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Implementation of the CRAFFT Cannabis Screening Tool

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This is to certify that the doctoral study by

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has been found to be complete and satisfactory in all respects,
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Abstract

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MS, University of Pittsburgh, 2004

BS, University of Pittsburgh, 1996

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Cannabis use among teenagers in Canada is a concern because of the long-term and irreversible effects cannabis has on the developing body and mind. Nurses can be instrumental in screening for cannabis abuse by implementing a tool to assess for substance use disorder (SUD) and triage drug users to appropriate treatment. This project focused on how to implement the CRAFFT screening tool while gaining insight of the practitioner's knowledge base about the tool and how SUD is being screened for, currently. The CRAFFT screening tool aligns with the DSM-IV's SUD diagnosis criteria, allowing for efficient identification of those at risk for SUDs. Rotter's social-behavioral learning theory is presented to provide a greater understanding of how one's environment affects SUDs. Sources of evidence were primary health care providers ($N = 10$) at the health center where this project was conducted. Data were collected before and after the participants engaged in the learning module on the CRAFFT screening tool. Descriptive analysis found that being acquainted with the tool allowed health care providers to understand the significance of screening for cannabis use among young adults and teenagers and to have more detailed documentation of patients' relationships with cannabis. The screening tool was favored by 90% of the participants for cannabis use assessment after learning about the tool with this project. Nine out of ten of the participants indicated that they will now use the tool to aide in identifying SUD. Once SUD has been identified with the use of the CRAFFT screening tool, 80% of the participants indicated that they would refer their patients for further assessment and treatment for this substance abuse, which would promote positive social change.

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Introduction

Many medical doctors prescribe medical marijuana commonly to aide in chronic medical conditions (College of Physicians and Surgeons, 2016). However, the long-term and short-term effects of recreational cannabis on adolescent body and minds can hinder ongoing development of the maturing brain (Center of Addiction and Mental Health, 2017). With the legalization of recreational cannabis occurring at a rapid pace in North America, there is also an increase in new growing methods of the plant that has allowed for higher potencies leading to an increase in substance use disorders (SUDs) (Teen Challenge, 2015). Another major concern of the legalization of recreational marijuana is the lack of being accountable for the potential risks associated with this controversial drug (Khamsi, 2013). Adverse effects of cannabis include but are not limited to motor vehicle crashes, cardiovascular and respiratory disease, effects on physical development, and, effects on mental health (Khamsi, 2013). Cannabis use is strongly associated with poorer educational end points as well as being an entry drug that leads users to other harsher illicit drug use (Hall, 2009).

In Ontario, the Center for Addiction and Mental Health (CAMH) conducts a population survey of thousands of Ontario students, titled the Ontario Student Drug Use and Health Survey, which were established in 1977 (Center for Addiction and Mental Health, 2017). This self-administered survey is distributed every 2 years to students in grades 7 through 12 with the purpose of capturing trends in this population related to drug use, mental health, physical health, gambling, bullying, and other risky behaviors

(CAMH, 2017). Information from this survey provides reliable information about adolescents' current health risk behaviors along with their attitudes and beliefs about health care (CAMH, 2017). Health, education, and government officials use these findings to aid in creating health priorities and preventative policies to address youth's needs (CAMH, 2017). Most current information is from 2015 (CAMH, 2017). The top four substances used by Ontario students are alcohol (58%), cannabis (25%), non-prescribed opioids (17%), and tobacco (11%) (CAMH, 2017).

When asked if in the past year they had been offered, sold or given a drug at school, 23% of Ontario students answered *yes*, which equates to approximately 219,000 students (Teen challenge, 2015). Canada's adolescent and young adult drug users account for 60% of all drug users in the country. Of these drug users 47,000 die from drug-related causes on an annual basis (Teen Challenge, 2015).

Marijuana use among youth and young adults is 22% and 26% respectively according to a 2013 poll (Canadian Centre on Substance Abuse, 2016). When compared to adult use, this proved to be two and a half times more, with adults 25 years and older ranking at 8% (CCSA, 2016). Governing States and Localities reports, as of November 11, 2016, that 26 states in the United States plus the District of Columbia are addressing the legalization of marijuana in some form, with seven of these 28 locations legalizing cannabis for recreational use (Government of Canada, 2017). These laws pertain to those 21 years of age and older. Canada's Task Force on Legalization and Regulation is addressing the legalization of cannabis (Government of Canada, 2017). In a November, 2016 report by the Government of Canada (2017) Task Force on Legalization and

Regulation, the Canadian government has predicted that cannabis will be legalized for recreational use across the country by summer 2018.

CRAFFT, a cannabis use screening tool, is one of three tools that can be used to aid in identifying adolescents at risk for the adverse effects of cannabis use according to the National Institutes of Health (Winters, K., & Kaminer, Y. (2008). CRAFFT is an acronym for the words *car, relax, alone, forget, friends, trouble,* which are, the key words in the six questions of the screening tool:

1. Have you ever ridden in a CAR driven by someone (including yourself) who was "high" or had been using alcohol or drugs?
2. Do you ever use alcohol or drugs to RELAX, feel better about yourself, or fit in?
3. Do you ever use alcohol or drugs while you are by yourself, ALONE?
4. Do you ever FORGET things you did while using alcohol or drugs?
5. Do your family or FRIENDS ever tell you that you should cut down on your drinking or drug use?
6. Have you gotten into TROUBLE while you were using alcohol or drugs? (Centre for Adolescent Substance Abuse Research (CEASAR), 2016; American Academy of Paediatrics, 2011).

This tool can either be self-administered or clinician administered (NIH, 2016).

In order to reduce the number of adolescents at risk for adverse effects of cannabis use, clinicians must be diligent in screening and identifying this particular group. Health care providers need to be educated on how to implement the cannabis

screening tool along with knowing how to interpret these results. This DNP project is focused on how to implement the CRAFFT cannabis screening tool to the adolescent population with the intent of identifying those at risk for the adverse effects of cannabis use.

Problem Statement

The nursing practice problem that will be focused on in this doctoral project is the adverse side effects cannabis has on the developing mind and body of our youth/adolescent population and how screening for SUDs can aid in preventing such adverse effects. Toronto's CAMH provides specific information regarding Ontario's student drug use with a survey they administer annually. CAMH administers this survey for social research at York University to grade 7 through 12 students across Ontario (CAMH, 2017). When results of the 2016 survey are compared with the results from 1990, there has been a marked increase in drug and alcohol use amongst youth (CAMH, 2017). CAMH's (2017) most recent survey also shows a new trend relating to marijuana and how it is used with electronic cigarettes or vaping tools. Five percent, or 35,000 of Ontario high school students surveyed admitted to using cannabis this way (CAMH, 2017). In Canada, these numbers include 12.2% or 3.4 million Canadians aged 15 and older (Statistics Canada, 2018).

Another new way of using cannabis was as a synthetic form, referred to as *spice* or *K2*. One percent of students had admitted to using it this way. The total number of students who admitted to trying cannabis in one form or another was 203, 900 in 2015

(CAMH, 2017). As the students progress through their high school journey so does the number of students who experiment with substances such as cannabis. With the increasing use of cannabis among Ontario and Canada's use comes the increase possibilities of risky behavior, such as driving under the influence. (CAMH, 2017). CAMHs 2015 survey reports that 1 out of 10 students have driven a car after using the illegal substance. (CAMH, 2017).

When CRAFFT was used with students of the 2015 survey, 114,500 or 1 out of 6 students proved to have a drug use problem, indicating that Canadian youth are ranked the highest users of marijuana use in developed countries (CAMH, 2017). With the above data in mind, the importance of screening for those at risk of SUDs on a routine basis by health care providers becomes clear. Being able to identify those at risk of harming themselves and potentially others will assist in decreasing the harm done to the developing brain associated with chronic cannabis use while avoiding psychosis, mood disorders, and respiratory conditions (CAMH, 2017).

