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Evaluation of the CRAFFT Substance Use Screening Tool in Primary Care

Leanne M. Coleman

University of Kentucky

College of Nursing

Fall 2018

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Dedication

This DNP project is dedicated to my family especially my husband and daughter. To my husband, thank you for always accepting my life at the computer for the last three years. We have had to give up so many memories for me to pursue my dreams. I am forever grateful of your understanding, motivation and willingness to endure this crazy journey with me. To my daughter, thank you for being understanding of having fewer sleep overs, fun times and mom missing a few things while I completed this journey. I hope I have encouraged you to always pursue your dreams and aspirations. Remember you always have the power to accomplish anything in this world you just have to work for it. To my family, thank you for being forgiving of my school schedule and the demand it created. Thank you for taking the time to come and visit when we could not travel because I had school requirements. Knowing I had my family behind me this entire journey encouraged me to work harder and set an example for all my nieces and nephews. I love you all so much. To my classmates who are now lifelong friends we made it! I could have never of completed this journey without you. Nicole, thank you for always being there for me, making me laugh, understanding my anxiety moments, calming me down, and keeping me organized when I just couldn't do it anymore.

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Abstract

PURPOSE: The purpose of this research study was to evaluate the use of the CRAFFT tool within a pediatric primary care setting. The specific objective was to assess the frequency of documentation of substance use screening, counseling, and/or intervention before and after the implementation of the CRAFFT tool.

METHOD: The practice site chose to implement an evidence based adolescent substance use screening tool (CRAFFT Tool) to improve practice. This practice improvement project utilized a descriptive design with a review of electronic medical records before and after a substance use screening tool was implemented. Two hundred medical records were reviewed, 100 in the pre-phase of the study and 100 in the post-phase of the study. The electronic medical record was reviewed to assess frequency of adolescent substance use documentation before and after the tool was introduced.

RESULTS: Prior to implementation of the CRAFFT tool, substance use screening rates were 10% and documented as “no risk factors” in the narrative note. After the CRAFFT implementation, screening rates were 31%. Documentation included the use of the CRAFFT tool (10%, n=10) and as no “risk factors” for substance use and 20% (n=19). The mean CRAFFT score was 0. Chi square analysis revealed a statistically significant difference ($p<0.001$) between using the craft tool and the documentation of substance use screening.

CONCLUSION: Overall, screening improved after the clinic implemented the CRAFFT tool, but standardized documentation continues to be a problem. Additional research and suggested practice implications may aid in the continued improvement of adolescent substance use screening.

Introduction

Substance abuse disorder is defined as the recurrent use of alcohol or any other drugs that cause clinical impairment, health problems, or failure to meet responsibility at work or school (Center for Behavioral Health Statistics and Quality, 2015). In the United States, 1.3 million adolescents 12 to 17 were diagnosed with substance abuse disorder, which is one out of every 20 adolescents (Center for Behavioral Health Statistics and Quality, 2015). Substance abuse in the adolescent population can lead to risky behaviors, such as unprotected sex, driving under the influence or riding with someone under the influence of drugs/alcohol, and committing a crime (Substance Abuse and Mental Health Services Administration, 2015). Adolescent substance abuse can also cause changes in brain development, increased risk for memory problems and it also increases the risk of suicide (Substance Abuse and Mental Health Services Administration, 2015). If these trends continue there is a high likelihood that an increased number of individuals with addiction, multiple co-morbidities and substance abuse related death will be encountered as adults in the healthcare system. The purpose of this research study was to evaluate a method to improve adolescent substance abuse screening within a pediatric setting.

Background

Twenty-seven million Americans age 12 and older were current drug users in 2014; of the 27 million, 2.3 million were adolescents 12 to 17, which equates to 9.4 percent of the United States adolescent population (Center for Behavioral Health Statistics and Quality, 2015). According to the 2014 National Survey on Drug Use and Health, 139.7 million people aged 12 and older were current users of alcohol, adolescents aged 12 to 20 account for 8.7 million of those. According to the survey 667,000 adolescents 12 to 17 were current users of marijuana, 169,000 were current users of stimulants (methamphetamine), 136,000 were current users of

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hallucinogens (LSD, PCP, peyote, mescaline, mushrooms, ecstasy), 39,000 were current users of cocaine, and 28,000 were current users of heroin (Center for Behavioral Health Statistics and Quality, 2015).

