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Continuing Professional Development Program on Second-Generation Antipsychotics for Psychiatric-Mental Health Staff Nurses

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The University of Southern Mississippi

CONTINUING PROFESSIONAL DEVELOPMENT PROGRAM ON SECOND-GENERATION ANTIPSYCHOTICS FOR PSYCHIATRIC-MENTAL HEALTH STAFF NURSES

by

Brenda Lee Phillips

Abstract of a Capstone Project
Submitted to the Graduate School
of The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Nursing Practice

ABSTRACT

CONTINUING PROFESSIONAL DEVELOPMENT PROGRAM

ON SECOND-GENERATION ANTIPSYCHOTICS FOR

PSYCHIATRIC-MENTAL HEALTH STAFF NURSES

by Brenda Lee Phillips

December 2012

The lack of continuous professional development education regarding second-generation antipsychotics (SGAs) at a regional state acute care psychiatric hospital limits the ability of psychiatric-mental health (PMH) staff nurses to provide care for patients with or at risk for metabolic syndrome and other medical problems. The goals of the evidence-based program were to (1) examine PMH staff nurses' knowledge of treatment guidelines for schizophrenia and SGAs; (2) provide education on schizophrenia, SGAs, and metabolic syndrome; and (3) provide continuous professional development training modules on schizophrenia and SGAs electronically for PMH staff nurses in an acute care mental health hospital. The effectiveness of the evidence-based program was measured by pre and posttest to assess acute care PMH staff nurses' knowledge of the intervention and by an evaluation of the presenter and presentation of the educational program. The participants (n = 10) for the continuing professional development (CPD) program were RNs (n = 5) and LPNs (n = 5). A statistically significant change was noted in the knowledge enhancement among the 10 PMH staff nurses after the implementation of the evidence-based educational intervention ($t(9) = 5.395$, $p < .001$). The project enhanced acute care PMH staff nurses' knowledge to not only provide medication education to patients that are taking SGAs but also to monitor and care for patients with or at risk for

metabolic syndrome associated with taking SGA medications. The psychiatric and mental health nurse practitioner (PMHNP) and Doctor of Nursing Practice (DNP) student assumed the role as leader in this practice change initiative in order to enhance the knowledge of staff nurses and improve patient outcomes. The educational module will be completed by all nurses online yearly and updated quarterly based on scientific evidence. The Capstone Project provided knowledge for closing the gap between PMH staff nurses and care of patients with a diagnosis of schizophrenia who are taking SGAs.

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LIST OF ABBREVIATIONS

CPD: Continuing Professional Development

DNP: Doctor of Nursing Practice

HCP: Health Care Provider

LPN: Licensed Practical Nurse

PMH: Psychiatric-Mental Health Nurses

PMHNP: Psychiatric and Mental Health Nurse Practitioner

RN: Registered Nurse

SGAs: Second-Generation Antipsychotics

CHAPTER I

INTRODUCTION

Psychiatric-mental health (PMH) staff nurses face challenges when caring for patients with a diagnosis of schizophrenia who take second-generation antipsychotics (SGAs) to treat the symptoms of schizophrenia. SGAs tend to pose a problem for the patient because of the adverse effect of metabolic syndrome. Patients in acute care psychiatric hospitals and PMH staff nurses caring for these patients often have limited knowledge of SGAs and fail to understand the risk for metabolic syndrome when taking SGAs. A secondary concern is metabolic syndrome associated with SGAs contributes to medical problems (e.g., diabetes mellitus, atherosclerosis, and stroke) (Reynolds & Kirk, 2010). As a result, the patient may experience increased morbidity and health care costs. Therefore, PMH staff nurses need to be knowledgeable about schizophrenia and current schizophrenia treatment guidelines in order to assess their patients' medical, as well as psychiatric, problems. Acute care PMH staff nurses' awareness of the increased risk for adverse reactions with SGAs and, specifically, ongoing education regarding the metabolic side effects associated with SGA medications is vital (Edwards, Rasmussen, & Munro, 2010). Continuous professional development (CPD) that provides education on SGAs to PMH staff nurses can improve the staff nurses' knowledge and, ultimately, promote positive patient health outcomes.

Background and Significance

Schizophrenia is a serious mental illness affecting over two million adults in the United States. Among U.S. adults, 58.7% have a serious mental illness (SMI), 7.5% are hospitalized, and 52.6% have prescriptions for medications (National Institute of Mental Health, 2004). Casey (2005) went further to say "individuals with psychiatric disorders

tend to have more illnesses and a shorter lifespan than the general population" (p. 155). Patients with schizophrenia have over 300% risk of death secondary to medical reasons (Casey, 2005).

Schizophrenia affects both genders and is usually diagnosed between late adolescence and early adulthood. The age of onset for men is typically between 18 and 25 years of age, whereas women are usually diagnosed between 25 and the mid-30s. Schizophrenia has subtypes such as Paranoid, Disorganized, Catatonic, Undifferentiated, and Residual (American Psychiatric Association [APA], 2000). Symptoms associated with schizophrenia include delusions (false beliefs), hallucinations (hearing or seeing things that are not real), disorganized speech, grossly disorganized or catatonic behavior, and other negative symptoms. Antipsychotic medications treat either the positive symptoms or positive and negative symptoms of schizophrenia. Typical or first generation antipsychotics treat positive symptoms, and atypical or SGAs treat positive and negative symptoms. Positive symptoms are due to an excess in the neurotransmitter, dopamine, and symptoms exhibited by the patient include hallucinations, delusions, thought disturbances, and thought disorganization with bizarre behaviors. Negative symptoms are a result of a decrease in dopamine, and patients' symptoms may include a flat or blunted affect, anhedonia (inability to experience pleasure), apathy, ambivalence, alogia (paucity of thought), and avolition (inability to focus).

Patients with schizophrenia who take SGAs are more likely to die from cardiovascular illness and are at greater risk for other medical comorbidities including obesity, diabetes type 2 (elevated blood glucose), hypertension (elevated blood pressure), and dyslipidemias (low HDL and elevated triglycerides) (Lean & Pajonk, 2003). Cardiovascular risk factors increased in schizophrenia patients include smoking and high

fat diet (Lean & Pajonk, 2003). Many of the SGAs induce weight gain, which increases the risk for cardiovascular disease and metabolic syndrome (Gautam & Meena, 2011; Keltner, 2006). Metabolic syndrome is a medical term used to describe a multisystem disorder. Risk factors associated with metabolic syndrome, such as obesity, hypertension, dyslipidemia, and insulin resistance or diabetes mellitus, together increase the risk of cardiovascular disease and death (Casey, 2005). Cardiovascular disease risk is two to four times higher in schizophrenia patients than those adults without diabetes mellitus (Center for Disease Control and Prevention [CDC], 2011).

Lack of CPD education regarding SGAs at a regional state acute care psychiatric hospital limits the PMH staff nurses' ability to provide care for patients with or at risk for metabolic syndrome and other medical problems. Many patients served at this project's acute care psychiatric hospital have developed metabolic syndrome and medical problems such as diabetes mellitus because of taking SGAs. In conducting a needs assessment at the hospital regarding the nurses' knowledge of SGAs and monitoring for metabolic syndrome, barriers have been identified related to implementing the current SGA protocol. The hospital's current SGA protocol outlines procedures to be completed by the PMH staff nurse when monitoring patients for metabolic syndrome: (1) weekly weights, (2) fasting plasma glucose, lipid profile, and serum amylase baseline and every three months, and (3) obtaining and documenting family history of diabetes mellitus when the patient is admitted to the hospital. The health care provider (HCP) orders laboratory tests (i.e., fasting plasma glucose, lipid profile, and serum amylase) every three months for patients taking SGAs. PMH staff nurses are responsible for monitoring lab results and notifying the patient's HCP of any abnormal results. Monitoring for metabolic syndrome, understanding the need to measure the patient's abdominal girth and

blood pressure, and teaching the patient lifestyle changes were also inconsistently addressed by the nurses. The nurses sometimes failed to monitor or report abnormal laboratory results to the HCP, warranting education regarding the importance of reviewing laboratory results and reporting abnormal results to the patient's HCP.

