Personal and Contextual Predictors of Nurses' Motivation to Work with Patients Who Use Alcohol: An Exploratory Study

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PROJECT TEAM
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LEARNING OUTCOMES

• Demonstrate understanding of the consequences associated with nurses’ low motivation.

• Identify specific personal and contextual predictors associated with nurses’ motivation to work with individuals who use alcohol.

• Propose future implications that can guide research and clinical practices to increase nurses’ motivation.

ALCOHOL

• Alcohol is socially accepted and widely used in most countries

• Alcohol is classified as a CNS depressant and hypnotic

• Dissolves easily in water but can also pass the BBB

• Oral ingestion
  
takes ~1 hour for 90% to get into bloodstream
BLOOD ALCOHOL CONCENTRATION (BAC) & ITS EFFECT ON BEHAVIOR

<table>
<thead>
<tr>
<th>BAC</th>
<th>Behavior Associated</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.02-0.03</td>
<td>Minimal effects: Muscle relaxation. Slight muscle relaxation.</td>
</tr>
<tr>
<td>0.05-0.06</td>
<td>Decreased reaction time. Decreased alertness. Relaxation. Decreased fine muscle coordination. Most impaired judgment.</td>
</tr>
<tr>
<td>0.08-0.10</td>
<td>Impaired balance, speech, vision, hearing, muscle coordination. Euphoria. Less caution. Slower reaction times.</td>
</tr>
<tr>
<td>0.14-0.15</td>
<td>Major impairment of physical and mental control. Slurred speech. Serious loss of judgment.</td>
</tr>
<tr>
<td>0.20-0.30</td>
<td>Severely intoxicated. Very little control of mind or body. Unaware of surrounding.</td>
</tr>
<tr>
<td>0.40-0.50</td>
<td>Unconscious. Deep coma. Death from respiratory depression.</td>
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</tbody>
</table>

ALCOHOL METABOLISM

- 95% of alcohol is metabolized in the liver and 5% evaporates through the lungs.
- Rate of metabolism is constant over time and is not associated with the BAC.
  - Food
  - Gender
  - Type of alcohol consumed
  - Body fat proportion to muscle mass

MECHANISM OF ACTION

As a CNS depressant alcohol decreases brain activity by:

- Activates GABA:
  - Alcohol increases inhibitory neurotransmission (GABA)

- Inhibits Glutamate:
  - Alcohol decreases excitatory neurotransmission (Glutamate)
EFFECTS OF ALCOHOL ON BRAIN

• Behavioral Disinhibition (Prefrontal Cortex):
  • Reduces anxiety and stress
  • Enhances social interactions and confidence
  • Increase risk-taking and poor decisions

• Memory (Hippocampus):
  • Loss of short-term memory functions
  • Decrease the ability to learn new information

Alcohol increases endorphin release in the Ventral Tegmental Area

Positive reinforcing effects:
  • Gain pleasure
  • Conform to behavior of peers

Negative reinforcing effects:
  • Relief of stress and negative emotions
  • Relief of withdrawal symptoms
  • Neuro-adaptation:
    • Tolerance and withdrawal

REINFORCEMENT

• Alcohol (ethanol) exposure increases dopamine release in the nucleus accumbens
• Alcohol increases endorphin release in the Ventral Tegmental Area

Consuming alcohol beyond recommended limits, with consumption being either hazardous, harmful, or dependent in nature (p.43). A range of behaviors and consistencies of three main patterns of alcohol consumption that include hazardous drinking, harmful drinking, and dependent drinking (p.140). A collective term for defining problems or conditions related to alcohol use. More specifically, it refers to any alcohol-drinking behavior that increases an individual’s risk for negative health and social consequences (p.40).