Healthcare and societal costs are also of concern. Substance abuse costs the United States as a whole \$740 billion dollars annually: \$168 billion related to tobacco, \$27 billion related to alcohol, \$11 billion related to illicit drugs, and \$26 billion related to miss used prescription drugs (NIH, 2018). Every one dollar spent on substance abuse treatment yields a return of \$4 to \$7 by having a reduction in crime, reduction in criminal justice costs, and theft (NIH, 2018).

Specifically, for healthcare costs, every one dollar spent on substance abuse treatment will yield a return of \$12 dollars in healthcare cost savings (NIH, 2018). Kentucky ranks seventh highest in the nation for drug overdose deaths among those who are 12 to 25 years old, and third highest in the nation for smoking among high school students (Cole, Logan, & Scriver, 2017). A study of 1,968 adolescents who were in treatment for substance abuse reported that 62% were consuming alcohol with the average age of drinking beginning at 13.1 years (Cole, Logan, & Scriver, 2017). Within the same study 88% reported illegal drug use, the average age of first using drugs was 12.9 years (Cole, Logan, & Scriver, 2017). The most commonly used drugs among the adolescents were: 86% marijuana, 22% opioids, 20% synthetic drugs, 19% CNS depressants, 18% stimulants/cocaine, and 16% hallucinogens and inhalants (Cole, Logan, & Scriver, 2017).

Adolescent substance abuse is a nationally recognized concern and involvement of primary care providers is needed (Centers for Disease Control and Prevention, 2015). The American Academy of Pediatrics, American Medical Association Guidelines for Adolescent Preventive Services, and the American Academy of Pediatrics Bright Futures guidelines all

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recommend that providers should screen adolescents routinely, or at a minimum once a year, for alcohol and substance use, and provide office interventions or referrals when needed (American Academy of Pediatrics, 2005; Hagan JF, Shaw JS, Duncan PM, eds. 2017.; American Medical Association, 1994; Committee on Substance Abuse, 2010).

One way to address adolescent substance abuse screening is using the CRAFFT tool in family practice and pediatric offices. CRAFFT is an acronym based on the major categories of questions on the screening tool: C-car, R-relax, A-alone, F-forget, F-friends, and T-trouble (The Center for Adolescent Substance Abuse Research, 2016). The CRAFFT screening tool was tested for reliability and when used with appropriate motivational interviewing is highly reliable (Committee on Substance Abuse, 2010). In a primary care setting the CRAFFT screening tool was shown to identify more adolescents for substance abuse than other screening tools (D'Amico, et al., 2016). The CRAFFT screening tool is an effective option to identify adolescent substance abuse due to its short questions and the brief time it takes to complete, low expense, flexibility to be used either as a paper form or electronic form, and it is an evidence-based practice tool. Implementing the CRAFFT screening tool in the primary care setting can increase identification of those adolescents in need of further interventions. Without adequate identification of those in need, it is impossible to provide counseling and/or treatment.

The objective for this study was to assess the frequency of documentation of substance use screening, counseling, and/or intervention in a pediatric clinic before and after the implementation of the CRAFFT tool.

Nursing Theory

Ida Jean Orlando's Nursing Process was chosen because the aspects of communication between the nurse and the patient relationship are most important. Orlando's Nursing Process

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Discipline Theory focuses on the interaction between the nurse and the patient. The main concepts of Orlando's theory are: function of professional nursing, presenting behavior, immediate reaction, nursing process discipline and improvement (Nursing Theory, 2015). Below is a description of each concept.