Purpose

A dose-response relationship develops with the frequent use of marijuana use. Statistics Canada (2018) reported that, as teens increase their use of marijuana, their cognitive functioning and educational attainment decrease. With the existence of medical marijuana laws and the increasing rates of legalization of marijuana in North America, teenagers' access of this substance is further lowered as it becomes more mainstream in communities (Rotermann, 2015). The focus of the practice problem is highlighting the

importance of screening for and addressing cannabis use, abuse, and addiction within the youth population to prevent unnecessary negative mental and physical effects.

This quality improvement project consisted of an educational module to aid clinicians and other professionals with implementing the CRAFFT tool with cannabis users aged 21 or younger. This learning module has illustrated how to interpret results and how to be aware of what the next steps are after the tool has been used to assess those at risk for cannabis use adverse effects. Identifying youth and adolescents who partake in cannabis use is an important task that nurses and other health care providers need to make part of their everyday practice to ensure that those who are at risk for cannabis adverse effects are provided counseling and treatment at the earliest intervention as possible (AAP, 2011).

SUDs are an under diagnosed medical condition due to the lack of time, the lack of training on CRAFFT outcomes, the need to triage medical conditions that have a higher priority, and the lack of treatment resources (Winters, K., & Kaminer, Y., 2008). When properly diagnosed with the implementation of a cannabis screening tool such as CRAFFT, psychiatric comorbidities along with psychosocial maladjustment disorders can possibly be identified earlier. (Winters, K., & Kaminer, Y., 2008). A solution to this ever-growing problem is to provide adequate training on screening and assessing youth substance use, abuse and dependence in medical and nursing schools (Winters, K., & Kaminer, Y., 2008).

If this problem is not addressed in the near future Canada's substance abuse will continue to rise. With the rise of SUDs comes an increase in adolescent death rates,

which are currently around 47,000 per year (Teen Challenge, 2015). According to Teen Challenge (2015) it costs Canada's federal government $8 billion annually for health care related to substance abuse. The top four substances of abuse identified are: alcohol (58%), cannabis (25%), prescription pain relievers (17%), and tobacco (11%). Sixty percent of Canada's drug users are between 15 and 24 years of age. (CCSA, 2016; Teen Challenge, 2015).

Nature of the Doctoral Project

New substance use screening guides such as RNAO's Best Practice Guideline (BPG): Engaging Clients Who Use Substances have recommended that all nurses inquire about alcohol and substance use with every patient (RNAO, 2015). This document aids nurses and other primary care providers in identifying substance users while allowing for safe, effective charting and improving patients' health and wellbeing. By applying a simple substance use screening tool (CRAFFT), drug users can be identified and offered access to interventions and counseling, as set out with RNAO's BPG (RNAO, 2015). This guide is set up to aide in easing the nurse into feeling comfortable with addressing, SUDs (Zych, 2015).

The major outcomes of the BPG (RNAO, 2015) are to (a) provide education for nurses who are working amongst a population with SUDs, (b) provide harm reduction into their organizations patients by addressing SUDs, and (c) set up undergraduate nurses with the theories need to be applied to clinical practice to provide appropriate nursing care to substance users (RNAO, 2015).

The CRAFFT cannabis screening tool was introduced to a group of primary health care professionals as part of an educational session. This session consisted of assessing the health care providers' knowledge both before and after the presentation. The premise of the information session focused on how to properly implement and interpret the results of this tool. Having understood the results of the CRAFFT tool, next steps were mentioned so the health care providers know how to proceed with anyone who has been identified with substance use concerns. A pre- and posttest was utilized in this educational session to assess the knowledge base of the participants both prior to and after the session has been completed.

The CRAFFT screening interview could be available in the client's electronic medical record (EMR). This would allow for the information on how often the substance use tool is being used with the target population and if it is being implemented accordingly while meeting its intent. The importance of assessing for and addressing this particular substance use disorder in the young adult population is of utmost importance, and having health care professionals engage in this type of evidence based practice is essential.

The Liberal Party of Canada plans on legalizing, regulating, and restricting marijuana in the near future, which may easily lead to increased use in the younger population (Liberal Party of Canada, 2018). This federal government's reasons for legalizing cannabis is to attempt to prevent young people from using it while decreasing the number of criminal records with those who possess small amounts of the substance and decreasing involvement in the illegal drug trade (Liberal Party of Canada, 2018).

This new development will bring new laws relating to punishments of those who provide cannabis to minors, driving under the influence of cannabis, and selling this substance outside of the acceptable framework (Liberal Party of Canada, 2018).

Data for this DNP project was obtained with a test being administered to the participants both before and after the modules were studied, in attempts of assessing the practitioner's knowledge base on cannabis use in adolescents, the CRAFFT screening tool, and the impact cannabis has on the developing adolescent mind. The data was kept in a locked drawer in a room with a locked door, protecting the privacy of the participants involved. The results of this data were shared with the participants at the organization along with the DNP's completed version of the project.

Significance

Primarily Canada's youth and young adult population will be directly impacted by the implementation of this tool. Identifying and addressing the needs of this particular population will have an immense impact on their overall mental and physical well-being. This type of identification will also have a direct impact on family members of those who are diagnosed with SUD. Educational institutions involved with teenagers who are using marijuana on a daily basis will also have a stake in this type of tool implementation, as it will aid in identifying those at risk of the adverse effects of cannabis use. This tool can also be used in educational settings by the medical team, along with emergency rooms where practitioners would encounter teens who may be under the influence at their time of triage (Kelly, 2014).

This doctoral project will contribute to nursing practice by aiding in disease prevention and health promotion by seeking out and identifying those at risk of the adverse health effects of cannabis. Medical and nursing students can be aware of these particular screening tools while they are in their clinical settings and use them routinely, similarly to the way alcohol assessments are obtained with questionnaires or how the trans theoretical model/stages of change is used to assess for smoking cessation readiness (Ewing, 1984; Prochaska, J., & DiClemente, C., 1986).

The CRAFFT cannabis assessment tool can be used in many settings including a primary health care setting. For instance, adolescents and young adults who use cannabis can have this screening tool administered on them in settings such as: schools, jails, emergency rooms, specialized camps, or other settings where they receive medical care. This tool can be implemented in 6 minutes and is available for free online. The barriers to using this tool are quite low considering that it is also available for use in different languages, including English, Chinese, French, Spanish, Russian, and eight other languages (CEASAR, 2016).

Summary

This project focused on the importance of screening for cannabis use, which has been proven to have a significant place in nursing practice for many reasons. Identifying potential or existing adverse effects of cannabis use is extremely important in attempting to preserve patients' physical and mental health. Broyles, an assistant professor at the University of Pittsburgh and Health Scientist at the VA Pittsburgh Health care system, explained how nurses have a direct contact with patients and therefore have a pivotal role

in health education and health promotion as they are the largest body of health care providers (Vimont, 2011).

As cannabis becomes more readily available to youth with the legalization of the substance, the potential adverse effects cannabis has on the developing body and mind will only increase as the barriers are removed in society (CAMH, 2017). Implementing a screening tool, similar to the way the CAGE questionnaire or the transthoretical model are used for screening other substances, will aid in identifying those at risk for adverse effects of marijuana abuse. Also having the tool easily available within the clients' EMR will allow for easy accessibility and implementation. Providing the education needed to nursing and medical schools to ensure that practitioners are versed in using this tool will prove to be paramount in obtaining the goal of assessing for cannabis use, misuse, and abuse.

Section 2: Background and Context

Introduction

Screening for cannabis use and abuse in the adolescent population is essential in attempting to delay or avoid any long-term effects cannabis can have on a maturing mind and body. This DNP project is also occurring at an essential time in the medical landscape as the legalization of cannabis is occurring in different locations across North America at a rapid rate. Early identification of young adults and teenagers who are at risk for adverse health effects of marijuana can aid in the prevention of unnecessary side effects which can lead to a undesirable outcome both during their adolescent development and also later in their lives. The routine implementation of a cannabis-screening tool, such as the CRAFFT, has been proven to aid significantly in identifying those youth at risk for SUD and adverse effects of cannabis (Winters, K., & Kaminer, Y., 2008). Educating health care providers on how to use and interpret the CRAFFT tool with the intent to identify those at risk for SUD is the focus of this particular DNP project.

