

# Substance Use Disorders among Nurses in Medical-Surgical, Long-Term Care, and Outpatient Services

Mercy N. Mumba  
Kyle R. Kraemer

**S**ubstance use disorders (SUDs) in the United States recently reached epidemic proportions (Centers for Disease Control and Prevention [CDC], 2017). SUDs cost society an estimated \$600 billion annually from loss of productivity, healthcare utilization costs, and criminal justice costs (National Institute on Drug Abuse, 2016). The CDC (2017) also noted SUDs affect individuals from all walks of life regardless of race, gender, geographic location, or socioeconomic status. Prevalence of SUDs among nurses is thought to be the same as that in the general population (Monroe, Kenaga, Dietrich, Carter, & Cowan, 2013). However, it is unclear how rates of SUDs in nurses in the United States have been estimated; most estimates are older than 10 years (Monroe et al., 2013). Another problem is the varied numbers based on the method of estimation used (Bozimowski, Groh, Rouen, & Dosch, 2014). Thus, estimates can vary 5%-20%. Estimates of substance abuse among nurses

*Substance abuse disorders (SUDs) in the United States have reached epidemic proportions and nurses are not exempt from this exacerbation. Factors related to SUDs in nurses employed in medical-surgical, long-term care, and outpatient services are examined.*

historically have come from self-report studies, state boards' reported rates, number of recovering nurses incorporated into the workforce, and reports from alternative and disciplinary monitoring programs for substance abuse among nurses (Bozimowski et al., 2014; Monroe et al., 2013; Monroe, Vandoren, Smith, Cole, & Kenaga, 2011). Unfortunately, nurse monitoring programs vary from state to state, making it difficult to compare outcomes across states (National Council of State Boards of Nursing [NCSBN], 2013).

In a study by Kunyk (2015) in Canada, the rate of SUDs among nurses was estimated at 8%. Kunyk noted another contributor to the difficulty in ascertaining actual prevalence is the fear nurses have of reporting impaired practice, which results in underreporting of the rates. A stigma also is attached to mental health disorders, including

SUDs; many people who have mental health disorders thus may be reluctant to disclose their diagnoses (Birtel, Wood, & Kempac, 2017). This only leads to systemic denial, further exacerbating the problem. Because of confidentiality issues related to studying affected nurses, recent and original research on this topic is limited. Newer studies are needed to examine factors related to substance abuse and misuse among nurses.

Nurses in some specialties have been identified as more susceptible to substance abuse than others (Young, 2008). For example, an estimated 15% of nurse anesthetists suffer from substance use disorders (American Association of Nurse Anesthetist, 2016). Mumba (2016) found this trend is shifting and nurses in medical-surgical, long-term care, and outpatient services now report higher rates of SUDs compared to nurses in other special-

## Instructions for CNE Contact Hours

MSN J1905

Continuing nursing education (CNE) contact hours can be earned for completing the learning activity associated with this article. Instructions are available at [amsn.org/journalCNE](http://amsn.org/journalCNE)

Deadline for submission:  
April 30, 2021  
1.3 contact hours

**Mercy N. Mumba, PhD, RN, CMSRN®**, is Assistant Professor of Nursing, University of Alabama Capstone College of Nursing, Tuscaloosa, AL.

**Kyle R. Kraemer, MA**, is Doctoral Candidate and Graduate Research Assistant, University of Alabama Capstone College of Nursing, Tuscaloosa, AL.

**Acknowledgment:** The authors would like to thank the staff at the Texas Peer Assistance Program for Nurses for their support and for providing the de-identified database used in this study.

## Background

Substance use disorders (SUDs) in the United States have reached epidemic proportions. Nurses are also affected by SUDs. New trends suggest certain specialty areas such as medical-surgical, long-term care, and outpatient services are reporting increasing prevalence.

## Aims

To examine factors associated with this increased prevalence and personal characteristics that may predict relapse.

## Methods

A retrospective and descriptive secondary data analysis of nurses with SUDs

## Results

The drug of choice was alcohol followed by opioids. Nurses were referred most commonly to the Board of Nursing for diverting medications from patients. Older nurses were more likely to abuse alcohol whereas the younger ones were more likely to abuse opioids and cannabis. Individuals with self-report status were less likely to have comorbid psychiatric disorders and less likely to relapse than those who did not report themselves. Nurses who worked in hospice had the highest levels of relapse.

