Risk Factors for Relapse in Nurses with Substance Use Disorder

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Statement of the problem

▸ Substance use disorder (SUD) is a major national health problem (Substance Abuse and Mental Health Services Administration [SAMHSA], 2009)

▸ 8.9 % of U.S. population classified with SUD in 2008 (SAMHSA, 2009)

▸ Affects every segment of society

Statement of problem (cont)

▸ Of nursing professionals, rate of misuse and abuse may exceed 14-20%; rate of dependency ranges from 2% to 10%. (Monroe et al., 2011, Bell, McDonough, Ellison, & Fitzhugh, 1999)

▸ Nurses, patients, coworkers, and institutions at risk

▸ Nursing practice issues for SUD nurses constitute 67-90% of all cases which State Boards of Nursing address (Smith & Hughes, 1996)

Statement of problem (cont)

▸ State Boards of Nursing implement non-disciplinary option to punitive treatment for nurses with SUD (Brown, Trinkoff & Smith, 2003)

▸ Focus on treatment, recovery, monitoring, and re-entry into nursing practice

▸ Relapse rates lower for participants in such monitoring programs (Baldwin & Smith, 1994; Domino et al., 2005)

Statement of problem (cont)

▸ South Dakota Health Professionals Assistance Program (HPAP)
  ◦ Purpose
  ◦ Boards served
  ◦ Participants
  ◦ Monitoring components
  (SD Board of Nursing, 2010)

Gap in Research

▸ No studies on risk factors related to relapse have been done recently

▸ No studies done in South Dakota

Purpose of the Study

To identify factors related to relapse of nurses participating in a Midwest healthcare professionals monitoring program for SUD.

Research Questions

◦ What characteristics are common to nurses in a SUD monitoring program who relapse?
◦ What characteristics are common to nurses in a SUD program who do *not* relapse?

Significance

‣ Major consequence of SUD is dysfunction in exercising judgment (Yocum & Haar, 1996)

‣ Double jeopardy of untreated SUD in nurse: risk to patients and threat to nurse's own health

‣ If risk factors for relapse are identified, HPAP could augment the program to better prevent relapse of nurses with SUD

‣ Goal: return knowledgeable, skilled nurse to productive role

Definitions

‣ Substance Use Disorder

‣ Addiction

‣ Relapse

‣ Alternative-to-discipline programs
   ◦ Monitoring components

Review of Literature

‣ Sparse results for research on relapse risk factors

‣ Searched through Cumulative Index to Nursing and Allied Health Literature (CINAHL) and EBSCO MegaFile databases

‣ 1,516 articles

‣ Narrowed to 13 studies

Review of Literature (cont)

‣ Sullivan (1987) found relapse more frequent among nurses who:
   ◦ Experienced threatened or actual job loss
   ◦ Used narcotics
   ◦ Had Board of Nursing disciplinary action
   ◦ Had more than one treatment for SUD
   ◦ Attended 12-step meetings infrequently

Review of Literature (cont)

‣ 1990 study of 300 nurses found drug use and subsequent SUD started at young age, often prior to nursing school (Sullivan, Bissell & Leffler, 1990)

‣ Baldwin and Smith (1994) found 41% relapse rate in nurses in alternative to discipline program in Arizona (general population relapse rate exceeds 75%)

‣ Demonstrated critical time interval for relapse during first three months of recovery

Review of Literature (cont)

▸ 2002 study between nurses in disciplinary monitoring program vs. alternative to discipline monitoring program: 15% relapse rate in each (Haack & Yocum, 2002)

Review of Literature (cont)

▸ Domino et al. (2005) evaluated records of 292 healthcare professionals in Washington Health program

  ◦ 25% relapse rate

  ◦ Risk factors for relapse

   • Positive family history of SUD

   • Use of major opioid

   • Co-existing psychiatric disorder

Review of Literature (cont)

▸ Fogger and McGuinness (2009) evaluated Alabama's SUD nurse monitoring program; participants self-reported 6% relapse rate.

▸ Another study of Physician Health Programs with 809 healthcare professionals demonstrated a relapse rate of 29% (DuPont et al., 2009).

Summary of Literature Review

Three research studies over span of 26 years which examined risk factors for relapse in healthcare professionals with SUD.

▸ Sullivan (1987) identified risk for nurses who had experienced a threatened or actual job loss, used narcotics, had received disciplinary action on their license, and infrequently attended 12 step meetings.

Summary of Literature Review (cont)

▸ Baldwin and Smith (1994) found relapse rates were lower for nurses who had completed an in-patient treatment program, and who had obtained a sponsor.

