

Abilene Christian University

Digital Commons @ ACU

Electronic Theses and Dissertations

Electronic Theses and Dissertations

7-2020

Medical Noncompliance in a Pediatric Patient Living in a Single-Parent Household

Lucy Obianuju Norrell
lon18a@acu.edu

Follow this and additional works at: <https://digitalcommons.acu.edu/etd>



Part of the [Cognition and Perception Commons](#), [Counseling Psychology Commons](#), [Family Practice Nursing Commons](#), and the [Pediatric Nursing Commons](#)

Recommended Citation

Norrell, Lucy Obianuju, "Medical Noncompliance in a Pediatric Patient Living in a Single-Parent Household" (2020). Digital Commons @ ACU, *Electronic Theses and Dissertations*. Paper 244.

This DNP Project is brought to you for free and open access by the Electronic Theses and Dissertations at Digital Commons @ ACU. It has been accepted for inclusion in Electronic Theses and Dissertations by an authorized administrator of Digital Commons @ ACU.

This doctoral project, directed and approved by the candidate's committee, has been accepted by the College of Graduate and Professional Studies of Abilene Christian University in partial fulfillment of the requirements for the degree

Doctor of Nursing Practice



Dr. Joey Cope, Dean of the College
of Graduate and Professional Studies

06 / 28 / 2020

Date: _____

Doctoral Project Committee:



Dr. Sharisse Hebert, Chair



Dr. Theresa Naldoza



Dr. Ugochi Irikannu

Abilene Christian University

School of Nursing

Medical Noncompliance in a Pediatric Patient Living in a Single-Parent Household

A doctoral project submitted in partial satisfaction

of the requirements for the degree of

Doctor of Nursing Practice

by

Lucy Obianuju Norrell

July 2020

Dedication

This project is dedicated to my late mom, Christiana Ifoeze. Your wishes and hope have finally come to fruition. May God bless your soul. Amen

Acknowledgments

Philippians 4:13 states that “we can do all things through Christ who strengthens us.” I would love to thank My Lord and Savior Jesus Christ for strengthening me through my life’s journey and through this program.

I would like to thank my son, Emmanuel Norrell, for his patience and support through this educational journey. I thank my Dad who always believes and has demonstrated the importance of girl-child education. I am also grateful to my siblings, especially Dr. Malcolm for your encouragement and counsel.

My thanks and gratitude go to my project committee, my chair, Dr. Sharisse Hebert, Dr. Theresa Maria Naldoza, and Dr. Ugochi Irikannu. My thanks to the faculty, Dr. Andrew Lumpe, the project director, my academic advisor, and Hope Stanphill for the tough love.

Also, my gratitude goes to my supervising physician and president of the project clinic. I appreciate my mentors, Dr. O. Ajose and Dr. Poopola.

My final appreciation goes to my spiritual mentors, Bishop Ugwu, Bishop and Mrs. Vincent, Pastor Okorie, Pastor Okunlola, and Pastor Grace, and the projects crew, Jessica Beccerra, Joseph Babatunde, and Jeremy Cardial.

© Copyright by Lucy Obianuju Norrell (2020)

All Rights Reserved

Abstract

Noncompliance is a patient's inability to comply with the recommended treatment for their complete recovery from an ailment, while compliance is the extent to which a patient adheres to the provider's directive, such as medication and orders given. The purpose of this study was to determine if motivational interviewing when applied to noncompliant pediatric patients from single-parent households, would improve global medical compliance in this population as compared to the standard of care at the end of three months. Thirty-two participants were recruited using the homogeneous purposeful sampling. The project employed a mixed-method approach. Fred Kleinsinger's noncompliant behavior tool was administered to obtain staging data on noncompliance among participants. Pretest and posttest data were inputted to a Microsoft Excel spreadsheet and subsequently imported into SPSS version 25 software. The demographic data were analyzed using descriptive statistics. Pretest and posttest data were compared using a paired *t* test and Wilcoxon's signed-rank test. Following motivational interviewing, median noncompliance decreased from a score of 2 preintervention to 1 postintervention. Findings from other studies suggest that motivational interviewing is effective in curbing or reducing noncompliance. In this project, the goal of implementation scientific research was met by the conclusion that motivational interviewing significantly decreased medical noncompliance among pediatric patients from single-parent families. Healthcare providers must screen for potential noncompliance and prevent it before it manifests by proactively implementing a process for addressing noncompliance in their clinics.

Keywords: pediatric noncompliance, motivational interviewing, single-parent families

Table of Contents

Acknowledgments.....	ii
Abstract.....	iv
List of Tables	viii
List of Figures.....	ix
Chapter 1: Introduction.....	1
Statement of the Problem.....	2
Background.....	3
Purpose of the Study	4
Significant of Problem of Interest.....	4
Nature of the Project	5
Question Guiding the Inquiry	6
Population (P)	6
Intervention (I).....	7
Comparison (C).....	7
Outcome (O)	7
Time (T).....	7
Research Questions.....	7
Conceptual Framework.....	8
Operational Definition of Key Terms	10
Scope and Limitations.....	11
Chapter Summary	11
Chapter 2: Literature Review.....	13
Design.....	14
Motivational Interviewing and Medical Noncompliance	14
Challenges of Noncompliance in Single-Parent Homes.....	18
Chapter Summary	21
Chapter 3: Research Method.....	22
Project Design.....	22
Instruments and Measurement Tools	23
Data Collection, Management, and Analysis Plan.....	24
Data Collection (Population and Demographics)	24
Data Management	27
Data Analysis	27
Methodology Appropriateness.....	28
Feasibility and Appropriateness.....	28

Institutional Review Board Approval and Process	30
Interprofessional Collaboration	30
Practice Setting	31
Target Population	31
Associated Activity Risks of DNP Project	32
Risk of Breach of Confidentiality and Risk of Fear of Losing Benefits and Child(ren)'s Custody	32
Mitigation of Associated Risks	33
Tangible Benefits to the Study Participants	34
Project Timeline	34
Chapter Summary	35
 Chapter 4: Project Analysis: Methods and Results Narrative	 36
Purpose of the Project	37
Discussion of Demographics	37
Data Analysis	38
Descriptive Statistics	38
Pre- and Postintervention Comparisons	41
Normality Tests	41
Wilcoxon Signed-Rank Test	41
Question Guiding the Inquiry	42
Reliability and Validity	42
Strength of the Study	43
Limitations	44
Interpretation and Inference of the Findings	44
Chapter Summary	46
 Chapter 5: Discussion, Conclusions, and Recommendations	 47
Implications of Analysis for Leaders	48
Evidence-Based Practice Findings and Essentials of Doctoral Education for Advanced Practice Nurses	49
Recommendations for Future Research	52
Conclusion	52
 References	 54
 Appendix A: Data Analysis and Collection Sheet	 61
Appendix B: NCB Tool	62
Appendix C: Permission to Use NCB Tool	63
Appendix D: Script for Phone Consent Form	64

Appendix E: Consent Letter.....	67
Appendix F: Alteration and Waiver of Consent	68
Appendix G: Demographic Data	70
Appendix H: HIPAA or FERPA Form	71
Appendix I: Clinical Site Permission Letter	73
Appendix K: National Institute of Health Certification.....	75
Appendix L: IRB Inactivation Letter	76
Appendix M: Timeline.....	77
Appendix N: Motivational Interviewing Outline.....	78
Appendix O: Outcome Analysis Sheet	79
Appendix P: Health Belief Model Permission from SAGE.....	80

List of Tables

Table 1. Characteristics of Study Participants	40
Table 2. Shapiro-Wilk's Test of Normality	41
Table 3. Comparison of Noncompliance Pre- vs. Postintervention	42

List of Figures

Figure 1. Health Belief Model9

Chapter 1: Introduction

Noncompliance is the circumstance where a person does not adhere to health directives ordered by a professional (The Free Dictionary, 2012) or a patient's inability to comply with the recommended treatment for their complete recovery from an ailment (North American Nursing Diagnoses Association [NANDA], 2018), while compliance is the extent to which a patient adheres to the provider's directive, such as medication and orders given (Schaefer & Kavookjian, 2017). Noncompliance impacts patients of all ages, including children and adolescents. The World Health Organization (WHO) warned that medication noncompliance is a universal problem representing a major challenge for healthcare providers who strive to ensure the best outcome for their patients (Spoelstra et al., 2015).

An effective pediatric compliance intervention involving the patients, families, and healthcare providers is essential for quality health outcomes and may decrease healthcare costs in the process (Schaefer & Kavookjian, 2017). According to previous studies, compliance has benefits, and noncompliance has consequences. For example, McGrady et al. (2015) reported that \$54.5 billion was spent on healthcare utilization by pediatric patients with special needs. These consequences included high disease severity, complications, emotional disturbance, acute exacerbations resulting in decreased quality of life, and increased healthcare costs (Schaefer & Kavookjian, 2017). Unplanned readmissions cost 15 to 20 billion dollars every year (Alper et al., 2017). Therefore, many specialties have emphasized the challenges associated with medical noncompliance. For example, uncontrolled asthma may negatively impact a patient's quality of life, lung function, and cardiovascular function; such complications invariably cause emotional stress and job or school underperformance or increased absences (Healthdirect, 2018). Noncompliance with medication in chronic or preventable illnesses such as mental illness is

complex and may undermine the benefits of healthcare management and interventions (Vanderwaal, 2015).

Statement of the Problem

Single-parent families, poor family cohesion, poor social function, and mental health have been implicated as factors leading to increased medical noncompliance (Meng et al., 2018). Children in single-parent families are more disadvantaged than the two-parent families due to social determinants such as low economic status, poor parent-child involvement and nurturance and an increased risk of mental illnesses such as depression and stress (Seabrook & Avison, 2015). This study investigated the problem of medical noncompliance among pediatric patients from single-parent households.

The American Academy of Pediatrics (AAP) and Centers for Disease Control and Prevention (CDC) have attributed the high rate of immunization noncompliance to parental ignorance, safety concerns, and health beliefs (Hough-Telford et al., 2016). Garfield (2009) argued that parental noncompliance could be paramount in single-parent households, considering the barriers faced by this type of family unit. For example, while the burden of childrearing is shared between parents in a two-parent household, the single parent bears all responsibilities of raising a child, providing, disciplining, coordinating, and monitoring affairs of a child. The resultant stress may negatively impact work performance as well as emotional and mental health, ultimately leading to inadequate child supervision. Therefore, the author concluded that it is important for pediatricians to pay extra attention to issues relating to children living in single-parent households. Garfield (2009) also reported that assessment of noncompliance in a patient should be a process, not a one-time intervention; hence, motivational interviewing (MI) as an intervention should be more effective than other traditional behavioral interventions.

Background

According to the United States Census Bureau's 2016 report, 23% of children live in a single-mother parenting household. This number has tripled from 1960 to 2016. Over 24 million children in the U.S. live in a single-parent household, and Texas has the highest rate at 2.4 million (Annie E. Casey Foundation, 2018). Children growing in single-parent households lack the same economic or human resources as their counterparts living in a two-parent household and are more likely to face adverse challenges (Annie E. Casey Foundation, 2018).

In this study, a single-parent household was defined as one where children under the age of 18 live with their single parent either in a family or subfamily (Annie E. Casey Foundation, 2018), excluding blended families and children living in group homes but including those situations where a single mother, father, grandparent, or other extended family member lives with the child alone or with siblings under one adult relative. In the past, many approaches have been recommended to promote compliance such as “educational, peers and family support, organizational strategies and problem-solving skills” (Schafer & Kavookjian, 2017, p. 2129). Among these are the person-centered therapy and motivational interviewing (MI), which has been described as a change agent that strengthens the beneficiary's motivation to change health behaviors through patient counseling, communication, and collaborating skills (Vanderwaal, 2015). The health belief model (HBM) is the conceptual framework that supports the aim of this study. It was formulated to study and positively impact health behavior. Developed by social psychologists in 1950, the HBM helps researchers understand the reluctance found in some patients during the screening of preventable and detectable diseases. This theory has succeeded in elucidating issues related to patient compliance and preventive healthcare actions (Resource Center for Adolescent Pregnant Prevention, 2018).

Purpose of the Study

The concern for medical noncompliance is warranted due to consequences it presents in healthcare, such as high incidence of disease exacerbations, risk of complications, low quality of life, and increased healthcare costs (Schafer & Kavookjian, 2017). Data on medical noncompliance in pediatric patients from single-parent households are limited, and MI, which is the primary intervention in this study, has not been studied before in this population to improve medical compliance. This study intended to determine if MI, with the participation of the noncompliant pediatric parent, could improve medical compliance in this population.

Significant of Problem of Interest

Decreasing noncompliance could result in better health outcomes, benefiting the pediatric patients in the single-parent household and decreasing healthcare costs (Schafer & Kavookjian, 2017). An Arabian proverb pinpoints the significance of the problem of interest—preventing a disease is better than treating it. Unfortunately, medical treatment has received greater prominence than preventative care in disease management not only among Arabians but also in the world (Mokdad & Lopez, 2014). The WHO reiterated this claim when it initiated the Global Child Dental Fund in 2012. Treerutkuarkul and Gruber (2015) reported that developing countries are plagued with preventable tooth decay and gum disease. Noncompliance, especially in the vulnerable population, renders ineffective new therapies and inventions expected to improve health when patients do not utilize these therapeutic skills (Vanderwaal, 2015).

Health beliefs and culture can influence patients' decisions and choices to consult and accept treatment (Kirkcaldy et al., 2010). The use of MI may help to decrease noncompliance because of its collaborative nature, ability to evoke a desire to change, autonomy granting, and its empathetic nature (Schafer & Kavookjian, 2017).