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**IMPORTANT DEFINITIONS**

- **At-risk Use:** "any level of alcohol consumption that increases the risk of harm to a person’s health or well-being or that increases the risk of harm to others" (p. 13)

- **Alcohol Use Disorder (AUD):** "A medical condition that doctors diagnose when a patient’s drinking causes distress or harm." The presence of at least 2 of the 11 symptoms specified in the DSM V,
  - **Mild:** The presence of 2 to 3 symptoms
  - **Moderate:** The presence of 4 to 5 symptoms
  - **Severe:** The presence of 6 or more symptoms

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**CONSEQUENCE OF ALCOHOL USE**

- **Economic Burden**
  - 70-90% of these consequences are reported by individuals who do not meet the diagnostic criteria of AUD**

- **Physical & Psychological Consequences**

- **Death**
Screening, Brief Intervention, & Referral to Treatment (SBIRT)

- SBIRT is a universal screening and early intervention tool for patients with risky alcohol use
- SBIRT implementation has been strongly associated with decreased alcohol use

Target Population

Why SBIRT?

- SBIRT is associated with decreased alcohol use and healthcare use:
  - 74% of individuals who use alcohol reported lowering their alcohol consumption
  - 48% reported completely stopping
- SBIRT is cost-effective:
  - For every dollar spent on SBIRT, $4 are saved in primary care, trauma center, and ED healthcare
  - Reduce hospitalization-related cost by approximately $2,500
ROLE OF RNS AND HEALTHCARE PROFESSIONAL IN ALCOHOL: SBIRT

1. Identify use, misuse, and problematic use:
   - Screen with simple direct methods.
2. Connect use/misuse to health-related issues:
   - chief complaint.
3. Brief Intervention:
   - provide + reinforcement; consumption reduction.
4. Referral to treatment:
   - or a formal assessment.

NURSES ROLE

- According to recent Gallup Polls (2013, 2014, 2015) nurses remain the most trustworthy health care professionals.
- Nurses can play a significant role in early recognition and intervention for individuals who use alcohol.

WHY NURSES

- Nurses have always been on the frontier of tackling critical health issues and taking the lead in addressing health inequity and disparities among vulnerable populations.
- Nurses have been proposed to be a key partner in the World Health Organization (WHO) and Institute of Medicine (IOM) strategies of addressing alcohol and opioids use continuum through early identification and brief intervention and referral to treatment implementation.
**NURSE’S MOTIVATION**

- Education and training had less impact on changing nurses’ motivation towards working with this population\(^{34,35}\).
- Nurses and other healthcare providers still expressed unwillingness or inability to work with or even be involved in the treatment and care of individuals who use alcohol \(^{36,37}\).

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**So What?**

**Patient Outcome:**

- Delaying the identification of patients with at-risk alcohol use and delay access to treatment\(^{14,15}\).
- Increased drop out and relapse rates among patients with alcohol use problems.
- Willingness to provide lower quality of care to this patient population\(^{34,35}\).
- Diminished therapeutic engagement, use of more avoidant and task-oriented approach and shorter visits, which resulted in poorer patient treatment outcomes.

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**METHODS**

- Secondary analysis that employs a cross-sectional design.
- A sample of 1202 from five independent single-group pretest-post-test intervention studies using SBIRT baseline data:
  - BSN students (n=393)
  - Emergency Nurses (n=158)
  - Nurse Practitioner students (n=123)
  - Nurse Anesthetists students (n=265)
  - Registered Nurses & HCNs (n=243)
• Personal Factors Included: Age, gender, race, student status, primary work setting and profession

• Contextual Factors Included: Role adequacy, role legitimacy, role support, task-specific self-esteem and work satisfaction.

• Contextual factors were measured using Alcohol and Alcohol Problems Perception Questionnaire (AAPQ):
  – 30 items, Likert scale 1 = Strongly Disagree, 7 = Strongly Agree
  – 6 subscales
  – Acceptable reliability, Cronbach’s Alpha .69 - .90

AAPQ - SUBSCALES

• Role Adequacy
  – I feel I have a working knowledge of alcohol and alcohol related problems

• Role Legitimacy
  – I feel I have the right to ask patients questions about their drinking when necessary

• Role Support
  – If I felt the need when working with patients who use alcohol I could easily find someone who would help me clarify my professional responsibilities

AAPQ - SUBSCALES

• Motivation
  – I feel there is little I can do to help patients who use alcohol

• Task-Specific Self-Esteem
  – At times I feel I am no good at all with patients who use alcohol

• Work Satisfaction
  – In general, it is rewarding to work with patients who use alcohol
### DEMOGRAPHICS