Staff nurses are not being educated on evidence-based practices to provide care and teaching to patients with schizophrenia. Moreover, the PMH staff nurses at the hospital tend to be less aware of metabolic syndrome and the medical problems associated with SGAs. The PMH staff nurses at the acute care hospital expressed interest in additional education and training on how to educate patients at the acute care hospital diagnosed with schizophrenia and taking SGAs. After meeting with the chief nurse at the hospital, additional knowledge deficits were identified to address with the acute care PMH staff nurses. Education on the schizophrenia disease process, SGAs prescribed for schizophrenia, and metabolic syndrome associated with SGAs was recommended. Professional development provided for the PMH staff nurses annually by the hospital's nurse educator includes a limited overview of SGAs, metabolic syndrome, and medication education for patients taking SGAs. PMH staff nurses at the hospital are scheduled to provide a medication and health group once a week; however, groups are not being done weekly as per protocol. In addition, groups for patients are limited due to a lack of education and training provided for the nurses. Development of a CPD will increase the PMH staff nurses knowledge on schizophrenia and SGAs in order to provide weekly medication education groups as recommended per protocol.

By educating and training PMH staff nurses, the expected outcome is that patients' awareness of medications prescribed and their potential adverse effects will in turn increase. When discharged from the acute care psychiatric hospital, hopefully,

patient compliance with continuous treatment from outpatient mental health centers will improve. In addition, the patient may ultimately be able to lead productive lives in the community.

PMH staff nurses working in acute care psychiatric hospitals provide care for patients with comorbid medical illness in addition to psychiatric diagnoses. Nurses need to be educated on SGAs and carefully monitor patients for metabolic syndrome to provide cost effective and evidence-based care. More importantly, PMH staff nurses are educated in the art and science of nursing in order to help the patient maintain and restore health (American Nurses Association [ANA], 2007). Practice focus is on direct patient care of patients in clinical settings. When treating patients with schizophrenia, PMH staff nurse must implement a treatment plan, develop a therapeutic alliance, promote treatment adherence by assessing patient insights about their illnesses, identify cognitive impairment barriers and provide education to patient and family (American Psychiatric Association [APA], 2004). Specifically, in this facility, direct patient care includes providing medication education to patients in group settings. CPD provided to acute care PMH staff nurses should include but not be limited to knowledge of schizophrenia, SGAs, SGA adverse effects, and interventions to monitor for SGA adverse effect.

Relevant Literature

A systematic literature review was conducted to guide the design and implementation of an educational program for acute care PMH staff nurses caring for patients who are taking SGAs in an acute care psychiatric hospital. The literature search was conducted utilizing Cumulative Index of Nursing and Allied Health Literature (CINAHL), Academic Search Premier, Google Scholar, Medline, PsychINFO, ScienceDirect, and other evidence-based resources. Key terms used in the literature

search were *acute care mental health hospital*, *acute care mental health nurses*, *continuous professional development*, *lifelong learning*, *metabolic syndrome*, *obesity*, *schizophrenia*, *recovery model*, and *second-generation antipsychotics*.

Schizophrenia and Metabolic Syndrome

Correll, Fredrickson, Kane, and Manu (2008) examined SGA treatment in schizophrenia and mood disorders and effect on dyslipidemia, metabolic syndrome, and cardiovascular risk. The study compared 74 patients with bipolar disorder and 111 patients with schizophrenia receiving SGAs to determine whether metabolic syndrome prevalence is influenced by the primary psychiatric diagnosis or concomitant mood stabilizers. The study concluded that patients with schizophrenia as well as mood disorders treated with SGAs have similar episodes of metabolic syndrome.

Straker et al. (2005) explored the relationship between SGA and metabolic syndrome in 89 acute patients treated with at least one SGA by measuring waist circumference, blood pressure, blood glucose and lipids. Using these screenings tools makes detection of cardiovascular morbidity in high-risk patients simple and cost effective. Furthermore, this project educated nurses on the metabolic adverse effects of SGAs.

Ader et al. (2008) conducted a longitudinal study to examine the effects of atypical antipsychotics olanzapine (Zyprexa) and risperidone (Risperdal) on glucoregulatory function. A sample of 59 participants from seven U.S. clinical cities located in California, Georgia, Texas, and South Carolina were included in a six month randomized double blind trial. The sample included individuals between the ages of 18 and 65 years with a diagnosis of schizophrenia, schizoaffective or schizophreniform disorder who were psychiatrically stable and had no hospitalization three months prior to

screening. Results of the study were that risperdone and olanzapine increased body weight during the entire 24 week treatment period in the groups. The study was the first prospective assessment of olanzapine (Zyprexa) and risperidone (Risperdal) effects on adiposity and glucoregulatory function in overweight and obese schizophrenia patients and showed a drug-induced weight gain among the subjects. Although the results of the randomized double blind trial indicated that African Americans and Hispanics have an increased risk for diabetes type 2 compared to non-Hispanic Caucasians in the study, pre-existing risk factors were not examined.

Components of this educational project addressed schizophrenia, SGAs, adverse effects of specific SGAs, and interventions geared to individuals who are at increased risk for metabolic syndrome and complications of metabolic syndrome. Patients with schizophrenia need an integrated and holistic approach to their care that encompasses mental and physical healthcare needs. Promoting healthy lifestyles and monitoring for medication side effects, especially if receiving SGAs, are as important as treating the positive and negative symptoms of schizophrenia because if untreated the symptoms worsen (Llorca, 2008). Therefore, nurses should be aware of the adverse effects of SGAs including metabolic syndrome and the physical health problems associated with metabolic syndrome to educate and monitor patients.

Second-Generation Antipsychotic Medications

In a meta-analysis, Rummel-Kluge et al. (2010) compared metabolic adverse effects of seven SGAs (apripirazole [Abilify], amisulpride [Solian], olanzapine [Zyprexa], quetiapine [Seroquel], risperidone [Risperdal], sertindole [Serdolect] and ziprasidone [Geodon]). The meta-analysis examined weight change as well as blood cholesterol and glucose levels. Randomized blinded trials (N = 48) were reviewed to

compare metabolic adverse effects of the SGAs including amisulpride (n = 6), apriprazole (n = 5), clozapine (n = 11), olanzapine (n = 37), quetiapine (n = 11), risperidone (n = 28), sertindole (n = 1) and ziprasidone (n = 6). The study concluded that olanzapine showed more weight, cholesterol, and glucose elevation than the other SGAs. The study also showed cardiovascular risk factors such as dyslipidemia, smoking, obesity, diabetes, and hypertension are more common in patients with schizophrenia.

Krakowski, Czobor, and Citrome (2009) assessed the association of weight gain as well as increased lipids and blood glucose levels with typical antipsychotics and atypical antipsychotics in patients diagnosed with schizophrenia, schizoaffective disorders, and with a history of physical assault in a state hospital. The randomized double blind study showed a significant difference in weight gain, as well as blood glucose and lipids increases between clozapine and olanzapine. Patients receiving olanzapine gained the most weight; however, patients receiving clozapine had increased risk for elevated cholesterol, triglyceride, and glucose. African American patients gained more weight taking olanzapine and were more likely to develop metabolic adverse effects than Caucasians or Hispanics taking clozapine.

