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Evaluation of Adolescent Adherence Treatment Following an Emergency Department Visit

Submitted in Partial Fulfillment of the Requirements for the Degree of Doctor of Nursing

Practice at the University of Kentucky

By

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Louisville, KY

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Abstract

Mental Health disorders affect 1 of 5 youth in the United States and are chronic conditions that affect adolescents' ability to function at home, school, work, and with interpersonal relationships. Follow up adherence is imperative to ensure treatment goals are met. The purpose of this Doctor of Nursing (DNP) project was to examine factors associated with adherence to outpatient mental health (MH) treatment following an emergency department (ED) visit among adolescents admitted to an ED of a large hospital in a multi-system healthcare organization located in a metropolitan area of the southeastern United States (U.S.). This DNP project aims were to examine patterns of service use, demographic characteristics, and diagnostic factors of adolescents who utilized the hospital ED of the study site for mental illness needs. Electronic medical records were reviewed to obtain data related to demographic characteristics, diagnostic factors, and other information pertinent to the study aims about the adolescents treated in the ED psychiatric unit. These included: scheduling of a follow-up appointment at discharge; disposition upon discharge; length of total time an adolescent spends in the unit; characteristics of treatment; and the length of time between discharge and scheduled follow-up appointments. The DNP project provided data that revealed follow up plans were not provided within the discharge plans. Based on the findings of this project, psychiatric follow up planning appears to be deficient at discharge and potentially affects patient care. Continued evaluations are recommended to determine the highest quality of continuity after psychiatric emergency services.

Acknowledgments

I would like to thank my advisor and committee chair, Dr. Patricia B. Howard, for her support and guidance during my DNP journey. I would also like to thank Dr. Peggy El-Mallakh for her support and positivity and willingness towards teaching. You both have provided me with knowledge and strength that cannot be measured with a test score. I want to thank all the University of Kentucky faculty for the time and expertise during my DNP journey.

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Dedication

This project is dedicated to my wife and daughter. They were the driving force behind me starting and completing my DNP journey. I dedicate this paper to my mother and family for the support and guidance throughout my life journey. I hope my family can see that hard work is challenging but worth the fight in the end.

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Background and Significance

Problem Identification

Mental health (MH) disorders are chronic conditions that affect adolescents' ability to function at home, school, work, and with interpersonal relationships. The consequences of not addressing MH disorders during adolescence may lead to the development of impairments in mental and physical health during adulthood, which can result in diminished opportunities to be a productive member of society (WHO, 2018). MH disorders affect 1 of 5 youth in the United States (U.S.); typically, the initial onset for adult mental health disorders occurs during childhood and adolescence (Merikangas, et al., 2010).

Context of the Problem

The treatment of adolescent MH disorders is complex and can potentially be lifelong. Merikangas et al. (2010) estimated the lifetime prevalence of 49% of adolescents to have any MH disorder and of those, 22% had severe impairments. Over the past decade, depression among adolescents has increased significantly when compared to increases in other age groups (Weinberger, et al., 2018). Mojtabai and colleagues (2016) reported that depression prevalence increased significantly from 8.7% in 2005 to 11.3% in 2014 among adolescents. More recently, the National Institute of Mental Health (2019) reported that in 2017, about 3.2 million people aged 12-17 (13.3%) had at least one episode of major depression. In addition, 9.4% of people age 12-17 reported that their depressive episode caused severe impairments (NIMH, 2019). Anxiety disorders are the most prevalent MH issue that adolescents struggle with, and these are largely untreated (Siegel & Dickstein, 2011). According to Merikangas, et al. (2010) the lifetime

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prevalence for anxiety disorders for adolescents is 31.9% and of those 8.3% have severe anxiety disorders.

Having a MH disorder, such as depression or anxiety, can contribute to self-harm, harm to others, or suicide (HHS, 2009). The Centers for Disease Control and Prevention (CDC) (2019), reports that among adolescents, suicide ranks as one of top three leading causes of death and in 2017 was second only to accidents as the cause of death. In addition, treatment adherence among youth with severe mental illness can be challenging due to the complexity of medication regimens, interpersonal developments, relationship with clinicians, family involvement and patient insight (Edgcomb & Zima, 2018). Poor adherence to treatment and appointments can also be associated with deterioration of MH, leading to the need for ED visits (Downey, 2017). MH treatments do not produce positive results when patients miss their appointments (Zanjani, et al., 2015). Only about half of all patients needing MH treatment chose to engage in recommended treatment regimens (Zanjani, et al., 2015), which includes follow up at appointments.

