort. While primary care providers are typically more comfortable managing depression and anxiety, some may need to care for people taking antipsychotics or mood stabilizers (Olfson, 2016). Thus, it is essential for FNPs to understand the metabolic conditions that are precipitated or exacerbated by antipsychotic medications and know how to screen for and treat those metabolic conditions.

Increased comfort with motivational interviewing was also demonstrated by students. Motivational interviewing is beneficial in all areas of practice for FNPs and is a method of communicating with the patient with the intent of promoting change. Motivational interviewing has been shown to help promote self-efficacy of patients, assist patients to recognize the discrepancy between their values and their behavior, and decrease maladaptive behaviors (Brown, Moore, MacGregor & Lucey, in press).

One of the questions on the knowledge test was: "_____ is preferred as first-line therapy for chronic insomnia in most patients." Nonpharmacologic treatment is considered the first-line treatment for insomnia but is not routinely recommended for patients (Koffel, Bramoweth & Ulmer, 2018). Management of chronic insomnia involves cognitive behavioral therapies, sleep hygiene, mindfulness and relaxation practices (Reynolds & Cone, 2018). Studies have shown CBT to improve sleep outcomes, as well as reduces risks that may occur as a result of taking a hypnotic medication (Koffel, Bramoweth & Ulmer, 2018). The increased scores in Knowledge related to treating chronic insomnia is evidence that FNP students are learning the importance of offering nonpharmacologic treatment.

Areas of future research include evaluating student comfort level and knowledge of mental health and comparing the scores of nurses according to their experience as registered nurses. Additionally, comfort and knowledge scores could be compared and analyzed related to the number of years the students have practiced as registered nurses, where they have completed FNP student clinicals, and whether or not they have experienced seeking or receiving care for mental health conditions for themselves or loved ones.

Nurse practitioners contribute to the development of health policy. This DNP project equipped FNP students to improve the care of vulnerable populations and increase access to mental health care while becoming independent practitioners. Additional work needs to be done so that mental health content will be offered in a focused way in FNP curriculum across the United States. As many FNPs practice in primary care, they should be equipped to assess and treat the whole person, including their patient's physical and mental health (NONPF, 2017).

Limitations

The sample size for this project was small, limiting statistically significant findings, and rendering the findings unlikely to be representative of the population of all FNP students. Due to the lack of previous research and published literature related to how best to teach care of mental health conditions to FNP students, this project does generate new knowledge and will be useful to tailor future sessions of the course.

Data was collected through Google Forms and student emails were collected in order to pair pre- and post-test data. Students may have been hesitant to participate knowing the tests were not anonymous. Additionally, the Comfort and Knowledge tests were created for this project and therefore have not been tested for validity, reliability, and sensitivity. Finally, several

of the questions on the Knowledge test pertained to topics that were ultimately not covered during the course due to time constraints.

Longitudinal impacts of this course were not measured, due to the 5-week timeline for the course. Therefore, change in comfort level and knowledge of mental health over time was not assessed.

Dissemination

The findings of this DNP project will be shared with the students who participated in data collection for the Mental Healthcare for APRNs course. Manuscripts will be submitted to a professional journal for publication in the spring of 2021. Finally, a poster presentation will be prepared to submit at a nurse practitioner or nursing education conference.

Conclusion

As primary care providers continue to treat many chronic diseases and increasingly complex mental health conditions, there is an ongoing need for improved nurse practitioner education related to mental health care in primary care. Caring for mental health conditions is within the scope of practice for nurse practitioners, but the content has not been uniformly delivered in FNP education curriculum. The Mental Healthcare for APRNs course is one model of addressing the inconsistent delivery of mental health education to FNP students, while integrating current evidence into practice. Students were more comfortable and more knowledgeable about caring for mental health conditions at the end of the course. Students learned to obtain a psychiatric and social health history, to use appropriate screening tools for mental health conditions, and to identify physical exam findings that differentiate between psychiatric conditions and general physical health conditions. Students used principles of

nursing, critical thinking, diagnostic reasoning, and clinical decision-making skills to formulate diagnoses and plans for management of a patient's mental health conditions, including pharmacologic interventions. The Mental Healthcare for APRNs course increased the number of future FNPs who are confident and competent to treat mental health conditions. As a result of this course, FNPs will improve the mental health care provided to their patients and help close the gap in treatment of mental health conditions.