Nature of the Project

This project used a mixed method and a pretest-posttest design. Data regarding staging for noncompliance were determined by the quantitative method, and data for sampling and participant recruitment were identified by the qualitative method. Motivational interviewing effectiveness was qualitatively described. The research project took approximately three months, which included the recruitment phase, and the initial follow-up visit was based on the practice site's protocols. The pretest and posttest contain a set of four questions used in staging the level of noncompliance from trivial to catastrophic stages: score 0–1 (none to mild noncompliance), 2 (moderate noncompliance), and 3 (severe noncompliance). The project sample was obtained using purposive sampling, as described in the data collection section. As anticipated, 50–75 participants were recruited from a pediatric clinic in Socorro and El Paso, Texas; however, given the low levels of medical compliance in this population, as many as 75 participants who met the inclusion criteria were identified from electronic medical records (EMR). Permission was obtained to access these medical records from the facility medical director. The additional 50% allowance was to account for attrition. If the sample size was below 30, additional participants were recruited from a neighboring clinic. Inclusive criteria included the age of the child (0–18 years), family dynamic (single-parent household), noncompliance status (missed appointment greater than two, emergency room [ER] visit greater than two times in three months, verbal consent of not taking or picking up prescriptions), and ICD-10 (International Statistical Classification of Diseases and Related Health Problems) code qualifier if any. Motivational interviewing was implemented via telephone. Due to the relatively short timeline for this project, a telephone interview was utilized. Pretest and posttest data were entered into a Microsoft Excel spreadsheet and subsequently imported into SPSS version 25 software (see Appendix A). The

demographic data were analyzed using descriptive statistics. Pretest and posttest data were analyzed using Wilcoxon's signed-rank test because data were not normally distributed. One measurement tool was used, Fred Kleinsinger's (2010) noncompliant behavior (NCB) staging tool (see Appendix B). This was administered pre- and postintervention to participants. The NCB instrument was not transcribed into Spanish since the primary investigator (PI) administered it, otherwise, a verbal Spanish translation was provided. The purpose of this experiment was to demonstrate if there was a change in the participants' noncompliance status due to the experimental manipulation, which is the MI. By comparing the results of the pretest and posttest, if the results of the posttest were significantly different, then it proved that intervention (MI) produced some change in noncompliance behavior.

Question Guiding the Inquiry

The PICOT question was structured to evaluate concepts identified in the problem of interest and included all components that will support good practice efforts. For medically noncompliant pediatric patients from a single-parent household (P), does (I) the use of motivational interviewing (C) as compared to not using motivational interviewing (O) increase medical compliance (T) at the end of three months?

Population (P)

Population constitutes the single parents of a medically noncompliant pediatric patient. Patients should be less than 18-years-old, living with a single parent or guardian, and have a global noncompliance in the record. For example, missed at least two appointments, missed picking up medication twice, or had multiple emergency department (ED) visits due to nonadherence to preventative medical directions are included.

Intervention (I)

This study utilized MI, a process administered via telephone to assess parents' acknowledgment of noncompliance behavior and evoked the desire to change willingly by doing the work prescribed to achieve the goal.

Comparison (C)

The MI was administered to the parent or guardian. Compliance was measured before and after administration of MI, using Fred Kleinsinger's (2010) noncompliance behavior (NCB) rating scale, and those scores were compared to determine whether there was an improvement in compliance.

Outcome (O)

The outcome is the dependent variable; the expectation is for an improvement in compliance after the MI intervention when compared to the preintervention levels of compliance.

Time (T)

The time allotted to this project is three months. This time frame allowed for planning and intervention, so all participants were prepared for the study. An adjustment in the transitioning time was expected.

Research Questions

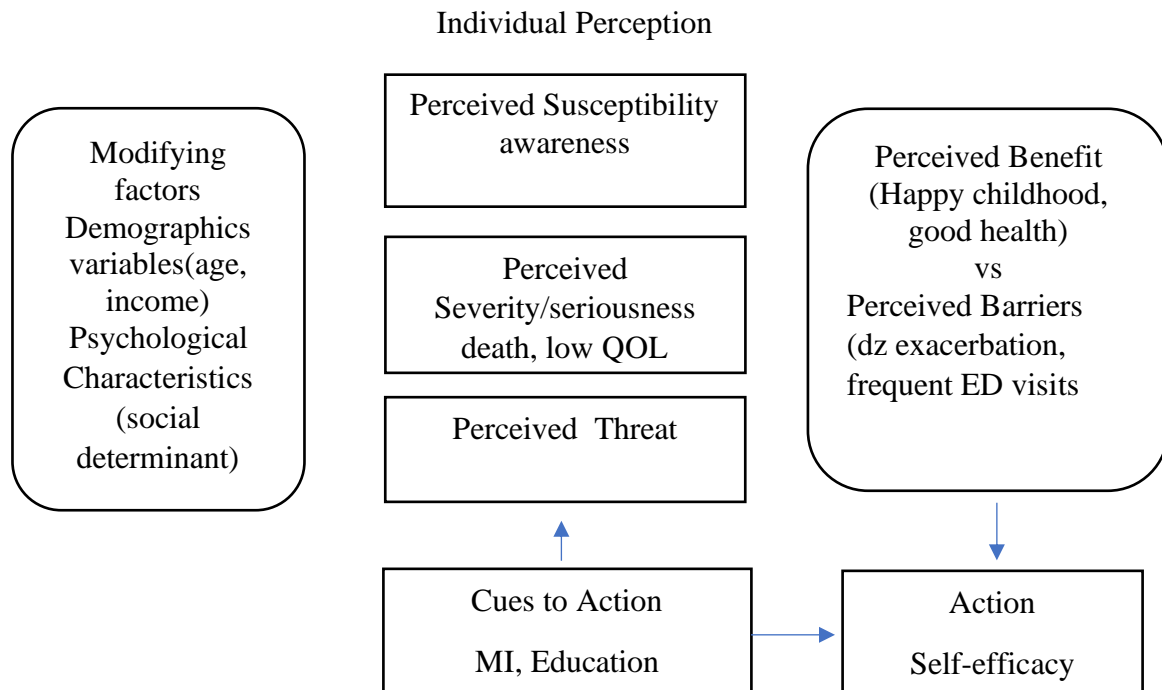
RQ1: Will motivational interviewing decrease medical noncompliance in pediatric patients from single-parent households?

RQ2: To what degree do participants feel that the intervention has empowered them to change behavior?

Conceptual Framework

The health belief model (HBM) is a popular conceptual framework formulated to study and positively impact health behavior. It was developed by social psychologists in 1950 to understand the reluctance found in some patients during the screening of preventable and detectable diseases. This theory has succeeded in elucidating issues related to patient compliance and preventive healthcare actions (e.g., medical compliance, seat belt implementation, sexual protective awareness behaviors, health screening, and other prevention contexts; Resource Center for Adolescent Pregnancy Prevention, 2018).

The HBM asserts that an individual's health-related habits are reliant on the person's perception in three categorical areas: susceptibility to illness, severity of potential illness, and barriers for action implementation. This model states that the intervention is more relevant in preventative diseases, and it uses minor stress or threat to cause patients with adverse health behaviors to change after acquiring the health knowledge. The HBM is classified into six concepts: perceived susceptibility, perceived severity, perceived benefits, perceived costs, motivation, and modifying factors. Some criticize this model because it appears to blame the patient, causes stress, and does not address barriers beyond a patient's ability to change; for example, social and economic factors (Current Nursing, 2012). The constructs of HBM include health motivation, susceptibility, severity, benefits, and barriers (Champion, 1984), as seen in the model (see Figure 1).

Figure 1*Health Belief Model*

Note. Adapted diagram from “Historical Origins of the Health Belief Model,” by I. M.

Rosenstock, 1974, *Health Education Monographs*, 2(4), p. 334

(<https://doi.org/10.1177/109019817400200403>). Copyright 1974 by Sage. Adapted with permission.

The HBM model was psychometrically sound, and all subscales exhibited acceptable content, construct, predictive validity, and internal consistency and test-retest reliability. For construct validity and theory testing, factor analysis and multiple regression, Cronbach’s alpha and Pearson’s *r* were used to compute reliability. The five subscales were found to be valid and reliable.

In evaluating the HBM model, it is noted that the HBM is limited to evaluating preventable diseases and is cumbersome when addressing and measuring the subscales of the study. Jones et al. (2014) reported that there are multifactorial, internal, or environmental influences, which affect perception at the time of the intervention. Rollnick et al.'s (2008) HBM can relate to MI. Motivational interview change talk can relate to some HBM's dimensional classification of the belief model: perceived severity, benefits, and barriers. It means that health behavior can only change if it will be useful to the person. So, when empowered by using MI to unleash the power to change that is within us, then the change talk can be implemented (Enekwechi, 2014). The permission to use the HBM tool was provided by SAGE publications (see Appendix P).

Operational Definition of Key Terms

Key terms used in this study explain the discussion topics. According to One Mind Therapy (2018), an operational definition is the statement of procedures that the study utilized in order to measure a specific variable(s), therefore, a definition given to facilitate the understanding of the project.

Motivational interview. Motivational interview or motivational interviewing (MI) involves engaging (communication, eliciting patient's trust or alliance), focusing (the process of targeting maladaptive behavior and set an agenda in collaboration with the patient), evoking (desire to change instigated), and planning (following set steps), therefore affording providers the ability to facilitate health behavior change efficiently. The most important tenet to note about MI is patient-centeredness, and its inherent style provokes commitment to compliance behaviors (Powell et al., 2014).

Noncompliance. Noncompliance is defined as the circumstance in which a person does not adhere to health directives ordered by a professional (The Free Dictionary, 2012) or the patient's inability to comply with the recommended treatment for their complete recovery from an ailment (NANDA, 2018).

Single-parent household. This consists of a single mother, father, grandparent, or extended family member living with the child alone or a child with siblings under the care of one adult. It could be due to divorce, death of a parent(s), and separation by immigration, economic status, or child protective service arrangements (Annie E. Casey Foundation, 2018).

Scope and Limitations

Inclusive criteria included the age of the child (0–18 years), family dynamic (single-parent household), noncompliance status (missed appointment greater than two, ER visit greater than two times in three months, verbal consent of not taking or picking up prescriptions), and ICD-10 code qualifier if any. The PI excluded all who answered yes in the demographic section consisting of the three Ds (i.e., dementia, drug or alcohol dependence, and depression; Kleinsinger, 2010); nonpediatric patients and patients from foster homes were excluded.

Chapter Summary

Numerous systems have initiated interventions that hold promise for reducing noncompliance but not directly in the population of interest, depicting a dearth of data in this area of study. The WHO has highlighted the importance of medical noncompliance and its dire consequences. Prior evidence suggests that pediatric patients from single-parent households may face challenges that negatively influence medical compliance. Motivational interviewing has been demonstrated to be effective for improving compliance, but not among pediatric patients from single-parent households. Principles of the HBM will be applied to demonstrate that change

in health beliefs can affect health outcomes. Prevention is always better than treatment because it saves time, medical costs, and ensures quality of life.

Chapter 2: Literature Review

While medical compliance is crucial, varied results are derived depending on the relevance of the intervention deployed to improve compliance. The goal of this study is to determine if motivational interviewing (MI) with the participation of the single parents of medically noncompliant pediatric patients will improve medical compliance in this population.

The World Health Organization (WHO) reports that noncompliance in preventable diseases is the primary cause of preventable complications and intervention failure (Treerutkuarkul & Gruber, 2015). Noncompliance is very prevalent in the United States among children with chronic illnesses. Between 50 and 80% of pediatric patients still struggle with noncompliance, resulting in increased hospitalizations, overuse of urgent care, and spending from 100 to 300 billion dollars on preventable health costs (McGrady et al., 2015). Therefore, a therapy that will reduce noncompliance is required. This will enhance medical, psychological, and economic results in healthcare. A seventy-five percent noncompliance rate in teenagers with chronic illness was reported; thus, the concern of pediatric healthcare providers is well-founded due to minimal or zero health benefits that result from high disease severity, complication, low quality of life, and healthcare costs (Schaefer & Kavookjian, 2017).

There is a dearth of data on medical noncompliance in pediatric patients from single-parent households. Motivational interviewing, the primary intervention in this study, has not been studied before in this population for the purpose of improving medical compliance. Based on the identified variables, the following PICOT question was designed: (P) for medically noncompliant single-parent households' pediatric patients, does (I) the use of motivational interviewing, (C) as compared to not using motivational interviewing, (O) increase global medical compliance, (T) at the end of three months? In order to support this study, an

examination of terms and various supportive literature have been reviewed, which gave a perspective to this study's purpose to improve medical compliance in pediatric patients living in a single-parent household.

Design

This review searched databases for keywords relevant for this study and are categorized into two tiers: (a) motivational interviewing and impact on medical noncompliance in patients, and (b) challenges and noncompliance in single-parent households. Key phrases were searched, and the PubMed database was searched for interventions to improve compliance in pediatric patients. Key phrases included medical noncompliance in pediatrics, motivational interviewing, challenges to compliance in single-family homes, and parental noncompliance. The search was restricted to articles published in the English language within the last five years and with full-text versions available. Overall, 58 articles were retrieved. By reviewing the topics for relevance, the articles were further narrowed to related subjects. In the context of this study, nonadherence and noncompliance are implied interchangeably.

Motivational Interviewing and Medical Noncompliance

The popularity of MI is based largely on its successful use as a technique for increasing compliance with medical management in various contexts, including HIV care, pain management, and oral care (Alperstein & Sharpe, 2016). Powell et al. (2014) argued in their research on noncompliant pediatric adolescents with type 1 diabetes (T1D) that uncontrolled diabetes due to noncompliance observed in this population is a challenge to providers and families; healthcare providers must be committed to integrating care to reduce this behavior. Considering the adverse effects caused by noncompliance, especially in young patients with

chronic illness, it is imperative to identify effective interventions for improving medical compliance (Powell et al., 2014).

Schaefer and Kavookjian (2017) found that diabetes, asthma, and HIV were the most typical chronic illness populations studied in relation to MI. Eleven out of the 12 studies reviewed found that with improved compliance comes decreased symptoms and improved quality of life after subjects received MI. This study's strength is that it emphatically recommends that other healthcare providers utilize MI in their practice to support good relationships with their patients and enable possible improvement in health outcomes. In their study of T1D youths, Powell et al. (2014) employed the four-core process of MI, which includes engaging (communication and eliciting patient's trust or alliance), focusing (the process of targeting maladaptive behavior and setting an agenda in collaboration with the patient), evoking (desire to change instigated), and planning (following set steps). This process affords providers the ability to facilitate health behavior change efficiently. The most important tenets to note about MI are patient-centeredness and its inherent style and provoking commitment to compliance behaviors. It is proven that MI is fundamental in clinical practice to promote behavior change among noncompliant youths (Powell et al., 2014).

Wu et al. (2017) claimed that conventional (health) education (CE) is not effective for promoting oral health and explored the effectiveness of MI for changing oral health behaviors. This study's results support the effectiveness of MI in enhancing adolescents' oral health adherence, at least for short or midterm outcomes. Therefore, the authors recommended that further study on MI and promoting its attribute of cost-effectiveness would attract attention to this intervention.

