

# PRESCRIPTION MISUSE AND OTHER RISK FACTORS FOR SUBSTANCE USE DISORDERS AMONG STUDENT NURSES: RESULTS OF A PILOT TEST USING THE SHUNT SELF-SURVEY FOR NURSES

Paula Davies Scimeca, RN, MS © 2010

## ABSTRACT

Substance use disorders (SUDs) are chronic, progressive conditions which usually develop over time. Most nurses with SUDs report substance use began before or during nursing school. As nursing students are vulnerable to SUDs involving prescription drugs, it seems plausible that student nurses may be able to make modifications in their behavior and circumstances if they had a tool by which to measure their risk. The aim of this study was to identify acceptability and feasibility of a brief self-survey which identifies at-risk behaviors for SUDs in nurses that could also be used by student nurses. A pilot test of 26 senior baccalaureate nursing students found over 11% reported past misuse of medications and over 7% reported a negative consequence due to alcohol, drug or medication use. Further studies are needed to construct validity, reliability and to test internal consistency of this tool, but given the minimal investment of time, low cost of administration, and the potential benefits of early detection of risk associated with SUDs in nursing students, knowledge as well as incentive to conduct ongoing self-appraisals by all students nurses seems warranted.

## INTRODUCTION

Substance use disorders (SUDs) have long been described as chronic and progressive conditions. Earlier initiation of substance use has been identified as a risk factor which increases the likelihood of more serious problems with substance abuse and addiction (NIDA, 2007). Research has demonstrated a strong correlation between the occurrence of SUDs and genetics (Kreek, 2004).

Almost one in five 12 to 17 year olds surveyed in 2008 reported that they could obtain prescription drugs in order to get high in an hour's time, with more than a third noting that they could procure these substances within a day (National Center on Addiction & Substance Abuse at Columbia, 2009). A significant portion of middle and high school students are using prescription drugs for recreational, non-medical purposes, with the incidence of any use of a prescription drug for non-medical purposes among 12<sup>th</sup> graders reported to be 15.4% in 2008 (Johnston, 2008).

Most studies have cited the lifetime incidence of SUDs in nursing professionals to be between 10% and 20% (Griffith, 1999). Nurses have been noted to be at significantly higher risk of addiction to mood-altering prescription substances compared to the non-nurse population (Trinkoff, 2000). Research has demonstrated that substance abuse among nurses often begins before or during nursing school (Coleman, 1997) with prescription drug use particularly common

among student nurses (Kornegay, 2004) and depression noted as one of the most frequent reasons for nursing student's use of substances (Ahmadi, 2004). Other psychodynamic factors in individuals with SUDs, such as lack of meaningful relationships, low self-esteem and lack of self-regard, have also been observed (Smith-DiJulio, 2006).

In 2007, the University of Memphis School of Nursing (UMSN) developed a more uniform and comprehensive policy regarding substance use and/or abuse in nursing students after four had been identified with such issues over a two year period (Monroe, 2009). Given the present trajectory of prescription misuse among youth and higher rates of prescription abuse in nurses than the general public, it seems nursing schools may experience an increasing frequency of issues with substance use and abuse among nursing students than in past decades. Additionally, an increased number of student nurses may remain just beneath the threshold of detection for SUDs in nursing programs, only to come to the attention of State Boards of Nursing, alternative to discipline programs and employers after licensure.

Screening for SUDs in all patient populations aged 12 and older has been recommended in primary care settings and emergency departments for some time (Institute of Medicine, 1994). Such initiatives have been increasingly encouraged as a standard practice for healthcare providers so that earlier detection can lead to timely intervention and improved outcomes (Osterman, 2009; NYC Dept. of Health & Mental Hygiene, 2009; Murphy, 2009). Additionally there has been a call for more education regarding the issue of SUDs within the nursing profession and schools of nursing (Dunn, 2005).