Concepts, Models, and Theories

The CRAFFT substance abuse screening tool aligns well with Rotter's social learning theory and Merton's concept of anomie. Rotter's problem behavior theory is based on a social-psychological conceptual framework and Merton's concept of anomie (Jessor, 2017). Problem behaviors can be thought of as behaviors that are considered undesirable, problematic, or concerning by society as a whole. It is unacceptable behavior that may have consequences as set out by our governing bodies and overseen by

authoritarian institutions (Jessor, 2017). The theory's premise is that one's behavior is a direct result of the interaction that takes place between a person and his or her environment (Jessor, 2017). In Rotter's social learning theory, learning can be thought of as behavior that is coupled with the study of personality (Rotter, 1972). One is more inclined to seek out a positive stimulation than an unpleasant one, which according to Rotter (1972) is the empirical law of effect: People are driven by the desire to reach positive goals instead of being driven by a desire to avoid punishment. Rotter's theory is comprised of four main components:

1. *Behavior potential,* which is the likelihood of engaging in a particular behavior in a specific situation. In a given situation, multiple behaviors can occur, however it is also personality that will determine the behavior that is displayed that will attain one's highest potential.
2. *Expectancy,* which is the probability that a behavior will lead to a particular outcome. Strong expectations will lead one to behave in a particular way in order to reach a desired outcome. These particular expectations will come from one's past experiences and the more the behavior is reinforced then the stronger the expectation of that behavior will have. It is important to note that in order for a particular behavior to be reinforced it doesn't have to be experienced first hand; it can also be witnessed for it to have an effect on one's behavior.
3. *Reinforcement value,* which is the desirability of the positive outcomes. Desired outcomes have a much higher reinforcement value than do undesired

outcomes, or outcomes that are avoided. One's behavior is strongly influenced by desired outcomes; for example approval, love, or rejection are powerful influences on one's behavior. Desirable social outcomes have a profound effect on one's behavior and therefore on how a person behaves, which is also very subjective. With the thought of behavior, personality, and desired outcome Rotter has a predictive formula to his theory. The predictive formula is as follows and this makes up a predictive formula for behavior: $BP = f(E \& RV)$, where BP = Behavior potential, E = expectancy, and RV = Reinforcement value. Hence, one can think of the likelihood of someone acting in a particular way as a function of the probability that the particular behavior with lead them to a desirable outcome.

4. *Psychological situation,* which is that each person's experience of the environment, is unique. It is therefore each individual interpretation of the environment that provides them meaningful and desirable behavior. (Rotter, 1972).

Rotter's (1972) SLT holds that behavior is driven by positive reinforcements that are internalized by the individual and are specific to each person separately. Cannabis use among adolescents can therefore be thought of behavior that is sought after due to the desired outcomes experienced by its users. The outcomes cannabis users experience reinforce this particular behavior and are continued for the sought-after effects, as demonstrated by teens with SUD. According to the empirical law of effect, behavior that

leads to positive stimulation is therefore a driving force behind teenage cannabis users' desired outcome (Rotter, 1972).

Relevance to Nursing Practice

Substance abuse has proven to be a major health problem around the world (United Nations Office on Drugs and Crime, 2018). The United Nations Office on Drugs and Crime reported that over 5% of the world population had used an illicit drug in 2010, with 27 million people (0.6%) in the world qualifying as problem drug users (UNODC, 2018). Treatment for those afflicted with drug problems equates to 200-250 billion dollars of the global gross national product (UNODC, 2018). In order to address this high global medical expense, preventative measures must be put in place, starting in the primary care arena. Researchers have found a high correlation between those teenagers who use drugs at a young age and adults who become drug abusers (National Institute on Drug Abuse, 2014). The United nations Office on Drugs and Crime (2018) also explains how the high number of accidents and intentional fatalities related to drug and alcohol use among the world's youth, aged 15-24 year olds, is the leading preventable cause of death. The high rate of drug use within the teen population is also correlated to a high risk for scholastic underachievement due to the devastating effects on one's memory and intellectual abilities, delinquency, teenage pregnancy and depression (Chakravarthy, 2013; Crocker, 2015; NIDA, 2014).

To avoid these types of negative health outcomes, preventative health measures must be at the forefront of health care delivery, especially in the primary care settings (Crocker 2015; NIDA, 2014). The goal to reducing unnecessary and avoidable drug-

related events is to reduce the number of risk factors associated with this by increasing the protective factors for these vulnerable teenagers. NIDA (2014) explains how preventative measures would involve community leaders including doctors and nurses to implement interventions that would aid in decreasing adolescent substance abuse rates. By targeting modifiable risks and by enhancing protective factors through the health care programs, these goals can be achieved (NIDA, 2014). The adolescent periodic health exam is an ideal time to inquire about drug use and abuse as well as implementing a standardized drug-screening tool to aide nurses and allied health care providers in identifying those at risk for drug abuse (NIDA, 2014). Once any risks are identified, the nurse can then assess the severity and then set up an intervention or treatment option (Winters, K., & Kaminer, Y., 2008). Nurses have the privilege of being able to intervene with appropriate assessment and interventions as suggested by the American Academy of Paediatrics (AAP) routine screening mandate for all teens. AAP suggested that CRAFFT has proven to be an appropriate measure in meeting these protocols (Croker, 2015).

Barriers that have been identified thus far as to why SUD screening tools have not been used include insufficient time, lack of knowledge on how to screen for substance abuse, lack of training in addressing the positive screens and managing teen substance use problems, triaging competing medical conditions, lack of treatment resources, and not being familiar with the screening tools (Croker, 2015; Subramaniam & Volkow, 2014; Tai, 2012; Winters, K., & Kaminer, Y., 2008).

The US Preventive Services Task Force has deemed screening and intervening substance use problems among teens as insufficient (Winters, K., & Kaminer, Y., 2008).

There has not been enough clinical trials in the pediatric settings either as this poses some problems with confidentiality (Subramaniam & Volkow, 2014). With research lacking in this area, SUD is poorly diagnosed by primary care providers and drug abuse treatment referrals to the appropriate parties are therefore not being done, leaving less than 10% of patients who qualify for treatment being referred appropriately (Levy, 2014). This gap in services between general medical care and the lack of preventative medicine in primary care for substance abusers contributes to under detection of substance use problems (Tai, 2012). These barriers should be addressed and supported with preventative services with the backing of the Patient Protection and Affordable Care Act 2010 (United States Senate, 2010).

A suggestion to aide in minimizing the lack of identification of drug abusers is to incorporate the standardized screeners for substance use into the patient's electronic health records (EHR). Patient Protection and Affordable Care Act 2010 in the United States has allocated funding to address substance abuse services and treatment (United States Senate, 2010). Paired with the HITECH Act, which encourages clinicians to provide efficient and comprehensive care via the EMR (preventive services, treatment, monitoring and management of chronic disease). Having drug abuse screening and assessment tools easily assessable in the EMR to be used with each patient will aide in achieving the goals set out by the AAP (Tia, 2012).

Teens would be asked about substance use, and then administered the CRAFFT tool to stratify their risk level, as per the Screening with the Brief Intervention and Referral to Treatment (SBIRT) (Substance Abuse and Mental Health Services

Administration, n.d.). All adolescent teens should be screened (AAP recommendations) at all visits with appropriate follow up and referrals. These visits all are tracked on the EMR. To achieve this goal, individuals must be identified first through screening practices, as CRAFFT is able to do. Data from clinical recommendations urge researchers to address this particular issue relating to drug use and disorders among teens (Tai, 2012).

Results for SBIRT for substance abuse is critical for adolescent health outcomes, however not many studies have been done on its implementation (Sterling, 2015). There are multiple national and international organizations that support SBIRT in primary care offices on the knowledge gained about how the tool is able to identify those at risk (Sterling, 2015). Models can be developed and used in order to support SBIRT as recommended by AAP (2011). To date there needs to be more research on pediatric SBIRT implementation and training clinicians on how to do this will lead to a great outcome on adolescent drug use screening and intervention (Sterling, 2015).