Edward et al. (2010) summarized research studies to inform novice and experienced nurses of knowledge needed to provide care to patients treated with atypical antipsychotics medication as well as inform patients of the risk for developing metabolic disorders. Assessment, planning, intervention, and evaluation of patients treated with antipsychotic medications need to be incorporated in day-to-day nursing care. Assessment and interventions include monitoring for metabolic side effects and education on the metabolic side effects associated with SGAs.

Metabolic Syndrome

Llorente and Urrutia (2006) explored the complex relationship among psychiatric disorders, antipsychotic medications, and risk factors for metabolic syndrome and diabetes mellitus. Findings indicated that the prevalence of diabetes mellitus and its risk factors are two to four times higher in people with schizophrenia than in the general population. An estimate showed that 16% to 25% of people with schizophrenia have diabetes mellitus. Additionally, SGAs have contributed to obesity. SGA medication use is increasing, and they are associated with an increased risk of weight gain, diabetes, and dyslipidemia. Screening for cardiovascular disease and metabolic risk factors is important with SGAs. Baseline screening should be completed on all patients and should include personal and family history of diabetes mellitus, blood pressure, fasting glucose, and serum lipids. Approaches to decrease diabetes mellitus risk include diet and exercise counseling and managing blood pressure and cholesterol levels.

Usher, Foster, and Park (2006) stressed the importance of PMH nurses' role in prevention and ongoing management of patients taking SGAs. They suggested that PMH staff nurses must become aware of metabolic syndrome, its association with SGAs, and its implications first. With increased metabolic syndrome awareness, PMH staff nurses can assist in early symptom detection and have an increased understanding of ongoing monitoring and treatment needs. Metabolic syndrome awareness will guide PMH staff nurses in educating patients about potential metabolic syndrome associated with SGAs.

Continuing professional development

Continuing professional development (CPD) is defined as a process of lifelong learning for individuals and teams and, in CPD, the U.S. government focuses on outcomes (Hughes, 2005). CPD aims to meet patient needs and promote healthy patient

outcomes. CPD education among PMH staff nurses is lacking (Hughes, 2005). CPD for PMH staff nurses improves and broadens knowledge and skills required for patient care in acute care psychiatric hospitals. CPD is a requirement for acute care PMH staff nurses to develop and promote healthy outcomes for patients receiving SGAs. Providing education to staff nurses caring for patients with or at risk for metabolic syndrome associated with SGAs is important to ensure adherence to evidence-based treatment protocols.

Cleary, Horsfall, O'Hara-Aarons, Jackson, and Hunt (2011) conducted a qualitative study to determine clinical PMH nurses' views and preferences about CPD. In this study, nurses (N = 50) from inpatient mental health units were interviewed face-to-face. An experienced PMH nurse conducted the study over three weeks by rounding on the units three to four times a week. Face-to-face interviews (N = 50) with structured questions were completed with the nurses in order to gain an understanding of the nurses' perceptions on mental health services and professional development. The majority of the participants (n = 47) were registered nurses (RNs), three of which were experienced nurses, and, of the 50 participants, four were nurse managers or Clinical Nurse Specialists. The results indicated nurses value CPD and sought out more opportunities to participate. Nurses expressed desire for CPD and for CPD to be further studied. These results are not only timely given the requirements around CPD, but are also important to drive improvements in quality CPD in which nurses prioritize, discuss, and agree on needs. Study limitations included sampling nurses from one large mental health inpatient setting for interviews.

In conclusion, the review of the literature revealed that patients' psychiatric as well as comorbid medical diagnoses need to be closely monitored while receiving SGAs.

PMH staff nurses are obligated to become familiar with assessment and management of metabolic syndrome to facilitate improvement in the quality of life for patients with or at risk for metabolic syndrome. Failure to recognize metabolic manifestations can increase complication risks in the patient. Additionally, the development and implementation of a CPD education program designed to make a significant impact on the care quality provided to patients with or at risk for metabolic disorders associated with SGAs will be beneficial to PMH staff nurses. Finally, PMH staff nurses value this CPD.

Theoretical Background

The recovery model served as the framework that guided this project's design. In this model, nurses are empowered to help patients set goals for their recoveries with medication and lifestyles management (Camann, 2010). The recovery model acknowledges vulnerabilities associated with mental illness while building strength that empowers patients to set goals for recovery. The recovery model focuses on self-direction, individualized and person-centered care, self-determination and choice, motivation, acceptance, and recovery support. The recovery model guided the PMH staff nurses in educating the patients on schizophrenia, administering medication, and identifying adverse effects of medication. Educating patients on metabolic syndrome associated with SGAs will decrease the risk of diabetes mellitus, cardiovascular disorders, dyslipidemia, and obesity. Promoting recovery for patients in this project was accomplished by increasing PMH staff nurses' knowledge so that they can provide education to patients taking SGAs and setting patient goals for recovery. Furthermore, PMH staff nurses supported recovery for the patients by providing education on schizophrenia, treatment of schizophrenia with SGAs, metabolic syndrome, and healthy lifestyle.

Treatment for schizophrenia occurs in three phases: acute, stabilization, and stable (APA, 2004). The goal in the acute phase is to reduce agitation and aggression, prevent harm during an acute psychotic episode, identify precipitating factors, and return the patient to the best functioning level. During the acute phase, the reason for exacerbation of symptoms is determined. Laboratory and diagnostic tests such as complete blood count, electrolytes, glucose, liver, renal, prolactin, lipid panel, thyroid function test, urine toxicology screen, and electrocardiogram are performed. PMH staff nurses need to assess baseline signs, symptoms, and laboratory values relevant to monitoring effects of antipsychotic medications during the acute phase. Weight, height, body mass index (BMI) measurement, diabetes mellitus risk factor screening, and SGAs adverse effects monitoring by the PMH staff nurse is critical.

During the stabilization phase, teaching is implemented to minimize stress on the patient and provide support to minimize relapse. The PMH staff nurse assesses for SGAs adverse effects and provides patient education regarding schizophrenia and the importance of treatment. Finally, the nurse monitors the patient's weight, blood glucose, and other laboratory tests for increased diabetes mellitus and cardiovascular risk during the stable phase of schizophrenia.

Meeting the Doctor in Nursing Practice (DNP) Essentials

Design and implementation of an evidence-based program is an essential role of the Advanced Practice Registered Nurse (APRN) with a Doctor of Nursing Practice (DNP) degree (American Association of Colleges of Nursing [AACN], 2006). The DNP *Essentials of Doctoral Education for Advanced Practice Nursing* (AACN, 2006*)* are met through development, implementation, and evaluation of new practice based on evidence-based knowledge, organizational and systems leadership, clinical scholarship for

evidence-based practice, information systems and technology for the improvement and transformation of health care, advocacy in health care, interprofessional collaboration to improve patient outcomes, clinical prevention and population health, and advanced nursing practice (Appendix A).

This project offered the opportunity to provide education to acute care PMH staff nurses. The information obtained through the evidence-based CPD education program enhanced the knowledge of acute care PMH staff nurses providing care for patients taking SGAs with or at risk for metabolic syndrome. The design and implementation of a CPD education program on SGAs provided for the PMH staff nurses may also lead to increased patient knowledge and decreased health care costs at the acute care hospital.

Advanced practice nurses apply knowledge, skills, and experience to mental health problems in order to promote mental health (ANA, 2007). As nurses' knowledge is enhanced, the expected outcome is that the delivery of care provided to the patients will improve. As a psychiatric and mental health nurse practitioner (PMHNP), implementing an educational program will improve health outcomes, sustain clinical care, eliminate health disparities, and promote patient safety and excellence in care. The PMHNP assumed the leadership role to enhance the knowledge of the collaborative team and promote positive patient outcomes. Training provided to PMH staff nurses will translate to education provided to patients who are taking SGAs.