The potential consequences to substance abusing student nurses are quite steep, including deterioration of physical and emotional health, expulsion from school, inability to obtain professional licensure, criminal prosecution, and loss of reputation and self-esteem. While substance abuse in nurses poses a risk of fatality to the nurse and a threat to patient safety (Smith, 1998), the threat to student nurses is at least as great due to the co-morbidity of depression (Ahmadi, 2003). Shame related to expulsion from nursing school poses a risk of overdose and suicide, particularly if student nurses do not receive treatment (Monroe, 2009).

Nurses and those about to enter nursing practice are held to exemplary standards of practice and held accountable for identifying any situations which indicate they are not able to perform nursing duties safely. They are also held to standards of moral conduct above what is expected from non-licensed individuals. Nurses are undoubtedly well-trained and experienced in the process of assessing patients and familiar with regular personal self-screening practices, such as self-breast exams or testicular exams. Though today's nursing students may not yet have as finely-honed skills and years of experience as licensed nurses, their schooling provides cutting edge evidence based practice which includes familiarity with multiple tools of assessment for various physical and psychiatric disorders, including SUDs.

As SUDs usually develop over a period of time and are often accompanied by a constellation of characteristic behaviors and circumstances that are sometimes detectable before extreme consequences occur (Mynatt, 1996), it seems plausible that student nurses may be able to self-assess an escalating trend towards behaviors and circumstances which often occur in nurses with SUDs. If student nurses can recognize increased characteristics in themselves which tend to co-occur with SUDs, it is possible that some nursing students may be able to modify their behavior or circumstances and become alert to a possible need for enhanced support, or formal evaluation and treatment, prior to progression of SUDs and/or the development of their most dire sequelae.

In an effort to test how student nurses would respond to a self-survey developed to assess risk factors for SUDs specific to nursing professionals, a small sample of senior baccalaureate nursing students were given a questionnaire containing the ten items on the SHUNT Self-Survey For Nurses described in the book "Unbecoming A Nurse" (Scimeca, 2008). The ten traits identified on the self-survey were extracted from general research studies regarding SUDs, studies specific to nurses with such disorders and direct observation of nurses who voluntarily surrendered their license to practice nursing due to SUDs.

Lack of meaningful relationships has been observed in those with SUDs (Smith-DiJulio, 2006). Evidence suggests that loneliness is a risk factor in the development of SUDs and that the prevention of loneliness may be helpful in the prevention and treatment of SUDs (Page 1990; Page, 1991; Nerviano, 1976). For these reasons, social withdrawal or self-isolative behavior was identified as a risk factor on the original self-survey and was included on the questionnaire for nursing students.

Self-care behaviors have been noted to be beneath societal norms in many individuals with SUDs (Moore, 2001). One of the most striking observations of those with advanced progression of SUDs is a disheveled appearance. Common psychodynamic factors such as low self-esteem and lack of self-regard have also been observed in those with SUDs (Smith-DiJulio, 2006). Lack of self-regard may negatively impact an individual's attention to self-care practices. As the hallmark of addiction is an uncontrollable urge to use substances, it is likely that self-care would be deferred in favor of satisfying overwhelming cravings. Self-care behaviors beneath societal, professional or the nurse's own standards was an item included on the original self-survey for nurses. For this pilot test of student nurses the original wording was changed from "the nurse's own standards" to "your standards" to more accurately reflect the status of the students.

A family history of SUDs is a risk indicator as research has demonstrated a strong correlation between genetics and the occurrence of SUDs (Kreek, 2004). Because history of SUDs in the immediate family is highly predictive of a genetic predisposition to SUDs, history of chemical dependency in the nurse's immediate family was included in the original self-survey for nurses. The questionnaire given to the students was amended from "nurse's immediate family" to "your immediate family."

SUDs have long been described as chronic and progressive conditions. Earlier initiation of substance use has been identified as a risk factor which increases the likelihood of more serious problems with ongoing substance use, abuse and addiction (NIDA, 2007). As one of the best indicators of a future problem with SUDs is a past negative consequence related to alcohol, drug or prescription medication use, history of negative consequences related to the nurse's substance use was included as a risk factor. The questionnaire provided to nursing students omitted the word "nurse's" used in the original self-survey so that the item stated "History of negative consequence due to past substance use."