Implementation of the CRAFFT screening tool via an EMR will definitely aide health care practitioners in assessing for substance use/abuse amongst the adolescent population. This valuable assessment will assist in the prevention of avoidable accidents and overdoses when identified early.

Local Background and Context

With the prevalence of adolescent drug use leading to abuse and other health concerns, nurses can play a pivotal role in screening teens for drug use, drug abuse and potentially substance abuse disorders. Winters & Kaminer (2008) believes that a process

should occur in the health care arena that would aide in identifying teenagers for substance abuse disorders with the implementation of a screening tool such as the CRAFFT screening tool. After identifying teens with substance abuse disorders then a comprehensive assessment of the problem would need to be arranged to assess the severity an individual is experiencing. Finally, there would be a treatment plan that would be discussed between the patient and the health care provider. (Subramaniam, G., & Volkow, N., 2014).

Validated screening tools should be used to assess the severity of drug use problems (Winters & Kaminer, 2008). A tool that is considered to be favorable in this specific outcome is one that possesses strong psychometric properties, is simple to score, easy to administer and can be learned by simply reading a manual (Levy, 2014; Winter & Kaminer, 2008). The 6-item CRAFFT screening tool meets all the above criteria and illustrated ease of use in a routine pediatric interview, which screened for alcohol, drug use and SUD (Levy, 2014; Winter & Kaminer, 2008). The CRAFFT proved to be highly predictive of presence of SUD aligning with the Diagnostic and Statistical Manual of Mental Disorders - IV. 86% of the participants in this study had SUD which was determined by implementing a self-report. It is therefore essential that formal training on SUD and how to screen for them be introduced while in medical or nursing schools. Both initial evaluation and a reevaluation to measure outcome of desired effects could be determined with the CRAFFT tool (Croker, 2015; Levy 2014; Subramaniam & Volkow, 2014; Winter & Kaminer, 2008). Pilowsky (2013) conducted a study to assess, which screening tool was most effective in identifying teen substance abuse and this resulted

with the CRAFFT tool being superior. Teenagers preferred performing the screening test with paper and pencil or computerized questionnaires to interviews with a medical professional (Pilowsky, 2013).

Nurses and other medical providers can also have a direct relationship between the public and political arena (White, 2015). With the soon to be, legalized recreational marijuana in Canada, there is no better time then the present for nurses to execute their scope of practice and educate the general public about the effects marijuana have on one's health, especially the health effects on adolescents and young adults (White, 2015).

School nurses in grade schools and secondary schools can also make a significant impact on youth and teenagers by providing a substance abuse prevention program and screening program (Levy 2014; Pastestos, 2014). Careful assessment and identification of risk factors will definitely aide in the prevention of substance abuse in the adolescent population, which can ideally avoid unnecessary health problems that can occur in their young adult lives (Pastestos, 2014). Adolescent brains are highly vulnerable to drug use, including alcohol and cannabis use. The effects that take place are both immediate and distant, effecting one's neurocognitive function including effects on the emotional regulation system (Subramaniam & Volkow, 2014)

Substance abuse must be addressed as soon as it is identified in all aspects of health care but especially in the primary care arena. Developing brains are vulnerable to the devastating effects of THC and cannabinoids. The devastating effects of drug abuse can lead to less productive and rewarding lives in adult life (Croker, 2015; Levy, 2014, Subramaniam & Volkow, 2014). SUD leads to morbidity and mortality while

contributing to mental health disorders and negative social sequelae (Levy, 2014). Accidental death is another preventable side effect of drug use and abuse in the teen population. Teen deaths are largely preventable as most are a direct cause of substance related motor vehicle accidents and overdoses (Levy 2014; Subramaniam & Volkow 2014).

American Academy of Paediatrics strongly advises that nurses intervene with all levels of drug use in the following ways: (a) When there is no use reported then the patient should be praised for making such good decisions. (b) Moderate risk individuals should be educated about the negative impact that drugs have on one's health. (c) Those as serious risk of abuse require a referral to a facility where treatment is available to them. (d) Very high risk cases would have to involve the patients guardians with or without the patients consent to ensure the person's best interest was being addressed (Croker, 2015; Levy 2014).

Institutional Context

This proposal-learning objective that focuses on a learning module of how to properly implement the CRAFFT Cannabis Screening Tool to aid in the identification of those at risk for adverse effects of non-medical cannabis will take place in an Aboriginal Health Centre, which consists of two sites. One site is located in Hamilton Ontario while the other is located in Brantford, Ontario. This particular organization that has existed in these cities provided primary health care to families for over twenty years. The primary care team working in these establishments consists of physicians, nurse practitioners, diabetic educators, registered dieticians, social workers; their respective colleges regulate

a naturopathic doctor and other auxiliary staff of whom. (College of nurses of Ontario, College of Physicians and Surgeons, College of Registered Dieticians, College of Naturopathic Medicine, Ministry of Community and Social Work). The above mentioned workers operate within a particular scope of practice that is mandated by their specific provincial colleges, which dictates the expectations each disciplinary should meet while providing health care to their patients. The mission of this proposal is to ensure the health care professionals of the Aboriginal Health Centre understand how to identify adolescents at risk of cannabis adverse effects by screening those at risk at each primary care visit using a tool that is embedded in an EMR.

Role of the DNP Student

The DNP student's preceptor was employed at the Aboriginal Health Centre and hence was used as the setting for the student's practical experience. This facility is comprised of approximately 1500 Aboriginals spanning the life span from newborns to the elderly. Marijuana use is prevalent in this particular population and is especially commonly used within the adolescent age group.

As a nurse practitioner assessing adolescents on a routine basis I know first hand that the social history assessment lacks a thorough assessment of illicit drug use. Documentation on an adolescent's chart in this primary care setting currently simply lists use of any drugs under the social history component in the clients profile page. While other substances, such as alcohol and nicotine use are quantified with tools such as the CAGE questionnaire and Trans theoretical Model which help stratify one's risk of adverse health effects. With the understanding of the importance of assessing cannabis

use among teenagers the health care providers will be equipped to implement a cannabis-screening tool (CRAFFT) to aide in assessing an individuals risk for adverse effects.

As a primary care nurse practitioner with a special interest in mental health, screening more thoroughly for cannabis use and abuse by implementing the highly recommended CRAFFT screening tool will aide practitioners in stratifying youth's risk from substance use and or abuse (Canadian Pediatric Society, 2016). AAP and the Canadian Pediatric Society (CPS) stand strongly behind this recommendation. In fact the CRAFFT questionnaire recently has been included in the Greig Health Record for well teen visits (CPS, 2016).

I am very motivated to ensure the CRAFFT tool is being used appropriately and effectively in the primary health care arena in attempts of identifying youth at risk for mental health adverse effects.

Potential biases that I may have possessed are as follows, along with the steps that will be taken to address them as per Sarniak's (2015) suggestions.

1. Confirmation bias: defined as a researcher forms a hypothesis and uses the study's participant's information to confirm such belief. In order to avoid confirmation bias, the researcher will need to continually reevaluate the respondent's responses while assessing preexisting assumptions (Sarniak, 2015).
2. Culture bias: defined as assumptions founded on our cultural outlook. Minimizing this bias entails unconditional positive regard of cultural assumptions while avoiding ethnocentrism (Sarniak, 2015).

3. Question order bias: defined as having one question influencing another question. How questions are worded and presented can have an effect ones thoughts, feelings and attitudes on questions in the study. Ways to avoid this type of bias are to ask general questions over specific questions and positive before negative questions (Sarniak, 2015).

Great efforts were used to eliminate any type of researcher bias, however sometimes bias is unavoidable.

Summary

With the legalization of cannabis use occurring vastly in North America, cannabis will become more readily available for recreational use for both adults and teenagers (Liberal Party of Canada, 2018). Knowing the effects that cannabis has on the developing teenage mind, as presented earlier in this proposal, it is paramount that health care providers become diligent in assessing recreational cannabis use in teens. A proven effective method of doing this is with the implementation of Cesar's CRAFFT screening questionnaire as recommended by both Canada's pediatric experts (Canada Pediatrics Society, 2016). The current trends in primary care practice does not reflect an adequate assessment of drug use among teens is being captured partially because practitioners are unfamiliar with what tool to use and how to interpret results if used. Introducing health care providers with the CRAFFT tool and educating them on how to use and interpret the results of this tool will allow for better identification of those at risk of cannabis adverse effects. The next chapter will explain the methodology of how this particular pilot study will occur in the formerly described setting.