The DNP prepared PMH APRN as an effective leader within organizations possesses the traits of honesty, integrity, flexibility, and has the ability to lead change initiatives and to improve the quality of care provided to patients. Furthermore, positive outcomes from the intercollaborative efforts may lead to improvement in the health, well-being, and quality of life for patients receiving SGAs in an acute care psychiatric

hospital.

PMH staff nurses face a challenge when caring for patients taking SGAs secondary to the metabolic side effects. Many of the patients served at an acute care psychiatric hospital have developed metabolic side effects such as diabetes mellitus secondary to SGAs. Therefore, PMH staff nurses employed at the acute care hospital need to be knowledgeable regarding SGAs and metabolic syndrome as well as the concern that SGAs contribute to medical problems. Increasing nurses' SGA knowledge will translate to practice as the nurses provide education to patients.

Objectives

This project's goal was to design and implement a CPD program on SGAs for a cohort of acute care PMH staff nurses using information and communication technologies. Specific objectives of the evidence-based program included (1) examine PMH staff nurses' knowledge of treatment guidelines for schizophrenia and SGAs; (2) provide education on schizophrenia, SGAs, and metabolic syndrome; and (3) provide CPD training modules on schizophrenia and SGAs electronically for PMH staff nurses in an acute care mental health hospital.

This project's potential implication are that acute care PMH staff nurses will have the knowledge not only to provide medication education to patients who are taking SGAs in acute care psychiatric hospitals, but also to monitor and care for patients with or at risk for metabolic syndrome associated with taking SGA medications. Additionally, the program will be incorporated electronically into new nurse orientation, and competency will be determined by completion of the program by all nurses yearly. The CPD educational program will be updated quarterly by the DNP graduate based on scientific evidence. Professional development will be continuous to maintain the knowledge of

nurses and members of other professional disciplines caring for patients hospitalized in an acute care psychiatric hospital. This education can be provided on other health problems that are specific to patients diagnosed with psychiatric disorders.

The PMHNP DNP student assumed the role as leader in this practice change initiative in order to enhance the knowledge of staff nurses and improve patient outcomes. The DNP prepared PMH advanced practice nurse's role is an advocate and consultant for other PMH nurses including support for lifelong learning that incorporates accountability for practice. The hospital director and chief nurse were notified of the project and the project leader was given approval to design and implement a one day evidence-based training module for acute care PMH staff nurses.

CHAPTER II

METHODS

The purpose of this project was to provide a CPD program for PMH staff nurses targeting schizophrenia and SGAs. An integrated and holistic approach that encompasses mental and physical health care needs of patients hospitalized in an acute care psychiatric hospital was implemented. The educational intervention was designed and implemented by the project leader for the PMH acute care staff nurses. The intervention was delivered at an acute care state psychiatric hospital. A letter requesting permission to implement an educational project for PMH staff nurses was provided to the hospital director for approval (Appendix B), and approval was received from the hospital director to conduct the project (Appendix C). After obtaining approval from the Institutional Review Board (IRB) at The University of Southern Mississippi (Appendix D) the educational intervention for PMH staff nurses was presented in July 2012 at an acute care mental health hospital.

Setting

The 180 bed acute care psychiatric hospital in East Central Mississippi provides care to more than 500 patients each year and includes nine units: (a) one stabilization male unit, (b) one observation male unit, (c) two specialty male units, (d) one vulnerable male unit, (e) one transition male unit, (f) one observation/stabilization female unit, (g) one vulnerable female unit, and (h) one transition female unit.

Population

Participants were staff nurses (N = 10) from the various units. Eligibility criteria included full time employment as a RN or Licensed Practical Nurse (LPN) providing care for patients on one of the nine units and who worked the 7:00 a.m. to 7:00 p.m. shift. The

project excluded PMH staff nurses who worked on the chemical dependency unit or who worked the 7:00 p.m. to 7:00 a.m. shift because medication groups we conducted during (7:00 a.m. – 7:00 p.m. week days).

Data Collection and Procedures

An evidence-based CPD educational program on SGAs was developed and provided to a group of PMH staff nurses who worked in an acute care psychiatric facility. PMH staff nurses were recruited by placing a flyer (Appendix E) on each unit four weeks before delivery of the educational intervention. Prior to the scheduled date for the training module RNs and LPNs were notified by the chief nurse. Two weeks prior to implementation of the intervention the chief nurse notified the professional development director with the number of participants for the educational program. The professional development director scheduled the PMH staff nurses to attend the educational program. After obtaining the number of potential participants, the project leader notified the chief nurse and professional development director of the scheduled day for the evidence-based program. The chief nurse notified potential participants from various units regarding the scheduled date for the one day program.

On the day of the program delivery, a convenience sample of PMH staff nurses (N = 10) attended the CPD program in the professional development room of the hospital. Participants were provided snacks prior to implementation of the CPD program. Prior to the educational intervention, the project leader read an oral presentation to the potential participants that described the purpose of the one day evidence-based program (Appendix F) and provided a copy of the oral presentation to participants. Participants were given the opportunity to ask questions prior to providing informed written consent to participate in the program. Participants were then given a consent form (Appendix G).

The participants returned the signed consent forms, and the project leader placed the signed forms in a locked box. Five RNs and five LPNs were provided the evidence-based intervention after obtaining informed consent. The participants were then given a sealed packet containing a pretest, posttest, demographic survey, and evaluation form with a two digit code provided by the project leader. The code was the identifier for each PMH staff nurse participating in the educational program and allowed for tracking of data across participants.

Prior to implementation of the evidence-based intervention the participants were asked to complete a demographic survey form (Appendix H) and a pretest (Appendix I) developed by the project leader. The demographic survey collected information regarding age, gender, race, occupation, and years of experience as a PMH staff nurse. The pretest assessed knowledge of schizophrenia, SGAs, metabolic syndrome associated with SGAs, and SGAs adverse effects. After participants completed the pretest and demographic survey participants placed surveys in a sealed envelope and returned the sealed envelope to the project leader, who placed it in the locked box.

The evidence-based training program was implemented for the PMH staff nurses following collection of the demographic surveys and pretests. The PMH staff nurses were educated on schizophrenia, schizophrenia and SGAs, SGAs adverse effects, metabolic syndrome monitoring, and educating patients on schizophrenia, SGAs, and metabolic syndrome. The educational program was delivered via PowerPoint presentation. After completion of the educational program, the participants completed a posttest (Appendix I) and a program evaluation form (Appendix J). The posttest and evaluation forms were returned in separate sealed envelopes to the project leader, who placed them in the locked box.

Design

The evaluation of this educational project for PMH staff nurses in an acute care hospital was a pre and posttest design. A pre and posttest design was used to evaluate knowledge attainment as a result of an evidence-based CPD educational program. Formative process measures included a demographic survey and a program evaluation form to inform future program implementation.

Demographic Data

The demographic survey asked participants to choose from categories that described their age, gender, race, occupation, and years of experience as a PMH staff nurse.

Pretest and Posttest

The one day educational program was evaluated by assessing acute care PMH staff nurses' knowledge of the intervention through a pre and posttest (Appendix I) design that measured knowledge of schizophrenia, SGAs, metabolic syndrome associated with SGAs, and SGAs adverse effects. The pre and posttest consisted of 20 multiple choice and true/false questions from the evidence-based training program.

Program Evaluation

The evaluation of the evidence-based intervention and the presenter was measured on a 5-point Likert scale (Appendix J). The Likert scale ranged from one to five, corresponding respectively with strongly agree to strongly disagree. The Likert scale rated the participants' understanding and delivery of the intervention.

Ethical and Human Subject Issues

The risk to participants was minimal in this project. The participants were volunteers and not penalized for withdrawal of the project. The participants'

confidentiality and anonymity were protected by placing data collection forms in sealed envelopes and in a locked box. Access to the collected data was available to the project leader only. After the project's completion, data collection forms were shredded.

