CLINICAL PRACTICE

"Turning the tide" in Treatment of substance use: A nursing response

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ABSTRACT

Objective: To analyze science and practice surrounding nursing approaches to substance use disorders (SUDs) and make recommendations for the future.
Methods: A review of literature and topics related to healthcare provider stigma, science surrounding SUDs, nursing approaches to SUDs in education and practice and evidence based treatment was conducted, analyzed and synthesized.
Results: Stigma is embedded in nursing approach to SUDs, up to date information regarding SUDs is not widely disseminated or practiced in nursing.
Conclusions: To reduce the impact of stigma and to bring nurses into the "turning the Tide" movement requires an understanding of how beliefs root stigma, building knowledge related to SUDs as an illness, and expansion of nurses' skill when intervening with individuals dealing with SUDs.

Key Words: Substance use disorder, Addiction, Overdose, Nurse, Opioid, Neurobiology

1. INTRODUCTION

According to the Centers for Disease Control, illicit use of prescription drugs and heroin in the United States has skyrocketed to epidemic proportions.[1] Recent data indicate 22 million Americans have a substance use disorder.[2] Substance use disorders (SUDs) hold dire consequences. Seventy eight Americans die each day or one person every 20 minutes from a drug overdose.[1] The death rate from overdoses in adults has surpassed that of any other cause including motor vehicle accidents.[1]

In addition to the great personal toll of SUDs are the tremendous costs of substance use, which is now estimated in the United States at $193 billion, $11 billion of this in health related costs.[3] The disease of SUDs also creates hidden costs; for instance, SUDs have led to an increase in medical care services which include over one million emergency department visits.[1] This epidemic affects all Americans from every race, geographical location, and socioeconomic class including a growing number from suburban and rural areas[4] and increasingly individuals age 25 to 54, as well as men and non-Hispanic whites, have the highest overdose rates.[5]

In late August 2016, the U.S. Surgeon General, Dr Vivek Murthy, reached out to the health practitioners asking for help to "Turn the Tide" on the opioid crisis. He suggested that nurses and physicians become involved by educating themselves on how to treat pain safely and effectively; to talk about and treat addiction as a chronic illness, and to screen their patients for opioid use disorder and connect them with evidence-based treatments. The campaign aims to mobilize all health care professionals to improve prescribing practices and to implement best practices in addressing pain. At the heart of the campaign is changing cultural perceptions

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around SUDs so that they are not seen as a moral failing but a chronic illness that must be treated with skill, urgency and compassion.[6]

Given the size and reach of the workforce, nurses are important participants in this call to action. Nurses will most likely be caring for individuals with substance use issues in all practice arenas (e.g. hospitals, clinics, schools) and all specialty areas, i.e. obstetrics, orthopedics, surgery, public health, corrections, mental health or geriatrics. Since nurses are present everywhere that health care is delivered, front-line nurses are critical to addressing the issue with compassion and the assimilation of best practices around screening and referral into routine care. In addition, nurse educators are in a prime position to prepare the nursing workforce to address these issues.

Stigmatization of substance abuse

Unfortunately, a wake-up call from the Surgeon General will not in and of itself change long-standing dynamics that contribute to a profound discrepancy between the problem of substance abuse and an adequately prepared workforce.[7] Rasyidi and colleagues believe a significant hurdle to improving workforce training is the issue of broad-based stigma regarding alcoholism and other forms of abuse. Beliefs around substance use that breed stigma reach into numerous segments of the medical community[8, 9] as well as nurses in practice, particularly those who practice includes pain management.[10, 11] Research has confirmed that nurses, along with other healthcare professionals, hold stigmatizing beliefs about people with SUDs which results in decreased empathy, lack of engagement and, sub-optimal care.[12–14]