## Limitations

Use of secondary data limited availability of variables and thus types of analyses.

## Conclusion and Implications

Reduced accountability and increased availability of drugs are thought to increase SUDs among nurses practicing in identified specialties. Because these areas are perceived as high stress, self-care interventions related to stress reduction need to be promoted to reduce the risk of initiation and exacerbation of substance abuse.

problems patients face daily, nurses who take care of these patients may experience tremendous psychological and physical stress (Deklava, Millere, & Circenis, 2011). Epstein, Burns, and Conlon (2010) concluded stress at work can result from excessive workload, floating to other units, and working overtime to cover shifts. Other identified stressors in nursing include shift work, role ambiguity, and lack of support both from peers and from management (Lim, Bogossian, & Ahern, 2010). Working long hours with the concomitant disruption of the circadian rhythm further compounds psychophysiological problems many nurses may experience, and this may increase susceptibility to substance abuse (Geiger-Brown & Trinkoff, 2010).

Several factors present in nurses' work environments can increase the likelihood for substance abuse (Dittman, 2012). Workplace risk factors include access to drugs, negative attitudes toward drugs, and lack of education on the signs and symptoms of impaired practice (Darbro & Malliarakis, 2012). Access to drugs is one of the most cited risk factors for nurses who present with impaired practice; it appears to be worse in areas such as the emergency department and intensive care settings, where nurses often have more autonomy than in other specialty areas (Cares, Pace, Denious, & Crane, 2015). For example, approximately 25% of nurses in drug and alcohol programs indicate they obtained their drug of choice from work or through forged prescriptions, and nearly half of them reported using alcohol or drugs while at work. However, Mumba (2016) found nurse anesthetists have high rates of self-reported SUD. More of them may be identified because they seek help more than nurses from other specialty areas who do not participate in a rehabilitation or monitoring program until they are discovered by another person and then reported to the Board of Nursing.

Evidence suggests the type of abused drugs may depend on what is accessible in the individual's

ty areas. Interestingly, most nurses with SUDs are female, young, and new to nursing (Darbro & Malliarakis, 2012).

## Purpose of the Study

The purpose of this study was to examine factors related to SUDs in nurses employed in medical-surgical, long-term care, and outpatient services.

## Review of the Literature

A comprehensive literature review was conducted for 2000-2018 in CINAHL, PubMed, Psych Info, MEDLINE, and Google Scholar. The extended time frame was used because very few empirical

studies were found that focused specifically on antecedents, risk factors, and relationships of SUDs with other variables of interest among nurses. Additionally, much of the literature on this topic included reviews older than 5 years. Search terms included *nurses, healthcare professionals, substance abuse, chemical dependency, impaired practice, relapse, peer assistance programs, stress, predictors, and causes of substance abuse*. Articles solely focused on substance use among nurses were included in the review. Of specific interest were articles focused on antecedents of substance use, risk factors, signs and symptoms, and treatment options for nurses.

With the dynamic medical, economic, social, and emotional

workplace (Mumba, 2016). For instance, because of their access to drugs, surgeons and anesthesiologists abuse more intravenous medications than other specialties (Physician Health Program, 2016). However, the drugs of choice for most nurses are opioids and alcohol (Mumba, 2016). A study by Bowen, Taylor, Marcus-Aiyeku, and Krause-Parello (2012) examined the relationships among stress, coping, and adaptation in nurses with SUDs in recovery. Researchers found stress was related significantly and inversely to social support and general well-being. They concluded nurses with SUDs participating in recovery and monitoring programs for substance abuse should be encouraged to find effective ways to cope with stress to mitigate its negative effects on recovery, including relapse.

## Ethics

This study was reviewed by the Institutional Review Board (IRB) at the researcher's institution, a university in the southeast region of the United States. This study did not require a full IRB review because the researchers only had access to de-identified data, decreasing the risk of breach of confidentiality. All precautions were used to maintain nurses' confidentiality, ensuring researchers remained unable to determine who was participating in the monitoring program.