Data Analysis

The data from this project included demographic data as well as pretests and posttests that were analyzed using paired samples statistics and paired samples tests to assess the effectiveness of the intervention on PMH staff nurses knowledge. The educational program, as well as the presenter, was evaluated by the participants completing a 5-point Likert questionaire. Program evaluation on education of the PMH staff nurses on symptoms of schizophrenia, identifying SGA medication, adverse effects, understanding metabolic syndrome, attending more CPD programs, and presenter knowledge about SGAs and metabolic syndrome were analyzed using descriptive statistics.

CHAPTER III

RESULTS

The goals of the evidence-based program were to (1) examine PMH staff nurses' knowledge of treatment guidelines for schizophrenia and SGAs; (2) provide education on schizophrenia, SGAs, and metabolic syndrome; and (3) provide continuous professional development training modules on schizophrenia and SGAs electronically for PMH staff nurses in an acute care mental health hospital.

Analysis of Data

Demographic Survey

Twenty potential participants notified the chief nurse of their interest in participating in the educational program. Ten PMH staff nurses attended and consented to participate in the educational program. Demographic data for gender, age, race/ethnic origin, occupation, and years of experience as a PMH staff nurse was analyzed using descriptive statistics. Table 1 shows a summary of demographic data.

Table 1

Demographic Data Summary

Variables	N/Percentage
Gender	
Females	80% (n = 8)
Males	20% (n = 2)
Age	
21-29	30% (n = 3)
30-39	40% (n = 4)
40-49	30% (n = 3)
Race/Ethnic Origin	
African American	50% (n = 5)

Table 1 (continued).

Variables	N/Percentages
Caucasian	40% (n = 4)
Asian/Pacific Islander	10% (n = 1)
Occupation	
Licensed Practical Nurse	50% (n = 5)
Registered Nurse	50% (n = 5)
Years experienced as PMH staff Nurse	30% (n = 3)
Less than one year	40% (n = 4)
1-5 years	20% (n = 2)
5-10 years	10% (n = 1)
10-15 years	

The majority of the nurses represented were females (n = 8; 80%). The total number of participants (n = 10) was comprised of RNs (n = 5) and LPNs (n = 5). Half (n = 5) of the participants were African Americans, and the only male represented was an Asian/Pacific/Islander. Of the nurses represented 70% (n = 7) had less than five years of experience. Participants in the project ranged from 21 years to 49 years of age.

Pretest/Posttest Evaluation

The PMH staff nurses' knowledge regarding schizophrenia, schizophrenia and SGAs, SGAs adverse effects, monitoring for metabolic syndrome, as well as educating patients on schizophrenia, SGAs, and metabolic syndrome was measured prior to and after implementation of the educational program. The pretest and posttest consisted of 20 identical multiple choice and true/false questions. Each correct answer on the test was worth 5 points for a total of 100 points. The participants' pretest scores ranged from 40 to 80 and posttest scores ranged from 65 to 100. Pretest and posttest data was analyzed with

each participant's overall score using paired t-test sample statistics and paired sample test. A statistically significant change in the knowledge enhancement among the 10 PMH staff nurses after the implementation of the evidence-based educational intervention was noted ($t(9) = 5.395$, $p < .001$). The posttest scores were significantly higher than the pretest (Tables 2 and 3).

Table 2

Pretest, Posttest Paired Sample Statistics

Paired Sample Statistics

	Mean	N	*SD*	*SEM*
Pretest	63.5	10	11.32	3.6
Posttest	89.5	10	11.17	3.5

Note. *SD* = standard deviation. *SEM* = standard error of the mean

Table 3

Paired Samples Test

	Mean	*SD*	*SEM*	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
				Lower	Upper			
Pair1 pre/ post	-26.00000	15.23884	4.81894	-36.90121	-15.09879	-5.395	9	.000

Note. *SD* = standard deviation. *SEM* = standard error of the mean. t = t-test statistic. *df* = Degrees of freedom.

Evaluation Plan

Program Evaluation

All participants strongly agreed that they could identify schizophrenia symptoms and identify SGA medications. Ninety percent (n = 9) of participants stated the

educational intervention provided them with knowledge to educate patients with a diagnosis of schizophrenia about SGAs. The majority (n = 8, 80%) of participants were able to identify, monitor, and educate patients on adverse effects associated with SGAs and metabolic syndrome. All of the participants strongly agreed that a CPD program is needed to enhance the knowledge of PMH staff nurses caring for patients with schizophrenia (Table 4). An evaluation form using a 5-point Likert scale was analyzed using descriptive statistic. Table 4 shows data responses from PMH staff nurses on a 5-point Likert scale.

Table 4

5-Point Likert Program Evaluation

	Strongly Agree Percentages	Somewhat Agree Percentages	Neutral/No Opinion Percentages	Somewhat Disagree Percentages	Strongly Disagree Percentages
Can identify symptoms of schizophrenia	100% (n = 10)				
Can identify second-generation antipsychotics (SGAs)	80% (n = 8)	20% (n = 2)			
Can identify adverse effects of SGAs	80% (n =8)	20% (n = 2)			
Understanding of metabolic syndrome	100% (n = 10)				
Attend more CPD programs and hospital intranet to gain information on SGAs	100% (n = 10)				

Table 4 (continued).

Presenter knowledgeable on SGAs and metabolic syndrome	100% (n = 10)

Written comments on the educational project evaluation form were provided by six participants and include (1) “I obtain [sic] a lot of useful information. Thanks,” (2) “I learned so much. You did an excellent job,” (3) “Great job I gained much knowledge,” (4) “This presentation was very informative. Excellent job,” (5) “I gained a lot of information and will apply the knowledge when caring for my patients,” and (6) “I am a new nurse in mental health and this information really did increase my knowledge on schizophrenia and metabolic syndrome. I was not aware of the many complications with SGAs.”

After completion of the evidence-based training program and evaluation of the program, the modules were incorporated into new nurse orientation and placed on the hospital’s intranet to be completed online by all nurses yearly. The modules will be updated quarterly by the DNP graduate based on scientific evidence. The program was evaluated for effectiveness with the goal of enhancing acute care PMH staff nurses’ knowledge of SGAs (Appendix K).

CHAPTER IV

DISCUSSION

The project examined PMH staff nurses' knowledge of schizophrenia and SGAs, and provided education on schizophrenia and SGAs. In addition, the CPD program was evaluated prior to developing electronic training modules on schizophrenia and SGAs for PMH staff nurses in an acute care mental health hospital. The majority of the participants scored lower on the pretest than on the posttest, indicating knowledge attainment as a result of the education program. Participants' scores increased 10 to 20 points after implementation of the CPD program; therefore, it is noted that the intervention enhanced knowledge to not only provide medication education to patients taking SGAs, but also to monitor and care for patients with or at risk for metabolic syndrome. Lastly, the practice change initiative project provided CPD training modules on schizophrenia and SGAs electronically for PMH staff nurses in an acute care mental hospital.

Patients with a diagnosis of schizophrenia who take SGA medications to treat the symptoms of schizophrenia need to be routinely monitored for metabolic syndrome. Meyers and Stahl (2009) found that schizophrenia patients have an increased risk for cardiovascular disease secondary to lifestyle, disease process, and action of medication prescribed. It is vital that mental health providers and PMH acute care staff nurses screen patients taking SGAs for metabolic disorder in order to decrease risk for cardiovascular disease. More importantly, Straker et al. (2005) found that screening is simple and cost-effective in detecting for cardiovascular disease in high-risk patients. Although CPD education among PMH staff nurses is lacking (Hughes, 2005), PMH staff nurses were able to identify schizophrenia manifestations after delivery of the educational program for this project. PMH staff nurses were also able to identify SGA medications and their

adverse effects. Specifically, the project increased the nurses' understanding of metabolic syndrome associated with SGAs. A statistically significant change in the knowledge enhancement among the PMH staff nurses after the implementation of the evidence-based educational intervention was noted. Cleary et al. (2011) determined that professional education has the potential to improve job satisfaction and positively influence patient care. Educating PMH staff nurses on schizophrenia, SGAs, metabolic syndrome associated with SGAs, and SGAs adverse effects may improve the quality of care provided to the patients. The educational program provided a building block for educational preparation for PMH staff nurses to educate their patients. PMH staff nurses were provided knowledge to guide patients about making healthy lifestyle choices to improve quality of life.