Thus health professionals are not immune to preconceptions and beliefs around SUD issues that breed stigma and impede appropriate care.[14] Indeed as members of the larger society, health professionals are subject to the culturally derived beliefs and practices around addictions that are embodied, and enacted in everyday life.[15] These beliefs operate as cultural models; implicit, shared understandings and assumptions that people draw upon when considering complex social issues.[16] Investigations of culture-bound models around substance use point out numerous commonly held beliefs such as addiction is incurable and that it reflects a lack of will power.[17] If nurses are to become meaningful participants in "turning the tide" around substance use, they must surmount the culture-bound ideas that influence their perceptions and actions concerning substance use and their role in addressing the issue. Instituting educational seminars on stigma has been only partially effective in dispelling beliefs.[18] We suggest that to change the current cultural model surrounding addiction will require a focused approach that begins with the educational process in schools of nursing and continues at the institutional or systems level to reach nurses currently in practice. The approach seeks to move beyond simply dispelling stigmatizing beliefs to address the culturally derived ideas and practices that are embodied, enacted, or instituted in health care surrounding addictions.[15] There is an understandable gap between how addictions experts view substance use disorders versus the broader public, nurses and health care professionals. To reduce this split in the expert view versus the public's cultural model of addictions, researchers recommend several strategies that include: a), avoiding language that perpetuates the idea addiction is tied to will power; b) expanding an understanding of neurobiology of addictions, particularly the development of reward systems; and c) emphasizing that much can be done about addiction including evidence-based ways of addressing the issue, interventions that are within nurses' realm of practice.[17]

To begin this process, we discuss not just what cultural bound assumptions need to change but how nursing might go about changing them. The first area of concern is the language used in nursing that propagates the association of addiction and will power. Next, a framework is offered on how to expand upon an understanding of the neurobiology of addictions and several core tenets on addictions and reward are outlined. On this neurobiological platform we clearly show why SUDs should be thought of illness and the knowledge base nurses need to grasp the concept. Finally to introduce evidence based ways nurses might address substance use in every day practice, an explanation of screening and its applicability to nursing practice is presented.

2. Reducing the impact of cultural models that breed stigma

To build the mindset that addiction is an illness, not a moral failing or a question of will power, will demand understanding how the cultural model around addiction took hold and actively challenging its core elements.[19] These stigmatizing ideas have deep roots. Brezing & Marcovitz trace them to the early 20th century when substance use was on the rise and increasingly linked with crime, insanity, minorities, and immigrant.[20] The media fueled this association and a societal image of the "drug addict" and "alcoholic" emerged, individuals who were seen as unhealthy, unpredictable and dangerous.[21] Here Brezing & Marcovitz see beginnings of the belief that addiction was a moral failure due to lack of will power, a problem best handled by the legal system, not the medical community.[20]

There are several types of stigma. Public or social stigma

is prejudice against a particular group that arises from extreme disapproval based on select social characteristics that serve to distinguish them from other members of society.[22] Such stigma is also fueled from the common misconceptions that surround groups such as individuals with SUDs.[23] As the Surgeon General points out, health professionals may attribute the impaired decision making of individuals with SUDs as a character flaw. In this instance nurses share a commonly held belief that people with SUDs are purposely making bad decisions and choices.[24]

Along with this idea comes the belief that the individual is to blame for their illness and has control over stopping the behavior.[25] Health problems that are seen as under greater control of the individual, such as SUDs or obesity, draw greater social stigmatization.[25] This belief that individuals could just stop their behavior leading to SUDs is an unrealistic expectation we would not anticipate from people with illnesses such as diabetes or asthma. Similarly while nurses would not normally criticize a patient who has an exacerbation of their diabetes, even if it involved a contributing behavior such as non-adherence to diet, they may have a negative response to patients with SUDs when they have exacerbations or relapses.

2.1 Terminology

Terminology is another major contributing factor that promotes the cultural model of addictions within the medical community and breeds stigma. Terms that define a person by their illness such as "addict" or "substance abuser" carry stigmatizing connotations.[26] In 2013, the American Psychiatric Association removed the terms "addiction" and "abuse" from the Diagnostic and Statistical Manual because they were difficult concepts to define and held negative connotations.[27] Replacing this language is the term "use disorder" which is predicated by the specific substance i.e. opioid use disorder.[27] Following along with the addiction paradigm was the goal of substance use treatment to prevent relapse, a commonly used term that implies a measure of responsibility. This treatment goal of preventing relapse is slowly giving way to one of recovery where over time the individual's social environment is strengthened to decrease stress and support their ability to resist cravings and environmental cues.[28]

Changing terminology traditionally used to describe patients with SUDs does reduce stigma.[26] But since these terms have become part of health care providers' vocabulary and in a sense their cultural model, it will take considerable effort to remove them from our lexicon of SUD treatment. To change the terminology and thinking about SUDs, negative comments and actions toward people with substance use disorders should be addressed similarly to other prejudicial comments such as those related to race or micro-aggression.[29] Changing stigmatizing terminology however must be enacted both in an individual and a systems perspective.