## Sample Selection

Inclusion criteria for this study were nurses with SUDs, age 18 and older, for whom the variables of interest were present in the de-identified dataset shared with researchers by the Texas Peer Assistance Program for Nurses. All cases for which the variables of interest were present were included in the statistical analysis. The original de-identified dataset contained 1,952 participants. After data cleaning procedures were completed, including the removal of duplicate entries and data that were not missing at random, the final dataset contained

1,545 participants. Of those, researchers selected only nurses identified as working in medical-surgical units, long-term care facilities, or outpatient services. Thus 436 nurses composed the final sample for this study. Variables of interest included age, gender, substance use status, academic preparation, area of practice, primary drug of choice, referral reasons, self-report status, psychiatric comorbidity, number of days abstinent, and relapse status.

## Design and Methods

This was a retrospective and descriptive secondary analysis of the Texas Peer Assistance Program for Nurses (TPAPN) data for nurses in the monitoring program January 2010-October 2016. This database is maintained by TPAPN and is updated regularly to reflect the status of nurses with impaired practice in Texas. It contains data on registered nurses (RNs) and licensed vocational nurses (LVNs). RNs and LVNs were included in this study. Only the de-identified dataset was shared with researchers. They obtained permission from TPAPN to analyze these data for research purposes after the study was reviewed by the IRB at the researchers' institution.

## Power Analysis

The following parameters were used to conduct *a-priori* power analysis using G\*Power 3.1.9 (Faul, Erdfelder, Lang, & Buchner, 2007) to estimate the required sample size: estimated small effect sizes of  $d=0.2$   $r=0.2$ ,  $\alpha=0.05$ , and power of 0.8. The analysis determined the required sample size of 150. A small effect size was used in the *a priori* power analysis because no previous studies were found that reported a larger effect size (Grove & Cipher, 2017). The final sample included 436 nurses, which far exceeded the required sample from the power analysis.

## Statistical Analysis

The Kolmogorov-Smirnov test was used to test normality of the data. Mann-Whitney U tests were computed for comparisons of con-

tinuous variables. For comparison of nominal variables, the Pearson chi-square tests were computed. The study alpha was set at 0.05, and all analyses were performed using SPSS 22.0 for Windows.

## Findings

See Table 1 for participant demographic data. Šidák corrected post-hoc tests revealed the alcohol abusers tended to be older on average than nurses who abused opioids ( $p<0.001$ ) and nurses who abused cannabis ( $p=0.05$ ). Additionally, Pearson chi-square analyses were used to assess the relationship between self-reporting behavior and psychiatric comorbidity. Self-reporting was marginally higher among nurses with comorbid psychiatric disorders (18%), compared to nurses without psychiatric comorbidity (11%) [ $\chi^2(1, N=436)=3.77, p=0.052$ ].

Pearson chi-square analyses were used to determine factors associated with relapse among nurses in specialty areas. As previously reported, self-reporting users were less likely to relapse (4%) compared with non-self-reporting users (17%) [ $\chi^2(1, N=436) = 6.622, p=0.01$ ]. Furthermore, a Mann-Whitney U-test indicated a tendency to relapse was associated with individuals who took longer to enroll in the monitoring program once they were discovered as having SUDs ( $U=5746.500, p=0.004$ ), such that the median time to enroll for individuals who relapsed (67 days) was nearly twice that of the median time to enroll for those who did not relapse (38 days). Frequency of relapse was comparable for most areas of practice (11%-19%) except for hospice, which was considered outpatient services (37.5%) and showed disproportionately high relapse rates among nurses in this sample [ $\chi^2(3, N=436)=8.997, p=0.029$ ]. Similarly, frequency of relapse was comparable when assessing relapse rates across general category for drug of choice (12%-19%), with the exception of benzodiazepines; these were associated with a much higher relapse rate (47%) [ $\chi^2(5, N=436)=12.523, p=0.028$ ]. No other variables explicitly tested