Young et al. (2019) purported that it is feasible and beneficial to patients when information technology, such as the telephone is utilized to administer motivational counseling in an outpatient setting. Using this channel of communicating with patients, the authors argued that physical activity is evidenced in reducing and promotes remission of diabetes or prediabetes transitioning to diabetes; yet, only five percent of patients with diabetes or prediabetes meet required guidelines for 150 minutes of exercise a week as recommended by the National Health and Nutrition Examination Survey (NHANES). Young et al. (2019) suggested that the healthcare sector encounters a large audience due to a busy office schedule; therefore, to promote healthy behaviors through this information technology setting is imperative compared to brief office education, which has short-term effects. Telephone motivational counseling is evidence-based, it incurs a minimal cost, and it saves time in a busy primary setting. Therefore, it is feasible and beneficial to patients. However, some limitations were noted. One very notable limitation was the limited training of MI interventionists, which hindered effective conversations in real-world sessions. The pilot study findings succeeded in providing important advice to the provider to evoke the desired outcome in their diabetic and prediabetic patients in achieving physical activity compliance (Young et al., 2019). This same approach is intended in this study of medical noncompliance in pediatric patients from single-parent households.

Recent MI studies by Carcone et al. (2016) are becoming more definitive and suggest that by informing, asking, and listening, we can evoke change talk, making MI a successful communication strategy that supports the patient's autonomy. Magill and Hallgren (2019) explored the three hypotheses about how MI works. The technical hypothesis utilizes the 'change talk,' which is the most effective and popular of the three hypotheses. It demonstrates MI skills by shaping the patient's statements using open-ended questions, affirmations, reflection, and

summaries. The relational hypothesis demonstrates that empathy shared with the patient will cause a positive behavior change outcome; although, this type of therapy has a limited amount of research, yet it is significant with alcohol abuse behavior. The third hypothesis suggests that conflict resolution helps in the early stages of engaging patients in MI (the precontemplation, contemplation, and preparation stages of change), focusing on ambivalence resolution. The result depicts that MI is effective in behavioral change; change talk affects long-term behavior change more than sustained talk. The relational and conflict resolution hypothesis needs additional research to address the operationalizing of its constructs and its application in the real world and not clinical trial contexts.

Finally, Nieuwlaat et al. (2014) conducted a meta-analysis of randomized controlled trials (RCTs) to determine how various interventions, including MI, can enhance medication adherence. The authors determined that recent methods were too rigorous and not productive, so were inconclusive. Motivational interviewing is a judicious but casual mechanism, patient-centered, continuous, and enables effective communication between provider and patient, thereby instigating a change talk that segues into behavior change.

Despite the evidence in the literature supporting the effectiveness of MI, some studies suggest otherwise, especially regarding behavior change relating to mental health. Kreyenbuhl et al. (2016) reported that nonadherence to psychopharmacological therapy was a vital risk factor to successful treatment in individuals with serious mental illness. Furthermore, it was reported in the study that 60% of psychiatric patients were noncompliant with prescribed medication and were at risk for serious health consequences, including exacerbation of psychiatric symptoms, frequenting the emergency department (ED) and hospitalization, as well as high healthcare costs. The authors argued that behavioral tailoring techniques such as electronic monitoring and mobile

phone-based approaches have proven more effective than psychoeducation or cognitive approaches, including MI. Nevertheless, they concluded that MI helped change compliance in medical directives and psychotic symptoms but not in adhering to medication administration in psychotic patients.

Vanderwaal (2015) suggested MI should not be a first-line therapy for schizophrenic patients because it is not effective in improving medication compliance but was effective in reducing the frequency of hospital visits and psychotic symptoms. The author reported that numerous studies support the effectiveness of MI for discouraging poor health behaviors, such as drug or alcohol use, but adequate research is not found to support MI-encouraging adaptive behaviors. Reiterating, Spoelstra et al. (2015) purported that MI and cognitive behavioral intervention improved adherence individually, but improvements were limited when interventions were administered in combination. Specifically, five of the six studies reviewed reported some improvement in medication adherence when MI was implemented. Given these contradictory reports, there is a need for additional studies to corroborate the effectiveness of MI for improving compliance, especially among pediatric patients from single-parent homes. The authors recommend that more rigorous research needs to be done for applicability purposes.

Challenges of Noncompliance in Single-Parent Homes

In 2017, Zundo and Richards conducted a meta-analysis of 16 studies with large effect size and rigorous search methods to determine the factors relating to parental compliance with sudden infant death syndrome (SIDS). The authors reported that approximately 4,000 infants die annually in the United States due to SIDS. Zundo and Richards argued that despite education and efforts to eradicate SIDS, the rate is consistently high in single parents, parents with low socioeconomic status or level of education, and African American parents. These variables

summarize attributes of a typical single-parent family, considering their socioeconomic class and cultural beliefs (Seabrook & Avison, 2015).

Noncompliance impacts patients of all ages, including children and adolescents. The WHO has highlighted medication compliance as a global problem (Spoelstra et al., 2015). An effective pediatric compliance intervention involving the patients, families, and healthcare providers is essential for quality health outcomes and may decrease healthcare costs in the process (Schaefer & Kavookjian, 2017). According to previous studies, compliance has benefits, but noncompliance negatively impacts healthcare. For example, McGrady et al. (2015) reported that \$54.5 billion was spent on pediatric healthcare utilization by patients with special needs. Regardless of these expenses, a patient's quality of life and family functionality remained suboptimal.

McGrady et al. (2015) performed an analysis of the effects of medical compliance on pediatric patients with chronic illness and the impact on system-level outcomes, patient-level outcomes, such as quality of life, family-level outcomes, such as caregiver stress and family dynamics, and community-level outcomes, which include high healthcare utilization and increase in healthcare cost and resources. Their findings demonstrated that with improved compliance, there might be a reduction in a patient's stress related to poor quality of life and illness at the micro-level, including a trend toward improvement in family functioning, less conflict, and improved caregiver quality of life. At the macro-levels, therapies that promote compliance show a decrease in emergent and hospital visits, a decrease in preventable complications, and improved intervention success. No impact was noted at the meso-level (provider), but the authors suggested that providers benefit from system-level positive outcomes. With interdisciplinary

collaboration and the family's cooperation, improved pediatric compliance will aid in attaining effective compliance promotion in children with chronic ailments (McGrady et al., 2015).

Hough-Telford et al. (2016) reported that the American Academy of Pediatrics (AAP) and Centers for Disease Control and Prevention's (CDC) immunization schedule had shown a high rate of parental noncompliance, which is a grave public health concern. Parental reason for refusal is rooted in vaccination being deemed unnecessary. The authors reported a vaccine hesitancy rate of 75%–87% in 2006, even though vaccines helped prevent 322 million cases of illness, 21 million hospitalizations, and 732,000 deaths in U.S. children born between 1994 and 2013 (Hough-Telford et al., 2016). Additionally, due to vaccine hesitancy in noncompliant parents, some of the preventable diseases have had a recent resurgence. Periodic surveys from the AAP database, which are performed three to four times annually, were utilized in this article.

Findings suggested that pediatricians were discharging noncompliant patients from their practice, but the AAP advised against it. The recommendations included finding ways to change the health behaviors of these noncompliant parents. This will require proven interventions, such as MI. Conceivably, medical compliance will be more challenging for single-parent families who have unique barriers because the children in this single-parent family structure are more disadvantaged than those in two-parent families due to low socioeconomic status, poor parent-child involvement and nurturance, an increase in the risk of mental illnesses like depression, and stress (Seabrook & Avison, 2015).

Valitutti et al. (2017) found that follow-up with celiac disease (CD) is challenging and involves strict compliance with a gluten-free diet, maintenance of nutritional adequacy, enhancing the quality of life, and disease prevention. Caring for a child with chronic disease can be challenging for two-parent families, both financially and psychologically, and may be more

taxing for a single-parent family. Patient compliance with follow-up plays a key role in the medical surveillance of chronic diseases. Lin and Wu (2014) used a meta-analysis of RCTS to prove that short message services (SMS) and telephone reminders could significantly improve adherence to follow-up, as less bias is noted with SMS than the telephone. The authors' meta-analyzed 18 relevant RCTs. Lin and Wu's (2014) findings were consistent with SMS and telephone reminders (behind-the-scene clinical interventions), improving the follow-up rate. The authors recommended that more studies are needed to evaluate interventions for improving medical compliance. This study evaluated the effectiveness of MI delivered through telephone encounters for improving medical compliance among pediatric patients from single-parent households.

Chapter Summary

The key theory of HBM purports that a change in health belief and culture is a change in health behaviors. This literature review has provided evidence that medical compliance among children and young adults is vital because it improves the quality of life and saves healthcare costs. The WHO reiterated that noncompliance is a universal epidemic with dire consequences. Evidence exists in the literature suggesting that families of chronically ill children face peculiar challenges in general, but single-parent households may be more severely affected as rightly depicted in Seabrook and Avison's (2015) research. Barriers faced by these lone caregivers were analyzed and investigated potential interventions like MI and how it can alleviate noncompliance. Finally, MI has been effective in the past in various contexts, but outcomes have varied. There is a gap in the literature regarding the impact of MI on compliance in pediatric patients from single-parent households; hence, this study's aim. The use of an NCB screening tool to assess noncompliance and the impact of MI would be appropriate.

Chapter 3: Research Method

The aim of this study's methodology section is to describe the process of data collection and analyses of the problem of interest. The content of this project includes the following protocol: study design and purpose, setting, sampling method, ethical approval and consent, data collection, instruments, data analysis, timeline, budget, risks, and benefits. The purpose of this study was to determine if motivational interviewing (MI) improved medical compliance when applied to single parents of noncompliant pediatric patients. With noncompliance comes poor health outcomes, increased utilization of healthcare services, and higher healthcare costs (Schaefer & Kavookjian, 2017). In contrast, improved medical compliance translates to more favorable health outcomes, decreased healthcare utilization, and healthcare cost savings. The principal investigator was responsible for all project processes, which included a literature review, gathering data, and selecting participants that met project inclusion criteria, participants' consent forms, translation of the informed consent forms from English to Spanish, and implementation of the pretest and posttest. The principal investigator received training on MI via a virtual course. A Spanish interpreter from the clinic was hired for the MI sessions via telephone with Spanish-speaking participants. Also, the principal investigator collaborated with a statistical consultant to ensure accuracy in data collection and performance of the appropriate statistical analyses.

Project Design

This project used a mixed method and a pretest-posttest design. Data regarding staging for noncompliance were determined by the quantitative method and data for sampling, and participant recruitment was identified by the qualitative method. Motivational interviewing effectiveness was qualitatively described. The pretest and posttest contain a set of four questions

used in staging the level of noncompliance from trivial to catastrophic stages: scored 0–1 (none to mild noncompliance), 2 (moderate noncompliance), and 3 (severe noncompliance). The project sample was obtained using purposive sampling, as described in the data collection section. As anticipated, 50–75 participants were recruited from a pediatric clinic in Socorro and El Paso, Texas; however, given the low levels of medical compliance in this population, as many as 75 participants who met the inclusion criteria were identified from electronic medical records (EMR). Permission was obtained to access these medical records from the facility’s medical director and HIPPA or FERPA form approved by IRB. The additional 50% allowance was to account for attrition. If the sample size was below 30, additional participants were recruited from a neighboring clinic. Seventy-four participants were screened for enrollment, 34 enrolled, and 32 participants completed the study, while two withdrew.

Instruments and Measurement Tools

Dr. Fred Kleinsinger’s (2010) noncompliant behavior (NCB) staging tool was used (see Appendix B). This was administered pre- and postintervention to participants. The NCB instrument was not transcribed into Spanish since the PI administered it; otherwise, a Spanish translator was available. An authorization or permission was requested from *The Permanente Journal* administrators to mitigate copyright infringement and plagiarism, and permission was granted to use the measurement staging tool (see Appendix C). Kleinsinger had used this instrument before and succeeded in rating stages of noncompliance. Seven other articles were found to have cited Fred Kleinsinger’s work. There are other noncompliance rating tools like the Morisky medication compliance scale-8 (MMAS-8), the Hill-Bone compliance scale, and the brief medication questionnaire by Svarstad (Asiri et al., 2014). Only the Kleinsinger’s NCB tool

staged noncompliance from trivial to catastrophic levels. Each stage addressed global types of noncompliance; thereby, global noncompliance can be measured under one tool.

Data Collection, Management, and Analysis Plan

Data Collection (Population and Demographics)

Prior to recruitment, participants were selected using homogeneous purposeful sampling. Purposive sampling is a nonprobability sampling technique and does not require random selection or representativeness. Specifically, the sample size was determined based on the average frequency of weekly clinic *no-shows*. Preliminary data suggest that there are, on average, 21–28 patients who missed their follow-up visits each week. Within three to four weeks, the anticipated sample size of 50–75 participants were recruited.

Protected information was collected by first requesting at least three months' records of the master scheduling sheet from the scheduler who had access to the patient's electronic medical record (EMR). This master sheet consists of patients who had missed appointment (termed 'no-shows' coded as NS) for the day, and it also contained the reason for the clinical visit (e.g., follow-ups after an ER visit or hospital follow-ups [these will be coded as FR], the patient's name, date of birth, and medical record number). From this master sheet, initial screening of qualified patients who met the noncompliance criteria were drafted. The names of patients were redacted from the master sheet for security reasons. Using the patient's medical record number, the PI accessed the patient's electronic medical record and their face sheet, which stored the patient's demographic information. Face sheet data consists of the patient's personal information, type of insurance, family dynamic (e.g., one parent involved, or two parent's information recorded, guardian type, etc.), parent's contact number, and the parent or guardian's personal information. Using this face sheet, the PI screened for inclusive criteria variables,

including the age of the child (0–18 years), family dynamic (single-parent household), and noncompliance status (missed appointment greater than two, ER visit greater than two times in three months). The PI accessed the medical history and searched if the patient had a noncompliance status ICD-10 code. Finally, the list of patients compiled, who when coming for treatment follow-up, voiced that they did not pick up their medications; hence, these were coded as medication noncompliance. After identifying qualified participants, the list was further redacted by using a de-identifier. A de-identifier was issued on all data pertaining to the participants for data protection by using the last four digits of the participants' contact telephone number and noncompliance code detected. The PI followed the standard of care requirement as provided by the Health Insurance Portability and Accountability Act of 1996 (United States Department of Health and Human Services, 2003).