Co-morbidity of mood and other psychiatric disorders in clients with SUDs has been well documented (NIDA, 1999). Major depressive disorder and bipolar disorder have been noted as the most significant indicators for relapse in nurses in recovery from SUDs (Fogger, 2009). Chronic physical pain is frequently present in nurses with SUDs (Dunn, 2005; Maher-Bryson, 2007). For these reasons, untreated or unremitting emotional or physical pain was noted as a risk factor measured on the original self-survey and remained intact for the pilot test of student nurses.

Nurses have been noted to be at significantly higher risk of addiction to mood-altering prescription substances compared to the non-nurse population (Trinkoff, 2000). As using medication for a reason it was not intended or in a manner not recommended are both examples of medication misuse and such misuse is a risk, this factor was included in the original self-survey and on the student questionnaire.

Overwork has been noted as a frequent occurrence in nurses with SUDs, particularly those who obtain their substance(s) from the workplace. Nurses who routinely work far beyond the equivalent of full-time hours required for their position naturally have less time available to recuperate from stressors related to work. Maintenance of optimal health practices such as relaxation, exercise and other endeavors which support and fortify emotional and physical health are often negatively impacted by excessive work (Dunn, 2005). Overtime is strictly curtailed by most monitoring programs when nurses initially return to practice after restoration of their license related to SUDs to minimize this risk. To identify the risk inherent in overwork, nursing practice routinely in excess of 55 hours per week was noted on the original self-survey. To more accurately reflect the student's situation, the phrase "nursing practice" was amended to "working."

Nursing duties which include frequent access to controlled substances has been noted as a risk factor in the development of SUDs involving controlled substances (Dunn, 2005; Trinkoff, 2000). While access does not pose a problem for the vast majority of nurses, it does seem to merit inclusion on any self-appraisal of a nursing professional's risk for SUDs. The phrase "nursing duties" was changed to "employment" on the student questionnaire.

Navigation through major transitional stages has been found to be extremely difficult for those with SUDs (Sinha, 2001). As transitional stages are universal life experiences and present special challenges to those susceptible to SUDs, a transitional period requiring major adjustment in the past year was added to the original self-survey and was also included on the student self-survey.

Clients with SUDs often possess less than adequate coping skills and tend to respond to stress by using or abusing substances (Gelfand, 1990; Naegle, 1988). A history of past trauma has been noted in some research regarding nurses with SUDs (Ponech, 2000). Use of substances as a coping strategy to deal with emotional discomfort often precipitates ongoing difficulties in family life and the workplace (Coleman, 1997). Continued substance use does not resolve such issues and may lead to increased turmoil and conflict. For this reason, turmoil or tragedy with unresolved conflict was identified as the tenth risk factor on the original self-survey and remained intact on the student questionnaire.

The acronym SHUNT was selected for the original self-survey as each of the five letters represents a letter which corresponds to the first letter of the first word of two of the ten items on the survey. The acronym also seemed fitting as the aim of the self-survey is to shunt nurses away from behaviors and circumstances which increase their risk of SUDs.

### **Table 1: SHUNT Self-Survey For Nurses**

Social withdrawal or self-isolative behavior

Self-care behaviors beneath societal, professional or the nurse's own standards

History of chemical dependency in the nurse's immediate family

History of negative consequences related to the nurse's substance use

Untreated or unremitting emotional or physical pain

Using medication for a reason it was not intended or a manner not recommended

Nursing practice routinely in excess of 55 hours per week

Nursing duties include frequent access to controlled substances

Transitional period requiring major adjustment within the past year

Turmoil or tragedy with unresolved conflict

The purpose of this study was to (a) determine the self-survey score range of a small sample of student nurses; (b) identify what percentage of students would report they were in recovery from SUDs; and (c) determine if scores of student nurses in recovery differ from student nurses who did not report a problem with substances and that no one had expressed concern regarding their substance use.

## METHODS

A small convenience sample of senior baccalaureate nursing students were invited to complete an anonymous questionnaire. None were yet licensed as RNs or LPNs and no incentive was provided for completing the survey. All students were provided with an envelope in which to place the completed surveys prior to handing them in.