2.2 Proposed nursing strategies

To address a broader-base change in terminology, nurses may look towards a strategy like Team Strategies & Tools to Enhance Performance and Patient Safety (TeamSTEPPS) which encourages people to speak up when they are concerned and uncomfortable because of a safety issue in a healthcare environment using a Concerned, Uncomfortable, Safety (CUS) model.[30] While this model was designed to address actual or potential medical errors, encouraging practitioners to speak up when they are concerned or uncomfortable due to a safety issue, it can also be used to address stigmatizing preconceptions related to people with SUDs. Using the CUS strategy, replacing the word safety with sensitivity, nurses could be trained to speak up if they notice a co-worker's references are stigmatizing toward a person with SUDs and raise questions about the attitudes this reflects.

Another way nurses can make a difference in terminology is to monitor how persons with SUDs are referred to in nursing students' treatment plans. Inaccurate and potentially stigmatizing nursing diagnosis (ND) are often standard use when developing treatment plans for substance use, including such NDs as lack of knowledge, denial, low self-esteem and powerlessness.[31] This is not to recommend that nurses avoid the use of any nursing diagnosis but that they question some of the standard exemplars that are suggested in nursing care plan sources. For instance, nurses should not assume that individuals with SUDs lack knowledge about substance use or the negative effects of it. They are likely experts about drug use and the consequences of it through life experience. Beyond the issue of terminology, these nursing diagnoses poorly identify the needs of individuals with substance use. What they may lack knowledge about is the underlying neurobiology of SUDs or treatment options.[32] Potential alternative nursing diagnosis for people with SUDs include knowledge deficit related to neurobiology of addiction, hopelessness, decision conflict, social isolation, risk for loneliness, and risk for impaired resilience, all of which would be individualized for the patient.[33]

2.3 Stigma in the use of nursing diagnoses

The use of the nursing diagnosis "denial" is equally complex in that in one stroke it stigmatizes an individual and also stifles exploration of the person's stance towards treatment and reducing their substance use. People with SUDs may indeed perceive they are not ready for treatment but that notion rests

with several dynamics including perceived stigma, not being ready to stop using a substance or being pessimistic about the effectiveness of treatment.[34,35] For some individuals with substance use, avoidance of treatment is associated with anticipating negative consequences in the process of help seeking such as unwanted disclosure, social judgment and employment discrimination.[34] Individuals with SUDs may also have a disruption in their self-awareness of internal mental states (emotions, desires) which may play into their sense of a need for treatment and their awareness of the disease.[36] These are complex dynamics that are best carefully parsed out with the individual and not addressed under an umbrella of denial.

Nursing diagnoses such as low self-esteem and powerlessness also imply characteristics lacking in a person that have contributed to their SUD and divert attention from what an individual might need to address their substance use. What may have seeded the idea of powerlessness as a nursing diagnosis for individuals with SUD was the early 20th century movement of treatment to self- help organizations such as Narcotics Anonymous (NA)[20] which has a core philosophy that the individuals must first declare themselves powerless over substances.[37] Actually, the ability of persons with SUDs to survive on a daily basis is quite high. In that sense, they are not powerless rather they are exhibiting strength to even get by each day. Thus when developing care plans for patients with SUDs, nurses and instructors should take care that preconceived cultural models fraught with often stigmatizing beliefs are not re-enforced in nursing diagnosis.

In summary, there are several strategies that nurses can advance to help nurses gain a deeper understanding of how stigma and our cultural model around addictions obscures their perceptions and actions around clients with substance use. Change is needed through education at the individual and system levels to address terms that are currently being used (e.g. denial, powerlessness) somewhat indiscriminately, are not well understood and that can also obscure the support an individual needs. Health care delivery systems committed to de-stigmatizing this population could adopt programs, similar to TeamSTEPPS, to raise consciousness of how stigma is revealed in everyday language. Finally, as nursing students develop care plans they should be alert to use of the standardized care plan language for SUDs which may carry stigmatizing messages.