Scope and Consequences of the Problem

ED providers care for patients who are ill, injured, are experiencing a behavioral crisis or while having symptoms associated with a psychiatric diagnosis. In addition, ED providers also treat patients with undiagnosed conditions that display symptoms, including suicidal ideation, depression, anxiety, psychosis, aggression and stress related disorders (Dolan & Fein, 2011). Protocols have been developed to improve MH treatments in EDs because of the increased demand for MH care. One strategy involves the development of secured designated psychiatric units for EDs in some healthcare systems. Specialized staff in the designated psychiatric unit conduct emergency psychiatric evaluations and make recommendations to admit a patient to an

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inpatient setting or to discharge from the ED with follow up resources. ED units like these are needed and beneficial. An issue seen even with designated psychiatric units is the lack of MH providers around the clock in the ED, causing reduced access to necessary MH care. Kalb et al. (2019) discussed that only 16% of patients in psychiatric EDs are evaluated by a MH provider. Therefore, additional interventions need to be developed because issues related to follow up adherence may be lacking due to availability and access to psychiatric providers.

Adherence to appointments can be a challenge for long-term management of both chronic and single episode disorders (DeFife, Conklin, Smith, & Poole, 2010). Individuals with serious mental illness have an increased risk of missing appointments and exhibit poor adherence with the recommended treatment plan of care (DeFife et al., 2010). Patients who are likely to miss appointments will have suboptimal health outcomes and use acute care services (Hwang, et al., 2015). Killaspy, Banerjee, King, and Lloyd (2000) explain that individuals who miss MH follow up outpatient appointments have poorer social functioning skills, an increased risk of nonadherence to outpatient care, and rehospitalization. Killaspy (2000) concluded that appointment adherence is very important for those with chronic mental illness because individuals who drop out of the clinic may experience significant deterioration in functioning and symptom exacerbations.

Evidence Based Intervention

The Transitional Care Model (TCM) is an evidence-based intervention that is time specific and complements follow up care that is designed to ensure health care continuity and avoid preventable poor outcomes among vulnerable patient groups as they move between different levels of care (Naylor, et al., 2009). This model was initially developed to transition chronically ill elderly patients from the hospital to home using a multidisciplinary team (Naylor,

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et al., 2009). This model is designed to fill a very important gap in health care delivery between the hospital and home. This evidence-based model is not intended to provide ongoing care to the patient, but rather, to maximize patient outcomes throughout and following an acute episode of illness (Naylor, Transitional Care Model, n.d.). The major goal of this model is to help the patient and family obtain the knowledge, skills and resources essential to eliminate future decline and rehospitalization (Naylor, Transitional Care Model, n.d.). At the end of an acute episode, care is handed off to the primary care provider with communications that can assure continuity of treatment (Naylor, Transitional Care Model, n.d.).

The TCM model uses 10 care strategies:

- “1. The Transitional Care Nurse (TCN) as the primary coordinator of care to assure consistency of provider across the entire episode of care;
2. In-hospital assessment, preparation, and development of an evidenced-based plan of care;
3. Regular home visits by the TCN with available, ongoing telephone support (seven days per week) through an average of two months post-discharge;
4. Continuity of medical care between hospital and primary care physicians facilitated by the TCN accompanying patients to first follow-up visits;
5. Comprehensive, holistic focus on each patient’s needs including the reason for the primary hospitalization as well as other complicating or coexisting events;
6. Active engagement of patients and their family and informal caregivers including education and support;
7. Emphasis on early identification and response to health care risks and symptoms to achieve *longer term* positive outcomes and avoid adverse and untoward

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events that lead to readmissions;

8. Multidisciplinary approach that includes the patient, family, informal and formal caregivers are part of a team;

9. Physician-nurse collaboration; and

10. Communication to, between, and among the patient, family and informal caregivers, and health care providers and professionals.”

These strategies are used to reduce readmission and prevent decline (Naylor, Transitional Care Model, n.d.).