Consent. The potential participants were contacted and asked if they would like to participate in the study. This first telephone call served as the first acknowledgment of consent (see Appendix D) and an introduction to what the study entailed. The participants were educated regarding the study. For example, the participants were informed about the consent letter (short summary letter and long consent form; see Appendix E) comprised of four study objectives, risks and benefits anticipated, reassurance of data protection, and voluntary participation (i.e., the ability to withdraw whenever the participants wanted to without any repercussion or coercion). After the initial consent acceptance via telephone was obtained, there may not have been mandatory documentation of the signed consent due to the risk of breach of confidentiality and risk of fear of losing benefits and child(ren)'s custody. A waiver of consent documentation request form was filled out by participants and approved by Abilene Christian University's Institutional Review Board (IRB) to waive the documentation of consent (see Appendix F).

Nevertheless, a long confirmatory written consent (see Appendix E) was prepared and sent to the participants on demand via mail, electronically, or physically picked up, but a signature was not required due to the described risks. Again, this study presented a minimal risk of harm to subjects and involved no procedures for which consent was normally required. The participants called a specified number if they had any question(s) relating to the consent. Although the population of interest comprised of pediatric patients, the MI was implemented on their adult single parent or guardian; therefore, parental consent was required, not assent. The consent form was translated into Spanish by a Spanish translator (clinic staffer) who was fluent in Spanish and passed the translation pretest given in-house at the clinic. The same in-house certified translator was also available to interpret for the Spanish-speaking participants on the phone or in face-to-face meetings. The estimated time per consent was 10 minutes and 15 minutes for participants needing translation.

Inclusive Criteria. Inclusive criteria included the age of the child (0–18 years), family dynamic (single-parent household), noncompliance status (missed appointment greater than two, ER visit greater than two times in three months, verbal consent of not taking or picking up a prescription), and ICD-10 code qualifier if any. After identifying qualified participants via the clinic EMR, minimal demographic data, such as age, gender, race, insurance information of the patient, economic status, the three Ds (dementia, drug or alcohol dependence, and depression), and education level of the participant were collected.

Exclusive Criteria. The PI excluded all who answered *yes* in the demographic section consisting of the three Ds (i.e., dementia, drug or alcohol dependence, and depression; Kleinsinger, 2010), as well as nonpediatric patients and patients from foster homes.

Data Management

All participant data were handled according to the Health Insurance Portability and Accountability Act of 1996 (HIPAA) requirements. Specifically, only authorized personnel (PI and staff) were involved in accessing participants' EMR data. Study de-identifiers were assigned to all participants' documents, which were the last four digits of a patient's telephone number with an associated noncompliance code. Only these de-identified datasets were sent to the statistical consultant. Also, data were safely stored on a password-protected computer only accessible to the PI.

Data Analysis

Data analysis was conducted once the MI intervention was delivered, and the participants completed the posttest. Pretest and posttest data were entered into a Microsoft Excel spreadsheet and subsequently imported into the SPSS version 25 software (see Appendix A). The demographic data were analyzed using descriptive statistics. Pretest and posttest data were analyzed using Wilcoxon's signed-rank test because data were not normally distributed. In this project, medical compliance was the dependent variable, and the independent variable was the MI intervention. Following statistical analysis, it was determined whether there was a statistically significant difference comparing the pretest versus posttest compliance measures.

Participant behaviors measured were as follows:

- Has missed more than two appointments (this will make the most significant impact on the study)
- Not taking medication as prescribed more than two times
- Missed his or her annual well-child check more than two times
- Frequents the ER more than two times in three months (see Appendix G).

Methodology Appropriateness

The chair and committee approval were required before the IRB approval application, then participant recruitment commenced. Data collected during this project were stored in a secure university Google drive. Data were stored in a folder under the faculty chair member's name and owned by the university in case access is needed at a future date. This drive was provided by the online graduate school for doctoral student research and supported by the university's information technology (IT) department for security purposes. Purposive sampling is a nonprobability sampling technique and does not require random selection or representativeness. This was determined via the EMR, and the IRB approved a HIPPA or FERPA for this purpose (see Appendix H). The potential participants were contacted and asked if they would like to participate in the study. A consent letter was made available, and adequate education on the study was provided, but due to the risk of breach of confidentiality, the IRB approved a waiver of consent form as deemed appropriate (see Appendix F). A pretest was determined via telephone or face-to-face using the NCB tool for staging noncompliance, then MI (intervention) was administered. The last stage involved posttest staging with the NCB tool to determine any significant difference. In all the stages, the participants were allowed to withdraw as they pleased.

Feasibility and Appropriateness

The study was conducted at the PI's practice site during regular clinic hours (Monday through Friday). The PI and Spanish interpreter conducted the explanation, educating participants on the waiver of informed consent, administering the NCB tool and MI, and analyzing the data. There was no cost for the use of the NCB tool, and permission was granted for research. However, this tool was protected to mitigate copyright infringement and plagiarism,

authorization or permission was requested from *The Permanente Journal* administrators, and permission was granted to use the staging tool (see Appendix C). The research facility and organizational arrangements were scheduled before the start of the study. The supervising physician provided a formal letter of support (see Appendix I). The nurse practitioner can play a prominent role in diagnosing noncompliance in a patient and appropriately follow a set protocol using MI to ameliorate the noncompliance status (Powell et al., 2014).

Other activities that followed the feasibility and appropriateness status include the following.

Budget. A minimum of \$2,000 was budgeted for the project. The expenses included the Spanish interpreter fees and other minor printing and statistics expenditures.

Conflict of Interest. The PI is the healthcare provider to some of these participants' children. This may constitute a known conflict of interest in this research project; nevertheless, the ACU IRB stated:

Accessing medical records for research purposes requires a consent to access and disclose Protected Health Information (PHI), even if you are only going to look at the information for participant selection. However, sometimes we cannot know from whom to seek permission without accessing the records. In such cases, a waiver of consent requirement can be approved if the PHI disclosure represents no more than minimal risk and the research could not be conducted without the waiver. In all cases, researchers should take care to only look at and collect the minimum PHI necessary to achieve the goals of the research and any personal identifiers should be destroyed as soon as possible.

Therefore, a HIPAA and FERPA waiver form was filled out to that effect and approved by the IRB (see Appendix F). The information needed in this study was for the sole purpose of identifying (recruiting) potential participants.

Institutional Review Board Approval and Process

The IRB's purpose is to review and approve, in advance or periodically, all research that involves human subjects to ensure that the study was conducted according to all federal, institutional, and ethical procedures set to protect the health and rights of the participants. A set of research guidelines and research material was needed to ensure these rights (United States Food and Drug Administration, 1998). Abilene Christian University's IRB was utilized for the approval process of granting permission to conduct the DNP project titled *Medically Noncompliant Pediatric Patients From a Single-Parent Household*. Following the IRB approval (see Appendix J), participant recruitment commenced. An IRB course was mandatory for DNP research students and faculty, and the process was completed. A certificate of completion was provided (see Appendix K). For the target population, there was additional protection for participants involved; therefore, the ACU IRB approved a waiver of consent documentation request form, which was completed to waive consent documentation (see Appendix F). The HIPPA and FERPA form was approved to allow the PI access to a patient's EMR (see Appendix H). Approval to commence research was given on September 12, 2019 (see Appendix J), and an inactivation date was on December 12, 2019 (see Appendix L).

Interprofessional Collaboration

The interprofessional collaboration includes all stakeholders, starting from the faculty at ACU, and collaboration was conducted with the DNP project chair, committee members, the DNP program director, ACU instructors, and the IRB committee. At the practice setting,

stakeholders included the Spanish interpreter and the scheduler. The supervising physician approved the study in the clinic and supported the study throughout the process, along with the participants and their children, the pharmacists, school nurses, and the PI. The PI is the nurse practitioner (NP) at the study's practice setting and has a vested interest in the study.

Practice Setting

The study's practice setting is a pediatric clinic in the Socorro and El Paso. The PI works as an FNP (advanced practice nurse). The reason for picking this site for the study was the noncompliance problem noticed in the clinic. As discussed in the methodology, the PI called each participant and obtained verbal consent with the reassurance of protection from any risk of breach of confidentiality. If the participant met the inclusion criteria, consequent calls consisted of a pretest, MI, and an appointment was scheduled. The appointment could be in the clinic or at a needed specialist's office for follow-up appointments missed. A posttest encounter was also made via telephone or face-to-face.

Target Population

The target population included pediatric patients (0–18 years), family dynamic (single-parent household), noncompliance status (missed appointment greater than two, ER visit greater than two times in three months, verbal consent of not taking or picking up a prescription), and ICD-10 code qualifier if any. The potential participants freely verbally accepted to participate in this study (the IRB approved the waiver of consent). There was no discrimination based on the participant's race, gender, education, economic status, or ethnicity during this study's selection process (see Inclusion and Exclusion Criteria).

Associated Activity Risks of DNP Project

Risk of Breach of Confidentiality and Risk of Fear of Losing Benefits and Child(ren)'s

Custody

A waiver of consent documentation request form was filled out and approved by the IRB to waive the documentation of consent (see Appendix F).

Other risks included were as follows.

Low Economic Status. In 2016, 32% of single-parent households were living in poverty compared with 7% of two-parent households (Annie E. Casey Foundation, 2018). This puts the single-parent household below the poverty line. They are likely to be receiving Medicaid and other social welfare benefits. Therefore, these families may fear that their benefits would be taken away if reported or identified for medical noncompliance.

Parent-Child Involvement and Nurturance Guilt. Again, with fear of exposure as medically noncompliant, it may be reported to child protective services that they are unfit parents. Their child(ren) may be taken away from them or custody granted to the other parent if that is the case. Also, as a parent, missing a child's milestone, or when the babysitter or a caregiver provides nurturance for a child and the parent is not able, this can create a sense of guilt (DeBord et al., 2000). With noncompliance comes decreased quality of life of a child, complications of disease, and increased healthcare utilization (Schaefer & Kavookjian, 2017), all of which may bring about guilt and a sense of failure in a parent.

Mental Health. These single parents may have gone through a traumatic event such as divorce, a court battle over custody, death of a partner, or relocation. Whatever the case may be, stress and depression are common (Seabrook & Avison, 2015). Even the day-to-day activities of running a home, working, and caring for a child(ren) are strenuous for the two-parent family and

even more difficult for a one-parent household. With this background, they may exaggerate the intention, and this can be a major limitation in this project.

Mitigation of Associated Risks

Participants were reassured that their privacy was protected, and a de-identifier (last four digits of the patient's phone number) was in place. They were informed that the data were strictly for improving clinical practice, and by their participation, other families may be helped. According to the Kids Count Data Center by the Annie E. Casey Foundation, more than 24 million children in the United States hail from a one-parent home. These participants were assured that this circumstance is not peculiar to their family.

Confidentiality and Privacy Reiterated. Participants were reassured that their data were safe, a de-identifier was in place (e.g., their information was locked in a safe, the laptop computer was password-protected), and the participants were educated about protection rules. The American Health Information Management Association (2011) code of ethics (2011) mandates providers to “advocate, uphold, and defend the individual’s right to privacy and the doctrine of confidentiality in the use and disclosure of information” (American Health Information Management Association, 2011, para. 7). Also, the government made a provision by establishing the Health Insurance Portability and Accountability Act of 1996 (HIPAA) privacy rule, which ensures that all medical providers follow the nation’s standards to protect a person’s medical records and health information, including electronic transactions, health plans, and healthcare clearinghouses. Despite these protections, participants still had the right to withdraw whenever they deemed it necessary without any penalty.

Mental Health. If any of the participants exhibited behaviors depicting symptoms of stress, depression, or emotional disturbance, provisions for referrals to their PCP (primary care provider) for appropriate psychotherapist counseling was available.

Tangible Benefits to the Study Participants

Participants experienced an increased awareness of the importance of medical compliance to a child's health, quality of life, healthcare utilization, healthcare cost savings, and a caregiver's quality of life. Hopefully, noncompliance screening can be inculcated into Texas Health Steps, especially when a child is newly diagnosed with chronic diseases. This will ensure that the disease is well controlled.

Project Timeline

As estimated, the following timeline (see Appendix M) represented the actual events that occurred in this study. After the participants were recruited, the pretest was conducted at the same time the consent was confirmed via telephone or face-to-face. The time estimated for the pretest was five minutes for English-speaking participants and 10 minutes with the Spanish-speaking participants needing translation. This was conducted within the first- to fourth-week interval. The goal of the pretest was to assess baseline compliance. After verbal informed acceptance was obtained and following the pretest, MI was implemented via telephone. Due to the relatively short timeline for this project, a telephone interview was utilized. Office visits are known to be more time-consuming and resource-intensive; therefore, telephone motivational interviewing is evidence-based, incurs minimal costs, saves time in a busy primary setting, and is feasible and beneficial to patients (Young et al., 2019). Telephone interviewing is also feasible because it was conducted in the participant's familiar setting (home), which decreases attrition. The MI was a collaborative process consisting of five sectioned questions and discussion,

depending on the participants' responses (see Appendix N). Estimated time was 15 minutes for English-speaking participants and 20 minutes for Spanish-speaking participants. The MI was applied from the fourth to eighth weeks. The posttest was performed on the ninth week and took the same amount of time as the pretest. The posttest was to determine if there was any improvement in medical compliance following the MI intervention. From week 10 to 12, data analysis and discussion were conducted (see Appendix O).

Chapter Summary

Methodology depicts the process involved in the implementation of the study. Selection criteria were established for participants. The population of interest comprises the single parents of noncompliant pediatric patients. A mixed methodology and pretest-posttest design were employed. Institutional review board and chair approval were sought before commencing participant recruitment. Following approval, recruitment was from a primary clinic in Socorro and El Paso, Texas, the primary site where this project was conducted. The clinic's EMR was used to select qualified participants. There were minimal emotional risks anticipated in this study, and there were plans for mitigating these risks. The estimated timeline for this study was three months. Finally, the benefit of this study outweighed the risk.

Chapter 4: Project Analysis: Methods and Results Narrative

This project used a mixed method and a pretest-posttest design. Data regarding staging for noncompliance were determined by the quantitative method and data for sampling and participant recruitment were identified by the qualitative method. Participants were recruited or selected using homogeneous purposeful sampling. Purposive sampling is a nonprobability sampling technique and does not require random selection or representativeness. Specifically, the sample size was determined based on the average frequency of weekly clinic no-shows. Preliminary data suggest that there are, on average, 21–28 patients who missed their follow-up visits each week. Within three to four weeks, the anticipated sample size of 50–75 participants were recruited. Pretest and posttest data were inputted into a Microsoft Excel spreadsheet and subsequently imported into the SPSS version 25 software. The demographic data consisting of gender, age, medical compliance status, race, level of education, language, socioeconomic status, psychological history, and family status of the participants was analyzed using descriptive statistics. Pretest and posttest data were analyzed using a paired *t* test, Wilcoxon's signed-rank test, since data were not normally distributed; hence, data were tested for the assumption of normality using the Shapiro-Wilk's test. Fred Kleinsinger's (2010) noncompliant behavior (NCB) staging tool was used. This was administered to participants to determine any difference between pre- and post-MI intervention. A certified Spanish translator translated the NCB instrument for Spanish-speaking participants. This chapter's content includes the following: the method, results consisting of the descriptive statistics, characteristics of the study participants, and comparison of noncompliance pre- versus postintervention data.