3. Teaching the neurobiology of substance use disorders

For nurses and nursing students to see substance use as an illness not a moral failing will demand expanding their knowledge base around SUDs. In their basic nursing courses, students receive education related to definition and description of SUDs, treatment modalities, as well as psychological and medical complications. The most recent survey of nursing programs found content related to SUDs was concentrated in the Psychiatric Mental Health specialty course, focused on acute management and some treatment but had little information on screening, early interventions or the pertinent neurobiology.[38] Yet experts recommend that the science of SUDs should be included in all nursing education programs.[39]

A similar situation is occurring in our graduate nursing programs. In line with national nursing competencies[40] graduate programs in psychiatric mental health nursing are directed to include substance use screening, assessment and acute management but NONPF does not supply any curriculum guides that direct how these concepts are to be taught or methods to support the development of these competencies. Although some Psychiatric Mental Health (PMH) nursing programs have begun to offer entire courses on SUDs, it is unclear how the topic is addressed or threaded throughout many PMH graduate nursing programs.[41]

Knowledge deficits breed stigma around the causes of SUDs.[10,12–14] To provide nurses perspective on the behaviors that are exhibited by people with SUDs, one area of knowledge that should be strengthened is understanding the neurobiology of SUDs. Of particular importance are the neurobiological underpinning of cravings, motivations, and impaired reward circuitry.[36] Research in the neurobiology of substance use is complex and involves genetics, circuitry, brain regions and neurotransmitters.[42] This vital information can be incorporated into nursing curricula in a variety of ways.

To teach students about genetics, statistics can be provided on twin studies. There is a known genetic predisposition or heritability of SUDs estimated to range from 25% to 50%;[43] these research articles related to twin studies could be used for discussion in the classroom. Additionally, there are several short videos easily found online on YouTube featuring twins with SUDs that could be shown and used for discussion or case studies. Another option would be to find a speaker through the National Alliance of Mental Illness who is either a twin or has expertise on twins and SUDs.

A second area vital to understanding the neurobiology of addictions is the emerging science around how brain region operate and neurotransmitter change in individuals with substance use disorders. Using PET scan technology researchers have demonstrated that people with SUDs have

low dopamine levels which results in dysfunction in the brain's frontal lobe, the seat of many executive functions.[24] This low dopamine level's adverse effects on brain function results in involuntary negative changes in emotion and behavior.[42] Students might view images of brain regions which demonstrate that when substances associated with SUDs including alcohol, opioids, and cocaine, are introduced into the bloodstream, they cause a dramatic surge in dopamine, a neurotransmitter associated with among other responses, pleasure and happiness.[43] But the brain has mechanisms in place to maintain balance, equilibrium and homeostasis. Therefore when these high levels of dopamine continue to occur, the body responds with mechanisms to lower the levels, specifically by down regulating dopamine receptors and lowering natural production of dopamine. This leaves people with SUDS with chronic low dopamine levels which results in low energy, low mood, and lack of enjoyment.[44]

When dopamine levels are low, the brain's prefrontal lobe and anterior cingulate gyrus do not function normally.[36] The resulting behaviors include impaired decision making, recklessness, impulsivity, impaired cooperation, oppositional behavior, cognitive inflexibility, and a general fixation on negative thoughts and behaviors. During the active phases of substance use these responses are virtually out of the individual's control.[45] In order to help student's understand the impact of these brain changes, speakers such as those with SUDs, family members, or nurses with expertise working with patients with SUDs can be brought in to share their experiences with behavior changes that occurred as a result of substance use.

The increased understanding of the neurobiology of SUDs has several benefits for nursing practice. Understanding that the driving force behind a behavior is neurobiological rather than a conscious choice will help nurses develop empathy and compassion which can positively impact treatment for people with SUDs and also reduce stigma.[12–14,46] Armed with this knowledge, nurses can educate their patients and families to increase their understanding of the illness which could lead to greater compassion and reduced guilt and shame.[47] For people with SUDs, the knowledge that their negative actions during their time of substance use were the result of impaired brain function could help reduce internalized stigma, which is a major barrier to help seeking.[34] Understanding the negative behaviors that were exhibited during times of substance use could lead to healing relationships which would provide recovery promoting support for people with SUDs.[48] Videos are now available that explain this neurobiology to clients and will be a useful adjunct to educational efforts.[49]

4. Evidence-based approaches to addiction

Nurses are on the forefront of providing healthcare to scores of patients who struggle with SUDs but many nurses view SUD treatment as a specialty area for which they do not feel competent or informed.[50–52] While intervention skills play a role in nurses' approach or avoidance to any behavioral issue, attitudes are also a major component.[53] In addition to the engagement barriers generated by stigma, research demonstrates that healthcare professionals are often uncomfortable discussing substance use with patients.[54] Unfortunately if nurses do not engage with patients, hear their stories and attend to their experiences it will be difficult to forge meaningful connections.[55] An important platform for interpersonal engagement is to understand the meaning an experience holds for an individual, in this instance a person using substances.[56]