Section 3: Collection and Analysis of Evidence

Introduction

The undesirable health effects cannabis has on the developing mind and body of a teenager needs to be screened for and identified in a more efficient way by primary care providers, especially with the legalization of recreational marijuana on the horizon across Canada. Screening for cannabis use with the CRAFFT screening tool is an effective way to identify those at potential risk for adverse effects of cannabis use.

In this section, I will discuss how the practice focus question will be implemented in a designated health care center consisting of a multidisciplinary team that provides care to a young population who heavily use marijuana and other illicit drugs. I also present a literature review to illustrate how the CRAFFT tool can be very effective in attaining the outcome of diagnosing SUD and identifying those who may be at risk for this diagnosis. Finally, I will define how this information was analyzed and synthesized.

Practice-focused Question

Research has proven that primary care practices currently are lacking the implementation of an effective cannabis screening tool, such as the CRAFFT, for multiple reasons (Winters & Volkow, 2008). The barriers for this screening tactic include lack of time, lack of knowledge, and lack of treatment providers (Pilowsky, D., & Wu., L., 2013). However, with an education module and easy access to the CRAFFT screening tool, assessing youth at risk for cannabis use can be done much more efficiently than it is being done today.

Sources of Evidence

The sources of evidence used to aid in addressing this practice-focused question are the PCPs that work at the health center where the DNP project will take place. The number of teenagers and young adults these providers see on a weekly basis is quite high, except for the diabetic educators and dieticians. Cannabis use in this particular group is considerably high, therefore making for a suitable location to perform this DNP project.

Screening for cannabis use and abuse amongst the adolescent population is not done effectively in this health center, therefore the practitioners will benefit from being educated and made aware of the CRAFFT tool. Proper use and implementation of the CRAFFT tool aided these health care providers in accurately assessing and diagnosing those with or at risk for SUD.

Introducing PCPs to screening tools such as the CRAFFT substance use tool is the beginning stage of narrowing the gap in identifying teens at risk for SUD. Once the PCPs are aware of how to screen for and interpret results of the screening tool, more comprehensive assessments can be performed in each qualified patient followed by an appropriate diagnosis and proper treatment initiation. This simple, quick, and easy-to-use tool can be instrumental in starting a movement in attempting to lessen the burden cannabis is having on our youth population.

Information was collected by this group of PCPs with a pretest and posttest (Appendix B) pertaining to cannabis use disorder among teenagers and youth population. The PCPs were educated about the CRAFFT tool and how to implement it and interpret the results. The teaching module (Appendix C) explained how to access the tool in the

Nightingale on Demand documentation system on the health center's EMR. The evidence from the pre- and post-tests were used to analyze if the PCPs found this tool to enhance their assessment and treatment skills for SUD in youth.

If screening for cannabis is not being done effectively in one health center then there are probably many other health centers in Ontario and Canada, that also need to be introduced to this highly effective screening tool. Having the tool easily accessible in a health care office's EMR, with an educational module to accompany it, will be a starting point of addressing the cannabis issue that exists among Ontario's youth and adolescents.

Published Outcomes and Research

I conducted research for articles pertaining to cannabis use/abuse in teenagers with the use of the CRAFFT screening tools using the following databases and search engines: CINAHL, PubMed, Cochrane database of systemic reviews, ERIC, Health and psychosocial instruments, OVID, MEDLINE, PsychARTICLES, PsychINFO, and Google scholar. The search terms used to find the relevant research were *CRAFFT screening tool, CRAFFT, CRAFFT tool, cannabis screening tools, cannabis use, cannabis abuse, substance use disorder, marijuana, marijuana use, marijuana abuse, adolescents, youth, teens, and teenagers*.

Information was searched using the following search limits: 2005-til 2017 using peer-reviewed sources. Once I had completed a literature review, I conducted an expanded search to include specific organizations, regulatory bodies, and guidelines, including evidence-based research. This particular search was expanded to include searches for the behavioral model as explained by Rotter's social learning theory.

The CRAFFT cannabis screening tool has been validated in a variety of populations and proven to be beneficial in diagnosing SUDs in adolescents by meeting the diagnostic criteria of SUD in the Diagnostic and Statistical Manual of Mental Disorders - IV (Cummins et al., 2003; Kandemir et al., 2015; Knight, Sherritt, Shrier, Harris, & Chang, 2002; Subramaniam, Cheok, Verma, Wong, & Chong, 2010; Winters, 2008).

Clinical tools exist to aide PCPs in detecting alcohol-related problems and quantifying the risks of nicotine use with their patients, but little assessment is given to those who partake in recreational cannabis use. Knight et al. (2002) developed the CRAFFT test for the exact purpose of identifying youth and young adults at risk of SUDS, which address abuse and use of cannabis. This screening tool is especially useful and easy to administer in busy medical offices due to its ease of administration, quick scoring criteria, and simple recall of the screening tool questions (Kandemir et al., 2015; Knight et al., 2002; Subramaniam et al., 2010). CRAFFT is a promising brief diagnostic tool to detect drug use disorders in youth. American guidelines for adolescent preventive services recommends health care providers ask all adolescent patients about substance use routinely (Subramaniam et al., 2010). Identifying youth at risk of SUDs could aid in the prevention of low quality of life and a life dependent on substance use (Cummins et al., 2003; Kandemir et al., 2015). There have been numerous studies done using a variety of different populations that have proven that the CRAFFT tool aides in identifying adolescents at risk of substance use problems.

The CRAFFT screening tool is designed to recognize the degree of substance use over a 12-month period. The CRAFFT tool divides substance use into the following categories: (a) no use in past year (b) any alcohol or drug use during the past year, (c) mild or moderate SUD, and (d) severe SUD (Levy 2014)

Knight (2002) looked at 538 participants of a mixed race and ethnic minority groups and found 49.6% had never used marijuana, 23.6% occasionally used cannabis, 10% had a problem with marijuana use, 9.5% abused cannabis and 6.7% were dependent on it. In this particular study, the CRAFFT score strongly correlated with the DSM-IV substance use and substance abuse classifications, with a Spearmanns correlation coefficient of 0.72: $P<.001$. CRAFFT scores of 2 or higher are used to identify an individual with a substance use disorder and a CRAFFT score of 1 identifies those with problem use. A negative score indicates that no further testing is needed (Kandemir et al., 2015). Levy (2014) conducted a study with 216 patients. The CRAFFT tool was found to have a sensitivity of 100% and specificity of 84%, which validated the tool.

AAP guidelines recommend further evaluation be done by a PCP whenever a teen has been identified with high risk substance use. With SUD being poorly diagnosed by PCPs, the referrals for ongoing assessment and/or treatment is also poor. The treatment outcomes for teenagers for SUD are less than 10% due to a weak screening phase for it. Implementation of the CRAFFT screening tool has proven in multiple studies to aid in increasing the diagnosis of those at risk for SUD (Cummins et al., 2003; Kandemir et al., 2015; Levy et al., 2014; Subramaniam et al., 2010).

Cannabis screening done in Asian, Turkish, American Native and other ethnic groups all identified the CRAFFT tool to have a sensitivity ranging from 0.76-0.99% and a specificity of 0.76 - 0.94. (Cummins et al., 2003; Kandemir et al., 2015; Knight et al., 2002; Levy et al., 2014; Subramaniam et al., 2010) which coincides with Knight's et al., (2002) original design of the tools ability to rule in or rule out a substance use disorder. Both the positive predictive value (PPV) and the negative predictive value (NPV) of the various studies amongst a mixed racial group and in a Turkish teen group were also comparable resulting in a PPV of 75% - 85% and a NPV of 91%-92.9% (Knight et al., 2002; Kandemir et al., 2015).