Purpose of the Project

The purpose of this study was to determine if motivational interviewing (I), when applied to noncompliant pediatric patients from single-parent households (P), will improve global medical compliance in this population (O) as compared to not using motivational interviewing (C) at the end of three months (T). The concern for medical noncompliance is warranted due to consequences it presents in healthcare, such as the high incidence of disease exacerbations, risk of complications, low quality of life, and increased healthcare costs (Schafer & Kavookjian, 2017). Data on medical noncompliance in pediatric patients from single-parent households were limited, and MI, which is the primary intervention in this study, has not been studied before in this population for the purpose of improving medical compliance. The purpose of this study was to determine if MI, with the participation of the noncompliant pediatric patient, could improve this population's medical compliance.

Discussion of Demographics

The study took three months to complete, as stated in the timeline. The project sample was obtained using purposive sampling, as described in the data collection section. Seventy-five participants were originally approved for screening, 74 were screened for enrollment and 34 enrolled. Thirty-two participants completed the study, while two withdrew. Withdrawal was due to child removal by child protective services to a foster home (no longer met eligibility criteria; documents destroyed) in one participant and loss of follow-up in the second participant. These participants were recruited mostly from a pediatric clinic in Socorro and one from an El Paso clinic in Texas; however, given the low levels of medical compliance in this population, diverse populations were not recruited, but recruitment was based on the participant's acceptance. According to the United States Census Bureau (2016) and Suburban Stats (2019), El Paso and

Socorro, when combined, consists of 871,251 residents of which approximately 90% identified as Hispanic or Latino. In this study, all the participants identified as Hispanic, even though some are of mixed-race heritage. Out of the 32 participants recruited, 15 needed Spanish translation services since they are non-English-speaking, while 17 did not need translation. The age of participants' children varied from two years old to 17 years old. The parent's age was not inputted since the study is based on their children, but the parent's age varies from 21 to persons 74 years and older. Also, all the participants were Medicaid patients; hence, most fell in the lower-income socioeconomic status. There were 31 females and one male participant parent. The parent's level of education varied and averaged at the high school level.

Data Analysis

Medical compliance data were analyzed using descriptive statistics. The data were tested for the assumption of normality using the Shapiro-Wilk's test. Since data were not normally distributed, compliance scores were compared between pretest and posttest periods using the Wilcoxon signed-rank test. Hypothesis testing was considered statistically significant at $p < .05$.

Descriptive Statistics

Overall, there were a total of 32 participants (pediatrics), among which 59.4% ($n = 19$) were male and 40.6% ($n = 13$) were female. Mean age was 10.75 years ($SD = 4.54$). Most participants (59.4%, $n = 19$) had some chronic disease diagnoses for at least one year, 28.1% ($n = 9$) had been diagnosed for less than a year, and 6.3% each had been diagnosed for two years ($n = 2$) and three years ($n = 2$), respectively.

Most participants, 90.6% ($n = 29$), had missed their follow-up appointments more than twice, and an overlap among them consisted of those who did not take their medication as prescribed and had frequent ER visits. However, only 21.9% ($n = 7$) reported not taking their

prescribed medications. While 46.9% ($n = 15$) missed an annual well-child visit, only 9.4% ($n = 3$) reported making frequent visits to the emergency room.

During the preintervention phase, two participants (6.25%) scored one (mild noncompliance), 24 (75%) had a noncompliance score of two (moderate noncompliance), and six (18.75%) had a score of three (severe noncompliance). Compliance improved during the postintervention phase: 12.5% ($n = 4$) had a noncompliance score of 0, 62.5% ($n = 20$) had a noncompliance score of 1, 21.9% ($n = 7$) had a noncompliance score of 2, and 3.1% ($n = 1$) had a score of 3 (see Table 1).

Table 1*Characteristics of Study Participants*

Variable	Level	<i>f</i> (%)	<i>M</i>	<i>SD</i>
Sex	Male	19 (59.4%)		
	Female	13 (40.6%)		
Age (Years)			10.75	4.54
Years since Diagnosis	0	9 (28.1%)		
	1	19 (59.4%)		
	2	2 (6.3%)		
	3	2 (6.3%)		
Missed > 2 Appointments	No	3 (9.4%)		
	Yes	29 (90.6%)		
Not Taking Medication as Prescribed	No	25 (78.1%)		
	Yes	7 (21.9%)		
Missed Annual Well-Child Visit	No	17 (53.1%)		
	Yes	15 (46.9%)		
Frequent ER Visits	No	29 (90.6%)		
	Yes	3 (9.4%)		
Noncompliance Stage (Pre)	1	2 (6.25%)	2.13	0.49
	2	24 (75.0%)		
	3	6 (18.8%)		
Noncompliance Stage (Post)	0	4 (12.5%)	1.16	0.68
	1	20 (62.5%)		
	2	7 (21.9%)		
	3	1 (3.1%)		

Pre- and Postintervention Comparisons

Normality Tests

A normality test is used to determine whether the distribution of a set of data approximates the normal distribution. Shapiro-Wilk's test of normality was statistically significant, suggesting that the distribution of the sample data were significantly different from a normal distribution. Failing the normality test is likely due to the small sample size, as will be reported in the limitations of the study. This was observed for both the pre- ($W = 0.33, p < .01$) and postintervention ($W = 0.80, p < .01$) data (see Table 2).

Table 2

Shapiro-Wilk's Test of Normality

Normality Test	Statistics	<i>df</i>	<i>p</i> -value
Preintervention	0.334	32	< .01
Postintervention	0.802	32	< .01

Wilcoxon Signed-Rank Test

To compare ordinal data that were not normally distributed between pre- and postintervention phases of the study, the nonparametric equivalent of a paired sample *t* test (i.e., Wilcoxon signed-ranked test) was employed. Median noncompliance decreased from 2 preintervention to 1 postintervention. The median difference in compliance between the pre- and postintervention phases was statistically significantly different than 0 ($z = -4.66, p < .01$; see Table 3).

Table 3*Comparison of Noncompliance Pre- vs. Postintervention*

	<i>z</i>	<i>p</i> -value	Wilcoxon <i>W</i> Statistics
Wilcoxon Signed-Rank Test	-4.66	< .01	351

Question Guiding the Inquiry

The PICOT question was structured to evaluate concepts identified in the problem of interest and included all components that will support good practice efforts. For medically noncompliant pediatric patients from a single-parent household (P), does (I) the use of motivational interviewing (C) as compared to not using motivational interviewing (O) increase medical compliance (T) at the end of three months? This study's findings revealed that noncompliance decreased with MI intervention; therefore, the research questions were answered: Motivational interviewing decreased medical noncompliance in pediatric patients from single-parent households.

Also, to what degree did participants feel that the intervention had empowered them to change behavior, and this was determined from the result, which depicted that the median noncompliance decreased from 2 preintervention to 1 postintervention. The median difference in compliance between the pre- and postintervention phases was statistically significantly different than 0 ($z = -4.66, p < .01$).

Reliability and Validity

Seven other articles were found to have cited Fred Kleinsinger's (2010) work. Kleinsinger had used this instrument before and succeeded in rating stages of noncompliance. There are other noncompliance rating tools like the Morisky medication compliance scale-8

(MMAS-8), the Hill-Bone compliance scale, and a brief medication questionnaire by Svarstad (Asiri et al., 2014). Only the Kleinsinger's (2010) NCB tool staged noncompliance from trivial to catastrophic levels. Each stage addressed global types of noncompliance, and global noncompliance can be measured under one tool. Also, recent MI studies, as reported by Carcone et al. (2016), are becoming more definitive, and this suggests that informing, asking, and listening evoke change talk, making MI a successful communication strategy that supports the patient's autonomy.

Strength of the Study

This study has several strengths. It confirmed what other studies found, which was MI is effective in decreasing medical noncompliance. It also provided evidence in response to recommendations from these studies. Also, it created the awareness that providers should make a conscious effort in creating time for screening and identifying at-risk patients of noncompliance for the MI process and time for reevaluation. One of the techniques utilized in the MI process include creating a hospitable atmosphere between the provider and the parents. Philip Hallie said that deeds speak louder than words and that hospitality is an environment (can be through the telephone) depicting safety, comfort, respect, acceptance, and friendship; therefore, requiring attentive listening, mutual sharing, open-mindedness, willingness to assist others. Simply put, it connects us to the Divine and to the Holy ground (Pohl, 2001).

Another incorporated technique is mindfulness, which is the act of being present in the moment with the parent or patient. Mindfulness helps improve the provider's ability to connect with the parent or patient, thus enabling the providers to work with human factors and communicate effectively (Barbash, 2018). Additionally, the study incorporated the culture and belief systems with which the family identifies. Practitioners must be responsible for being

culturally knowledgeable in cases where the patient is from a different ethnicity and culture from the provider's own because there can be a cultural or ethnic implication in handling such patients (Synovitz & Larson, 2013).

Limitations

Most of the parents preferred to schedule a visit before accepting to participate in the study. This was due to the dominant Hispanic cultural and belief system in El Paso, Texas, where it is required that a person is familiar with someone before commitments are made. A few agreed to participate in the study via telephone because they were already familiar with the PI. Telephone MI is helpful after face-to-face encounters but not as effective in initiating MI intervention. When a child has not honored any scheduled visit, this virtual encounter is necessary. Also, as predicted, the parents were not comfortable signing the consent form, so consent was waived, as approved by the IRB, and all participants were enlisted when verbal consent was given. Also, the small sample size of 32 participants, the short time frame of three months, and the utilization of ordinal scale scores of 1–3 are limitations noted in the study.

Interpretation and Inference of the Findings

Seventy-five participants were originally approved for screening, 74 were screened for enrollment and 34 enrolled. Thirty-two participants completed the study, while two withdrew. The withdrawals were due to child removal by child protective services to a foster home (no longer met eligibility criteria; documents destroyed) in one participant, and loss of follow-up in the second participant.

Among participants, median noncompliance decreased from 2 preintervention to 1 postintervention. The median difference in compliance between the pre- and postintervention phases was statistically significantly different than 0 ($z = -4.66, p < .01$). This finding suggests

that MI may decrease noncompliance in pediatric patients from single-parent families. During this study, communication was vital, and patient follow-up was crucial; however, building a relationship with patients and their families was essential to resolving noncompliance.

This study's findings depict that medical noncompliance may be due to social determinants, cultural factors, or even cognitive impairments. The social determinants consist of where an individual is born, including the social and health environment. Furthermore, social determinants entail discrimination based on educational level, marital status, income status, physical residence, transportation systems, type of food available, access to healthcare services, insurance status, and quality of care available. Invariably, social determinants hinge on the lack of essential opportunities, inequality in healthcare, or lack of resources to aid in improving and maintaining health (Centers for Disease Control and Prevention, 2019).

During the MI process, social determinants were addressed to improve medical compliance in our pediatric patients. For example, many of the parents in this study had transportation problems and preferred bus vouchers over Medicaid-sponsored taxis. These parents believed that the bus vouchers allowed them the flexibility to change their schedule and plan, which the taxis did not allow since they must book the taxi two weeks in advance.

Other factors that were discussed as contributing to noncompliance include deficits in cognitive or executive function or impairments affecting the frontal lobe, which prevents adequate decision-making on the part of the parents. The brain's frontal cortical areas are responsible for the executive functions such as abstract thoughts, motivation, planning, concentration, and ability to perform tasks (Crews & Boettiger, 2009). Therefore, it is imperative to follow-up with these parents more closely in order to help them with simple decision-making, such as improving on honoring medical appointments or adhering to a medication regimen. For

some patients, compliance was achieved immediately when their prescription composition was changed from tablet to liquid. For example, a child with attention deficit hyperactivity disorder started taking her medication when the medication composition was changed from tablets to liquid with a preferred cherry flavor. In some cases, the school nurse was enlisted to help with proper medication administration, which ensured that it was given in a timely manner with a proper dose.

Chapter Summary

This study and previous studies have reiterated that the impact of medical compliance has benefits and noncompliance has consequences. Decreasing noncompliance could result in better health outcomes, benefiting the pediatric patients in the single-parent household and decreasing healthcare costs (Schafer & Kavookjian, 2017). An Arabian proverb pinpoints the significance of the problem of interest (medical noncompliance); preventing a disease is better than treating it (Mokdad & Lopez, 2014). As the result depicts among the participants, the median noncompliance decreased from 2 preintervention to 1 postintervention. The median difference in compliance between the pre- and postintervention phases was statistically significantly different than 0 ($z = -4.66, p < .01$). This finding suggests that MI may decrease noncompliance in pediatric patients from single-parent families. The next chapter will summarize the DNP essentials, nursing implications, recommendations, and future approaches.

Chapter 5: Discussion, Conclusions, and Recommendations

Noncompliance is a patient's inability to comply with the recommended treatment for their complete recovery from an ailment (NANDA, 2018), while compliance is the extent to which a patient adheres to the provider's directive, such as medication and orders given (Schaefer & Kavookjian, 2017). The purpose of the study was to determine if motivational interviewing, when applied to noncompliant pediatric patients from single-parent households, would improve global medical compliance compared to not using motivational interviewing at the end of three months. The demographics of residents in Socorro and El Paso are mostly Hispanic or Latino. Motivational interviewing was used in pre- and post-compliance staging using the NCB tool to determine if there was a change in compliance after MI was given. In Chapter 4, the evidence that MI did revise or positively impacted medical noncompliance in pediatric patients from a single-parent family residing in Socorro and El Paso, Texas, was analyzed. In this chapter, the DNP essentials, nursing implications, recommendations, and future approaches will be discussed.

Noncompliance impacts patients of all ages, including children and adolescents. Spoelstra et al. (2015) reported that the World Health Organization (WHO) has warned that medication noncompliance is a universal problem representing a major challenge for healthcare providers who strive to ensure the best outcome for their patients. An effective pediatric compliance intervention involving the patients, families, and healthcare providers is essential for quality health outcomes and may decrease healthcare costs (Schaefer & Kavookjian, 2017). Previous studies reiterated that compliance has benefits and noncompliance has consequences. This study examined if motivational interviewing (MI), with the participation of the single parents of medically noncompliant pediatric patients, would improve medical compliance.