Nurses should also approach individuals with SUDs with an appreciation of the reality of the life they live.[57] People who have substance use disorders become physically sick if not able to obtain the substance they use: many are constantly in search of the substance which often involves illegal activity putting them in stressful and dangerous situations.[58] Women carry additional stress and particular vulnerabilities due to a higher incidence of trading sex for drugs to support their substance use, estimated at 51% for women versus 19% for men.[59] While these circumstances surrounding substance use can bring up sensitive issues, they should not avoided. Asking patients to talk about their experiences both positive and negative related to using substances is an evidence-based technique that facilitates a therapeutic relationship and ultimately change.[60]

Nurses may be reluctant to ask patients about their experiences related to substance use because of the potential intensity of the emotional responses. While often heart breaking, it is helpful and therapeutic for patients to tell their stories.[61] In addition, attention to the narrative and reflective listening provide opportunities for empathic, supportive statements and afford the person the experience of feeling understood.[62] Such exchanges also have the potential to contribute to positive healing changes in the person with SUDs. Research indicates that people with mental health disorders (including SUDs) respond positively and are more productive with a supportive approach.[63]

Finally when interacting with individuals dealing with SUDs, nurses should be aware of the role of trauma in their lives. Estimates are that 25% of women and 10% of men with PTSD are dealing with a SUD.[64] Among those individuals with SUD that seek treatment, 20%-50% has a lifetime

diagnosis of PTSD and 15%-40% met criteria for PTSD in the last year.[65] Health care agencies are increasingly adopting trauma-informed assessments and approaches as part of routine care.[66] As integrated treatment evolves for this cohort of patients, nurses should be aware of the association between SUDs and trauma and that interventions aimed at anxiety reduction and emotional regulation might be needed.[67]

Motivational interviewing

An effective approach to interacting around substance use issues is motivational interviewing (MI).[68] Using MI involves a mind-set change from traditional approaches where patients may be lectured about consequences and told what they should do. Motivational interviewing is a positive patient-centered approach where the individual is encouraged to talk about their substance use and collaborate around realistic goal setting. Perhaps, for a time, substances have actually improved an individual's physical and emotional well-being. An MI technique that is useful when working with patients with SUDs is to discuss the possible positive effects that substance use has on their life[69] which both recognizes and expresses validation for what is important to another person. Because MI is such a departure nurses may need repeated exposure to this strategy as well as ample opportunities to practice the accompanying skills.

Screening, brief intervention and referral to treatment (SBIRT) is an evidence based method of screening that includes MI. SBIRT is not a new intervention but it has recently gained wider application in a variety of setting and also within the nursing profession.[70] SBIRT begins with a guide for universal screening techniques to identify not just individuals with SUDs but those at risk for the development of the disorder.[71] Depending on the results of the screening, this phase may also include brief intervention, a motivational conversations about the individual's level of substance use and possible avenues to modify behaviors. The final step, referral to treatment focuses on providing access to care for those individuals who have more serious signs of substance dependence.[71]

Deborah Finnell, a nursing leader in the Substance Use field, has called for all nurses to be trained in SBIRT and to devise strategies to move the screening into routine care.[72] Training has demonstrated to be effective for both nursing students and staff[73, 74] and such training has demonstrated effectiveness at improving screening skills.[75] Recent federal grants to increase training for medical and nursing students should increase the number of health care professionals with SBIRT skills and boost the use of SBIRT screening in all areas of health care.

5. CONCLUSION

The Surgeon General has asked health care professionals to join him in addressing the opioid crisis and substance use disorders. Nurses have a tremendous opportunity to participate in this movement but first must examine their own assumptions and beliefs about substance use, cultural models that may propagate the stigma and reduce individuals' treatment approach and engagement. Nurses should be leaders in finding new and unstigmatized ways of talking about patients with SUD. They are also in an ideal position to promote and disseminate accurate information about substance use issues, including explanations about the neurobiological basis of the disease. Unrecognized stigma must be addressed and punitive approaches replaced with compassionate and evidence-based treatments. For nurses already in practice, education about the neurobiology of SUDs as well as skill training for screening should be delivered through regular in-services conducted by experts in the field related to SUD treatment and management. Protocols to help train the workforce in SBIRT are already in place. Let's talk openly in all areas of nursing about substance use and nurses role in promoting positive change and "Turning the Tide" on the opioid crisis.

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