The CPD educational intervention was limited to a six hour program for PMH staff nurses at a single mental health hospital in East Central Mississippi. The sample size was rather smaller than expected for the program. Participation in the program may have been low because the PMH staff nurses who worked 7:00 p.m. to 7:00 a.m. were excluded from the program. On the day of the program delivery, attendance was also low because PMH staff nurses who had originally expressed interest in attending the program had to accompany patients to a cookout provided by the hospital. More efforts should be put into recruitment in the future such as spending time with PMH staff nurses on the other shift and providing the educational intervention at a time that is convenient for the hospital and PMH staff nurses on both shifts. The CPD intervention should be delivered to members of other disciplines in the hospital, including social workers, psychology workers, recreational workers, and direct care workers. The modules should also be made available regionally and state wide for acute care PMH staff nurses at other acute care

mental health hospitals. The DNP graduate will continue to be the driving force to provide education to PMH staff nurses as well as other interdisciplinary team members to help patients understand illness and lifestyles changes.

When looking at demographic characteristics of the participants, a majority of the participants were females and had been employed between one and five years as PMH staff nurses. A need to incorporate the CPD program into the new employee orientation for nurses who lack experience was identified. The PMH staff nurses receive educational training regarding schizophrenia and SGAs once a year; however, training on metabolic syndrome is lacking. In evaluating the CPD program, all of the participants strongly agreed that CPD programs are needed. Providing CPD training on the hospital's intranet on schizophrenia and metabolic syndrome enhances the PMH staff nurses' knowledge. The CPD education program was designed to make a significant impact on the quality of care provided to patients with or at risk for metabolic disorders associated with SGAs.

The framework used for this project was the recovery model to empower nurses to help patients set goals for their recoveries through medication and lifestyle management (U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration Center for Mental Health Services [SAMHSA], 2006). The project leader's mental health knowledge directed the design, implementation, and evaluation of the evidenced-based educational intervention for PMH staff nurses. The PMHNP DNP student assumed the role as leader in this practice change initiative in order to enhance the knowledge of staff nurses and improve patient outcomes. A knowledge and practice gap in providing care to the patients with metabolic syndrome associated with SGAs exists in the acute care mental health hospital between PMH staff nurses and continuing professional development. Therefore, CPD training modules on schizophrenia

and SGAs were placed electronically in an acute care mental health hospital for nurses to complete online yearly. Future plans include a quarterly update of the hospital's intranet modules based on scientific evidence. The DNP graduate will continue to monitor the implementation of the educational program in new nurse orientation for PMH staff nurses to see continuous success in gaining knowledge and needed areas of improvement.

Recommendations for further evaluation are to continue the DNP prepared PMH advanced practice nurses' role as advocate and consultant for other acute care PMH staff nurses including support for lifelong learning that incorporates accountability for practice in acute care psychiatric hospitals. The DNP graduate will provide CPD programs to maintain the knowledge of nurses and other professional disciplines caring for patients hospitalized in an acute care psychiatric hospital. Education provided to members of other disciplines including social workers, psychology workers, recreational workers, and direct care workers will be geared to providing evidence-based information relevant to their discipline. The DNP prepared advanced practice nurse will provide acute care PMH staff nurses with education on other health problems that are specific to individuals diagnosed with psychiatric disorder. In addition to providing ongoing education to acute care PMH staff nurses, the CPD programs on schizophrenia, SGAs, SGAs adverse effects, and metabolic syndrome will be provided to PMH staff nurses who work in the adolescent and nursing home services of the hospital. The DNP PMH advanced practice nurse will continue to be the driving force to enhance knowledge of other disciplines in helping to improve patient outcomes and decrease health care costs for patients taking SGAs with or without risk for metabolic syndrome. Long term goals are to promote a safe practice environment and improve health outcomes for patients with or at risk for metabolic syndrome. Early identification of SGAs adverse effects may decrease

metabolic syndrome, such as diabetes mellitus, obesity, and dyslipidemia, in patients with schizophrenia.

The implementation of the educational intervention enhanced acute care PMH staff nurses' knowledge in not only providing medication education to patients who are taking SGAs, but also in monitoring and caring for patients in an acute care psychiatric hospital with or at risk for metabolic syndrome associated with SGA medications. This project has provided a foundation for closing the gap between the PMH staff nurses' knowledge and professional development.

APPENDIX A

MEETING THE DOCTOR OF NURSING PRACTICE (DNP) ESSENTIALS

DNP Essentials	DNP Essential Outcome
Essential I – Scientific Underpinnings for practice	Utilized scientific evidence and the Recovery Model to develop, implement and evaluate a new practice approach, a continuous professional development educational intervention for acute care Psychiatric Mental Health staff nurses
Essential II – Organizational and System Leadership for Quality Improvement and Systems Thinking	Developed an educational intervention for psychiatric mental health staff nurses to increase their knowledge about schizophrenia and SGAs in order to ensure quality health care, patient safety, and positive outcomes for patients in an acute care mental health facility
Essential III – Clinical Scholarship and Analytical Methods for Evidence-Based Practice	Reviewed scientific literature databases and evidence-based treatment guidelines to design and implement an evidence-based intervention
Essential IV – Information Systems/Technology and Patient Care Technology for the improvement and Transformation Health Care	Assessed evidence-based information related to educating PMH staff nurses about SGAs and metabolic syndrome. Provided continuous professional development training modules on schizophrenia and SGAs electronically for PMH staff nurses in an acute care mental health hospital.
Essential V – Health Care Policy for Advocacy in Health Care	Assumed leadership in implementation of institutional policy. Assumed role of leader in educating PMH staff nurses on Recovery Model for educating patients to promote cost effective healthy outcomes. Influenced and advocated for safe cost effective care with positive outcomes for the adult client with a psychiatric diagnosis that is taking SGAs medication.
Essential VI – Interprofessional Collaboration for Improving Patient and Population Health Outcomes	Employed consultative and leadership skills with intraprofessional and interprofessional teams to create change in health care. Collaborated with the chief nurse and nurse educator to enhance knowledge to acute care PMH staff nurses to educate patients on schizophrenia, SGAs, metabolic syndrome associated with SGAs, and adverse effects of SGAs to generate positive outcomes.
Essential VII – Clinical Prevention and Population Health for Improving the Nation's Health	Analyzed current data to manage risk to schizophrenia patients taking SGAs. Interventions designed for acute care staff nurses caring for schizophrenic patients will enable patients to increase control over their health and

	address gaps between knowledge and practice related to individual care.
Essential VIII – Advanced Nursing Practice	Conducted a comprehensive and systematic assessment of systems issues to design and implement evidence-based training modules to enhance PMH staff nurses knowledge to not only educates but care for patients in an acute care mental health hospital. Provided guidance, mentoring, and support to acute care PMH staff nurses to achieve excellence in nursing practice. The project leader's role as consultant-liasion and expert mental health knowledge directed the design, implementation, and evaluation of the evidenced-based educational intervention for PMH staff nurses

Note. American Association of Colleges of Nursing, 2006

APPENDIX B

REQUEST FOR PERMISSION LETTER

Brenda Phillips
1901 34th Avenue
Meridian, MS 39301
March 1, 2012

[redacted]
Director East Mississippi State Hospital
4555 Highland Park Drive
Meridian, MS 39307

Dear Mr. [redacted]:

I am a student at the University of Southern Mississippi, Hattiesburg, MS pursuing a degree in the Doctor of Nursing Practice program. For my capstone project I would like to design and implement an educational program for the in-patient mental health nurses at the facility caring for patients on Second-Generation Atypical anti psychotics (SGA). The educational program will include knowledge of SGA anti psychotics, side effects of SGA antipsychotics and promote continuous professional development for the in-patient mental health nurses.