- Function of professional is the main concept behind this theory, nurse to identify the patients immediate need for help. Nurses responds to individuals who need help and assist in any means possible to supply the help that is needed (Nursing Theory, 2015).
- Presenting behavior is defined as the patient's problem. The presenting problem is what initiates the nurse's response to help. A presenting behavior can be a direct spoken need for help, or a subdued behavior; it is the nurse's role to identify through perception the patient's need for help. The presenting behavior creates an internal response in the nurse, which then creates a response in the patient (Nursing Theory, 2015).
- Immediate reaction is the internal response of both the nurse and the patient. The internal reaction is composed of the automatic response of the senses. This response causes a reaction from the patient and the nurse to develop a nurse-patient relationship (Nursing Theory, 2015).
- Nursing process discipline is researching the patient's needs. Using the nurse-patient relationship the nurse assesses the needs of the patient and initiates a reaction or response to those needs. The nurses' response to the needs of the patient is what creates the patient's behavior to identify if the help the nurse is offering is useful. In the event the nurse does not explore the patients identified

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need for help, it could damage the nurse-patient relationship, resulting in the patient becoming silent (Nursing Theory, 2015).

- Improvement is the overall resolution of the patient's needs. This is measured by completing communication circle of the nurse-patient relationship. The patient seeks help, the nurse identifies the need for help, and the nurse helps the patient with a resolution (Nursing Theory, 2015).

Orlando's Nursing Process Discipline Theory involves building a relationship through open communication with the patient and identifying the overall needs of a patient (Nursing Theory, 2015)

Implementing this theory into practice may help improve communication between the nurse practitioner and the patient which may result in increased trust during visits. An increase in trust may allow the patient to feel more comfortable to discuss sensitive health topics, such as substance abuse, pertaining to themselves or others. This theory also encourages the nurse/nurse practitioner to read the patient's non-verbal reactions to questions while completing an assessment. During an assessment identifying non-verbal cues may be more important than verbal communication, especially in the adolescent population. Adolescents often times are scared to divulge information for fear of getting in trouble or a parent may be in the room which could lead to untruthful answers. Combining the main concepts of this theory within practice validates the importance of creating the open relationship between the nurse/nurse practitioner to encourage truthful answering of screening questionnaires such as the CRAFFT Tool.

Purpose

The purpose of this research study was to evaluate a method to improve adolescent substance abuse screening within a primary care setting. The objective for this study was to

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assess the frequency of documentation of substance use screening, counseling, and/or intervention in a pediatric clinic before and after the implementation of the CRAFFT tool.

Methods

Design

This practice improvement project utilized a descriptive design with a review of electronic medical records before and after a substance use screening tool was implemented. The practice site chose to implement an evidence based adolescent substance use screening tool (CRAFFT Tool) to improve practice. This study evaluated the implementation of the tool. The electronic medical record was reviewed to assess frequency of adolescent substance use documentation before and after the tool was introduced.

Sample and Settings

This study took place at a pediatric practice which had a combined total of 8 nurse practitioners and physicians. The population of interest was adolescents aged 12-17 who were seen at the pediatric practice. A total of two hundred medical charts of adolescents aged 12-17 were randomly selected and reviewed for the study; 100 charts were reviewed from 2017 before the screening tool was implemented and 100 charts were reviewed from 2018, after the screening tool was implemented.

Inclusion criteria included: a) adolescents between 12-17 years old who were seen at the practice site between June 1, 2017 to August 31, 2017, and June 1st to August 31st, 2018, b) for a sports physical, annual exam or non-emergent visit. Exclusion criteria: a) children under 12 years of age or over 17 years of age b) children seen for a sick visit, an injury or an emergent condition.

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Measures

The following data was extracted from the medical records by the PI: gender (male, female, other), age (in years), and race (African American/Black, Caucasian/white, Hispanic, Black Hispanic, White Hispanic, Asian, and/or other), and history of smoking, drug use, alcohol use, any documentation of substance use screening and counseling. For the 2018 chart review, the PI also extracted the CRAFFT score, as well as reviewed the narrative to identify if providers were documenting the score.

The CRAFFT tool is a one-page screening tool that was utilized in the form of a written document. The CRAFFT tool was developed by Dr. Knight and colleagues at the Center for Adolescent Substance Abuse Research (CeASAR) at Boston Children's Hospital (The Center for Adolescent Substance Abuse Research, 2016). CRAFFT is an acronym based on the major categories of questions on the screening tool: C-car, R-relax, A-alone, F-forget, F-friends, and T-trouble. The CRAFFT contains two parts (A and B) and is comprised of nine yes or no questions. Part A is three questions that every adolescent is to answer, and Part B is comprised of six questions. Question one in Part B is answered by all adolescents and the remaining five questions are answered by only those who answered yes to any of the questions in Part A or question one of Part B. The CRAFFT screening tool was tested for reliability and when used with appropriate motivational interviewing is highly reliable. (Committee on Substance Abuse, 2010).