Validity of the substance use identification tool was not affected by one's age, sex, race or language and was proven to be reliable and valid with an acceptable internal consistency to screen teenagers for problems related to substance use (Kandemir et al., 2015; Knight et al., 2002).

This well adapted screening tool was also used in a Singapore study amongst a multi-ethnic group of 23,000+ males as part of a military medical exam proving to be one of the first studies done in this population screening for substance abuse or dependence (Knight et al., 2002; Subramaniam et al., 2010). Of this group of young men, 4764 of them were identified as having SUD. The CRAFFT proved to have moderately high levels of internal consistency also in this study of Chinese, Malay and Indian men with an internal consistency of Cronbach's a=0.73 (Subramaniam et al., 2010). It was found that this tool was useful in screening for drug use in a group of low risk substance users. The internal consistency was found to be a=0.73 which was similar to scores in studies with

different ethnic groups (a=0.68, a=0.81), (Cummins et al., 2003; Knight et al., 2002). The identification of substance users in this low risk group found that scoring 1 or more, instead of 2 or higher identified those at risk of substance use disorder (Subramaniam et al., 2010).

In contrast to the low risk Asian population another study looked at a high risk group of American Indians and Alaskan Natives (Cummins et al., 2003). In this particular population substance use problems are identified at a younger age, as early as 11 years old so the tool can be used in prepubescent candidates if they are considered to be at risk for SUD. An optimal cut point for drug use problems in this group was found to have a score of 3 or greater given the higher risk factors for SUD (Cummins et al., 2003). This particular study has proven that the tool is used appropriately among the Native adolescent population given a higher score be considered when diagnosing substance use problems (Cummins et al., 2003). The CRAFFT screening tool can be used in multiracial and ethnic settings as it has been proven to identify youth and teens either at risk for SUD, or those who have SUD.

Evidence Generated for the Doctoral Project

Participants. The number of participants who provided information for this study was 17: five family doctors, five nurses, two diabetic educators, four social workers and one registered dietician. All participants involved in the project are English speaking and provided care to patients who could benefit from the implementation of this screening tool. All of the above listed PCP's have been employed with the company for at least two years or more, excluding one, who is a recent Nurse Practitioner graduate.

Procedures. Information was collected with a paper version of a multiple-choice pre and posttest pertaining to cannabis use screening tools, specifically the CRAFFT and diagnosis of SUD. (Appendix B)

Protections. Informed consent was obtained from all of the participants prior to engaging in the DNP project, while remaining anonymous. The tests were locked in a drawer where only the DNP student had a key, and access to the information. Once this project was completed, the information obtained from the participants were destroyed. Collecting data was not initiated until the Walden University IRB approved this doctoral proposal/project.

Analysis and Synthesis

The DNP student conducted a qualitative analysis of the information collected. Observations pertaining to the knowledge base of each participant before and after the CRAFFT screening tool was done. Assessing if these particular health care providers found this module helpful or not was also gauged. Future implementation of this tool was also inquired about and assessment of whether or not each provider found the CRAFFT tool to aid him or her in their assessments of cannabis screening tool was looked at. There was opportunities for the participants to make comments or ask questions for clarification on the pre and posttest, which was helpful in capturing information that may have been missed.

Summary

The CRAFFT screening tool for cannabis use/abuse has proven to be an effective tool as evidence by Cummins et al., 2003; Kandemir et al., 2015; Knight et al., 2002;

Levy et al., 2014; Winters, K. C., & Kaminer, Y., 2008; Subramaniam et al., 2010. Implementation of this tool within medical practices EMR's, where PCP's have easy access will prove to have a positive outcome in providing better care to those with SUD. Section 4 will be presented next with the studies findings and recommendations.

Section 4: Findings and Recommendations

Introduction

In North America, one of the leading health concerns amongst the adolescent population is the high rate of cannabis use and its adverse effects on the developing brain and body (NIDA, 2018). In my nursing career I have noted PCPs to document cannabis use by simply noting "positive or negative". Some providers capture the amount used and frequency of use, but not many have been known to use a screening tool to capture the extent of each users risk for adverse effects (Stoner, 2016). With the rate at which marijuana is being legalized across the United States and Canada, it is paramount that cannabis use in teenagers is not only recognized but also clinically assessed with the use of a valid tool such as the CRAFFT cannabis screening tool. With the implementation of this tool, the potential of identifying youth at risk for adverse effects of cannabis use grows exponentially. The tool aligns precisely with the DSM-IV SUD diagnosis criteria allowing PCPs to assess users risks more easily and readily (Winters, K., & Kaminer, Y., 2008). This assessment tool can be used similarly to the CAGE questionnaire for assessing alcohol (Ewing, J., 1984) use and to the "The 5A's" (Agency for Healthcare Research and Quality, 2012) way of assessing smoking cessation.

Educating youth and young adults about recreational cannabis and the effects it has on their growth and development is essential so that health care providers can attempt to prevent any short- or long-term effects the drug has on mental and physical health. Implementation of the CRAFFT cannabis-screening tool has proven to allow PCPs to detect substance users and the possible SUD. Once teens have been identified with this

disorder, triaging and possible referral to treatment centers can be initiated. This Doctorate of Nursing project has focused on improving the quality of care that is provided at the health center by having this tool become an assessment tool that is used with all teenagers to find those who use cannabis and their risk for long-term effects. With the design of the CRAFFT tool reflecting the DSM-IV's SUD diagnosis criteria, it definitely has a strong role in filling this gap in practice, especially since cannabis is going to be more readily available once legalized this July 2018 in Canada.

Findings and Implications

It was made evident in the execution of this project that none of the participants knew of or used the CRAFFT screening tool prior to reading about it in the learning module. A significant finding in this study was that not one person had been using any cannabis screening tools to screen for cannabis use or abuse in the adolescent population they provided health care services to. After learning about the CRAFFT screening tool all but one of the participants indicated that they would start to use the CRAFFT tool to screen for cannabis use in the adolescent/young adult population. The pretest indicated that all of the participants' current way of documenting their adolescent patients' cannabis use was by indicating "cannabis use – positive" with a quarter of the participants further defining patients' cannabis use by quantifying the frequency and amounts used. Documentation of cannabis use without a screening tool has proven to lead to the misdiagnosis of those that may be at risk of SUD or cannabis overuse. Analysis of the posttest demonstrated that all but one individual who was not familiar with the CRAFFT screening tool would implement it in their practice with future

assessments. Also 80% of the participants indicated that they had not been referring for SUD treatment but would do so if a score of 2 or more were obtained when using the CRAFFT screening tool.

Given that the learning modules and tests associated with them were anonymous it was difficult to decipher who had completed the test and who had not. Four tests were not completed, which may have been because two of the participants had resigned from the health center and may or may not have completed the pre- and posttests. Some may have chosen not to participate if they found the information to be irrelevant to their current role at the health center. Despite the unanticipated incomplete tests, the findings would likely not have been much different if all tests had been completed because 90% of the subjects agreed to use the CRAFFT tool and regarded cannabis use assessments in the teen population to be important.

The findings of the Doctor of Nursing Practice project imply that once the health care providers had been introduced to and became acquainted with the CRAFFT tool, the majority would implement and use the tool. If more individuals could be educated about this particular screening tool, then more adolescent cannabis users could potentially be identified for being at health risks with ongoing use of cannabis. One suggestion for implementation of the CRAFFT tool is to make it available for use in EMR templates, where it can be easily embedded into documentation when assessing teens with a history of cannabis use. As the CRAFFT tool becomes more popular and its use increases, proper diagnosis of SUD will most likely increase accordingly. The increased recognition of SUD will have a profound effect on communities as the long-term adverse

effects of cannabis begin to decrease. If those at risk are being recognized early in their substance use habits, then ideally better outcomes will result with each cannabis user.

Recommendations

This DNP project is recognized as being one of quality improvement. This project is focused on improving health care outcomes by assessing for and identifying any teenager or young adult with current or history of cannabis use. This is recognized as improving acute and chronic conditions outcomes.