Verbal permission from you as well as the Chief Nurse has allowed me to do clinical hours at the facility. I have received verbal permission from the Chief Nurse to design and implement an educational program to the in-patient mental health nurses. Presently I am doing clinical hours at the mental health facility and will continue my clinical hours through the summer. I would like to implement the educational program in August, 2012.

Mental health nurses working in inpatient psychiatric facilities provide care for patients with comorbid medical illness in addition to psychiatric diagnoses. However, nurses' caring for mentally ill patients at the hospital lacks knowledge of metabolic disorders associated with SGA antipsychotics. The implementation of the educational program will enhance the knowledge of the nurses and improve the delivery of care provided to the patients.

If you have questions, please contact me by email at Lildoll841@aol.com or phone at (601) 513- 5482.

Sincerely,

Brenda Phillips, PMHNP-BC
USM Doctor of Nursing Practice Student

APPENDIX C

LETTER OF APPROVAL FROM DIRECTOR EAST MISSISSIPPI STATE HOSPITAL

EAST MISSISSIPPI STATE HOSPITAL
P.O. BOX 4128, WEST STATION, MERIDIAN, MISSISSIPPI 39304-4128

[redacted], Director
Ph. (601) 581-7600
Fax (601) 483-5543

April 16, 2012
Brenda Phillips
1901 34th Avenue
Meridian, MS 39301

Dear Ms. Phillips:

We are pleased to have you in our facility as well as to have your insight shared with our psychiatric mental health nurses. The design and implementation of your educational program on second-generation antipsychotics associated with metabolic syndrome will certainly benefit the nurses and the individuals we serve at our facility. Again, we are elated about the knowledge you will provide to us and are pleased to be a part of your program.

If I can provide any further information, please contact my office.

Respectfully,

[redacted]

[redacted]
Hospital Director

Appendix D

LETTER OF APPROVAL INSTITUTIONAL REVIEW BOARD

INSTITUTIONAL REVIEW BOARD

118 College Drive #5147 | Hattiesburg, MS 39406-0001 Phone: 601.266.6820 | Fax: 601.266.4377 | www.usm.edu/irb

NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

The risks to subjects are minimized. □The risks to subjects are reasonable in relation to the anticipated benefits. □The selection of subjects is equitable. □Informed consent is adequate and appropriately documented. □Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects. □Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data. □Appropriate additional safeguards have been included to protect vulnerable subjects. □Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. □This should be reported to the IRB Office via the "Adverse Effect Report Form". □If approved, the maximum period of approval is limited to twelve months.

Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: **12052303** □PROJECT TITLE: **Continuing Professional Development Program on Second Generation Antipsychotics for Acute Care Psychiatric-Mental Health Nurses** □PROJECT TYPE: **New Project** □RESEARCHER/S: **Brenda L. Phillips** □COLLEGE/DIVISION: **College of Health** □DEPARTMENT: **Nursing** □FUNDING AGENCY: **N/A** □IRB COMMITTEE ACTION: **Expedited Review Approval** □PERIOD OF PROJECT APPROVAL: **05/29/2012 to 05/28/2013**

Lawrence A. Hosman, Ph.D. Institutional Review Board Chair

APPENDIX E

RECRUITMENT FLYER

Continuing Professional Development Program on Second-Generation Antipsychotics for Acute Care Psychiatric-Mental Health Staff Nurses

Psychiatric-Mental Health Staff Nurses
Needed To
Participate in an Educational Project
In Professional Development
July 2012
If you are interested in participating, please inform the Chief

Nurse @ ext. 17821 or email: dnobles@emsh.ms.gov

APPENDIX F

ORAL PRESENTATION

Good afternoon. I am Brenda Phillips, a psychiatric mental health nurse practitioner and a Doctor of Nursing Practice student at The University of Southern Mississippi. Research has shown that metabolic syndrome is a problem with adult patients that take second-generation antipsychotics as pharmacological treatment for psychiatric diagnoses. Psychiatric-mental health nurses with limited knowledge of SGAs fail to understand the risk for metabolic syndrome with these medications.

The goal of this project is to design and implement a continuing education program on second-generation antipsychotics for a cohort of acute care psychiatric-mental health nurses. The evidence-based program will (1) examine PMH staff nurses' knowledge on education and treatment guidelines for schizophrenia and SGAs in an acute care mental health hospital, and (2) promote continuous professional development for PMH staff nurses in an acute care mental health hospital through providing training module on intranet to enhance knowledge for educating their patients. The participation in this program will take approximately one day.

You will be administered a pretest to assess knowledge of schizophrenia, second-generation antipsychotics (SGAs), metabolic syndrome associated with SGAs, and monitoring for metabolic syndrome and complications of metabolic syndrome. After taking the pretest, the pretest will be returned to the presenter and placed in a locked box where only the presenter will have access. The educational program will then be presented and consists of a PowerPoint presentation designed to enhance the knowledge of PMH staff nurse so that they can better educate hospitalized patients with schizophrenia on SGAs. At the end of the program, you will be administered a posttest to

assess the knowledge gained from the program and allowed to ask questions. You will be asked to evaluate the continuing professional development program and presenter.

The project will be an ongoing process for PMH staff nurses' to gain knowledge regarding mental illness associated with SGAs for the professional development department. The evidence-based program will enhance the knowledge of acute care psychiatric-mental health nurses providing medication education to patients taking SGAs. The risk to participants will be minimal in this program. You will not be penalized for withdrawal from program; however, you will be removed from program if not present for the entire day. You will be given an envelope with a code to assure confidentiality and anonymity during the program. You place the code on all information provide to you during the program. The data will be collected, placed in a locked box and kept with the researchers for 6 months and then discarded.

This project has been reviewed by the Institutional Review Board, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research participant should be directed to the Chair of the Institutional Review Board at the University of Southern Mississippi 601-266-6820. Participation in this project is completely voluntary, and participants may withdraw from this study at any time without penalty, prejudice, or loss of benefits. Any questions about the research should be directed to:

Anita Davis Boykins, DNSc, FNP-BC, PMHNP-BC
Assistant Professor, School of Nursing
University of Southern Mississippi
118 College Drive #5095
Hattiesburg, MS 39406-0001
Telephone: 601-266-5468
Fax: 601-266-6643
Anita.boykins@usm.edu

Brenda Phillips, MSN, RN, PMHNP-BC
DNP Student
University of Southern Mississippi
Brenda.phillips@usm.edu

APPENDIX G

WRITTEN INFORMED CONSENT
(Sample Consent Short Form — to be used with oral presentation)

THE UNIVERSITY OF SOUTHERN MISSISSIPPI

AUTHORIZATION TO PARTICIPATE IN RESEARCH PROJECT

Participant's Name _____

Consent is hereby given to participate in the research project entitled Continuing Professional Development Program on Second-Generation Antipsychotics for Acute Care Psychiatric-Mental Health Nurses. All procedures and/or investigations to be followed and their purpose, including any experimental procedures, were explained by Brenda Phillips. Information was given about all benefits, risks, inconveniences, or discomforts that might be expected.

The opportunity to ask questions regarding the research and procedures was given. Participation in the project is completely voluntary, and participants may withdraw at any time without penalty, prejudice, or loss of benefits. All personal information is strictly confidential, and no names will be disclosed. Any new information that develops during the project will be provided if that information may affect the willingness to continue participation in the project.