Procedures

While participating in a clinical experience at one of the pediatric offices in a large healthcare system the PI became aware of provider interest in screening adolescents for substance abuse. After further discussion and investigation into appropriate screening tools, a

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collaboration between the author and the providers lead to the selection of the CRAFFT tool. A year end implementation date was set. Approval was granted by the office manager at the pediatric office to conduct the education of the CRAFFT tool and the importance of adolescent substance use screening.

The PI created education packets for the medical assistants (MA) and providers. The MA packet included a cover letter explaining the studies purpose, PI contact information, and a sample of the CRAFFT Tool and scoring form. A project poster was placed in the breakroom throughout the duration of the study. The provider packet included a letter explaining the study's purpose, PI contact information, a sample of the CRAFFT Tool and scoring form, an example of a conversation with an adolescent about substance abuse, and a list of area substance abuse treatment centers.

A pre and post chart review was conducted. Chart reviews were completed from two different time periods. The first-time period was June 1, 2017 through August 31, 2017. The second chart review was June 1st, 2018 through August 31, 2018. These time periods were chosen to evaluate substance use screening and documentation prior to the CRAFFT tool being implemented and after the tool was implemented. Additionally, these time frames were chosen as a majority of sports exams and annual well exams for this population occur during the summer when the adolescents are not in school. Annual visits are generally scheduled for longer time periods as they involve a detailed history and administration of other screening tools. The summer months provided an ample number of patients for the office to acclimate to the tool.

The PI requested 200 randomly selected medical record numbers of adolescents aged 12-17 who were seen at the pediatric practice during the study dates from the healthcare system's Clinical Information Analysis, Decision Support, Information Technology and Clinical

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Effectiveness departments. Medical record numbers were requested from two time periods for comparison: 100 randomly selected medical record numbers of adolescents that were seen between June 1st and August 31st, 2017 and another 100 medical record numbers for adolescents seen between June 1st, 2018 and August 31, 2018.

Two electronic cross walks were created to de-identify the medical record numbers, one for 2017 and one for 2018. Each Medical record correlated to a study number (1-100). The cross walk was kept in a separate password protected and firewall protected file on the password protected H drive through the healthcare institution. The cross walk was destroyed when the data collection was completed. All data collected from the chart review was stored on a secure password protected, firewall protected H drive through the healthcare institution.

Statistics

Statistical data was analyzed using SPSS 24.0. Descriptive statistics such as standard deviation, means, and percentages were used to evaluate demographic data: age, gender, and race. The Chi-Square test and Fisher Exact test were used to determine if an association occurred between variables such as implementing the CRAFFT Tool and substance use screening, as well as documentation of substance use history and substance use screening.

Results

Pre-Screening

The sample included a total of 100 medical records, and of those 96 were deemed eligible per inclusion/exclusion criteria. Demographic analysis revealed 41.7% female, 92.7% Caucasian (See Table 1). The mean age was 15 years. Substance use screening was documented in 10% of the records and was documented as no “risk factors” for substance use. In the narrative section of the provider note, substance use counseling was documented in an additional 10% of the

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records as the patient was given an anticipatory guidance handout from the provider. Of the 10% with anticipatory guidance documented it was identified that one patient record had documentation of substance use screening and had documented anticipatory guidance. The remaining nine had either documentation of substance use screening or anticipatory guidance documented, but not both (See Table 4).

Substance use history was reviewed during the pre-screening phase of the study by reviewing the documentation of tobacco use, alcohol use, and drug use. Although the results in each phase of the study were not statistically significant when compared to substance use screening, it was clinically significant as this should have a documentation rate of 100%. Documenting patient's substance use history allows for a thorough assessment. In the pre-screening phase of the study history of abuse was documented as followed: smoking-86.5%, alcohol-69.8%, and drug use-70.8% of the time (See Table 3).