All students surveyed were asked to assess themselves on the ten items corresponding to the SHUNT Self-Survey for Nurses by responding with a “yes” or “no” answer regarding the current presence or absence of certain behaviors or circumstances in their life. As previously noted, the use of the word “nurse” was changed to “your” as the students were not yet licensed as nurses and the phrases “nursing practice” and “nursing duties” were changed to “working” and “employment” respectively as student nurses had not yet been employed as nurses.

## RESULTS

A total of 26 students returned completed surveys, which was a return rate of 100% of those invited to participate. To ensure anonymity, gender was not captured as there was only one male among those invited to participate. None of the surveys were returned via mail. The age of participants ranged from 21 to 24, with a mean age of 21.3 and a median age of 21. Thirteen students (50%) reported not working in any capacity; eleven (42%) reported working in a non-nursing capacity; and two (7.7%) did not respond to the question related to employment.

Students reported total scores of between zero and 6 on the ten items on the survey, with a mean score of 1.23 and a median score of 1. Three students (11.5%) reported currently being socially withdrawn or self-isolative; and 2 (7.7%) reported current self-care beneath societal, professional or their own standards. Three students (11.5%) reported a family history of SUDs; 2 (7.7%) reported a history of a negative consequence related to their own substance use; 4 (15.4%) reported untreated or unremitting emotional or physical pain symptoms; 3 (11.5%) reported using medication for a reason it was not intended or in a manner not recommended; none reported working in excess of 55 hours per week routinely; 6 (23%) reported a period of transition with major adjustment in the past year; and 6 (23%) reported turmoil or tragedy with unresolved conflict.

**TABLE 2: compilation of SHUNT self-survey pilot test results of 26 senior baccalaureate students age 21-24.**

	Trait Present in students	Trait Absent in students
Risk Factors		
Social withdrawal or self isolative behavior	N 3 (11.5%)	N 23 (88.5%)
Self-care behaviors beneath societal, professional or your own standards	N 2 (7.7%)	N 24 (92.3%)
History of chemical dependency in nurse's immediate family	N 3 (11.5%)	N 23 (88.5%)
History of negative consequences due to past substance use	N 2 (7.7%)	N 24 (92.3%)
Untreated or unremitting emotional or physical pain	N 4 (15.4%)	N 22 (84.6%)
Using medication for a reason not intended or in a manner not recommended	N 3 (11.5%)	N 23 (88.5%)
Working routinely in excess of 55 hours per week	N 0 (0%)	N 26 (100%)
Employment includes frequent access to controlled substances	N 6 (23%)	N 20 (77%)
Transitional period requiring major adjustment within the past year	N 6 (23%)	N 20 (77%)
Turmoil or tragedy with unresolved conflict	N 5 (19.4%)	N 21 (80.6%)

It is noteworthy that frequent access to controlled substances was reported by 6 or 23% of students because 4 (15.4%) reported employment in non-nursing capacities, 1 (3.8%) reported unemployment and 1 (3.8%) did not report an employment status. Only 1 (3.8%) student reported frequent access to controlled substances and also reported medication misuse.

Without providing any definition of recovery from alcohol and/or drugs including prescription medication(s) on the questionnaire, all student respondents were asked if they considered themselves to be in recovery from alcohol and/or other drugs, including prescription medications. No students in the pilot test study reported they were in recovery from alcohol, drugs or prescription medications.

## DISCUSSION

The incidence of prescription medication misuse in this small pilot test sample of student nurses is 3.7% lower than the incidence of non-medical prescription medication use reported by 12<sup>th</sup> graders in the Monitoring the Future Study (Johnson, 2008). Nonetheless, the finding in this small pilot test sample that 11.5% of nursing students reported medication misuse is of great concern given that such behavior is present prior to licensure in a profession which will provide much professional access to pharmaceutical products and require frequent exposure to handling mood-altering, controlled substances in most clinical settings.