The original TCM has been adapted to address the needs of patients with other chronic health issues; an example is a study conducted by Hanrahan, Solomon, and Hurford (2014) that examined the benefits of the TCM within MH services. The modified TCM, referred to as T-CARE, remained similar to the original study by using the 10 strategies approach. T-CARE studied MH patients with co-morbid conditions instead of chronically ill elderly patients (Hanrahan, Solomon, & Hurford, 2014). Also, instead of using a TCN as the primary coordinator the T-CARE study used a Psychiatric Mental Health Nurse Practitioner (PMHNP) as the primary coordinator. This model assessed health-related quality of life, continuity of care, and service utilization of the hospital or ED (Hanrahan, Solomon, & Hurford, 2014). The T-CARE study showed that few follow-up appointments were documented on the discharge instructions and due to a lack of integrated electronic health records T-CARE researchers were unable to obtain appointments kept data (Hanrahan, Solomon, & Hurford, 2014).

Integrated follow up care has been demonstrated to be an effective evidence-based intervention in reducing return visits to the hospital. Integrated behavioral care is a way to

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stream line follow up from an ED to behavioral health services through community partners or primary care provider's office that can ensure the services match the patient's level of functioning (Altman, 1983). The discharge plan has to be integrated into the treatment process that offers the patient opportunities to be an active participant in accepting the plan (Altman, 1983). Moreover, all aspects of care in the ED and continuity afterwards are enhanced when ED providers have the training and skills to address MH symptoms (Suicide Prevention Resource Center, 2013). Follow up adherence is important because it can lower risk of repeat visits, provide the right type of extra support, address medication management, and build on the treatment progress during the hospital visit. Follow up care can also be a cost saving intervention in addition to improving the care of adolescents with mental health disorders. For example, using a post-discharge follow-up call only can have a return on investment (ROI) between \$1.70 and \$2.05 for ED discharges (Richardson, Mark, & McKeon, 2014). This is the return an organization would gain for every \$1 invested in providing post-discharge follow-up calls after an ED visit (Richardson, Mark, & McKeon, 2014).

Purpose of the Project

The purpose of this DNP project was to examine factors associated with adherence to outpatient MH treatment following an ED visit among adolescents admitted to an ED of a large hospital in a multi-system healthcare organization located in a metropolitan area of the southeastern United States (U.S.). The DNP project aims were to examine patterns of service use, demographic characteristics, and diagnostic factors of adolescents who utilized the hospital ED of the study site for mental illness needs. Electronic medical records were reviewed to obtain data related to demographic characteristics, diagnostic factors, and other information pertinent to

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the study aims. These included scheduling of a follow-up appointment at discharge from the ED psychiatric unit; disposition upon discharge of the ED psychiatric unit; length of total time an adolescent spends in the ED psychiatric unit; characteristics of treatment during time spent in ED psychiatric unit; and the length of time between discharge and scheduled follow-up appointments among adolescents discharged from the ED psychiatric unit. The gap in ED psychiatric services this DNP project looks to address is the effectiveness of discharge planning from a designated ED psychiatric unit within a children's hospital and the correlation to the proceeding follow up treatment.

Theoretical Model

The Theoretical Model that guided this DNP project was Lewin's Change Theory, which focuses on facilitating organizational change (Lewin, 1947). This Change Theory involves three phases: unfreezing, moving, and refreezing. The unfreezing phase focuses on creating the motivation to change, and during this phase, knowledge and awareness of the problem are identified. During the moving phase, new concepts are assimilated, and trial-and-error learning occurs. The last phase, refreezing, involves the progression in which the change is adopted and becomes embedded in the culture. There is a chance of failure to identify the importance of the last stage - refreezing - thus resulting in failure to change and likelihood of a return to the past way of doing things (King & Gerard, 2018). The process of change is inevitable and planned change is more efficient than unplanned change (King & Gerard, 2018).

In this DNP project, planned change involved evaluating patterns of admission, discharge, follow-up care, and relevant demographic and diagnostic factors for the purpose of improving the psychiatric ED discharge process for follow-up care of adolescents treated in the ED. Obtaining this data is important to identify the significance of making recommendations for

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changes in the discharge process. In other words, based on the Change Theory, collecting medical data was a step-in unfreezing because it had the potential to increase understanding and lead to identifying factors that contributed to the problem. Furthermore, using Lewin's Change Theory to capture the discharge process and potential follow up adherence could be beneficial to future advance practice providers, including advanced practice nurses, who would be leaders and change agents at all points of practice in order for the change to be successful.