Post-Screening

The sample included a total of 100 medical record reviews, however only 96 were eligible due to inclusion/exclusion criteria. Demographic analysis included 60.4% female, race 92.7% Caucasian (See Table 1). The mean age within the post-screening phase was 14. Substance use screening was found to be documented in 31% (n=30) of the medical records, it was documented 21% (n=20) as no "risk factors" for substance use and 10% (n=10) the CRAFFT tool was used. The mean CRAFFT score documented was 0. In the narrative section of the provider note, substance use counseling was documented in an additional (n=16) records as the patient was given an anticipatory guidance handout from the provider. Nine patient records had documentation of substance use screening and documented anticipatory guidance. The remaining seven records had either a substance use screening or anticipatory guidance

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documented, but not both. (See Table 4). Chi square analysis revealed there was a statistically significant difference ($p < 0.001$) between using the craft tool and the documentation of substance use screening (See Table 2).

Substance use history was reviewed in the post-screening phase of the study by analyzing the documentation of tobacco use, alcohol use, and drug use. The post-screening phase of the study history of substance abuse was documented as followed: smoking-90.6%, alcohol-62.1%, and drug use-62.5% (See Table 3). There was a downward trend in the documenting of alcohol and drug use from the pre-screening to the post-screening phases of the study and it is unclear why this occurred. The Fishers Exact test revealed no association between documenting substance use history and screening for substance abuse.

Discussion

This study was able to achieve the goal of assessing the frequency of documentation for substance use screening, counseling, and/or intervention in a pediatric clinic before and after the implementation of the CRAFFT tool. Although there was an increase in screening from 10% before the CRAFFT was implemented, to 30% after implementation, only 10% utilized the CRAFFT Tool in the post implementation phase; the other 20% of screening was documented by providers in the chart narrative as the patients had no “risk factors”. Continued research is needed to understand the under utilization of the CRAFFT tool.

According to the National Institute on Drug Abuse (2003) and Lambe & Craig (2017), risk factors for substance use include but are not limited to the following: lack of parental attachment, ineffective parenting, caregiver is a drug abuser, emotional maltreatment, physical maltreatment of any kind, divorce, or single family homes; attention problems (ADHD, ADD), depression, eating disorders; poor class attention, academic failure, peers using drugs, and

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bullying; Juvenile system involvement; and transitions such as middle school to high school, college, or a new work environment (NIDA, 2003; Lambe & Craig, 2017). These are the risk factors identified throughout research on adolescent substance use, it is unclear which of the risk factors were asked of the patients in this study when ‘no risk factors’ was documented.

Continued research efforts to identify the providers definition of risk factors may be completed in the future.

Documentation of substance use history was relatively high for each phase of the study, however a decrease of alcohol and drug history documentation was identified from the pre-CRAFFT screening phase of the study to the post-CRAFFT screening phase of the study. Although, there was no correlation between the documentation of substance use history and substance use screening this is noted as clinically significant as all patients should have 100% of substance use history documented. Further research is needed to understand why there is not a 100% documentation rate.

Practice Implications

Moving forward with the effort toward improving adolescent substance use, screening is still needed. To counteract the narrative note saying ‘no risk factors’, the creation of a list of substance use risk factors for providers to review when screening adolescents for substance use would maintain consistency and standardization. Consistency and standardization are important as it helps maintain best practice, creates low variability, improves quality of care, improves productivity, and increases patient safety (Shaywitz, 2009). Evidence based risk factors include family structure, academic behavior and grades, peers using drugs, transitioning from middle school to high school, current or history of physical maltreatment, emotional maltreatment, sexual abuse, divorced family units, household member a current or recovering alcohol or drug

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abuser, attention problems (ADHD, ADD), history of depression, history of eating disorder, and being bullied or bullying (NIDA, 2003). The problem of insufficient or vague documentation of the presence or absence of risk factors could be addressed by creating a template with standard yes/no responses to each risk factor. This could help maintain the consistency and standardization of screening for the same risk factors attributed to increased adolescent substance use.