▸ Relapse rates were higher for those nurses who diverted drugs from their place of employment.

Summary of Literature Review (cont)

▸ Domino et al (2005) found healthcare professional participants of a monitoring program who had a family history of SUD, and those whose drug of choice was a major opioid, were more likely to relapse. Higher risk of relapse was also found in those who had co-existing psychiatric disorder.

Only one study was done within the last 10 years.

Research on this topic is sparse.

Conceptual Framework

‣ Utilize Pender's Health Promotion Model

‣ "Depicts the multidimensional nature of persons interacting with their interpersonal and physical environments as they pursue health"
(Pender, Murdaugh, and Parsons, 2011, p. 50)

Pender's Health Promotion Model

‣ Includes components of
  ◦ Expectancy-value theory
  ◦ Social cognitive theory
  ◦ Nursing perspective of holistic human functioning

Pender's Health Promotion Model
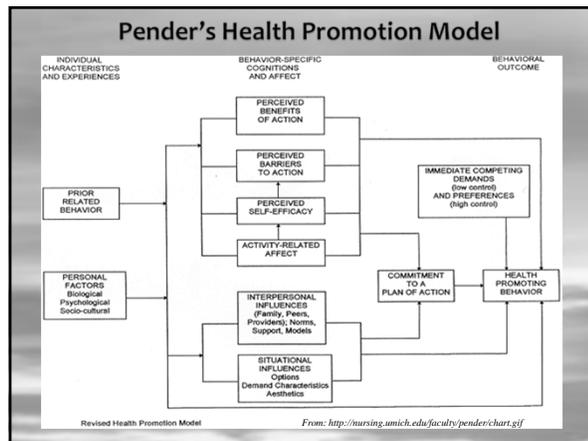
Methods and Procedures

‣ Descriptive comparative design using a retrospective case file review
(Burns & Groves, 2009)

‣ Sample includes case files of all nurses mandated to participate in the SD HPAP since January 2006

Methods and Procedures (cont)

‣ Divide case files into two groups
  ◦ Nurses who did not relapse while enrolled in HPAP
  ◦ Nurses who have had one or more relapses while enrolled in HPAP

‣ Excludes case files of nurses
  ◦ Who voluntarily enrolled in HPAP
  ◦ Who had incomplete enrollment

Methods and Procedures (cont)

Protection of Human Rights

‣ Each subject's identity blocked out on copy of the intake assessment form by HPAP staff

‣ Each copy of forms given a unique number identifier

‣ Data analyzed as group data only

Methods and Procedures (cont)

Protection of Human Rights

‣ Data from each case file recorded on worksheet using unique number identifier only

‣ Copied forms stored in locked cabinet in investigator's office and office locked nightly

‣ Only investigator and assistant had access to copied forms

Methods and Procedures (cont)

‣ Developed data collection worksheet to evaluate the following variables:
  · Date of program enrollment
  · Gender
  · Age at entry
  · Type of nursing license
  · Drug of choice
  · Family history of SUD
  · Marital status
  · Number of jobs in last five years

Methods and Procedures (cont)

‣ Additional variables:
  · Current emotional status
  · Suicidal ideation past or present
  · Willingness to participate in HPAP
  · Legal history
  · Current legal charges
  · Family background
  · Familial relationships

Methods and Procedures (cont)

‣ Additional variables:
  · Lack of family support
  · Victim of maltreatment
  · Failure to understand and accept SUD as disease
  · Cross addiction
  · Duration in program at time of relapse
  · Method of detection of relapse
  · Disposition after relapse

Analysis

‣ Used descriptive, correlational, and comparative statistics

‣ Data analysis
  ◦ Identify any significant commonalities of trends or characteristics within each group of nurse participants
  ◦ Identify any significant differences of characteristics or behavior traits between groups using chi-square and independent t-tests

Table 1 Cohort Group Characteristics	
Characteristics	No. (%) of individuals N = 75
Sex	
Female	66 (88%)
Male	9 (12%)
Age year	
< 40	39 (52%)
>40	36 (48%)
Licensure	
RN	53 (71%)
LPN	15 (20%)
APN	3 (4%)
other	4 (5%)

Table 1 Cohort Group Characteristics	
Characteristics	No. (%) of individuals N = 75
Drug of Choice	
alcohol	34 (45%)
major opioids	5 (7%)
minor opioids	14 (19%)
other	16 (21%)
Family history of SUD	
yes	45 (60%)
no	30 (40%)
Dual Mental Health Dx	
yes	34 (45%)
no	41 (55%)
History of maltreatment	
yes	36 (48%)
no	39 (52%)