Review of Literature

A thorough review of literature did show results in research pertaining to specific plans for discharge instructions and implementation to offer quality MH care after an ED visit (Zanjani et al., 2015; Taddeo et al., 2008) illustrating that follow up care is an important aspect of continuity of care. For instance, there are positive correlations between continuity of care and health outcomes for patients with MH issues, including lower severity of symptoms and greater service satisfaction (Mitton, Adair, Mcdougall, & Marcoux, 2005) . In addition, those who attended follow up care were more adherent to overall treatment plans (Merikangas, et al., 2010). Adherence to psychiatric treatment is important because it helps prevent return ED visits and hospital readmissions. Okumura, Sugiyama, and Noda (2018) reported that patients who followed up within 30 days after discharge had a 22% readmission rate compared to the participants with no follow-up who had readmission rates of 38%.

Evidence also indicates that follow up calls will increase the initial appointment attendance rates (Zanjani, et al., 2015). Zanjani and colleagues (2015) used motivational interviewing techniques via the telephone, to continue communication with patients until the initial appointment. Findings of this study indicated that 90% of the participants attended the initial appointment.

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Scheduling appointments for patients at the time of discharge has also been shown to improve follow up attendance (Boudreaux, et al., 2011). In addition, organizations with mental health providers also show prominence in providing continuation of care because there is access to the patient history and medication interventions (Boudreaux, et al., 2011). Taddeo, Maud, and Jean-Yves (2008) suggested that organizational structure could improve adherence if there was the ability to cluster appointments, allowing adolescents to be seen in one doctor visit, as opposed to scheduling appointments over several days.

When searching for follow up care recommendations the literature overwhelmingly focused on suicide prevention but none covering MH disorders more broadly. The Suicide Prevention Resource Center (SPRC) has published a guide entitled “Continuity of Care for Suicide Prevention: The Role of the Emergency Department” which provides relevant information regarding MH care follow up after an ED discharge (Suicide Prevention Resource Center, 2013). This continuity of care (COC) resource was intended to highlight important steps ED providers can take to establish follow up care with the complex challenges of the ED environment, lack of resources, and complex nature of MH disorders (SPRC, 2013).

SPRC (2013), explains the steps as: enlisting family and friends to be involved with the patient after discharge to help ensure the follow-up appointments; establishing a process for reminder contacts with the patient through various means like phone calls, text messages, and other forms of communication; establishing intensive outreach interventions, such as home visits or case management to decrease return visits to hospital; utilizing available resources to facilitate integrated follow up services by using the EMR to flag patients; using automated appointment reminders systems; and establishing partnerships

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with community services to facilitate integrated follow up services.

The SPRC guide was used in this DNP project in order to guide the exploration of the current process of discharge from the psychiatric ED unit in the hospital of the study site in efforts to identify evidence-based interventions for improving the discharge process and MH follow up care. In addition, it was chosen because it clearly presents processes that can be selected depending on an organization's capacity, environment and resources (SPRC, 2013) and simultaneously serves as a foundation for systematically conducting this DNP project to better assure the unfreezing step of Lewin's Change Theory and ultimately bringing about improvements in outcomes of MH care.

Agency Description

Setting

This DNP project was implemented at a large children's hospital that is part of a multi-system healthcare organization located in a metropolitan area of a southeastern state of the U.S.; the ED was the specific site for the study. The ED offers mental health services in a designated ED psychiatric unit with a four-bed capacity for patients in need of MH care, based on findings obtained during the ED assessment.

Target Population

Approximately 200 child and adolescent patients are referred monthly to the designated ED psychiatric unit. Of those, the majority are adolescents between the ages of 13 and 19 years. These adolescents were the target population for the medical record review which was the focus of this project. The inclusion criteria were the EMRs of patients between the ages of 13-19 years old with a chief complaint of sensitive issues psychiatry (SIP) who received a psychiatric evaluation performed in the ED psychiatric unit. Additional criteria included disposition to home

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setting such as parental care, legal guardian, crisis stabilization unit, and therapeutic rehabilitation setting. Exclusion criteria for the EMRs were patient disposition of admission to an inpatient unit; patients less than 13 and greater than or equal to 19 years of age; patients receiving psychiatric evaluations outside of the hospital ED psychiatric unit; and patients admitted from or discharged to a detention center. Although a sample size of 150 EMRs was desired, only 100 EMRs met all criteria for inclusion in this DNP project.