TABLE 1.  
Sample Characteristics

| Variable                         | <i>n</i> | <i>SD</i> |
|----------------------------------|----------|-----------|
| Age                              | 39.9     | 9.5       |
| Days abstinent                   | 763.8    | 336.9     |
| Enrollment delay                 | 120.3    | 235.7     |
| Variable                         | <i>n</i> | %         |
| <b>Gender Identity</b>           |          |           |
| Male                             | 93       | 21.3      |
| Female                           | 250      | 57.3      |
| Did not report                   | 93       | 21.3      |
| <b>Academic Preparation</b>      |          |           |
| APRN/CRNA                        | 13       | 30.0      |
| LVN                              | 111      | 25.5      |
| RN                               | 309      | 70.9      |
| <b>Referral Reason</b>           |          |           |
| Arrest/Criminal history          | 118      | 27.1      |
| Diversion                        | 118      | 27.1      |
| Impairment at work               | 74       | 17.0      |
| SUD diagnosis                    | 48       | 11.0      |
| Other                            | 78       | 17.9      |
| <b>Primary Drug of Choice</b>    |          |           |
| Alcohol                          | 125      | 28.7      |
| Benzodiazepines                  | 15       | 3.4       |
| Cannabinoids                     | 16       | 3.7       |
| Opioids                          | 118      | 27.1      |
| Stimulants                       | 39       | 8.9       |
| Other                            | 121      | 27.8      |
| <b>Psychological Comorbidity</b> |          |           |
| Some comorbidity                 | 100      | 22.9      |
| No comorbidity                   | 336      | 77.1      |
| <b>Area of Practice</b>          |          |           |
| Home health                      | 124      | 28.4      |
| Long-term care                   | 139      | 31.9      |
| Medical/Surgical                 | 157      | 36.0      |
| Hospice                          | 16       | 3.7       |

APRN = advanced practice registered nurse, CRNA = certified registered nurse anesthetist, LVN = licensed vocational nurse, RN = registered nurse, SUD = substance use disorder

(age, comorbidity, gender, academic preparation) were associated significantly with relapse (all  $p > 0.05$ ).

Nurses in this sample were from the identified specialty areas considered to be *prone areas* because they showed significantly higher rates of substance abuse compared to other nurses in the database. Chi-square analyses were completed to compare the new sample ( $N=436$ ) with the original sample ( $N=1,545$ ) to assess trends and associated factors that might indicate why nurses in these areas were particularly prone to substance abuse. Researchers found nurses in the selected sample (prone area sample) showed a greater likelihood than others to have a primary drug of choice of alcohol or stimulants; in addition, a smaller portion of the sample had opioids as the primary drug of choice [ $\chi^2(5, N=1545)=18.311, p=0.003$ ] (see Table 2). Furthermore, a larger percentage of participants in the new sample was referred primarily to the monitoring program for substance abuse alone when compared with the larger sample [ $\chi^2(2, N=1532)=8.361, p=0.015$ ], which had a mixture of people referred to the program for both substance abuse and mental health diagnoses. No other variables explicitly tested (comorbidity, self-report, relapse time to enroll, gender, age) showed differences between the two samples (all  $p > 0.05$ ).

## Discussion

The reduced accountability and supervision of nurses in long-term care and geriatric specialty areas may be contributing factors in the increased prevalence of SUD among these nurses. Additionally, many residents in these facilities may be incapacitated in some way and thus less likely to report they are not receiving their medications when the nurses are diverting from their patients. Notably, about 60% of nurses who work in these long-term care facilities and outpatient services are LVNs; in a study by Mumba (2016), LVNs were least likely to report themselves when they were abusing drugs. Although it is

**TABLE 2.**  
**Drug of Choice According to Area Vulnerability**

| Drug         | Prone Area | Not Prone Area |
|--------------|------------|----------------|
| Alcohol      | 29%        | 24%            |
| Hypnotics    | 3%         | 3%             |
| Cannabinoids | 4%         | 3%             |
| Opioids      | 27%        | 31%            |
| Other        | 28%        | 34%            |
| Stimulants   | 9%         | 5%             |
| Total        | 100%       | 100%           |

unclear why medical-surgical nurses are experiencing increased prevalence of SUDs, medical-surgical care areas are considered as high-stress work environments that may put nurses at increased risk for SUDs (Geiger-Brown & Trinkoff, 2010). Also of note, a significant number of medical-surgical nurses report depressive symptomology (Welsh, 2010) that also increases their risk for SUDs (Schellekens, de Jong, Buitelaar, & Verkes, 2015).

Nurses and the public need more education regarding signs and symptoms of SUDs (Darbro & Malliarakis, 2012). Lack of education for nurses and the public is associated with negative stereotypes about impaired individuals, contributing to stigmatization and consequently the lack of access to mental health services essential to recovery (Evans-Locko, Brohan, Motjabai, & Thornicroft, 2012). Stigmatization, which partly results from lack of education, contributes to reluctance by chemically impaired individuals to disclose the presence of mental illness and addictions (Birtel et al., 2017)). Lack of education on substance abuse, especially the recognition of signs and symptoms, along with limited knowledge of procedures for reporting colleagues with impaired practice, have been cited as reasons this problem continues to affect nurses as high-risk professionals (Cares et al., 2015; Physician Health Program, 2016).