The Doctor of Nursing Practice project is the culmination of years of nursing practice and nursing scholarship. DNP projects combine academic and scientific excellence and demonstrate the application of knowledge from research into evidence-based practice (Moran, Burson & Conrad, 2017). The Mental Healthcare for APRNs course is an example of how the DNP project may be used in program development, improve FNP education related to mental health and ultimately improve health outcomes of vulnerable populations.

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Appendix A

Mental Healthcare for APRNs Course Objectives

1. Use effective communication skills to obtain a psychiatric health history and relevant History of Present Illness.
2. Identify patient or family lifestyle factors that may place patient at risk for mental illness.
3. Identify specific physical findings to assess when differentiating between a psychiatric condition and general health condition
4. Select appropriate screening tools for depression, anxiety, cognition, and substance abuse.
5. Use appropriate motivational interviewing principles.
6. Apply principles of nursing, pathophysiology, communication, socio-cultural and spiritual factors that may affect a patient's mental health.
7. Use critical thinking, diagnostic reasoning and clinical decision-making skills to formulate a problem list/differential diagnosis and plan for management of a patient's mental illness including pharmacologic interventions.
8. Document clinical encounters in a S (subjective), O (objective), A (assessment), and P (plan) format.
9. Explain family nurse practitioner's scope of practice in treating mental illness in primary care.

Appendix B

Comfort Level with Mental Health Pre-test

The response options are: (1) Strongly disagree, (2) Disagree, (3) Agree, (4) Strongly Agree, and (5) I don't know what that is.

1. I am able to distinguish major depression from bipolar disorder.
2. I am comfortable choosing a screening tool for depression in adolescents.
3. I know when to refer mental illness to a psychiatric specialist.
4. I am confident in my ability to use the AMPS screening tool to obtain a psychiatric review of systems.
5. I am comfortable asking patients about self-harm and suicidal ideation.
6. I can describe several treatment modalities for major depression.
7. I have the skills needed for successful motivational interviewing.
8. I am able to educate patients on the common side effects of antidepressants.
9. I understand the metabolic conditions that may be affected by using antipsychotics.
10. I can explain the black box warning on antidepressants to patients.

What are your thoughts about family nurse practitioners treating mental health conditions in the primary care setting?

Appendix C

Comfort Level with Mental Health Post-test

The response options are: (1) Strongly disagree, (2) Disagree, (3) Agree, (4) Strongly Agree, and (5) I don't know what that is.

1. I am able to distinguish major depression from bipolar disorder.
2. I am comfortable choosing a screening tool for depression in adolescents.
3. I know when to refer mental illness to a psychiatric specialist.
4. I am confident in my ability to use the AMPS screening tool to obtain a psychiatric review of systems.
5. I am comfortable asking patients about self-harm and suicidal ideation.
6. I can describe several treatment modalities for major depression.
7. I have the skills needed for successful motivational interviewing.
8. I am able to educate patients on the common side effects of antidepressants.
9. I understand the metabolic conditions that may be affected by using antipsychotics.
10. I can explain the black box warning on antidepressants to patients.

What are your thoughts about family nurse practitioners treating mental health conditions in the primary care setting?

Name three things you learned from this mental health course.

Name three ways that your practice will change as a result of this course.