That 23% of the students in this test pilot reported frequent contact with controlled substances is consistent with the survey conducted by the National Center on Addiction and Substance Abuse at Columbia in 2008. It is undetermined whether the access reported is related to peers or family members, internet or other sources from which nursing students could procure such substances. It is possible that student nurses in this study were reporting frequent access to controlled substances related to the exposure they have in the clinical setting related to nursing school. If the access reported in this study is solely related to student nurses' recognition of frequent access in the clinical setting, it may be helpful to determine whether student nurses perceive this exposure as a risk.

Although some youth do become sober prior to the age of 22, given the age of the student nurse respondents it was not entirely surprising to find that none reported being in recovery from a SUD.

## LIMITATIONS

Given the thousands of nursing students who graduate every year in the U.S., this pilot test sample was very small. It is undetermined whether a larger sample would have yielded similar results. Students were from one school in one state rather than dispersed throughout the country, which may also have skewed results.

None of the respondents represented older adults who turn to nursing as a second career. A study including older nursing students may elicit different results.

There is no method of determining whether students' current self-report was accurate and truthful. If there were reporting errors it seems more likely that such errors may be a reflection of under-reporting of risk rather than over-reporting.

## SUMMARY

Screening for SUDs is being encouraged as a standard of practice to be utilized by many healthcare providers, including nurses. Nurses have long been identified as a population vulnerable to SUDs, particularly involving prescription medications that are known to be mood-altering and addictive.

Given the current social climate in which over 15% of 12<sup>th</sup> graders have misused a prescription medication and that there has historically been a lifetime incidence reported of between 10%-20% of nurses developing SUDs, it appears that one of the most vulnerable populations is that of young nursing students about to embark on their careers.

Given the significant physical, emotional, legal, academic, financial and professional consequences SUDs pose to nursing students, the minimal investment of time, the low cost of administering this self-assessment, and the potential benefits of early identification of a SUD in a student nurse, a self-survey for all student nurses, particularly those with a family history of

SUDs, and/or those who have misused prescription medications or have a negative consequence related to past substance use, seems warranted.

## REFERENCES

- Ahmadi, J., Maharlooy, N., & Alishahi, M. (2004). Substance abuse: prevalence in a sample of nursing students. *Journal of Clinical Nursing*, 13(1), 60-64.
- Coleman, E. A., Honeycutt, G., Ogden, B., McMillan, D. E., O'Sullivan, P. S., Light, K., & Wingfield, W. (1997). Assessing substance abuse among health care student and the efficacy of educational interventions. *Journal of Professional Nursing*, 13(1), 28-37.
- Darbro, N. (2009). Overview of issues related to coercion and monitoring in alternative diversion programs for nurses: a comparison to drug courts. *Journal of Addictions Nursing*, 20(1), 24-33.
- Dunn, D. (2005). Home Study Program: Substance abuse among nurses- defining the issue. *AORN Journal*, 82(4), 573-596.
- Fogger, S. A., & McGuinness, T. (2009). Alabama's nurse monitoring programs: The nurse's experience of being monitored. *Journal of Addictions Nursing*, 20(3), 142-149.
- Gelfand, G., Long, P., McDill, D., & Sheerin, C. (1990). Prevention of chemically impaired nursing practice. *Nursing Management*, 21(7), 76-78.
- Griffith, J. (1999). Substance abuse disorders in nurses. *Nursing Forum*, 34(4), 19-28.
- Institute of Medicine. (1994) *Reducing risks for mental disorders: Frontiers for preventive intervention research*. Washington, DC: National Academy Press.
- Johnston, L.D., O'Malley, P.M., Bachman, J.G., & Schulenberg, J.E. (2008). *Monitoring the future study: adolescent drug use, overview of key findings, 2008*. University of Michigan Institute for Social Research funded by the National Institute on Drug Abuse.
- Kornegay, K., Bugle, L., Jackson, E., & Rives, K. (2004). Facing a problem of great concern: Nursing faculty's lived experiences of encounters with chemically dependent nursing students. *Journal of Addiction Nursing*, 15(3), 125-132.
- Kreek, M.J., Nielson, D.A., & LeForge, K. S. (2004). Genes associated with addiction: alcoholism, opiate, and cocaine addiction. *Neuromolecular Medicine*, 5(1), 85-108.
- Maher-Bryson, P. (2007). Addiction: an occupational hazard in nursing. *American Journal of Nursing*, 107(8), 78-79.
- Monroe, T. (2009). Addressing substance abuse among nursing students: development of a prototype alternative-to-dismissal policy. *Journal of Nursing Education*, 48(5), 272-278.