Stigma, denial, and fear of embarrassment also often deter nurses from seeking the help they need (Cares et al., 2015). Negative

attitudes toward SUDs in the profession have led to further denial of this problem and the concomitant underreporting of impaired practice (Horton-Deutsch, McNelis, & Day, 2011). Nurses with impaired practice may not disclose their problems for fear of retaliation, loss of their licenses, and other disciplinary action (Dittman, 2012). This remains relevant because six states in the United States still use the disciplinary model alone and thus do not provide nurses with the opportunity to rehabilitate prior to losing their licenses (NCSBN, 2013).

### Limitations

The main limitation for this study was the use of a pre-existing dataset. The quest to de-identify data, though necessary, led to deletion of information that could have been used to inform other research questions. This was considered a constraint to a comprehensive data analysis plan. In addition, the TPAPN database represented only a portion of nurses with impaired practice. This is in part because some impaired nurses refuse treatment for various reasons, others are reported directly to the board of nursing and may not have the chance to be enrolled in a peer assistance program (PAP), and not all nurses with impaired practice have been identified. Additionally, this study only examined nurses from one state. Other nurses with impaired practice may seek help elsewhere; however, these may not be monitored. Generalization of

study findings therefore is limited to nurses with impaired practice who have been enrolled in a PAP.

### Recommendations for Future Research

Further research is needed to understand self-care habits of nurses in the identified specialty areas to determine if there can be protective factors against SUDs in these groups. Additional studies are needed to identify barriers and facilitators to self-reporting procedures for nurses who already have SUDs because a substantial number of nurses in these specialty areas do not self-report (Mumba, 2016). Self-reporting is associated significantly with better outcomes while in rehabilitation or monitoring programs (Mumba, 2016). Finally, further education is needed for nurses to alleviate the stigma and denial that accompany SUDs among nurses. Many nurses with impaired practice refrain from seeking help because of the associated stigma and fear of losing their licenses (Cares et al., 2015; Kunyk, 2015). Exploring these factors through a qualitative approach would be most impactful for the future as this research methodology can provide the best avenue to understand these factors and provide insight into how affected nurses can be treated better.

### Nursing Implications

People cope with stress using two main approaches: problem-focused coping and emotion-focused coping (Folkman & Lazarus, 1988; Lazarus & Folkman, 1987). Evidence on nurses' preferred coping mechanisms is conflicting (Deklava et al., 2011; Lim et al., 2010). Nurses who use problem-focused coping demonstrate better mental health and well-being (Lim et al., 2010). However, frequent stress over extended periods regardless of the coping strategy is associated with poor physical and mental health (Tsaras et al., 2018). When nurses cannot cope adequately with these stressors, they may resort to self-medicating (Dittman, 2012). Self-

medicating leads to a kind of denial called *professional invincibility*, a phenomenon in which nurses believe they can self-medicate without becoming addicted (Dittman, 2008, 2012). This phenomenon may be the beginning of a downward spiral into substance abuse and chemical dependency. This is especially true when nurses already have prescribed medications with high abuse potential for other mental health disorders (Malliarakis, Smith, & Darbo, 2012).

The American Nurses Association (2016) recommended employing several strategies to cope with stress on the job. These include creating a culture of purposeful communication, getting more organized at work to reduce unnecessary stress, and adopting a mentor as an accountability partner to assist with professional and personal development. Mental Health America (2016) suggested more ways to reduce and control stress, such as meditating, being realistic, exercising, and sharing feelings. A meditation modality called *mindfulness*, for example, can be effective in decreasing stress, depressive symptomatology, and anxiety (Murphy & MacKillop, 2014; Witkiewitz et al., 2014), all of which are associated with increased risk of initiating SUDs (Schellekens et al., 2015). Nurses are encouraged to engage in self-care through practices, such as yoga, tai chi, massage, music therapy, and guided imagery, among others (Blum, 2014).