Congruence of DNP Project and the Mission of the Healthcare Organization

The mission of the healthcare organization hospital that included the ED site of this DNP project is to provide quality health care to all those served, in a manner that responds to the needs of the communities and honors the healthcare system's faith heritage. This mission is achieved through vision and values statements that address integrity and respect for people. Specific measures for mission achievement include standards for quality and caring, improving care and service, demonstrating stewardship of resources, and accepting accountability for results. The aim of the healthcare organization is to be a comprehensive, strong and preferred health care organization that sets standards for quality and caring.

This DNP project contributed to the healthcare organization mission because evaluating patterns of care that occur during ED discharge and follow-up would potentially guide the development of effective interventions and services that maximize adolescent adherence to follow up care. The development of effective services can potentially optimize outcomes in the adolescent population that requires MH care. In addition, interventions and services could have implications for identifying resources needed in the community.

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Description of Stakeholders

The stakeholders of this DNP project included the healthcare organization ED providers, ED psychiatric unit medical director, and other primary care and psychiatric providers in the community. Other important stakeholders include ED advanced practice nurses and nursing staff who treat the patient population seen in the ED. However, adolescents admitted to the ED to obtain treatment for mental health conditions were the most important stakeholders since treatment could be vital for their future as well as their ability to be productive members of their communities.

Site-Specific Facilitators and Barriers

Facilitators of the study included several healthcare organization leaders and staff. For instance, both the nurse manager and chief nursing officer supported this DNP project. Specifically, the nurse manager was helpful in communications between the Principal Investigator (PI) of the DNP project and the ED leadership team and in addition, assisted in creating time for PI work. The nurse manager informed the ED leadership team that the PI would be accessing EMRs of previous patients. The assistant nurse manager was also helpful in allowing scheduling flexibility of the PI's normal work schedule. There were no site-specific barriers for this project.

Project Design

The DNP project was based on a descriptive study design consisting of a retrospective review of the medical records of patients discharged from the children's hospital ED psychiatric unit. Data on patients who were discharged from the ED psychiatric unit during the first quarter of 2018 (January through April) were extracted from electronic medical records (EMR). The ED

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psychiatric unit uses a Chief Complaint of Sensitive Issue Psychiatry (SIP) as a description to identify patients in the EMR system.

Project Methods

The DNP project was approved by the University's Institutional Review Board (IRB) followed by approval of the Research Office of the healthcare organization. Once approval was obtained, a request for EMR data of patients who met the inclusion criteria, was sent to the organization's Research Office. The requested data were extracted and sent to the PI. All data were de-identified, and records were assigned a unique identification number known only to the PI. Subsequently, the PI reviewed the data and then recorded information related to the DNP project variables on a data collection sheet. Next, de-identified data were entered by the PI onto an Excel spreadsheet for the purpose of data analysis.

Data Analysis

Descriptive statistics were used to summarize demographic and ED visit characteristics. Means and standard deviations were used to summarize continuous variables, while frequency distributions summarized categorical variables. Length of stay was presented as median and interquartile ranges. Associations between demographic characteristics, length of stay and mentioning a follow-up appointment at discharge with discharge diagnosis were conducted using One-way Analysis of Variance, the Fisher's Exact test and Kruskal-Wallis test. All analysis was conducted using SPSS, version 25, with an alpha of .05 throughout. Demographic data were reviewed to examine the discharge process to better understand the transition to follow up care from a children's hospital designated psychiatric unit. There were no interventions or human subjects in the study.

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Results

The average age of patients whose EMRs were reviewed from the ED psychiatric unit was 14.98 years of age ($SD= 1.537$; see Table 1). Over half of the patients were female (54%), 66% were Caucasian, and 21% were African American. Over 63% had Medicaid/Medicare insurance plans compared to 31% with private insurance. The majority of patients were in the custody of their parents (82%). Data analysis also revealed that most patients had received outpatient treatment and were receiving psychotropic medications.

The review of follow-up appointments in discharge instructions indicated that 60% of the EMRs did not mention the follow-up appointment. The majority (81%) of the EMRs reviewed revealed discharge diagnosis from the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) categories of Depressive Disorders (51%) and Disruptive, Impulse-controlled, and Conduct Disorders (30%). In addition, 5% had an Anxiety Disorder. The average length of stay (LOS) was a little over 4 hours (253 minutes) with the briefest period at a little over one hour (74 minutes) and the longest close to 24 hours (1385 minutes). Furthermore, 89% of the EMRs indicated that patients were discharged within six hours of being signed into the ED.