Findings from other studies suggested that MI was effective in curbing or reducing noncompliance. For example, Wu et al. (2017) claimed that conventional (health) education (CE) was not effective for promoting oral health and explored the effectiveness of MI for changing oral health behaviors. The authors recommended that further studies on MI, promoting its attribute of cost-effectiveness, would draw much-needed attention to this intervention. In response to the recommendation, this study applied similar methods to those described by Young et al. (2019). In their study, the authors emphasized the feasibility and benefit of using information technology tools, such as the telephone, to administer motivational counseling in an outpatient setting.

Telephone-based motivational counseling is evidence-based, incurs minimal costs, and saves time in a busy primary setting. The study by Young et al. (2019) was limited by inadequate training of the interventionist, a limitation that was proactively addressed in this study. Due to the sample size, only the PI and the interpreter conducted the telephone MI. An effective pediatric compliance intervention involving the patients, families, and healthcare providers is essential for quality health outcomes and may decrease healthcare costs (Schaefer & Kavookjian, 2017). The studies mentioned substantiate that MI is essential in curbing noncompliance in a single-parent pediatric patient.

Implications of Analysis for Leaders

Healthcare providers must screen for potential noncompliance risks and prevent it before it manifests. They must also identify a problem and add the official ICD-10 code diagnosis for noncompliance with proper qualification as it pertains to the patient. This will help to initiate and follow through with a deliberate and systematic MI process and will be eligible for reimbursement from the insurance companies. The recommendations are to work on the process and update

them on what works. For example, the use of telemedicine may bridge the gap in the number of no-shows among this group. Again, telemedicine will be vital if and when face-to-face encounters fail. A discussion of the essentials of the doctoral education for advanced nursing education practice (American Association of Colleges of Nursing, 2006) for advanced practice nurses follows to depict how the study's implication for clinical practice adheres to the set guidelines of the essentials of the DNP.

Evidence-Based Practice Findings and Essentials of Doctoral Education for Advanced Practice Nurses

Essential 1: Scientific Underpinnings. The literature review helped support the benefits of MI to improve compliance of single parents with medically noncompliant pediatric patients. The health belief model (HBM) is the conceptual framework that supports the objectives of this study. It was formulated to study and positively impact health behavior. Developed by social psychologists in 1950, the HBM helps researchers to understand the reluctance found in some patients during the screening of preventable and detectable diseases. This theory has succeeded in elucidating issues related to patient compliance and preventive healthcare actions (Resource Center for Adolescent Pregnant Prevention, 2018).

Essentials II: Organizational and Systems Leadership. A care delivery plan was developed to solve the needs of these single parents of medically noncompliant pediatric patients. Based on this project's findings, it is evidenced that following a set process can improve the quality of care and patient safety in this population. If needed, the NP will incorporate a business plan to propose utilizing telemedicine to bridge the gap in the number of no-shows among this group. The NP will also propose an organized process in the form of a care plan or order set as a guide once a patient is diagnosed with medical noncompliance.

Essential III: Clinical Scholarship and Analytical Methods. Evaluating the effects of MI in the single-parent pediatric family that are medically noncompliant in this study setting shows a sure means of monitoring change in compliant behavior outcomes. The measurement tool used was the Fred Kleinsinger's (2010) noncompliant behavior (NCB) staging tool to report medical compliance outcome. The median noncompliance decreased from 2 preintervention to 1 postintervention. The median difference in compliance between the pre- and postintervention phases was statistically significantly different than 0 ($z = -4.66, p < .01$). This finding suggests that MI may decrease noncompliance in pediatric patients from single-parent families.

Essential IV: Information Systems and Patient Care Technology. The use of information technology in this study examined if motivational interviewing (MI) was effective in single parents of medically noncompliant pediatric patients and enabled the data collection and analysis. Using the SPSS version 25 software and Fred Kleinsinger's (2010) noncompliant behavior (NCB) staging tool to analyze data outcomes helped in data translation. Utilizing telephone encounters during the process was also an attribute to information technology. If needed, the PI will incorporate this process into practice as an assessment tool to measure noncompliant outcomes pre- and postintervention.

Essential V: Healthcare Policy. Patient education and awareness of the healthcare policy affecting them is crucial and will promote patient compliance and safety. Campaigning through public awareness programs to promote this awareness en masse, the government, and healthcare providers is essential and depicts the need to incorporate the protocol of the noncompliance process in a pediatric practice. If needed, the NP will utilize this campaign to highlight the importance of cost savings in healthcare when medical compliance is made a key element in healthcare reforms.

Essential VI: Interprofessional Collaboration. One of the responsibilities of a nurse practitioner in a family practice is the ability to communicate the process with their supervising physician, fellow NPs, allied staff, and patients. Incorporating and promoting essential communication and collaborative skills will aid in information processing and promote smooth clinical flow and patient care. Good communication skills will help the NP to integrate care within the practice teams to guarantee continuous and reliable care (Institute of Medicine, 2003). Using technical motivational interviewing skills can fortify a provider by exhibiting communication skills to interact with other health professionals.

Essential VII: Clinical Prevention and Population Health. The core competence of nursing is the ability to understand data that will improve healthy behaviors, disease prevention, and lower the cost of care (IOM, 2003). The NP should also be able to evaluate and interpret data to be a resource for the patient as it relates to illness prevention and following medical guidance. This study incorporates the implications of the health belief model (HBM) and MI, which will help reduce noncompliant behavior; hence, improving clinical prevention and population health.

Essential VIII: Advanced Nursing Practice. As an advanced nurse practitioner in a family practice setting, it is crucial to note that this study evaluated and researched that MI is an effective method of advancing medical compliance in pediatric patients from a single-parent family. The outcome in this study depicts evidence-based results to guide the healthcare practices concerning the issues relating to medical noncompliance in the pediatric sections, especially on single-parent families. The process used showed the footprint that can be copied as a practice skill while applying nursing science in a family practice environment.

Recommendations for Future Research

The Ages and Stages Questionnaire (ASQ-3) is used in screening for developmental delays in children (Ages and Stages, 2018), M-Chat™ for autism, (Robins, 2020), the PHQ-9 (Kroenke et al., 2001), and CAGE screening (The Alcoholism Guide, 2020) for determining mental health risks in teenagers. Like these tools, the NCB tool can be effectively used to screen for noncompliance risk, especially in children newly diagnosed with chronic diseases such as asthma, diabetes, and heart disease. Also, when a patient is diagnosed as noncompliant due to exhibited behavior depicting such risks, then a set process can be implemented, including administering MI to ameliorate the noncompliant status. Increased use of telehealth is recommended to increase healthcare access caused by factors of social determinates. The future approach for this study asks, can healthcare providers contribute to noncompliance in patients due to poor engagement in care delivery and resource stewardship?

Conclusion

Motivational interviewing significantly decreased medical noncompliance among pediatric patients from a single-parent family. The telephone interview facilitated the MI process when it occurred following an initial face-to-face encounter where mutual trust could be developed. In this study, some social determinants noted to be potential risk factors for noncompliance were addressed. Telephone follow-ups were scheduled for parents found to be with cognitive or executive function challenges to help with short-term decision-making. Medication adjustments were also made to accommodate the patients in order to achieve compliance in this population. Cultural and spirituality considerations were incorporated into the MI process in order to gain participants' cooperation better. Nurse practitioners and other

healthcare providers are encouraged to partake in efficient healthcare delivery and healthcare resource management.

References

- Ages and Stages. (2018). *Developmental screening toolkit: Tips and foals for early childhood programs*. <https://agesandstages.com/wp-content/uploads/2018/01/Dev-Screening-Toolkit-2018.pdf>
- Alper, E., O'Malley, T., & Greenwald, J. (2017). *Hospital discharge and readmission*. UpToDate AHRQ Patient Safety Network. <https://www.uptodate.com/contents/hospital-discharge-and-readmission>
- Alperstein, D., & Sharpe, L. (2016). The efficacy of motivational interviewing in adults with chronic pain: A meta-analysis and systematic review. *Journal of Pain, 17*(4), 393–403. <https://doi.org/10.1016/j.jpain.2015.10.021>
- American Health Information Management Association. (2011). *Code of ethics*. <http://library.ahima.org/doc?oid=105098#XxG2RJNKh0s>
- American Association of Colleges of Nursing. (2006). *The essentials of doctoral education for advanced nursing practice*. <https://www.aacnnursing.org/DNP/DNP-Essentials>
- Annie. E. Casey Foundation. (2018). *Children in single-parent families*. Kids Count Data Center. <http://datacenter.kidscount.org/publications>
- Asiri, H., Aldosari, B., & Saddik, B. (2014). Nurses' attitude, acceptance and use of electronic medical records (EMR) in King AbdulAziz Medical City (KAMC) in Riyadh, Saudi Arabia. *Merit Res Journals, 2*(3), 66–77. <https://www.semanticscholar.org/paper/Nurses'-attitude%2C-acceptance-and-use-of-Electronic-Asiri-Aldosari/4811505ebfa03b1c2fdf2e3276dc84e838e3941b>

- Barbash, E. (2018, January 7). Mindfulness and being present in the moment. *Psychology Today*.
<https://www.psychologytoday.com/us/blog/trauma-and-hope/201801/mindfulness-and-being-present-in-the-moment>
- Carcone, A. I., Jacques-Tiura, A. J., Hartlieb, K. E. B., Albrecht, T., & Martin, T. (2016). Effective patient–provider communication in pediatric obesity. *Pediatric Clinics of North America*, 63(3), 525–538. <https://doi.org/10.1016/j.pcl.2016.02.002>
- Centers for Disease Control and Prevention. (2019). *NCHHSTP social determinants of health*.
<https://www.cdc.gov/nchhstp/socialdeterminants/index.html>
- Champion, V. L. (1984). Instrument development for health belief model constructs. *Advances in Nursing Science*, 6(3), 73–85. <https://doi.org/10.1097/00012272-198404000-00011>
- Crews, F., & Boettiger, C. (2009). Impulsivity, frontal lobes and risk for addiction. *Pharmacology, Biochemistry, and Behavior*, 93(3), 237–247.
<https://doi.org/10.1016/j.pbb.2009.04.018>
- Current Nursing. (2012). *Nursing theories: Health belief model*.
http://currentnursing.com/nursing_theory/health_promotion_model.html
- DeBord, K., Canu, R., & Kerpelman, J. (2000). Understanding a work-family fit for single parents moving from welfare to work. *Social Work*, 45(4), 313–324.
<https://doi.org/10.1093/sw/45.4.313>
- Enekwechi, C. (2014). Why the Jonathan persecution? *Vanguard*.
<https://www.vanguardngr.com/2014/02/jonathan-persecution/>
- Garfield, C. (2009). Variations in family composition. In *Developmental-behavioral pediatrics* (4th ed., pp. 94–102). Elsevier. <https://doi.org/10.1016/B978-1-4160-3370-7.00009-2>

- Healthdirect. (2018). *Complications of asthma*. <https://www.healthdirect.gov.au/complications-of-asthma>
- Hough-Telford, C., Kimberlin, D., Aban, I., Hitchcock, W., Almquist, J., Kratz, R., & O'Connor, K. (2016). Vaccine delays, refusals, and patient dismissals: A survey of pediatricians. *Pediatrics*, *138*(3), e2016–e2127. <https://doi.org/10.1542/peds.2016-2127>
- Institute of Medicine. (2003). *Core competencies*. https://med.und.edu/continuing-medical-education/_files/docs/iom-competencies.pdf
- Jones, C., Smith, H., & Llewellyn, C. (2014). Evaluating the effectiveness of health belief model interventions in improving adherence: A systematic review. *Health Psychology Review*, *8*(3), 253–269. <https://doi.org/10.1080/17437199.2013.802623>
- Kirkcaldy, B., Siefen, R., & Shephard, R. (2010). *The making of a good doctor*. Nova Science Publishers.
- Kleinsinger, F. (2010). Working with the noncompliant patient. *The Permanente Journal*, *14*(1), 54–60. <https://doi.org/10.7812/tpp/09-064>
- Kreyenbuhl, J., Record, E. J., & Palmer-Bacon, J. (2016). A review of behavioral tailoring strategies for improving medication adherence in serious mental illness. *Dialogues in Clinical Neuroscience*, *18*(2), 191–201. <https://www.ncbi.nlm.nih.gov/pubmed/27489459>
- Kroenke, K., Spitzer, R. L., & Williams, J. B. (2001). The PHQ-9: Validity of a brief depression severity measure. *Journal of General Internal Medicine*, *16*(9), 606–613. <https://doi.org/10.1046/j.1525-1497.2001.016009606.x>
- Lin, H., & Wu, X. (2014). Intervention strategies for improving patient adherence to follow-up in the era of mobile information technology: A systematic review and meta-analysis. *PLoS ONE*, *9*(8), e104–e266. <https://doi.org/10.1371/journal.pone.0104266>

- Magill, M., & Hallgren, K. A. (2019). Mechanisms of behavior change in motivational interviewing: Do we understand how MI works? *Current Opinion in Psychology*, *30*, 1–5. <https://doi.org/10.1016/j.copsyc.2018.12.010>
- McGrady, M., Ryan, J., Gutiérrez, C., Fredericks, E., Towner, E., & Pai, A. (2015). The impact of effective pediatric adherence promotion interventions: Systematic review and meta-analysis. *Child: Care, Health & Development*, *41*(6), 789–802. <https://doi.org/10.1111/cch.12271>
- Meng, X., Gao, W., Wang, K., Han, C., Zhang, W., & Sun, C. (2018). Adherence to medical regimen after paediatric liver transplantation: A systematic review and meta-analysis. *Patient Preference and Adherence*, *13*, 1–8. <https://doi.org/10.2147/PPA.S181195>
- Mokdad, A. H., & Lopez, A. D. (2014). Prevention is better than treatment: The case of Qatar. *Population Health Metrics*, *12*(1), 21. <https://doi.org/10.1186/s12963-014-0021-1>
- Nieuwlaat, R., Wilczynski, N., Navarro, T., Hobson, N., Jeffery, R., Keenanasseril, A., Agoritsas, T., Mistry, N., Iorio, A., Jack, S., Sivarmalingam, B., Iserman, E., Mustafa, R. A., Iedraszewski, D., Cotoi, C., & Haynes, R. B. (2014). Interventions for enhancing medication adherence. *Cochrane Database of Systematic Reviews*, *11*. <https://doi.org/10.1002/14651858.CD000011.pub4>
- North American Nursing Diagnoses Association. (2018). *Noncompliance*. <https://health-conditions.com/noncompliance-nursing-diagnosis-care-plan/>
- One Mind Therapy. (2018). *Operational definition psychology: Definition, examples, and how to write one*. <https://onemindtherapy.com/research/operational-definition-psychology-definition-examples-and-how-to-write-one/>