Appendix D

Knowledge of Mental Health Pre- and Post-Test

1. A 34-year-old mother presents to your office complaining of fatigue, weight gain, and poor sleep. The best screening tool to assess her mood is:

A. MoCA

B. PHQ-9

C. CAGE Questionnaire

D. BSDS

2. The first-line treatment option for anxiety, regardless of the specific anxiety disorder, is:

A. Electroconvulsive therapy

B. Cognitive behavioral therapy

C. Medications such as serotonin reuptake inhibitors

D. both B & C.

3. Your patient calls in complaining of a dull headache and nausea that began after starting Sertraline six days ago. You advise that:

A. She should treat the headache with NSAIDs.

B. This may improve with lowering the dose and increasing gradually.

C. These are common, long-lasting side effects of this medication.

D. Buspirone should be substituted.

4. Some antidepressants have a black box warning because

A. They increase dopamine activity in the brain.

B. They cause sexual side effects in men.

C. They increase suicide rates among adults 65 years and older.

D. They increase suicidal ideation among children younger than 18 years.

5. Which of the following is true regarding major depression and relapse?

A. The risk of relapse is greater if complete remission of symptoms was reached.

B. The risk of relapse is greater if patients are treated in primary care.

C. The risk of relapse is less if treatment includes pharmacotherapy combined with psychotherapy.

D. The risk of relapse is less if medications are taken along with St. John's wort.

6. Routine monitoring for a person taking Aripiprazole includes all except:

A. EKG

B. Height, weight, and BMI

C. Fasting glucose or A1C

D. Lipid profile

7. Subjective and objective findings such as intrusive and recurrent thoughts, intense anxiety, concerns about weight and appearance, history of plastic surgery and signs of skin picking would lead you to the most likely differential diagnosis of:
   A. Generalized Anxiety Disorder
   B. Body Dysmorphic Disorder
   C. Impulse Control Disorder
   D. Eating Disorder

8. Which of the following statements is false?

A. Nurse practitioners have prescriptive authority in all 50 states, but more than half of the states do not give nurse practitioner full practice authority.
B. Some states require nurse practitioners to have physician supervision to diagnose, treat, and prescribe medications.
C. Among all health care visits with a mental health diagnosis in recent years, more than half were in a primary care office, compared to a psychiatry office.
D. In the past decade, among patient visits where a psychotropic medication was prescribed, fewer than one-third were in a primary care office.

9. DSM-5 diagnostic criteria for substance abuse include all of the following except:
   A. Desire to cut down and/or has tried unsuccessfully in the past.
   B. Excessive time spent obtaining substance, using substance, or recovering from substance.

C. Ability to maintain major role obligations.

D. Important activities are given up or reduced due to substance use.

10. T/F Bipolar disorder is typically treated with medications that enhance serotonin, norepinephrine, and/or dopamine activity in the brain.

11. T/F Signs of opioid withdrawal include hypertension, bradycardia, diarrhea, fever, lacrimation and somnolence.

12. SSRIs have been shown to be effective for treating _____ as well as depression.

13. Depression is sometimes mistaken for _____ in older adults.

14. _____ is preferred as first-line therapy for chronic insomnia in most patients.