## Conclusion

The increased prevalence of SUDs among nurses in medical-surgical units, long-term care facilities, and outpatient services warrants further exploration, especially considering SUDs in the United States have reached epidemic proportions (CDC, 2017) and nurses are not exempt from this exacerbation. Possible contributors to increased susceptibility in these specialty areas include the fact that nurses in these areas are more likely to be referred strictly for substance abuse problems and not for comorbid

SUDs and mental health problems. They are less likely to report themselves and seek help before being found impaired on the job. They also take longer to enroll in rehabilitation and monitoring programs than nurses from other specialties, and abuse alcohol and opioids as primary drugs of choice. **MSN**

## REFERENCES

- American Association of Nurse Anesthetists. (2016). *Peer assistance for substance use disorders*. Park Ridge, IL: Author.
- American Nurses Association. (2016). *How to cope with stress on the job*. Silver Spring, MD: Author.
- Birtel, M.D., Wood, L., & Kempac, N.J. (2017). Stigma and social support in substance abuse: Implications for mental health and wellbeing. *Psychiatry Research*, 252, 1-8. doi:10.1016/j.psychres.2017.01.097
- Blum, C.A. (2014). Practicing self-care for nurses: A nursing program initiative. *The Online Journal of Issues in Nursing*, 19, 1-15. doi:10.3912/OJIN.Vol19No03Man 03
- Bowen, M.K., Taylor, K.P., Marcus-Aiyeku, U., & Krause-Parello, C.A. (2012). An examination of stress and adaptation in nurses in a recovery and monitoring program. *Journal of Addictions Nursing*, 23(3), 159-166. doi:10.1097/JAN.0b013e31826f4bd6
- Bozimowski, G., Groh, C., Rouen, P., & Dosch, M. (2014). The prevalence and patterns of substance abuse among nurse anesthesia students. *Journal of the American Association of Nurse Anesthetists*, 82(4), 277-283.
- Cares, A., Pace, E., Denious, J., & Crane, L. A. (2015). Substance abuse and mental illness among nurses: Workplace warning signs and barriers to seeking assistance. *Substance Abuse*, 36(1), 59-66. doi:10.1080/08897077.2014.933725
- Centers for Disease Control and Prevention (CDC). (2017). *Understanding the epidemic*. Retrieved from <https://www.cdc.gov/drugoverdose/epidemic/index.html>
- Darbo, N., & Malliarakis, K.D. (2012). Substance abuse: Risk factors and protective factors. *Journal of Nursing Regulation*, 3(1), 44-48.
- Deklava, L., Millere, I., & Circenis, K. (2011). Stress coping among nurses in Latvia. *Journal of Society for Development in New Net Environment in B&H*, 5(6), 1468-1476.
- Dittman, P.W. (2008). Male nurses and chemical dependency: Masterminding the nursing environment. *Nursing Administration Quarterly*, 32(4), 324-330.
- Dittman, P.W. (2012). Mountains to climb: Male nurses and their perspective on professional impairment. *International Journal for Human Caring*, 16(1), 34-41.
- Epstein, P.M., Burns, C., & Conlon, H.A. (2010). Substance abuse among registered nurses. *American Association of Occupational Health Nurses Journal*, 58(12), 513-516. doi:10.3928/08910162-20101116-03
- Evans-Locko, S., Brohan, E., Motjabai, R., & Thornicroft, G. (2012). Association between public views of mental illness and self-stigma among individuals with mental illness in 14 European countries. *Psychological Medicine*, 42(8), 1741-1752. doi: 10.1017/S0033291711002558
- Faul, F., Erdfelder, E., Lang, A.G., & Buchner, A. (2007). G\*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39(2), 175-191.
- Folkman, S., & Lazarus, R.S. (1988). The relationship between coping and emotion: Implications for theory and research. *Social Science & Medicine*, 26(3), 309-317.
- Geiger-Brown, J., & Trinkoff, A.M. (2010). Is it time to pull the plug on 12-hour shifts for nurses? *Journal of Nursing Administration*, 40(3), 100-102. doi:10.1097/NA.0b013e3181ee4295
- Grove, S.K., & Ciper, D.J. (2017). *Statistics for nursing research: A workbook for evidence-based practice* (2nd ed.). St. Louis, MO: Elsevier.
- Horton-Deutsch, S., McNelis, A., & Day, P.O. (2011). Enhancing mutual accountability to promote quality, safety, and nurses' recovery from substance use disorders. *Archives of Psychiatric Nursing*, 25(6), 445-455. doi:10.1016/j.apnu.2011.02.002
- Kunyk, D. (2015). Substance use disorders among registered nurses: Prevalence, risk, and perceptions in a disciplinary jurisdiction. *Journal of Nursing Management*, 23(1), 54-64. doi:10.1111/jonm.12081
- Lazarus, R.S., & Folkman, S. (1987). Transactional theory and research on emotion and coping. *European Journal of Personality*, 1(3), 141-169.
- Lim, J., Bogossian, M.F., & Ahern, K. (2010). Stress and coping in Australian nurses: A systematic review. *International Nursing Review*, 57(1), 22-31.
- Malliarakis, K.D., Smith, V., & Darbo, N. (2012). Regulatory management of substance use in high risk nurse populations. *Journal of Nursing Regulation*, 2(4), 32-39. doi:10.1016/S2155-8256(15)30253-2
- Mental Health America. (2016). *Stress*. Retrieved from <http://www.mentalhealthamerica.net/conditions/stress>
- Monroe, T.B., Kenaga, H., Dietrich, M.S., Carter, M.A., & Cowan, R.L. (2013). The prevalence of employed nurses identified or enrolled in substance use monitoring programs. *Nursing Research*, 62(1), 10-15. doi:10.1097/NNR.0b013e31826ba3ca