Group of Nurses Who Relapsed

‣ Relapse rate was 51% (38 nurses relapsed)

‣ Range of time in months 1.1 – 89.1, mean of 16.7 months

‣ Time between relapse and return to practice was a mean of 9.2 months

‣ 22 (29%) nurses eventually left nursing after enrollment into HPAP; all 22 had experienced relapse while in HPAP

Group of Nurses Who Relapsed (cont)

‣ Had higher rate of mental health diagnosis (61% compared to 49%)

‣ Had greater frequency of family history of SUD (70% compared to 50%)

‣ Reported greater frequently of maltreatment in their lives (55% compared to 41%)

Analysis

‣ Data analyzed utilizing SPSS 21.0 (IBM, 2012)

‣ Initial analysis between mean age of nurses in each group. Independent t-test demonstrated no statistically significant difference between the two groups ($t = 2.28$, $df = 73$, $p < 0.178$)

Analysis (cont)

‣ Differences noted between the groups on categorical variables of
  ◦ Licensure held
  ◦ History of criminal convictions
  ◦ Mental health dual diagnosis
  ◦ Victim of maltreatment
  ◦ Affirmative response to intake question "Are you worried about your emotional well-being?"

Analysis (cont)

‣ Chi square test of independence analysis of cross-tabulated data completed for each of these sets of variables.

‣ No statistically significant difference in frequencies found for relapse and
  ◦ License type
  ◦ History of criminal convictions
  ◦ Dual mental health diagnoses
  ◦ History of maltreatment

Table 2

Cross-Tabulation: Variables License Type and Relapse

		Relapse		
		Yes	No	Total
Licensure	RN	26	27	53
	LPN	9	6	15
Total		35	33	68
Chi-Square Tests		Value	df	Asymp. Sig (2-sided)
Pearson Chi-Square		.561[a]	1	0.454
Phi coefficient		-0.091		

[a] 0 cells (.0%) have expected count less than 5. The minimum expected count is 7.28.

Table 3

Cross-Tabulation: Variables Criminal History and Relapse

		Relapse		
		Yes	No	Total
Criminal History	None	20	21	41
	Positive	18	16	34
Total		38	37	75
Chi-Square Tests		Value	df	Asymp. Sig (2-sided)
Pearson Chi-Square		.129[a]	1	.720
Phi coefficient		-.041		

[a] 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.77.

Table 4

Cross-Tabulation: Variables Comorbidity and Relapse

		Relapse		
		Yes	No	Total
Comorbidity	Yes	21	13	34
	No	17	24	41
Total		38	37	75
Chi-Square Tests		Value	df	Asymp. Sig (2-sided)
Pearson Chi-Square		3.065[a]	1	0.080
Phi coefficient		.202		

[a] 0 cells (.0%) have expected count less than 5. The minimum expected count is 16.77.

Table 5

Cross-Tabulation: Variables Victim of Maltreatment and Relapse

		Relapse		
		Yes	No	Total
Victim of Maltreatment	Yes	21	15	36
	No	17	22	39
Total		38	37	75
Chi-Square Tests		Value	df	Asymp. Sig (2-sided)
Pearson Chi-Square		1.628[a]	1	.202
Phi coefficient		0.147		

[a] 0 cells (.0%) have expected count less than 5. The minimum expected count is 17.76.

Analysis (cont)

Between the variables relapse and family history of SUD, however, the Chi square test of independence analysis of cross-tabulated data was significant (Table 6).

Table 6

Cross-Tabulation: Variables Victim of Family History of SUD and Relapse

		Relapse		
		Yes	No	Total
Family History of SUD	Yes	21	10	31
	No	1	5	6
Total		22	15	37
Chi-Square Tests		Value	df	Asymp. Sig (2-sided)
Pearson Chi-Square		5.44[a]	1	.020
Phi coefficient		0.383		

[a] 0 cells (.0%) have expected count less than 5. The minimum expected count is 17.76.

Analysis (cont)

The difference in the relationship between relapse and the participant's concern regarding their emotional well-being was also analyzed and found to be statistically significant   (Table 7).

Table 7				
Cross-Tabulation: Variables Worried about Emotional Health and Relapse				
		Relapse		
		Yes	No	Total
Worried about Emotional Health	Yes	11	5	16
	No	4	9	13
Total		15	14	29
Chi-Square Tests		Value	df	Asymp. Sig (2-sided)
Pearson Chi-Square		4.144[a]	1	0.042
Phi coefficient		0.378		

[a] 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.28.