Questions concerning the research, at any time during or after the project, should be directed to Brenda Phillips, 601-513-5482. This project and this consent form have been reviewed by the Institutional Review Board, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research participant should be directed to the Chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive #5147, Hattiesburg, MS 39406-0001, (601) 266-6820.

_____ _____
Signature of participant Date

_____ _____
Signature of person explaining the study Date

APPENDIX H

DEMOGRAPHIC FORM

Please circle the appropriate letter.

1. Age:
   A. 20 – 29
   B. 30 – 39
   C. 40 - 49
   D. 50 – 59
   E. 60 or above

2. Gender:
   A. Male
   B. Female

3. Race:
   A. American Indian/Alaskan Native
   B. Asian/Pacific Islander
   C. African American/Non-Hispanic
   D. Caucasian/Non-Hispanic
   E. Hispanic
   F. Other _____

4. Occupation:
   A. Licensed Practical Nurse
   B. Registered Nurse

5. Years of experience as a Psychiatric-Mental Health staff nurse
   A. Less than 1 year
   B. 1 – 5 years
   C. 5 – 10 years
   D. 10- 15 years
   E. 15 years or above

APPENDIX I

Pretest/Posttest

Continuing Professional Development Program on Second-Generation Antipsychotics for Acute Care Psychiatric-Mental Health Staff Nurses

Place circle the appropriate answer.

_____1. Patients with schizophrenia receiving second-generation antipsychotics are more likely to die from which of the following:

a. Hypertension
b. Dyslipidemias
c. Cardiovascular Problems
d. Diabetes Type 2

_____2. Of patients who gained weight while receiving an atypical antipsychotic agent, patients with a _____ gained the most weight.

a. Body mass index (BMI 25.0-29.9)
b. Body mass index (BMI >30)
c. Body mass index (BMI <25)
d. Low serum cholesterol level

_____ 3. Which medications treat both positive and negative symptoms of schizophrenia?

a. Typical (first generation antipsychotics)
b. Haldol
c. Prolixin
d. Atypical (second generation antipsychotics)

_____ 4. The following medications are second-generation antipsychotics except:

a. Olanzapine (Zyprexa)
b. Apripiprazole (Abilify)
c. Loxapine (Loxitane)
d. Quetiapine (Seroguel)

_____ 5. All SGA medications have anticholinergic side effects.

True or False

_____ 6. All of the following medications have the potential for glucose and lipid abnormalities except:

a. Risperdone (Risperdal) and Quetiapine (Seroquel)
b. Ziprasidone (Geodon) and Olanzapine (Zyprexa)

c. Aripiprazole (Abilify) and Ziprasidone (Geodon)
d. Clozapine (Clozaril) and Olanzapine (Zyprexa)

_____ 7. Metabolic syndrome is a multisystem disorder associated with obesity, diabetes hypertension and dyslipidemia.

True or False

_____ 8. All of the following factors increase an individual with schizophrenia risk for metabolic syndrome **except:**

a. Increasing tendency of less physical activity
b. High caloric diet resulting in obesity
c. Small waist circumference
d. Adverse effects of SGA antipsychotics

_____ 9. The SGA which has the maximum potential to cause increase weight gain is:

a. Risperidone (Risperdal)
b. Olanzapine (Zyprexa)
c. Aripiprazole (Abilify)
d. Ziprasidone (Geodon)

_____ 10. The SGA which has the potential for increase cholesterol is:

a. Risperidone (Risperdal)
b. Olanzapine (Zyprexa)
c. Aripiprazole (Abilify)
d. Ziprasidone (Geodon)

_____11. What is a common adverse effect of second-generation antipsychotics?

a. High cholesterol level
b. weight gain
c. altered glucose intolerance and insulin secretion
d. All of the above

_____12. Continuing professional development is focused on outcomes and is defined as a process of lifelong learning for all individuals and teams.

True or False

_____13. Important topics that the psychiatric-mental health staff nurse should provide education on to patients taking SGAs include:

a. Healthy diet

b. Weight weekly
c. Moderate exercise
d. All of the above

_____14. Smoking and high fat diet are cardiovascular risk factor in patients with schizophrenia.

True or False

_____15. What phase of schizophrenia treatment should the nurse begin education about the course of the illness and importance of treating schizophrenia?

a. stable
b. acute
c. stabilization
d. transition

_____16. Which SGA has contributed to an increase of patients being diagnosed with or being at risk for developing Type 2 diabetes?

a. Depakote (Dapakene)
b. Olanzapine (Zyprexa)
c. Quetiapine (Seroquel)
d. Chlorpromazine (Thorazine)

_____17. Patients' with schizophrenia psychiatric as well as comorbid medical illnesses need to be monitored by PMH staff nurses while receiving SGA.

True or False

_____ 18. Dyslipidemia includes:

a. High triglycerides
b. Low HDL cholesterol
c. High blood pressure
d. a & b

_____19. All labs except the following are to be obtain baseline and every three (3) months for patients taking SGAs.

a. Fasting plasma glucose
b. Fasting serum lipid
c. Serum amylase
d. Prothrombin

_____20. The neurotransmitter deregulations theory of the etiology of psychotic disorders such as schizophrenia support that psychosis is caused, in part, by:

a. An excess of dopamine
b. A deficiency of dopamine
c. An imbalance of dopamine and GABA
d. Poor synaptic uptake of serotonin receptors

APPENDIX J

PROGRAM EVALUATION

Please evaluate the presentation by providing how well the program objectives were met using the following scale:

1-Strongly agree 2-Somewhat agree 3-Neutral/no opinion 4-Somewhat disagree 5-Strongly disagree

1. I can identify signs/symptoms of schizophrenia. 1 2 3 4 5

2. I can identify which medication are second generation antipsychotics.

1 2 3 4 5

3. I can identify adverse effects of second generation antipsychotics.

1 2 3 4 5

4. The program increased my understanding of metabolic syndrome

1 2 3 4 5

5. The program provided knowledge that will help me in providing medication education to patients diagnosed with schizophrenia that are taking second generation antipsychotics 1 2 3 4 5

6. I would like to attend more continuous professional development programs

1 2 3 4 5

7. Was the presenter knowledgeable about second generation antipsychotics and metabolic syndrome?

1 2 3 4 5

8. Please share recommendations and suggestions to be made

APPENDIX K

EVALUATION PLAN

Project Objectives	Activities	Evaluation Outcomes
Examine PMH staff nurses' knowledge on treatment guidelines for schizophrenia and SGAs	Pretest	Pretest results ranged 40 to 80 with a mean of 63.5
Provide education on schizophrenia, SGAs, and metabolic syndrome Provide education on schizophrenia and SGAs	PowerPoint presentation on schizophrenia, SGAs, and metabolic syndrome	
	Posttest	There was a statistically significant change in the retention of knowledge among the 10 PMH staff nurses after presentation of the educational intervention ($t(9) = 5.395$, $p < .001$.
Evaluate the educational program		-PMH acute care staff nurses were able to identify symptoms of schizophrenia -All of the PMH staff (n = 10; 100%) nurses were able to identify SGA medication for administration of schizophrenia. -The majority of PMH staff nurses (n = 8; 80%) were able to identify monitor and educate patients on adverse effects associated with SGAs. -Most of the participants were able to identify factors associated with metabolic syndrome in order to educate the patients. -The participants strongly agreed for the need of attending continuous professional development program. -All of the participants stated

		they will go to hospital intranet to obtain updated information based on scientific evidence.
Provide continuous professional development training modules on schizophrenia and SGAs electronically for PMH staff nurses in an acute care mental health hospital	Modules provided on hospital intranet and updated quarterly with scientific evidence	The modules were incorporated into new nurse orientation and placed on the hospital's intranet.

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