The recommendation that has been suggested to address the gap in practice as previously discussed, is to have the CRAFFT screening tool embedded into the EMR so its template can be easily accessed and made a part of the patients encounter note. This is done with a click of a button avoiding the need to search the web or search for paper copies that later have to be scanned into the EMR. As new employees are hired, part of their orientation could acquaint them with the current templates available on our EMR system, highlighting the CRAFFT screening tool as cannabis use is considered to be high within our adolescent population.

Strength and Limitations of the Project

This doctoral project proved to benefit those who use cannabis and are at risk for adverse effects of cannabis use. It also highlighted the need to educate health care providers about the importance of using a cannabis-screening tool such as the CRAFFT. Identifying cannabis users who are at risk for the adverse effects of this substance is paramount in the prevention of long-term consequences of its use.

The project's limitations were the small number of candidates who were available to gather the information from. It would have also been beneficial to be able to report on the number of users who started to implement the tool if time permitted. Recommendations to be made from this study are having future studies done in a similar fashion using other cannabis screening tools.

Table 1

Pretest Results

Pretest questions	Positive responses	Negative responses
What is the CRAFFT tool?	Yes 0 responses	No 10 responses
Do you use a cannabis Screening tool?	Yes 0 responses	No 10 responses
What ages do you screen?	13-16 0 responses 17-21 1 response 22-26 0 responses All ages 6 responses No ages 3 responses	
Any referrals for cannabis Use or abuse?	Yes 2 responses	No 8 responses
If yes to referring how many have you referred in past year?	0 4 responses 1-5 2 responses 6-10 0 responses 11-15 0 responses 16-20 0 responses 21-25 0 responses 26-30 0 responses 30+ 0 responses	3 didn't respond
Ok for teens to use cannabis to help them sleep, or calm their anxiety?	Yes 3 responses	No 7 responses
Current documenting Method?	With a tool? 0 responses	Positive or negative? 10 responses
Is teen and cannabis use a health problem?	Yes 8 responses	No 2 responses

Table 2

Posttest Results

Posttest questions	Positive responses	Negative responses
Do you know what the CRAFFT tool is?	Yes 10 responses	No 0 responses
What does the pneumonic CRAFFT stand for?	Right 10 responses	Wrong? 0 responses
Would you use a cannabis tool in your practice?	Yes 9 responses	No 1 response
What age do you use the CRAFFT tool?	11-15 1 response 16-20 1 response 21-24 0 responses All ages 7 responses No ages 1 response	
What score on CRAFFT do you need to refer for treatment?	0 0 response 1 1 response 2 7 response 3 2 responses	
Ok for teens to use cannabis for any circumstance?	Yes 3 responses	No 7 responses
How to document cannabis use in teens?	With a tool? 8 responses	Positive or negative 2 responses

Section 5: Dissemination Plan

I am planning on presenting this project and the importance of using the CRAFFT screening tool to the health care organization where I work at a future monthly staff meeting. The tool itself will be downloaded, added to our current EMR and be readily available to all health care providers to use very conveniently when assessing cannabis use in adolescents. A CRAFFT tool template will therefore be easily accessible in any of the client's encounters of the patient's charts, thus making it very easy to access and use. If for some reason the electronic chart was unavailable there will be access to the online electronic version that can easily be down loaded, printed off and then scanned onto to the patients chart. Finally the fully documented written DNP report can be made available to the stakeholders of the company if they are interested in learning more about the project.

The CRAFFT cannabis-screening tool can be used in a variety of different settings where adolescents and young adults access health care or health education. The tool is very easy to access and only takes a few minutes to complete. Some places that may find the implementation of the screening tool very convenient and suitable include: doctor offices, community health centers, Aboriginal Health centers, sexual health clinics, grade school or secondary school medical facilities and university health campuses. An ultimate use of this tool would be to have all electronic medical record companies (Pikinji, NOD, PPS, etc.) have this tool embedded in its assessment templates making it available to all its users at any time.

Analysis of Self

I have always thought as myself as a scholar, diligent practitioner and project leader or manager on a small scale during different aspects of my nursing career. However, now having almost completed my DNP, I can definitely say that this self-image of scholar, practitioner and manager has definitely come to fruition. I clearly see my future career roles incorporating projects requiring the change agent that I have now become. Taking on quality improvement projects within the organization that I currently work in is beginning to occur and lends very well to my new expanded role for making change. Another future goal that will come to life with the completion of my DNP is having the opportunity of becoming a professor of nursing, the next logical step forward from being a nursing instructor, of which I am today. Finally, having gone through the doctorate program it has allowed me to become a better evidenced based practitioner as well as allowing me to learn about what other research nurses are bringing to the practice front. This has been a real eye opening experience, which I have enjoyed immensely. I will be forever grateful for having completed this program and enhancing the way I deliver nursing care, concepts, assessments or treatments, be it in a classroom, an exam room or clinical field.

To date, this DNP program, including the project completion, has been one of the biggest challenges of my career. When I was starting out on this journey I was excited, fearful and very anxious. However, these feelings were not foreign to me, as when compared to the feelings I experience with most things that are new to me I seem to recognize these very similar feelings that accompany me at the start line. The most

challenging part of participating in this project was spending most of my time doing school work opposed to spending time with friends and family and missing out on many social gatherings. Sacrificing my time from my loved ones in order to advance my career and professionalism was a commitment that I hadn't expected to be as grueling and as time consuming as it was. The past 5 years that I have spent on this project has allowed me to grow as a researcher, gain patience, learn discipline, communicate with professors and chair members while guiding me in the direction towards the final stage of the program. I have so much to be thankful for and there has been numerous lessons learned.

Summary

Given the current landscape of 12.2% (3.4 million) of Canada's youth and young adult population (Statistics Canada, 2012) being accountable for the 47, 000 annual drug related deaths and contributing to the 8 billion dollar substance abuse medical expenses demonstrates the need for action. Of the 25% of teenagers and young adults who are using marijuana (CCSA, 2016) how many are being appropriately screened for substance abuse and how many more youths are being missed by not screening for substance abuse with the CRAFFT screening tool as suggested by both the American and Canadian Pediatrics experts (CPS, 2016).

With the strong evidence of the effects cannabis has on its users it is health care providers clinical responsibility to be assessing and identifying those youth and young adults who put their health at risk from using cannabis. By implementing the cannabis-screening tool, such as the CRAFFT, substance use disorders in young adults can be identified early and interventions can be started in attempts of avoiding any long-term

consequences. The legalization of cannabis that is to occur in Canada on July 1, 2018, will definitely allow for an increase in availability of this drug to adolescents, which will more than likely have an impact on its current 60% of accounted young adult users in the country (Statistics Canada, 2012).

Canadian youth are ranked the highest users of cannabis in developed countries. 1 out 6 students are diagnosed with a drug use problem when the CRAFFT tool was used exemplifying the tool's ability to identify those at risk for marijuana's adverse effects. (CAMH, 2016). Levy et al., (2014) reminds us of how SUD is poorly diagnosed by health care providers allowing for missed opportunities to address a teenagers substance use concerns. When screening for substance abuse with the CRAFFT tool in teenagers and young adults at all visits, paired with tracking these results on the patients EMR, the goal of screening practices will be obtained as set out by the American Academy of Pediatrics (2011). By implementing the 6-item CRAFFT tool at routine adolescent visits substance use disorders won't be misdiagnosed or missed (Levy et al., 2014; Winters, K., & Kaminer, Y., 2008).

It the responsibility of nurses to be aware of the health concerns of our patients. Knowing the prevalent substance use that confronts our youth is one of these concerns. Having the ability to implement the current research in attempts of bettering our client's health is at the forefront of our daily practice. It is therefore most appropriate for nurses and other health professionals to be implementing the CRAFFT screening tool in our current practice with the end goal of identifying those youth at risk for substance use disorder.