Summary of Analysis

▸ The relapse rate was 51%; mean time until relapse was 16.7 months.

▸ Of the relapse group of 38 nurses, 22 eventually left the nursing profession.

Summary of Analysis

Chi-square analyses of differences between the relapse and no relapse groups and
▸ license type,
▸ history of criminal convictions,
▸ history of maltreatment, and
▸ mental health diagnoses
identified no significant difference between the two groups.

Summary of Analysis

▸ A significant difference, however, was identified between the groups of nurses and family history of SUD.

▸ A significant difference was also noted between the groups of nurses and "concern regarding emotional well-being".

Conclusions – Relapse Rate

Initial observation is 51% relapse rate of 75 nurses

Higher than reported in other studies, but unable to draw conclusions

> Haack & Yocum (2002) study – 15% relapse rate but study collected data at six points in time just over six months.

In this study, mean time in months to relapse was 16.7 months.

Conclusions – Relapse Rate

Domino et al (2005) and DuPont et al (2009) report relapse rates of 25% and 29% respectively.

But their study groups were primarily physicians, with no nurse participants, and also predominately male.

Conclusions – Relapse Rate

Baldwin and Smith (1994) identified a 41% relapse rate for their study group of nurses.

Conclusions –
Similarities Between Groups

Number of similarities between relapse group and no relapse group:
‣ drug of choice – alcohol
‣ LPNs relapse somewhat more frequently than RNs
‣ Family background and family relations comparable
‣ Frequency of nurse having criminal history
‣ Frequency of nurse reporting they were victim of maltreatment (41% for non-relapse group compared to 55% positive response rate for relapse group)

Conclusions – Maltreatment

Other studies have found similar results of association between victims of maltreatment and diagnosis of SUD.

Min, Farkas, Minnes and Singer (2007) and Pirard et al (2005) cite rates of more than half of the individuals who enter treatment for drug addiction report a history of child abuse or neglect.

Conclusions – Maltreatment

Rich-Edwards et al (2010) identified 54% of 67,853 nurses in Nurses' Health Study II reported child or teen physical abuse and 34% reported sexual abuse.

This study found similar rates of reported victims of maltreatment –   48% of all participants.

Conclusions – Gender

‣ US National Survey on Drug Use and Health (2010) found higher rate of SUD for males than females (11.5% compared to 8.4%).

‣ In the state of SD, 1439 (8%) of all nurses are male, 0.6% of male nurses are in HPAP. This compares to 16,622 (92%) of nurses are female, 0.4% are in HPAP. This study also identified a higher rate of SUD for males than females.

Conclusions – Gender

‣ US National Survey on Drug Use and Health (2010) also purports females have a higher susceptibility to relapse.

‣ This was also noted in this study. Relapse rate for males in this study was 13.5%; relapse rate for females was 86.5%.

Conclusions – Significant Findings

‣ Significant difference identified between the groups of no relapse nurses and relapse nurses and the variable family history of SUD.

‣ Domino et al (2005) similarly cited presence of family history of SUD in healthcare professionals with SUD increased the likelihood of relapse.

Conclusions – Significant Findings

A significant difference between the two groups of no relapse nurses and relapse nurses and the variable of the concern for his/her emotional health was identified.

Neither this criterion or this finding has been previously reported in literature.

Conclusions – Significant Findings

Nearly one-third of the nurses (N=22) in this study who subsequently experienced a relapse eventually quit the nursing profession.

Implications

State alternative to discipline monitoring programs need to include an appraisal of nurses' perception of their emotional well-being.

A network of resources should be developed and referral for additional help and support initiated for those who respond affirmatively.

Implications

These programs should likewise consider managing nurses who have a family history of SUD with more intensive and more prolonged monitoring.

Limitations

- The statistical significance of the relationship between the variables of relapse and family history of SUD, and between relapse and participants' concern regarding emotional well-being, cannot be inferred as causal relationship.

- Data was derived from single state monitoring program and of nurses only.

- Number of individuals in study was small.

Recommendations for Further Research

- State-to-state or multi-state comparison of similarly structured alternative to discipline programs.

- Research regarding frequency of physical or sexual maltreatment reported by nurses.

- Study to evaluate disparity in relapse rates between gender.

Recommendations for Further Research

- Study to examine the relationship between relapse and the subsequent decision of a nurse to eventually leave nursing profession.

- Qualitative studies on process of relapse for nurses to clarify significant relationship to family history of SUD and nurses' emotional well-being.

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