There was a significant association between gender and discharge diagnosis ($p=.024$). In the pairwise comparisons, a higher proportion of females (compared to males) were diagnosed with neuro-developmental ($p=.009$) and depressive disorder ($p=.024$), when compared to disruptive disorder (see Table 2). Age, race/ethnicity, ED length of stay, and documentation of a follow up appointment were not associated with discharge diagnosis.

Discussion

This DNP project was conducted to examine patterns of service use, demographic characteristics, and diagnostic factors of adolescents who utilized the hospital ED psychiatric

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unit of the study site for treatment of MH disorders needs. A major concern was that 60% did not have documentation of a referral provided at discharge. Without being provided the appropriate documentation it can be difficult for patients to remember details after a crisis situation. This DNP project showed results similar to the Hanrahan et al., (2014) study that showed results of 54% of individuals not receiving a documented discharge plan. Hanrahan et al. (2014) also showed that only 22% of the participants were scheduled an appointment with a MH provider. Zeller (2010) mentioned that emergency MH services are not complete based solely on the cessation of the current crisis, but that the patient is provided with a post-discharge plan. Appropriately planned follow up care is a benefit to long-term stability and decrease revisits (Zeller, 2010).

An additional finding is that 51% of patients whose medical records were reviewed were diagnosed with Depressive Disorders. This is a concern because depression is a risk factor for suicidal ideation and attempts in adolescents (Shaffer et al., 1996; Hawton et al., 2013). As stated earlier, rates of depression are about 13.3% in adolescents aged 12-17 (NIMH, 2019). The CDC's Youth Risk Behavior Surveillance System (YRBSS) found that in 2017, 17.2% of adolescents in grades 9-12 had seriously considered suicide, 13.6% made a suicide plan, and 7.4% made a suicide attempt. In addition, Knesper (2010) highlights that the risk of a suicide attempt or completion is the highest within 30 days of discharge from the ED, and 70% of patients discharged from an ED after a suicide attempt never attend their first outpatient appointment. Knesper's findings also stress the need to establish plans for follow up care prior to discharge from the psychiatric ED, especially for adolescents.

This DNP project reported the average LOS for patients in the ED was 4.2 hours (253 minutes) with a range of 74-1385 minutes. This LOS illustrates that staff in the psychiatric ED

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unit provided timely and efficient care to address patient needs. These findings differ from other studies that evaluated ED wait times. Nicks and Mathney (2012) found that ED stays are 3.2 times longer for psychiatric patients (1089 minutes, 18.2 hours) compared to non-psychiatric ED patients (340 minutes, 5.7 hours) ($p > 0.001$) (Nicks & Mathney, 2012). Factors associated with prolonged psychiatric ED stays include decreased number of inpatient beds and consequent lack of bed availability (Nicks & Manthey, 2012). Prolonged psychiatric ED LOSs can increase the risk of symptom exacerbation, anxiety, and agitation, which can potentially be harmful for both patients and staff (Nicks & Manthey, 2012). Other negative consequences include increased costs for ED care, and lack of psychiatric ED bed availability for other patients in crisis who need ED services. Efficiency in the consultation, admission and evaluation processes is essential in psychiatric ED admissions, especially for adolescents with psychiatric disorders, to prevent worsening symptoms and disruptive behavior due to frustrations over wait times.

The significant finding related to a higher proportion of females diagnosed with neuro-development disorders was not expected. Kaplan and Sadock (2015) and Dulcan (2016) report that males can be diagnosed four times more often with Autism and diagnosed with Attention Deficit/Hyperactivity Disorder (ADHD) with a ratio between 2:1 and 9:1.

The findings of this DNP project support the importance of providing follow up care after an emergency psychiatric visit for adolescents, and ensuring that appropriate follow up care is in place prior to discharge from the ED. The results also indicated that more follow up care needs to be documented in the patient's discharge instructions. The COC guide was helpful for this project because it contained information about processes, the importance of follow up care for the MH population and relevant information of discharge processes for EDs. It is unknown if the guide has been used as the content to implement discharge continuity of care in previous studies.

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The guide was valuable because it focused on follow up care of suicide. However, it does not provide details for follow up with other MH crisis events.