- Pohl, C. (2001). *Making room: Recovering hospitality as a Christian tradition*. William Eerdmans Publishing.
- Powell, P. W., Hilliard, M. E., & Anderson, B. J. (2014). Motivational interviewing to promote adherence behaviors in pediatric type 1 diabetes. *Current Diabetes Reports, 14*(10), 531. <https://doi.org/10.1007/s11892-014-0531-z>
- Resource Center for Adolescent Pregnant Prevention. (2018). *Theories and approaches: Health belief model*. Retrieved June 9, 2018, from <http://recapp.etr.org/recapp/index.cfm?fuseaction=pages.theoriesdetail&PageID=13>
- Robins, D. (2020). *M-Chat*_{tm}. <https://mchatscreen.com/>
- Rollnick, S., Miller, W. R., & Butler, C. (2008). *Motivational interviewing in healthcare: Helping patients change behavior*. Guilford Press.
- Rosenstock, I. (1974). Historical origins of the health belief model. *Health Education Monographs, 2*(4), 334. <https://doi.org/10.1177/109019817400200403>
- Schaefer, M., & Kavookjian, J. (2017). Review article: The impact of motivational interviewing on adherence and symptom severity in adolescents and young adults with chronic illness: A systematic review. *Patient Education and Counseling, 100*(12), 2190–2199. <https://doi.org/10.1016/j.pec.2017.05.037>
- Seabrook, J., & Avison, W. (2015). Family structure and children's socioeconomic attainment: A Canadian sample. *Canadian Review of Sociology, 52*(1), 66–88. <https://doi.org/10.1111/cars.12061>
- Spoelstra, S., Schueller, M., Hilton, M., & Ridenour, K. (2015). Interventions combining motivational interviewing and cognitive behaviour to promote medication adherence: A

- literature review. *Journal of Clinical Nursing*, 24(9-10), 1163–1173.
<https://doi.org/10.1111/jocn.12738>
- Synovitz, L., & Larson, K. (2013). *Complementary and alternative medicine for health professionals: A holistic approach to consumer health*. Jones & Bartlett Learning.
- Suburban Stats. (2019). *Population demographics for El Paso and Socorro, Texas in 2019*.
<https://suburbanstats.org/population/texas/how-many-people-live-in-el-paso>
- The Alcoholism Guide. (2020). *CAGE questionnaire: Alcoholism screening test*.
<https://www.the-alcoholism-guide.org/cage-questionnaire.html>
- The Free Dictionary. (2012). *Noncompliance*. (2012). <https://medical-dictionary.thefreedictionary.com/noncompliance>
- Treerutkuarkul, P., & Gruber, K. (2015). Prevention is better than treatment. *Bulletin of the World Health Organization*, 93, 594–595. <http://dx.doi.org/10.2471/BLT.15.020915>
- United States Census Bureau. (2016). *Living arrangements of children under age 18*.
<https://www.census.gov/newsroom/press-releases/2016/cb16-192.html>
- United States Department of Health and Human Services. (2003). *Summary of the HIPAA privacy rule*. Offices of Civil Rights. <https://www.hhs.gov/hipaa/for-professionals/privacy/index.html>
- United States Food and Drug Administration. (1998). *Institutional review boards frequently asked questions*. <https://www.fda.gov/regulatory-information/search-fda-guidance-documents/institutional-review-boards-frequently-asked-questions>
- Valitutti, F., Trovato, C., Montuori, M., & Cucchiara, S. (2017). Pediatric celiac disease: Follow-up in the spotlight. *Advances in Nutrition*, 8(2), 356–361.
<https://doi.org/10.3945/an.116.013292>

- Vanderwaal, F. M. (2015). Impact of motivational interviewing on medication adherence in schizophrenia. *Issues in Mental Health Nursing, 36*(11), 900–904.
<https://doi.org/10.3109/01612840.2015.1058445>
- Wu, L., Gao, X., Lo, E., Ho, S., McGrath, C., & Wong, M. (2017). Motivational interviewing to promote oral health in adolescents. *Journal of Adolescent Health, 61*(3), 378–384.
<https://doi.org/10.1016/j.jadohealth.2017.03.010>
- Young, D. R., Nguyen, M. K., Yamamoto, A., Pomichowski, M., Cornejo, M., Paz, S., Coleman, K. J., Sallis, R. E., & Fortmann, S. P. (2019). Telephone-based motivational interviewing versus usual care in primary care to increase physical activity: A randomized pilot study. *Pilot and Feasibility Studies, 5*(1), 1–12. <https://doi.org/10.1186/s40814-019-0390-0>
- Zundo, K., & Richards, E. (2017). Factors associated with parental compliance with supine infant sleep: An integrative review. *Pediatric Nursing, 43*(2), 83–91.
<https://www.ncbi.nlm.nih.gov/pubmed/29394482>

Appendix A: Data Analysis and Collection Sheet

The image shows a screenshot of a Microsoft Excel spreadsheet titled "Data Collection Sheet - Excel". The interface includes the standard Excel ribbon with tabs for File, Home, Insert, Page Layout, Formulas, Data, Review, View, and Help. The Home tab is active, showing options for Clipboard, Font, Alignment, Number, Styles, Cells, and Editing. The spreadsheet grid shows columns A through M and rows 1 through 33. The data is organized as follows:

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Study ID	Sex	Age	Diagnosis	Years Since Dia	Missed >2 Appoin	Not Taking Medication as P	Missed Annual Well-Chi	Frequent ER Visits	Noncompliance Sta	Noncompliance Stage-Post		
2	<i>Enter ID</i>	<i>Male: 0, Female: 1</i>	<i>Age in Years</i>			<i>Yes: 1, 0: No</i>	<i>Yes: 1, 0: No</i>	<i>Yes: 1, 0: No</i>	<i>Yes: 1, 0: No</i>	<i>0: 1, 2, 3</i>	<i>0: 1, 2, 3</i>		
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
21													
22													
23													
24													
25													
26													
27													
28													
29													
30													
31													
32													
33													

The status bar at the bottom shows "Ready", "Sheet1", and a battery level of "Fully charged (100%)". The system tray indicates the date "5/11/2019".

Appendix B: NCB Tool

Table 1

Proposed staging for noncompliance in patients with chronic medical conditions

Stage number	Stage name	Stage description
0	None to minimal	Takes 80%+ of regular medications for condition, most monitoring parameters indicate acceptable control, and makes and keeps regular appointments
1	Mild	Takes 60%-80% of medication doses, is seen at least twice yearly, and monitoring parameters indicate acceptable control
2	Moderate	<80% medication compliance <i>with</i> unsatisfactory control of at least one monitoring parameter; regularly misses or fails to keep appointments
3	Severe	Erratic medication compliance and/or visit compliance, highly unsatisfactory control of one or more monitoring parameters for the given condition, and/or does not comply with minimal standards of monitoring

Appendix C: Permission to Use NCB Tool

The Permanente Journal Reprint Permission

Date: 27 February 2019

To: Lucy Obianuju Norrell
Abilene Christian University via email: xxxxxxxxxx@yahoo.com
xxxxxxx Blvd, #xxx
xxxxxxxxxxxxxxxxxxxx

Dear Ms. Norrell:

Requested material: Kleinsinger F. Working with the noncompliant patient. *The Permanente Journal* 2010 Spring 14(1):54-60. Table 2. © 2010 The Permanente Press.

Proposed use: To use the measurement tool in a student project

As per your letter, we hereby grant you permission to reproduce the aforementioned material in **print** at no charge subject to the following conditions:

1. If any part of the material to be used (for example, figures) has appeared in our publication with credit or acknowledgment to another source, permission must also be sought from that source. If such permission is not obtained then the material may not be included in your publication/copies.
2. Suitable acknowledgment to the source must be made, either as a footnote or in a reference list at the end of your publication, as follows:

“Reprinted from Publication title, Vol number (issue number), author(s), title of article, page nos., DOI, copyright (year), with permission from The Permanente Press.”
3. Reproduction of this material is confined to the purpose for which permission is hereby given.
4. This permission is granted for nonexclusive worldwide **English** rights only. For other languages please reapply separately for each one required.

Yours Sincerely,
Max McMillen (Ms)
Permissions

The Permanente Journal

xxxxxxxxxx

xxxxxxxxxx

xxxxxxxxxx

www.thepermanentejournal.org

Appendix D: Script for Phone Consent Form

Introduction: Hello, my name is Lucy Norrell.

Participant confirmation: Please am I speaking to. . .

Pleasantries:

How are you and child. . .?

Background of issue:

Sometimes as single parents, we have the job of two, and we juggle so much at the same time, but in the process, certain important issues are relegated to the background because these issues are not causing us any visible problem now. However, it amounts to a lot of problems later if not addressed now or properly.

Your child (child's name)

- has missed more than two appointments;
- not taking medication as prescribed;
- missed his or her annual well child check;
- frequents the ER;

and I would like to know how we can make it better for (child's name) to attain the best quality of life and make it easier for you.

Consent:

- Ma'am or sir, I called to ask for your consent to participate in this study. I would like to know how we could better manage your child's health.
- Participating in this study will not in any way implicate you. Your information or child's information is protected and will not be made available to any agency. We just want to know, with your collaboration, how to better manage medical noncompliance in the single-parent population or household to help other parents like you.
- This study will involve a telephone interview, asking mostly your goal for your child's health and your plan to improve (child's name) medical compliance and quality of life. I will be there guiding you through the process and giving my expert recommendation if you ask. It will take approximately 15 minutes maximum. Also, it will involve you filling out pretest and posttest information to stage the level of compliance your child falls into. This test will take approximately 10 minutes maximum, and it consists of only four

questions.

- This is study voluntary, and you can withdraw anytime you wish without any repercussion.
- So, do I have your consent **Y/N**?

Return options:

I will be sending the written confirmation form to you through the mail, and you can return it via (choose one)

1. mail back;
2. face-to-face or drop off at the office (address); or
3. self-text message return to this number (xxx-xxx-xxxx).

Question:

This is the time to ask questions or express any concerns that you may have. You can also call this number xxx-xxx-xxxx (PI) if you remember any question you want to ask or want to change your mind.

Appreciation: thank you for your anticipated assistance.

Spanish Version

ESCRITURA PARA FORMULARIO DE CONSENTIMIENTO TELEFÓNICO

Introducción: Hola, mi nombre es Lucy Norrell.

Confirmación del participante: Por favor, estoy hablando con. . .

Pleasantries:

Como estas tu y tu hijo. . .

Antecedentes de la emisión:

A veces, como padres solteros tenemos el trabajo de dos y corremos mucho al mismo tiempo, pero en el proceso, ciertas cuestiones importantes quedan relegadas a un segundo plano porque estas cuestiones no nos están causando ningún problema visible ahora, pero equivale a mucho de problemas más tarde si no se aborda ahora o adecuadamente.

Su hijo, (nombre del niño)

- ha perdido más de dos citas;
- no tomar medicamentos según lo prescrito;
- perdió a su hijo / a anual;

- frecuenta la sala de emergencias;

y me gustaría saber cómo podemos mejorar para que (nombre del niño) logre la mejor calidad de vida y sea más fácil para usted.

Consentimiento:

- Señora / señor, así que llamé para pedirle su consentimiento para participar en este estudio. Me gustaría saber cómo podemos manejar mejor la salud de su hijo.
- Participar en este estudio no te implicará de ninguna manera. Su información o la información de su hijo están protegidas y no se pondrán a disposición de ninguna agencia. Solo queremos saber, con su colaboración, cómo manejar mejor el incumplimiento médico en la población / familia monoparental, en el proceso para ayudar a otros padres, como usted.
- Este estudio incluirá una entrevista telefónica, preguntando principalmente su meta para la salud de su hijo y su plan para mejorar el cumplimiento médico (nombre del niño) y la calidad de vida. Estaré allí guiándole a través del proceso y dando mi recomendación de un experto si lo solicita. Tardará aproximadamente 15 minutos como máximo. Además, implicará que complete una información previa a la prueba e información posterior a la prueba para determinar el nivel de cumplimiento en el que se encuentra su hijo. Esta prueba tomará como 10 minutos como máximo y consta de solo 4 preguntas.
- Este es un estudio voluntario, y puede retirarse en cualquier momento que desee sin ninguna repercusión.
- Entonces, ¿tengo su consentimiento **S / N**?

Opciones de devolución:

le enviaré el formulario de confirmación por escrito a través del correo, y puede devolverlo a través de (elija una)

1. correo de vuelta;
2. cara a cara o dejar en la oficina (dirección); or
3. mensaje de texto autofoto regresa a este número (xxx-xxx-xxxx).

Pregunta: Este es el momento para hacer preguntas o cualquier inquietud que pueda tener. También puede llamar a este número xxx-xxx-xxxx (PI) si recuerda alguna pregunta que desea hacer o quiere cambiar de opinión.

Agradecimiento: gracias por su asistencia anticipada

Appendix E: Consent Letter

Dear Participant,

I am a doctoral nursing student at Abilene Christian University conducting a study on medical noncompliance in a single-parent household pediatric patient. This brief survey should not take more than 10 minutes of your time, and the motivational interviewing that follows will take about 15 minutes. There is no foreseen risk to this study, but the benefit will help improve medical compliance and your child's quality of life. Your participation is voluntary and will not require you to provide any identifying information, and the information will be confidential. I would greatly appreciate your participation!

Sincerely,

Lucy Norrell, FNP-C

Abilene Christian University

School of Nursing

xxx-xxx-xxxx

xxxxx@yahoo.com

Querido Participante,

Soy un estudiante de enfermería doctoral en la Universidad Abilene Christian que estoy realizando un estudio sobre el incumplimiento médico en un paciente pediátrico de hogares monoparentales. Esta breve encuesta no debe tomar más de 10 minutos de su tiempo y la siguiente entrevista motivadora también tomará aproximadamente 15 minutos. No hay riesgo previsto para este estudio, pero el beneficio ayudará a mejorar el cumplimiento médico y la calidad de vida de su hijo. Su participación es voluntaria y no requerirá que proporcione ninguna información de identificación, y la información será confidencial. ¡Apreciaría mucho su participación!