<table>
<thead>
<tr>
<th></th>
<th>M (SD)</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>29.6 (10.94)</td>
<td>18.0</td>
<td>75.0</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>77.2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>22.8%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>1.1%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>3.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>4.6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>78.9%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>12.7%</td>
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</table>

N=1202

### PERSONAL PREDICTORS (N=1202)

<table>
<thead>
<tr>
<th>Predictor</th>
<th>B</th>
<th>SE</th>
<th>t</th>
<th>p</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Older Age</td>
<td>-.005</td>
<td>.006</td>
<td>-2.04</td>
<td>.041</td>
<td>-.015  to -.006</td>
</tr>
<tr>
<td>Female</td>
<td>.088</td>
<td>.056</td>
<td>1.65</td>
<td>.098</td>
<td>.075   to .102</td>
</tr>
<tr>
<td>Student Status</td>
<td>.182</td>
<td>.059</td>
<td>3.09</td>
<td>.002</td>
<td>.166   to .200</td>
</tr>
<tr>
<td>ER Workplace</td>
<td>-.201</td>
<td>.041</td>
<td>-4.98</td>
<td>.0001</td>
<td>-.290 to -.112</td>
</tr>
<tr>
<td>IPCP Group</td>
<td>-.176</td>
<td>.062</td>
<td>-2.96</td>
<td>.003</td>
<td>-.292 to -.160</td>
</tr>
<tr>
<td>ER Group</td>
<td>-.338</td>
<td>.060</td>
<td>-5.64</td>
<td>.0001</td>
<td>-.408 to -.268</td>
</tr>
<tr>
<td>Nurse Anesthesia Group</td>
<td>-.251</td>
<td>.080</td>
<td>-3.13</td>
<td>.002</td>
<td>-.390 to -.112</td>
</tr>
</tbody>
</table>

N=1202

### CONTEXTUAL PREDICTORS AFTER CONTROLLING FOR PERSONAL PREDICTORS (N=1202)

<table>
<thead>
<tr>
<th>Predictor</th>
<th>B</th>
<th>SE</th>
<th>t</th>
<th>p</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Role Adequacy</td>
<td>.042</td>
<td>.037</td>
<td>1.13</td>
<td>.261</td>
<td>-.005 to .100</td>
</tr>
<tr>
<td>Role Legitimacy</td>
<td>.071</td>
<td>.056</td>
<td>1.28</td>
<td>.202</td>
<td>-.012 to .153</td>
</tr>
<tr>
<td>Role Support</td>
<td>.022</td>
<td>.024</td>
<td>0.97</td>
<td>.332</td>
<td>-.030 to .073</td>
</tr>
<tr>
<td>Task-specific Self-esteem</td>
<td>.284</td>
<td>.208</td>
<td>1.37</td>
<td>.174</td>
<td>-.028 to .607</td>
</tr>
<tr>
<td>Work Satisfaction</td>
<td>.360</td>
<td>.273</td>
<td>1.33</td>
<td>.202</td>
<td>-.054 to .775</td>
</tr>
</tbody>
</table>

N=1202
RESULTS

- Two-steps hierarchical regression was used.
- Personal factors (age, gender, student status, ER workplace and group affiliation) contributed significantly to the regression model, \(F(14, 1187) = 16.625, p< .05\). Personal factors accounted for 15.4 % of the variation in Motivation.
- After controlling for personal factors, contextual factors (role legitimacy, task-specific self-esteem, and work satisfaction) contributed significantly to the model. Contextual factors explained an additional 31.9 % of variation in Motivation, \(F (19, 1182)= 57.727, p< .05\).

CONCLUSIONS

- This study provides insights to potential personal and contextual predictors that may influence nurses motivation to work with patients who use alcohol.
- Understanding the impact of such factors on nurses’ motivation is instrumental to developing future intervention to promote early identification of patients with at-risk alcohol use.

FUTURE IMPLICATIONS

- Perhaps developing SBIRT education and training that targets nurses’ motivation towards working with patients who use alcohol.
- More work (including a qualitative analysis) of issues related to nurses’ motivation needs to be done.
AS NURSES

Are we doing enough to help patients who use alcohol?