Implications

This DNP project demonstrates areas to improve MH follow up after an emergency psychiatric visit for adolescents. Utilizing existing resources like, “Continuity of Care for Suicide Prevention: The Role of the Emergency Department” is only one example of how to provide guidelines to improve the process of discharge and follow up care from EDs. The organization’s psychiatric ED unit that this DNP project used does not use an identified resource to guide patient care processes. A possible implication related to this DNP project would be the addition of MH providers in the organization to meet the demands of ED psychiatric units or MH follow up services. The organization currently uses services of an educational organization to administer in-person emergency psychiatric evaluations four days a week between 9am-5pm. After hours ED psychiatric evaluations are completed by a psychiatric registered nurse or licensed clinical social worker, followed by a consultation with the on-call psychiatrist, who is not stationed within the organization overnight. Regarding MH follow up services, the organization does not employ psychiatrist or PMHNPs and all follow ups are referred to community MH services.

Providers include certified Psychiatric Mental-Health Nurse Practitioners (PMHNPs) who have been prepared to address needs of vulnerable populations like the adolescents who were the primary stakeholders of this project. In addition, DNP prepared APRNs have the skills necessary for leading changes that include, but are not limited to design of evidence-based interventions to promote safety and improved outcomes of care in ED psychiatric units like the one that was the site of this project.

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Several DNP Essentials are relevant to this DNP project [American Association of Colleges of Nursing (AACN), 2006]. For instance, Essential I, scientific underpinnings for practice and Essential III, clinical scholarship and analytical methods for evidenced-based practice were foundational for this project that revealed the importance of addressing follow up care prior to discharge from the ED. Other DNP Essentials (AACN, 2006) address leadership skills necessary for organizational and systems leadership for quality improvement. For example, DNP prepared advance practice registered nurses (APRN) can be beneficial in applying Essential II by assuming leadership roles to promote the use of best practices in ED psychiatric services.

In addition, the findings of this DNP project support the need to implement clinical evidence-based practice like the COC model, which would exemplify Essential III. AACN's Essential III states that nursing practice is "where the sciences, human caring and human needs meet" to improve patient care (AACN, 2006, p.11). This can help improve the care of adolescents in crisis who use the psychiatric ED to receive mental health care. Skills in Information Technology (Essential IV) guided this project and will continue to be necessary for guiding development of electronic medical records to document patterns of follow up care, promote provider adherence to current organizational policies, and provide a source of data for tracking improvements in the quality of follow up care.

Essential V encourages the capability of APRNs to advocate for organization policy change, which is important in improving the overall equity of MH care for a vulnerable and marginalized health care population (AACN, 2006). DNP-prepared APRNs must also understand and use policies and procedures to improve strategies to meet the health care needs of vulnerable populations, including adolescents who are in crisis and seen in an emergency psychiatric setting. PMHNPs will have a voice in advocating new policies to improve the quality of current

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and future psychiatric and MH care. DNP-prepared APRNs can also use Essential VI to collaborate interprofessionally with ED site providers and primary psychiatric mental health nurse practitioners (PMHNPs) within communities (AACN, 2006). Essential VII, Clinical Prevention and Population Health, is important in the treatment of adolescents in crisis in the ED psychiatric unit. Use of ED psychiatric services are a secondary prevention strategy that allows for early detection and results in follow up care to treat the problem with routine appointments. Tertiary prevention is also important in this population because many patients use the ED for psychiatric treatment with established MH disorders, and they require restoration of health back to baseline. Implementing MH care that allows continuation after an ED visit provides a level of security and prevention to individual patients and the community as a whole that APPs with DNP preparation can lead, as outlined in Essential VIII (AACN, 2006).

The lack of MH providers employed by the organization to whom discharged patients could be referred is a significant concern identified with this project. This issue could be offset by the extensive use of PMHNPs within the organization, particularly those with DNP degrees, who can assess and treat patients by implementing evidence-based interventions. Increased use of DNP-prepared PMHNP can bring about important changes to improve accessibility of care for the adolescent population.

Regarding areas for future research on this topic, it would be valuable to assess the ED providers' knowledge of evidence-based discharge and follow up processes. This information would provide insight into ways to improve the discharge process from an ED designated psychiatric unit. If the organization increases the availability of outpatient MH providers, it would also be beneficial to examine their knowledge of the ED discharge process to improve the continuity of care.