15. Psychomotor agitation with fidgeting and irritability but no hyperactivity is often found in children with _____.

Appendix E

Course Outline and Schedule

Date	Focus for the Session	Activities	Readings in McCarron et al.
Week 1 June 16, 2020	Overview of Course, Primary Care Psychiatric Interview, Preventive Medicine and Behavioral Health	**6/16/20: Meet online 3:30pm to 5:30pm** Quiz #1 *-Opens Sunday 6/14/20 at 8am and closes Tuesday 6/16/20 at 3pm* Forum/Discussion *-Post due by Thursday 6/18/20 at 10pm* *-Response due by Sunday 6/21/20 at 10pm*	Chapter 1 Chapter 3
Week 2 June 23, 2020	Cognitive Behavioral Therapy, Supportive Psychotherapy in Primary Care, Motivational Interviewing, Fundamentals of Psychopharmacology	Quiz #2 *-Opens Sunday 6/21/20 at 8am and closes Tuesday 6/23/20 at 3pm* Forum/Discussion *-Post due by Thursday 6/25/20 at 10pm* *-Response due by Sunday 6/28/20 at 10pm*	Chapter 16 Chapter 17 Chapter 18 Chapter 19
Week 3 June 30, 2020	Depression, Treatment-Resistant Depression, Bipolar Disorder, Suicide and Violence Risk Assessment	Quiz #3 *-Opens Sunday 6/28/20 at 8am and closes Tuesday 6/30/20 at 3pm* Forum/Discussion *-Post due by Thursday 7/2/20 at 10pm* *-Response due by Sunday 7/5/20 at 10pm*	Chapter 8 Chapter 9 Chapter 10 Chapter 22
Week 4 July 7, 2020	Anxiety Disorders, OCD, Trauma-related Disorders, Insomnia	Quiz #4 *-Opens Sunday 7/5/20 at 8am and closes Tuesday 7/7/20 at 3pm* Forum/Discussion *-Post due by Thursday 7/9/20 at 10pm* *-Response due by Sunday 7/12/20 at 10pm*	Chapter 5 Chapter 6 Chapter 7 Chapter 24
Week 5 July 14, 2020	Psychotic Disorders, Somatic Disorders, Eating Disorders, Psychological and Culture Considerations	**7/14/20: Meet online 3:30pm to 5:30pm** Quiz #5 *-Opens Sunday 7/12/20 at 8am and closes Tuesday 7/14/20 at 3pm* **Paper** *-due Thursday 7/16/20*	Chapter 11 Chapter 23 Chapter 26 Chapter 4

Appendix F

Course Syllabus

Note: Due to the COVID19 pandemic, this face-to-face course has been transformed into an online, mostly asynchronous course. Many of the in-class activities are cancelled and assignments have been eliminated or changed to accommodate the online format.

Course Description: Using evidence-based practice guidelines, students integrate screening, diagnosis, and treatment of mental health conditions for patients across the lifespan. Management approaches are examined including pharmacologic treatment, collaboration, and referral. There are no clinical hours connected with this course.

Credit Hours: 2

Faculty: Deena Elizalde, APRN-BC
Contact information: Email: deenare@goshen.edu
Mobile phone: 574-329-3892
I am a practicing FNP but will be checking my emails daily. If you need something urgently, you may send a text for me to respond to between patients.

Class times: June 16, 2020 through July 14, 2020 on Tuesdays. See schedule for exact dates and times for synchronous meetings.

Location: Online via Zoom (link can be found in Moodle)

Course Objectives:

1. Use effective communication skills to obtain a psychiatric health history and relevant History of Present Illness.
2. Identify patient or family lifestyle factors that may place patient at risk for mental illness.
3. Identify specific physical findings to assess when differentiating between a psychiatric condition and general health condition.
4. Select appropriate screening tools for depression, anxiety, cognition, and substance abuse.
5. Use appropriate motivational interviewing principles.
6. Apply principles of nursing, pathophysiology, communication, socio-cultural and spiritual factors that may affect a patient's mental health.
7. Use critical thinking, diagnostic reasoning and clinical decision-making skills to formulate a problem list/differential diagnosis and plan for management of a patient's mental illness including pharmacologic interventions.
8. Document clinical encounters in a S (subjective), O (objective), A (assessment), and P (plan) format.

9. Explain family nurse practitioner's scope of practice in treating mental illness in primary care.

Required Textbook(s)/Resources:

McCarron, R. M., Xiong, G. L., Rivelli, S., Muskin, P. R., Summergrad, P., & Suo, S. (2019). *Association of medicine and psychiatry: Primary care psychiatry (2nd ed).* Philadelphia, PA: Wolters Kluwer.

Additional readings/resources:

Uptodate.com
See Moodle for assigned readings.

Teaching Strategies:

Brief Video Lecture
Classroom and Online Discussions
Assigned Readings
Quizzes

Grading Scale:

94 -100 = A	80 – 81 = C+
92 - 93 = A-	74 – 79 = C
90 - 91 = B+	72 – 73 = C-
84 - 89 = B	Below 72 = F
82 - 83= B-	

NOTE: Successful completion of a nursing course requires a grade of B- or above.