Sinceramente,

Lucy Norrell, FNP-C

Abilene Christian University

Escuela de enfermería

xxx-xxx-xxxx

xxxxx@yahoo.com

Appendix F: Alteration and Waiver of Consent

Please select either number 1 or 2 below and answer the respective questions. Please note that waivers of documentation will be granted for broad consent only under very limited circumstances. Waivers and alterations of consent are rarely, if ever, appropriate for broad consent.

1. **Waiver of Documentation of Consent:** request a waiver of documentation of consent when you will be meeting all the requirements of consent, but will not be obtaining a signature (written or electronic).
 - a. Provide justification for waiving documentation of consent:
 - The only record linking the subject and the research would be the consent document, and the **principal risk** would be potential harm resulting from breach of confidentiality. (Subjects **MUST** be asked whether they wish to document consent in this case and be permitted to do so if they wish.);
 - OR**
 - The research presents **no more than minimal risk** of harm to subjects, and involves no procedures for which written consent is normally required outside of the research context.
 - OR**
 - If the subjects or legally authorized representatives are members of a distinct cultural group or community in which signing forms is not the norm, that the research presents no more than minimal risk of harm to subjects and provided there is an appropriate alternative mechanism for documenting that informed consent was obtained
 - b. Will participants be provided with a written statement regarding the research, such as a short summary or a copy of the consent form? Yes No Explain:
(If yes, please include a copy of this communication)
 - c. How will the researchers document that consent was provided?
After the initial consent acceptance via the telephone is obtained, there will not be a mandatory documentation of signed consent due to the project being “a no more than a minimal risk” and also for risk of breach of confidentiality. A waiver of consent documentation request form has been filled in that effect and pending approval. In each participants script, a documentation of ‘Yes’ or ‘Decline’ to participate will be written as a documentation of consent otherwise no signature is required.
 - d. If electronic consent is being sought, explain why an electronic signature cannot be collected

I will not be seeking electronic signature
 - e. For the cultural waiver, please explain/justify:
 - f. If your study involves broad consent, please explain how it fits into one of the categories in item a. above.

2. **Waiver or Alteration of Consent:** request a waiver or alteration of consent when you wish to either (1) not obtain consent at all, or (2) obtain consent but alter one of the nine elements of consent (as applicable). Please note that alterations cannot be granted for the General Requirements of consent outlined in 46.116(a). These include: the individual or their legally authorized representative must provide consent, they should be given time to discuss and consider their participation, the language should be understandable to the

individual/representative, they must be provided with the information that a “reasonable person” would want in order to make an informed decision, the presentation must be concise and focused in a manner that facilitates understanding for the individual/representative, and there must not be any exculpatory language (language that appears to remove someone’s legal rights.)

Select which waiver/alteration you are requesting:

- Informed consent will not be sought
- Required elements will be excluded from the consent form
- Deception will be used in the consent process
- Other:

- a. Please describe your request in further detail:
- b. Please describe how the research involves minimal risk:
- c. Please explain why the research couldn’t be practicably carried out without this alteration/waiver:
- d. If using identifiable data/specimens, please explain why the research couldn’t be practicably carried out without using the identifiers:
- e. Please explain how the participants’ rights and welfare are not being adversely affected by this alteration/waiver:
- f. Will the participants be provided any additional information after the completion of their participation/the study pertaining to this waiver/alteration? Yes No Explain:
- g. Was broad consent previously requested for any of these data/specimens? Yes No
If yes, did any of the participants refuse broad consent? Yes No
NOTE: waiver of consent cannot be granted for any participants who previously declined broad consent. Researchers should track such cases and exclude them from this waiver request.
If yes, please explain what care you have taken to exclude these individuals from this waiver:

Appendix G: Demographic Data

Age of participant:

- 18–24
- 25–35
- 36–45
- 46–56
- 66–76

Gender:

- M
- F

Level of education: No Education; 0–fifth grade; high school; some college; college +

Language

- English
- Spanish
- Other

Family status

- M/S
- Children in family

Medical Insurance

- Medicare
- Other (.....)

Socioeconomic status

- Lower income
- TANF
- Middle class
- Other (.....)

Psych history (three Ds only)

- Dementia
- Depression
- Drug use

Appendix H: HIPAA or FERPA Form

1. Will you be viewing or collecting private information that is protected by HIPAA? Yes No

FERPA? Yes No

If yes to either, please describe:

Information from patient's EMR will be collected to determine if it meets the inclusive criteria. The schedule will provide patient that has multiple (more than two at least) 'no shows', frequents ER, and using their EMR data (demographic) to determine if they are from a single family.

The information that will be viewed/collected: viewed

How the protected information will be collected, stored, and for how long?

Information from patient's EMR will be collected to determine if it meets the inclusive criteria. De-identifier will be use (last four number of the participants), collected data will only be used strictly for participant recruitment and Motivation interview. Data will be locked in a safe, and the laptop used will be password protected. Participant will be reassured of data protection and data will be destroyed two year after study has been completed, and that a code will be used for most part. Also, data collected during this project will be stored in a secure university Google drive. Data will be stored in a folder under the faculty chair member's name and owned by the university in case access is needed at a future date. This drive will be provided by the online graduate school for doctoral student research data and supported by the university's IT department for security purposes.

Who will have access to the protected information, and will it be disclosed to anyone outside of the research team? For HIPAA-protected information, will it be disclosed to anyone at a noncovered entity? If the data will be disclosed, describe how it will be transmitted securely:

No, information collected will not be shared with anyone outside of the research team. Data collected during this project will be stored in a secure university Google drive. Data will be stored in a folder under the faculty chair member's name and owned by the university in case access is needed at a future date. This drive will be provided by the online graduate school for doctoral student research data and supported by the university's IT department for security purposes.

Please attach the respective HIPAA or FERPA Consent form (in addition to the research consent form) in the appendix, unless you request a waiver of authorization below.

2. Do you require a waiver of HIPAA or FERPA** (Yes) Authorization for the identification of potential participants all research activities? If so, please describe:

What protected information you intend to view/collect under the waiver:

Demographic data from patient's EMR (Electronic Medical Record)

Is this the minimum information necessary to complete the research activities? yes

Why the research couldn't be carried out without the protected information and a waiver.

How the use and disclosure of the protected information represents no more than minimal risk: De-identifier will be use, collected data will only be used strictly for participant recruitment and Motivation interview, participant will be reassured of data protection and data will be destroyed two years after the study has been completed, and that a code will be used for most part.

If and how the data will be coded or de-identified: Participant's last four digits of telephone number.

How long will you require access to protected information without consent, and at what point will you destroy any coding linking participants to the information collected? Access to PHI without consent will take approximately three months, after two years all coding linking participants to the information

collected will be destroyed.

If a potential subject later declines to consent to participate in the study, describe what will be done with the data previously collected: Data will be shredded.

Will participants be provided with any additional information after participation/the study is completed?
No, except an adverse observation is noticed or referral is highly needed.

☐ The researchers assure that the protected information will not be re-used or disclosed for any other purpose than those described in this protocol.

FERPA requires a signed disclosure authorization unless one of the following conditions are met. Please select the appropriate one that applies to this study:

☐ You are only collecting directory Information (34 CFR §99.31)

☐ The study is for, or on behalf of, the institution to either develop, validate, or administer predictive tests; administer student aid programs; or improve instruction. [This exemption requires a written agreement between the institution and the researcher, as per 34 CFR §99.31(a)(6)(iii). Please attach the FERPA Exception agreement in the appendix.]

☐ De-identified records, including the removal of all direct and indirect identifiers. [The data must be de-identified by someone outside of the research team who has a legitimate business access and prior to the research team viewing or receiving the data.]

Appendix I: Clinical Site Permission Letter

██████████ PA

██████████ Blvd, Ste B,

██████████

☎ (██████████)

January 22, 2019

To Whom it may concern:

This letter is written to confirm my intended support for the project proposed by ██████████
██████████ FNP-C regarding: "For medically non-compliant single-parent household pediatric
patients, does motivational interviewing as compared to not using motivational interviewing
increase medical compliance at the end of a three-month period?"

██████████ MD PA clinic is dedicated to ensuring that quality healthcare services are
rendered to its patients, most importantly the pediatrics population. Hence, it is my pleasure and
privilege to support this project. I am confident that the project, as outlined by Ms. ██████████, its
implementation and its analyses will positively impact both present and future research in the
healthcare area of study.

Please do not hesitate to contact me if you have any questions or concerns.

Sincerely,

XXXXXXXXXXXXXXXXXXXX

██████████ MD

Medical Director/President.

Appendix J: IRB Approval Letter

ABILENE CHRISTIAN UNIVERSITY

Educating Students for Christian Service and Leadership Throughout the World

Office of Research and Sponsored Programs

320 Hardin Administration Building, ACU Box 29103, Abilene, Texas 79699-9103
325-674-2885



September 12, 2019

██████████

Department of Nursing

Abilene Christian University

Dear ██████████,

On behalf of the Institutional Review Board, I am pleased to inform you that your project titled "Medical Non-compliance in a Pediatric Patient Living in a Single-Parent Household",

was approved by expedited review (Category 7) on 9/12/2019 (IRB# 19-064). Upon

██████████ completion of this study, please submit the Inactivation Request Form within 30 days of study completion.

If you wish to make any changes to this study, including but not limited to changes in study personnel, number of participants recruited, changes to the consent form or process, and/or changes in overall methodology, please complete the Study Amendment Request Form.

If any problems develop with the study, including any unanticipated events that may change the risk profile of your study or if there were any unapproved changes in your protocol, please inform the Office of Research and Sponsored Programs and the IRB promptly using the Unanticipated Events/Noncompliance Form.

I wish you well with.

Sincerely

██████████

7 ██████████ Ph.D.

Director of Research and Sponsored Programs

Appendix K: National Institute of Health Certification

Research Ethics Issues Assessment Results for [REDACTED]

CONGRATULATIONS[REDACTED]
Has Successfully Completed**Section One: Ethical Issues in Research****Section Two: Interpersonal Responsibility****Section Three: Institutional Responsibility****Section Four: Professional Responsibility****Section Five: Animals in Research****Section Six: Human Participation in Research**

of the

Online Research Ethics Course On this Day:**02/02/2019***Have an Ethical Day*

Appendix L: IRB Inactivation Letter

ABILENE CHRISTIAN UNIVERSITY

Educating Students for Christian Service and Leadership Throughout the World

Office of Research and Sponsored Programs
320 Hardin Administration Building, ACU Box 29103, Abilene, Texas 79699-9103
325-874-2885



December 12, 2019

██████████

Department of Nursing
Abilene Christian University

Dear ██████,

On behalf of the Institutional Review Board, I am writing to inform you that the project titled "Medical Non-compliance in a Pediatric Patient Living in a Single-Parent Household".

(IRB# 19-064) has been inactivated, as requested, on 12/12/2019 . All non-exempt human research activities (defined under 45 CFR 46) should be halted at this time. If you wish to reopen this study in the future, please submit a new IRB request prior to initiating human research activities.

I wish you well with your work.

Sincerely,

██████████

██████████, Ph.D.
Director of Research and Sponsored Programs

Appendix M: Timeline

Project Task	April- June 2018	Jul- Sept 2018	Oct- Nov 2018	Dec- Jan 2018	Feb- April 2019	May- Jul 2019	Aug- Oct 2019	Nov- Jan 2020	Feb- Apr 2020	May- Jun 2020
Located doctoral-prepared mentor and preceptor; submitted forms to DNP Program Director										
Began development of PICO question										
Secured research project chair and committee members, and sent forms to DNP Program Director										
Began and finalized theoretical framework										
Secured clinical site to conduct research project										
First meeting with the committee Chair										
Secured letter of support from facility administrator										
Submitted initial component of research project paper to committee Chair										
Finalized PICO question and Chapter 1 of the research project										
Submitted literature review and methodology to committee Chair and members										
Ongoing work on Chapter 1 through Chapter 3 submitted to the committee Chair										
Mid program review of Chapter 1 through Chapter 3										
Prepared proposal defense PowerPoint slides and reviewed by the committee										
Prepared for research project proposal defense and submitted proposal defense form										
DNP research project proposal defense presentation approval granted										
Worked on DNP research project proposal defense presentation revision and										
Worked on the IRB proposal and approval granted										
Implementation to completion of research project										
Submission of data to a statistician for setup on Excel spreadsheet										
Project committee and editor review of all chapters										
DNP final defense presentation and approval										

Appendix N: Motivational Interviewing Outline

Engagement:

- Introduction

Focusing: Background (establish that noncompliance is present, then ask participant about noncompliance):

- A) Medication noncompliance
- B) Visit frequency, missed appointments, monitoring parameters

Evoking: Use mirroring and I statement to identify problem

- Ask participants in 10–15 years from now, how he or she wants child to remember his or her childhood
- Observe for a change statement and keep it sustained

Planning: What was discovered?

- Support what you can
- Refer if three Ds observed (drug use, depression, and dementia)
- Remind participant that this is a process, we may not get it right the first time, but I am here to support you and your family

Questions: Question and answer section

Appendix O: Outcome Analysis Sheet

NCB stage:

0	1	2	3	Pre test <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Trivial	Mild	Moderate	Severe	Post test <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Behavior change category

- Missed more than two appointments
- Not taking medication as prescribed
- Missed his or her annual well child check
- Frequents the ER

Telephone encounters

- 1
- 2
- 3

Appendix P: Health Belief Model Permission from SAGE

s100.copyright.com/AppDispatchServlet#formTop

Copyright Clearance Center RightsLink®

Home Help Email Support Sign in Create Account

The Health Belief Model and Preventive Health Behavior

Author: Irwin M. Rosenstock
Publication: Health Education & Behavior
Publisher: SAGE Publications
Date: 12/01/1974
Copyright © 1974, © SAGE Publications

Gratis Reuse

Permission is granted at no cost for use of content in a Master's Thesis and/or Doctoral Dissertation, subject to the following limitations. You may use a single excerpt or up to 3 figures tables. If you use more than those limits, or intend to distribute or sell your Master's Thesis/Doctoral Dissertation to the general public through print or website publication, please return to the previous page and select 'Republish in a Book/Journal' or 'Post on intranet/password-protected website' to complete your request.

BACK CLOSE WINDOW

© 2020 Copyright - All Rights Reserved | Copyright Clearance Center, Inc. | Privacy statement | Terms and Conditions
Comments? We would like to hear from you. E-mail us at customer@copyright.com