Creating standardized evidence based educational sessions on substance use screening may greatly increase the number of adolescents screened, especially as the office staff becomes more aware of the current drug epidemic and the recommended guidelines from the American Academy of Pediatrics on substance use screening. The American Academy of Pediatrics recommends the routine use of the CRAFFT tool, as the DSM-5 criteria reports its good sensitivity and specificity (Mitchell et al, 2014). Evidence such as, an adolescent is sixty-five times more likely to use marijuana if they smoke cigarettes or drink alcohol can be detected through substance use screening which is why substance use screening is so important within the adolescent population. This is especially true in Kentucky since it is the third highest in the nation for smoking among high school students (Cole, Logan & Scriver, 2017; American Academy of Pediatrics, 2010). Education on when to begin screening (twelve years of age) is one of the most important aspects of screening due to adolescents experimenting with tobacco, alcohol or drugs earlier in life, putting them at a greater risk for serious health problems (American Academy of Pediatrics, 2010).

Time efficiency is an important factor when educating staff on a practice change and adding to an already busy schedule. The CRAFFT screening tool is one-page document that when used correctly captures substance use and risks for substance use in adolescents. In 2016,

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Harris et al, conducted a research study to compare the time it took for the CRAFFT tool to be completed by either self-administration or clinician administration on a tablet (Harris et al, 2015). This study reported the average time it took when the CRAFFT tool was self-administered was 49 seconds, and when a clinician administered it took an average of 74 seconds (Harris et al, 2015). Educating staff on the importance of screening adolescents for substance use with an evidence-based screening tool may improve screening and sustain the use of the CRAFFT at a minimum of once a year during annual physical exam, as well as, aid in the reduction of the current drug epidemic.

Another clinical implication of this study would be to implement a health maintenance pop-up tab in the electronic medical record for annual substance use screening. This would create a visual reminder to screen adolescents at a minimum of once a year. There are current health maintenance pop-ups for vaccines, depression screening and cholesterol screening that are acknowledged by the MA and the provider, and the input of date is required when the health maintenance is completed. A substance use screening pop-up could be an added visual reminder to screen adolescents during annual well visits.

Research Implications

Ongoing research is needed to improve the continued use of the CRAFFT tool as well as adolescent substance use screening overall. Although this study revealed an increase in substance use screening after the practice site implemented the CRAFFT tool, only 30% of patients were being screened. Future research is needed to understand barriers to screening. Future implementation of a quality improvement (QI) project focused on screening adolescents for substance use including focus groups for medical assistants and providers may provide some answers and ultimately improve substance use screening. After the implementation of the

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evidence based CRAFFT tool regular meetings between the medical assistance and providers could help identify areas of needed improvement to capture every adolescent. A DNP prepared nurse is prepared to implement such a project and evaluate the continued growth of the practice change. The implementation of the QI project could create a standardized adolescent substance abuse screening method, process and documentation within the organization. The overall benefits of the project implementation could be to create a standard practice change of substance abuse screening for adolescents 12 to 17 years of age to be implemented throughout the whole healthcare organization. Moving forward it is imperative to identify reasons the CRAFFT Tool was not utilized. Implementing a practice change creates a work flow change and needs adjustment time, however understanding methods that aid in increasing adolescent screening is imperative. Evaluating medical assistant and provider compliance is important to understanding why screening is not being conducted. Identifying reasons for missed opportunities is key to improving screening and improving best practice. This could be done by reaching out to medical assistants and providers via questionnaires.

Future research for screening for adolescent substance abuse is key in maintaining consistency for practice change. Evaluating the continued use of the CRAFFT Tool at incremental time points such as at the six-month, one year, and two-year time points would help identify the sustainability of the practice change. Monitoring adolescent substance use screening is an essential part of the pediatric evaluation according to the American Academy of Child and Adolescent Psychiatry and the Academy of Pediatrics (Oesterle, Hitschfeld, Lineberry, & Schneekloth, 2015).

Limitations

Various limitations were identified throughout the study. The principal investigator (PI) made an initial visit distributing educational material as well as face to face education. Additional visits to the clinic to provide education may have increased the awareness of the practice change of implementing the CRAFFT tool by the clinic. Although the PI made clinic visits once a month to follow up with education and ensure the office had PI contact information, additional visits may have provided the opportunity for more education or clarification. This may have ultimately increased the use of the CRAFFT Tool and overall substance use screening.