continued on page 118

## Substance Use Disorders

continued from page 92

- Monroe, T. B., Vandoren, M., Smith, L., Cole, J., & Kenaga, H. (2011). Nurses recovering from substance use disorders: A review of policies and position statements. *Journal of Nursing Administration*, 41(10), 415-421. doi:10.1097/NNA.1090b1013e31822edd31825f
- Mumba, M.N. (2016). *A retrospective descriptive study of chemically impaired nurses in Texas*. Proquest Dissertations and Theses Global. Retrieved from <http://www.proquest.com/products-services/pqdtglobal.html>
- Murphy, C.M., & MacKillop, J. (2014). Mindfulness as a strategy for coping with cue-elicited cravings for alcohol: An experimental examination. *Alcoholism Clinical and Experimental Research*, 38(4), 1134-1142. doi:10.1111/acer.12322
- National Council of State Boards of Nursing (NCSBN). (2013). *An analysis of nurses' disciplinary data from 1996 to 2006*. Retrieved from [https://www.ncsbn.org/09\\_AnalysisofNursysData\\_Vol39\\_WEB.pdf](https://www.ncsbn.org/09_AnalysisofNursysData_Vol39_WEB.pdf)
- National Institute on Drug Abuse. (2016). *Drug facts: National trends*. Retrieved from <http://www.drugabuse.gov/publications/drugfacts/nationwide-trends>
- Physician Health Program. (2016). *Addiction treatment for doctors*. Retrieved from <http://www.physicianhealthprogram.com/>
- Schellekens, A.F.A., de Jong, C.A.J., Buitelaar, J.K., & Verkes, R.J. (2015). Co-morbid anxiety disorders predict early relapse after inpatient alcohol treatment. *European Psychiatry*, 30(1), 128-136. doi:10.1016/j.eurpsy.2013.08.00
- Tsaras, K., Daglas, A., Mitsi, D., Papathanasiou, I.V., Tzavella, F., Zyaga, S., & Fradelos, E.C. (2018). *Health Psychology Research*, 6(1). doi:10.4081/hpr.2018.7466
- Welsh, D. (2010). Predictors of depressive symptoms in female medical-surgical hospital nurses. *Issues in Mental Health Nursing*, 30(5), 320-326. doi: 10.1080/01612840902754537
- Witkiewitz, K., Warner, K., Sully, B., Barricks, A., Stauffer, C., Thompson, B.L., ... Luoma, J.B. (2014). Randomized trial comparing mindfulness-based relapse prevention with relapse prevention for women offenders at a residential addiction treatment center. *Substance Use and Misuse*, 49(5), 536-546. doi:10.3109/10826084.2013.856922
- Young, L.J. (2008). Education for worksite monitors of impaired nurses. *Nursing Administration Quarterly*, 32(4), 331-337.

Copyright of MEDSURG Nursing is the property of Jannetti Publications, Inc. and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.