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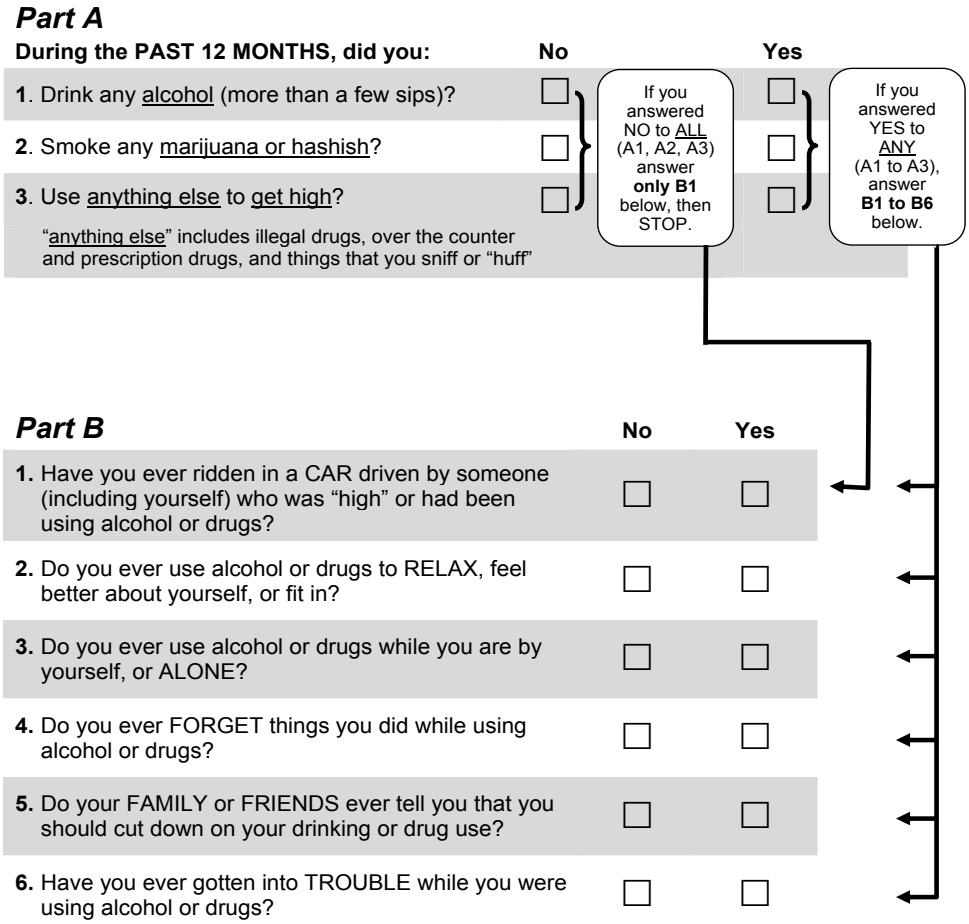
Appendix A: CRAFFT screening tool

The CRAFFT Screening Questions

Please answer all questions honestly; your answers will be kept confidential.



Appendix B: Pretest

Please circle the most appropriate answer, may circle more than one answer.

1. Do you know what the CRAFFT tool screens for? Yes or No
2. Do you currently use a cannabis-screening tool in your practice when assessing adolescents/youth for substance use? Yes or No
3. In what age group do you screen for cannabis use/abuse?

   13-16, 17-21, 22-26, All ages. No ages.
4. Have you referred anyone with cannabis use/abuse for treatment? Yes or No
5. If yes to above question how many people would you refer in the past year?

   0, 1-5, 6-10, 11-15, 16-20, 21-25, 26-30, 30+
6. Is it acceptable for teenagers to use cannabis to help them sleep, or to calm their anxiety? Yes or No
7. How are you currently documenting a patient's cannabis use?

   With a tool?

   Documented amount being used?

   Indicating cannabis used – positive.
8. Do you see cannabis use in teenagers in your current practice as being a health problem?

Appendix C: Posttest

Please circle the most appropriate answer, may circle more than one answer.

1. Do you know what the CRAFFT tool screens for? Yes or No

2. Does the pneumonic CRAFFT stand for:

   Car, Relax, Alone, Forget, Friends and Trouble?

   Car, Restless, Agitated, Family, Fun and Trouble?

   Cancer, Relax, Anxious, Forget, Friends, Trouble?

2. Would you use a cannabis screening tool in your practice when assessing adolescents/youth for substance use? Yes or No

3. In what age group should the CRAFFT tool be used?

   11-15 16-20 21-24

   All ages listed.

   None of the ages listed.

4. When is referral for SUD appropriate according to the CRAFFT tool results?

   Score of 0, Score of 1, Score of 2, Score of 3

6. Is it acceptable for teenagers to use cannabis in any circumstance?

   Yes or No

7. How will you document a teen/youth cannabis use?

   With a tool?

   Documented amount being used?

   Indicating cannabis used – positive.

Appendix D: Teaching Module

Practice Support Program

Substance Use Assessment

Adolescence is the time during which most individuals first experience exposure to alcohol or other substances. Based on the scientific evidence, we know that the brain continues to develop throughout adolescence and into young adulthood, and insults to it during this period may result in unwanted, negative impacts both short and long-term. Substance misuse and substance abuse then become important issues for the health of young people.

Screening for substances use should be part of general health assessments for adolescents. Although every adolescent should be screened for substance use, there are some red flags that should trigger a more comprehensive assessment. These are:

- **Adolescents who present with substantial behavioral changes**
- **Adolescents who present to emergency medical services for trauma**
- **Adolescents who present medical problems such as accidents, injury, or gastrointestinal disturbance**
- **Adolescents with significant decline in school grades and a high number of school absences.**

Screening for substance use/misuse/abuse provides an opportunity for psycho-education about the risks of substance use (i.e., alcohol related car accidents are the number one cause of death in adolescents, psychosis risk with marijuana smoking) and an approach to safe and moderate use of alcohol.

For those youth whose substance use is harmful or putting them at risk for negative health or social outcomes, screening opens an opportunity for referral to specialized treatment programs that can provide them with the comprehensive evaluation and interventions that they require. While waiting for the teenager to get the specialized attention: monitor for self harm and suicidal behaviours; educate about the possible negative outcomes of substance misuse; provide support to family members and be available in crisis situation.

A parsimonious approach to substance use screening in adolescent is the application of the CRAFFT screening tool (CRAFFT = mnemonic acronym of first letters of key words in the six screening questions). The CRAFFT is a valid, reliable, and developmentally appropriate tool.

When using the CRAFFT, begin by asking the adolescent to answer the following questions honestly and reassure him/her that the answers will be kept confidential within the reasonable limits to confidentiality addressed (see page 7).

Another thing to have in mind when screening or substances in adolescents is that substance use can be masking a mental disorder and it also can be a way of self-medication for a mental disorders

C - Have you ever ridden in a **CAR** driven by someone (including yourself) who was "high" or had been using alcohol or drugs?

R - Do you ever use alcohol or drugs to **RELAX**, feel better about yourself, or fit in?

A - Do you ever use alcohol/drugs while you are by yourself, **ALONE**?

F - Do you ever **FORGET** things you did while using alcohol or drugs?

F - Do your family or **FRIENDS** ever tell you that you should cut down on your drinking or drug use?

T - Have you gotten into **TROUBLE** while you were using alcohol or drugs?

Let's be clearer with words - Drug or substance consumption can be categorised into: drug use; drug misuse; drug abuse and drug dependence. The latest is rarely seen during adolescence as it takes many years to develop.

- **Use** - is defined as taking a drug in such a manner that the sought-for effects are attained with minimal hazard
- **Misuse** - refers to inappropriate use of prescribed or non- prescribed substance.
- **Abuse** - repeatedly and willfully use of a substance that result in repeated adverse social consequences related to drug-taking—for example, interpersonal conflicts, failure to meet work, family, or school obligations, or legal problems.

The CRAFFT is not a diagnostic tool but the higher the score on the CRAFTT the greater the probability for a Substance Use Disorder. However, the key clinical issue is not whether the young person meets diagnostic criteria for a Substance Use Disorder but what harm may be likely to happen as a result of substance use. The clinician should use the young person's answers to this tool to explore the impact of substance use on his/her life and decide on the nature, type and immediacy of the intervention needed (if any) based on that further information. If a Substance Use Disorder is suspected or if the young person is demonstrating a high risk of harm related to substance use, a referral for a mental health and substance abuse assessment is recommended.

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