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Recommendations for Future Practice

The organization has made advancements over the past years of closing the gap in transitional care by offering a ED designated psychiatric unit, staffed with MH registered nurses and MH support staff, to conduct emergency MH evaluations in the pediatric ED; however, there are opportunities to advance and improve the current service model. In an effort to address MH follow up care after an ED discharge, the organization can develop a committee to focus on improving children and adolescent's MH services. This committee can examine and provide recommendations that can improve services to this patient population. The committee can include psychiatrists, PMHNPs, registered nurse, ED physicians and support staff. The organization can also incorporate 24 hour in-person MH providers to service after hour MH needs of adolescents, particularly in the ED.

Limitations

A limitation of this DNP project included the inability to obtain data on post-discharge adherence to follow up care, because the EMR is not used by MH providers external to the healthcare system. This limitation made it impossible to assess continuity of care and whether patients adhered to treatment recommendations. However, the data obtained in this study provides a foundation for future research efforts and practice improvement initiatives to address the needs of adolescents who use psychiatric emergency services.

Conclusion

MH disorders can be difficult to treat due to lack of patient adherence to recommended treatment (Farooq & Farooq, 2014). The importance for patients to have a guided transition is crucial for quality continuity of care and a TCM can be the source to secure the gaps between hospitals and follow up care. TCM can lead to reduced rates of readmissions and improve patient

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physical and mental functions (Scalan, Hancock, & Honey, 2017; Liu, Zhang, Li, & Sun, 2017; Wong, Chow, Chan, & Tam, 2014).

The importance of providing follow up care is supported by this DNP project, but future studies should review the benefits of having MH providers available for follow up within the organization. Future studies should also evaluate the advantage of having a follow up with MH health providers less than 48 hours after ED discharge and the degree to which it improves patient outcomes.

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List of Tables

Table 1. Demographic and Clinical Characteristics of the Sample (*N* =100)

	Mean (SD) or <i>n</i> (%)
Age	14.98 (1.537)
Gender	
Male	46%
Female	54%
Ethnicity/Race	
White	66%
Black	21%
Hispanic	5%
Other/unknown	3%
Multiple Ethnicity	5%
Guardian Status	
Parents	82%
State’s Custody	8%
Other	10%
Health Insurance	
Private	31%
Public	63%
None/unknown	3%
Both private and public	3%
Follow up appointment mentioned	
Yes	40%
No	60%
Discharge Diagnosis Groups	
Neurodevelopmental Disorders	5%
Depressive Disorders	51%
Anxiety Disorders	5%
Trauma Disorders	6%
Disruptive Disorders	30%
Other DSM-5 Disorders	3%
LOS Minutes	253 (201.742)

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Table 2. Discharge Diagnosis Groups (N=100)

	Discharge Diagnosis Groups						p
	Neuro-developmental Mean (SD) or n (%)	Depression disorder Mean (SD)	Anxiety Mean (SD)	Trauma Mean (SD)	Disruptive disorder Mean (SD)	Other Mean (SD)	
Age	15.2 (1.6)	15.2 (1.6)	15.8 (1.6)	14.2 (1.0)	14.7 (1.6)	14.3 (0.6)	.40
Gender							.024
Male	0 (0%)	19 (37%)	3 (60%)	3 (50%)	20 (67%)	1 (33%)	
Female	5 (100%)	32 (63%)	2 (40%)	3 (50%)	10 (33%)	2 (67%)	
Race/ethnicity							.89
White	5 (100%)	34 (67%)	3 (60%)	5 (83%)	18 (60%)	1 (33%)	
Black		10 (20%)	1 (20%)	1 (18%)	7 (23%)	2 (67%)	
Hispanic		2 (4%)			3 (10%)		
Other/unknown		2 (4%)			1 (3%)		
Multiple Ethnicities		3 (6%)	1 (20%)		1 (3%)		
ED LOS	144 (123 - 779)	224 (168- 274)	150 (122- 178)	222 (201- 291)	195 (140- 272)	213 (187-)	.15
Follow-up appointment mentioned in discharge instructions							.66
Yes	1 (20%)	20 (39%)	1 (20%)	4 (67%)	13 (43%)	1 (33%)	
No	4 (80%)	31 (61%)	4 (80%)	2 (33%)	17 (57%)	2 (67%)	