- Moore, A. A., Morgenstern, H., Harawa, N. T., Fielding, J. E., Higa, J., & Beck, J. C. (2001). Are older hazardous and harmful drinkers less likely to participate in health-related behaviors and practices as compared to non-hazardous drinkers? *Journal of the American Geriatric Society*, 49(4), 421-430.
- Murphy, S. (2009). Screening, intervention, and referral in primary care: a continuing challenge. *Journal of Addictions Nursing*, 20(2), 63-65.
- Mynatt, S. (1996). A model of contributing risk factors to chemical dependency in nurses. *Journal Psychosocial Nursing Mental Health Services*, 34(7), 13-22.
- Naegle, M. A. (1988). Drug and alcohol abuse in nursing: An occupational hazard? *Nursing Life*, 8(1), 42-54.
- National Center on Addiction and Substance Abuse at Columbia University. (2009). *National survey of American attitudes on substance abuse XIV: teens and parents*. August, 2009.
- National Institute on Drug Abuse (2007). *Drugs, Brains and Behavior: The Science of Addiction*, National Institutes of Health, February 2007.
- National Institute on Drug Abuse. (1999). Drug abuse and mental disorders: comorbidity is a reality. NIDA Notes. Retrieved 8-18-09 [www.drugabuse.gov/NIDA\\_Notes/NNVo114N4/](http://www.drugabuse.gov/NIDA_Notes/NNVo114N4/).
- Nerviano, N. J., & Gross, W. F. (1976). Loneliness and locus of control for alcoholic males: Validity against Murray Reed and Cattell trait dimensions. *Journal of Clinical Psychology*, 32(2), 479-484.
- NYC Department of Health and Mental Hygiene. (2009) Improving the health of people who use drugs. *City Health Information*, 28(3), 21-28.
- Osterman, R.L., Ribak, J., Bohn, C.M., Fargo, J. D., & Sommers, M. S. (2009). Screening for hazardous/harmful drinking and depressive symptoms in an at-risk emergency department population. *Journal of Addictions Nursing*, 20(1), 34-40.
- Page, R.M. (1990). Loneliness and adolescent health behavior. *Health Education*, 21(5), 14-17.
- Page, R.M. & Cole, G. (1991). Loneliness and alcoholism risk in late adolescence: A comparative study of adults and adolescents. *Adolescence*, 26(104), 925-931.
- Ponech, S. (2000). Telltale Signs. *Nursing Management*, 31(5), 32-37.
- Scimeca, P. D. (2008). *Unbecoming A Nurse: Bypassing the Hidden Chemical Dependency Trap*, (p.213). NY: Sea Meca, Inc.

Sinha, R., Drummond, D.C., & Oxford, J. (2001). How does stress increase risk of drug abuse and relapse? *Psychopharmacology (Berlin)*, 158(4), 343-359.

Smith, L., Taylor, B., & Hughes, T. (1998). Effective peer responses to impaired nursing practice. *Nursing Clinics of North America*, 33(1), 105-118.

Smith-DiJulio, K. (2006). Care of the chemically impaired. In E. M. Varcariolis, V. B. Carson, & N. C. Shoemaker (Eds.) *Foundations of Psychiatric Mental Health Nursing: A Clinical Approach*, (pp546-550). St. Louis, MO: Saunders Elsevier.

Trinkoff, A. M., Zhou, P. Q., Storr, C. L., & Soeken, K. L. (2000) Workplace access, negative proscriptions, job strain, and substance use in registered nurses. *Nursing Research*, 49(2), 83-90.