Course Assignments:

Quizzes	50%
Paper	25%
Forums	25%

1. Quizzes (50%)

Starting in week one, there will be a quiz at the beginning of class covering the readings assigned for that week. There will be no make-up quizzes or extensions. Time to take the quiz will be limited. Doing the assigned readings will enhance your quiz performance. The quizzes will be in Moodle.

a. Quizzes will open at 8 am on Sundays and close at 3 pm on Tuesdays. You should plan to do your readings for that week prior to the open time for the quiz.

For example, the first quiz is in week 1. It is over the assigned readings for that week. The 1st quiz ***opens*** in Moodle on Sunday, June 14 at 8 am. The 1st quiz ***closes*** Tuesday, June 16 at 3 pm.

b. Please mark your calendars for these due dates as there will be no extensions if you forget to take the quiz.

2. Paper on Mental Health Resources in Your Community: (25%)
Purpose: to develop a deeper understanding of mental health referral sources in your community.

a. Write a 3- to 4-page paper on the mental health resources in your community.
b. You should look for primary care providers who have a special interest in mental healthcare. Name local psychiatrists and psych NPs who you might refer to and identify the nearest hospital where a person might be taken in the event of a psychiatric crisis, as well as inpatient and outpatient treatment centers.
c. Identify some challenges primary care NPs might face in clinical practice related to caring for mental illness.
d. Name some strategies that you might use to mitigate those challenges that primary care NPs face in caring for mental illness.
e. You should have several citations from the readings included in the paper.
f. Paper will be due week 5, on Thursday 7/16/2020 at 10 pm.
g. See Written Assignment Rubric.

3. Forum Participation: (25%)

a. Participate in four (4) weekly forums.
b. Instructions for posts and responses can be found in the Moodle forum for that week.
c. Post your initial thread no later than 10 pm on Thursday.
d. Respond to a peer's post by no later than 10 pm on Sunday.
e. Be constructive in your feedback and include a question and an affirmation.
f. See Forum Post & Response Rubric.

Late Assignments:
Assignments are due by 10 pm on the day stated in the syllabus (**except when otherwise noted**). There will be 5% reduction in the grade for each day that the assignment is late. No assignments will be accepted one week after the due date.

Electronic Submission:
All papers will be submitted electronically to Moodle, in Microsoft Word format. Papers you submit in this course will be checked for plagiarized material copied from the web, other student papers, and selected on-line databases. Cases of plagiarism are reported to the Program Director and the Associate Academic Dean. Penalties for plagiarism are listed in the graduate catalog and the MSN student handbook. Consequences of plagiarism range from redoing the assignment to dismissal from the college. Please refer to the graduate catalog and MSN student handbook for additional information on academic integrity.

Disability Accommodations:
Goshen College wants to help all students be as academically successful as possible. If you have a disability and wish to request accommodations, please contact Judy Weaver in the Academic Success Center (Good Library 112). You will be asked to provide documentation of your disability. Call or email: 574-535-7560 or jweaver@goshen.edu. All information will be held in the strictest confidence.

Appendix G

IRB Approval

GOSHEN COLLEGE

June 11, 2020

Deena Elizalde

205 Yorktown Dr

Goshen, IN 46526

Dear Ms. Elizalde,

I am pleased to inform you that the Goshen College IRB has reviewed your project, "Mental Health Course for Primary Care Family Nurse Practitioners," and determined it to be exempt from continuing IRB oversight. You may begin research as proposed in your application.

If you make any changes to your research protocol, please contact me to obtain IRB review and approval. I have assigned the tracking number 0211920 to your project. Please include the tracking number in all your communications with me so that I know we are communicating about the right project.

Thanks for your efforts and your engagement with research at Goshen College.

Sincerely,

Justin Heinzekehr

IRB Chair

justinbh@goshen.edu

574-535-7110