If an MA or provider was off the day of face to face education, the PI left extra educational packets in the office to be passed out to the MAs who were not in the office. Educational packets for the providers who were not in the office were left on their desk. It is uncertain if the extra educational packets were given to the MAs who did not personally receive one, or if the providers reviewed the educational packet left on their desk. Additional educational visits could have had an impact on the improvement of screening adolescents for substance abuse as well as using the CRAFFT Tool.

Another limitation to the study was the unknown consistency with which the office staff provided adolescents the CRAFFT Tool for substance use screening. There are multiple MAs within the office as well as MAs that float to the office to provide coverage when needed. Standard consistency in providing the CRAFFT Tool and scanning the tool into the patient's chart may have varied. This also created a limitation regarding how the CRAFFT Tool was delivered to the adolescent. It is recommended the CRAFFT Tool to be administered without parents/guardians in the room as this can create under reporting of substance use and risks (The Center for Adolescent Substance Abuse Research, 2016). The CRAFFT Tool was also to be

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scanned into the patient's chart, it is uncertain if this was occurring on a regular basis as in the post-screening chart review there were only ten charts out of one hundred with the CRAFFT scanned into the medical record. Implementing a standardized administration of the CRAFFT tool as well as documentation will reduce missed opportunities of capturing adolescents for screening.

Conclusion

The purpose of this research study was to assess a method to improve adolescent substance abuse screening within a pediatric setting. The pediatric office implemented the evidence-based CRAFFT Tool to screen adolescents for substance use and the practice improvement project was used to evaluate impact on screening rates. Data analysis identified adolescent substance use screening was documented 10% of the time before the tool was implemented and increased to 30% after implementing the CRAFFT Tool. Substance use screening was found to be documented either by risk factors or the CRAFFT score, with risk factors being documented at a higher rate. Although screening improved in the post-screening phase of the study, there was still only a 30% screening rate multiple there is still much more room for improvement. Evidence based strategies that may improve screening were suggested: 1) Education about screening recommendations and utilizing the CRAFFT tool; 2) Check list for risk factors; 3) Creation of a health maintenance pop up tab. Future research and suggested practice implications may aid in the continued improvement of adolescent substance use screening.

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Tables

Table 1. Demographic characteristics

	Pre-CRAFFT tool (n =96) <i>Mean (SD) or n (%)</i>	Post-CRAFFT tool (n =96) <i>Mean (SD) or n (%)</i>
Age	15	14
Gender		
Male	56 (58.3%)	38 (39.6%)
Female	40 (41.7%)	58 (60.4%)
Race		
Caucasian	89 (92.7%)	89 (92.7%)
African American	5 (5.2%)	3 (3.1%)
Indian	1 (1.04%)	0
Hispanic	1 (1.04%)	2 (2.01%)
Asian	0	1 (1.04%)

Table 2: Descriptive summary of Documented Substance Use Screening

	Pre-screening (n=96) n(%)	Post-screening (n=96) n(%)	p-value
Documented Substance Use Screening	10 (10.4%)	30 (31%)	.001

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Table 3: Descriptive summary of Substance Use History Documentation

	Pre-CRAFT tool (<i>n</i> = 96)	Post-CRAFT tool (<i>n</i> = 96)
	<i>n</i> (%)	<i>n</i> (%)
Smoking history documented		
Yes	86.5	90.6
No	13.5	9.4
Alcohol Use		
Yes	69.8	62.1
No	30.2	37.9
Drug Use		
Yes	70.8	62.5
No	29.2	37.5
CRAFT tool documented		
Yes		10.4
No		

Table 4: Descriptive Summary of Number of Adolescents Screened/Number of Adolescents Given Anticipatory Guidance

	Sample	Screened	Anticipatory Guidance	Both (Screened and anticipatory guidance)
Pre-screening	n=96	10 (9.6%)	10 (9.6%)	1 (10%)
Post screening	n=96	29 (31%)	16 (17%)	9 (30%)

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