2021 NCSBN Scientific Symposium - Sleep, Stress and Substance Use: A Qualitative Study of New Nurses Video Transcript

Event
2021 NCSBN Scientific Symposium

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- [Host] Amy Witkoski-Stimpfel is an assistant professor at the Rory Meyers College of Nursing at New York University, where she is deputy director of the NIOSH-funded doctoral training program in occupational health nursing. Dr. Witkoski-Stimpfel researches work environment factors that influence nurses' health and wellbeing as well as patient outcomes.

Her research has been published in leading health policy, nursing, and occupational health journals.

- [Dr. Witkoski-Stimpfel] So, greetings. I'm happy to join you today to discuss my research on nurses' sleep, stress, and substance use. And we're drawing on findings from virtual focus groups. Before beginning the presentation, I'd like to acknowledge and thank the National Council of State Boards of Nursing for funding this research, report no conflicts of interest, and acknowledge both my collaborators as well as the participants who made this research possible.

By way of background, many of you are likely familiar with the high levels of work stress, sleep disruptions, and fatigue that are commonplace among U.S. registered nurses. And they also recognize the overlap in highly stressful work conditions, sleep problems, and co-occurring substance use. Given the limited domestic qualitative literature specifically focused on these three issues, we were interested in exploring and learning more about the intersections of these issues in registered nurses using their own words.

I'm first going to speak about the results of my study in parts one and two. And then for the third part of the presentation, I'll briefly summarize the work and offer some recommendations and next steps. To achieve our study's purpose, we conducted a qualitative descriptive study using virtual focus groups.

And we were guided by the Work, Stress, and Health framework which was developed in the occupational psychology literature. And it depicts work stressors such as shiftwork or understaffing that can lead to harm to the worker and to the organization, depending upon how the stressor is perceived

and coped with. The effects of the work stressors can be buffered by individual or organizational resources.

So this framework helped us to construct our focus group guide, questions, and our analysis. We recruited participants who had previously participated in the RN Work Project, which was a 10-year panel study of newly licensed nurses funded by the Robert Wood Johnson Foundation. These participants had consented to being contacted for future research opportunities.

We recruited our participants via email, and we ended up with a sample size of 41, which we randomly split into two identical virtual focus groups. So we conducted focus groups in early 2019 using a threaded discussion board called QualBoard, part of 20/20 Research's platform. Participants and researchers could engage in discussion using any internet-enabled device and at any and at any time of day.

We were able to probe, ask additional questions both to the group and to individuals, and to monitor the data for saturation. Conventional content analysis was used to analyze the data, and we imported all the data into ATLAS.ti. Initial analysis included a line-by-line review of the focus group transcripts by each of the three researchers.

A priori codes from the Work, Stress, and Health framework were included in the coding scheme, as well as additional codes generated by the researchers. Next from the codes, categories were developed in an iterative process, achieving consensus among the researchers. And finally, themes based on portions of the narrative assigned to each category were developed.

A team maintained a code book to ensure consistency and conceptual accuracy during the coding process and as well for reproducibility. In this next slide, you'll see a screenshot of the threaded discussion boards. It's not a real setting, but it can give you an idea of what the researchers and and participants saw when they logged into the QualBoard.

Each section was focused on one domain of the study: work stress, sleep, and substance use. Participants were then assigned an anonymous ID, and no identifying information was revealed on the focus groups. At the conclusion of the focus groups, we invited participants to provide us with some sociodemographic information.

We had a total of 19 participants who did so. As you can see from this table, most of the participants were 40 or younger, female, and about 68% were white. Over two-thirds were educated at the baccalaureate level. These demographics and educational attainments reflect changes in newly licensed nurses who are increasingly diverse in gender and racial and ethnic background.

And we compared these findings to the 2018 sample of the National Sample Survey of Registered Nurses. In this next table, I'll give a quick overview of the work characteristics of the participants in our study. Most participants held a primary job as a staff nurse, worked 12-hour shifts, about half were working day shift, and almost half had been in their current position for three years or longer.

Now that you have an idea of what our sample looked like, I'm going to speak about our first set of themes connecting sleep, work stress, and substance use. We did some summative content analysis to

examine the types of work-related substances, that is, those that helped the participants to stay awake in preparation for their work shift or during their work shift, as well as to help them go to sleep after work.

And we described this by tallying the frequencies of substances mentioned by the participants. We then categorized these into stimulants and depressants. We found that caffeine was, by and large, the most commonly used stimulant, while other stimulants mentioned included things like Adderall and Nuvigil. In terms of depressants, participants described alcohol as the most common depressant, and smaller fractions of the sample mentioned depressants like antihistamines, like common over-the-counter drugs like Benadryl, and prescription sleeping pills like Ambien.

The three themes that developed were titled "See no evil, speak no evil, hear no evil," "It's somewhere out there," and "Caffeine is king and alcohol is queen." So, participants flat out denied knowing, hearing, or seeing substance use, that is, illegal or recreational substances, in themselves or those who they worked with.

We have many examples similar to this first quotation, saying, "I have not heard any nurses I work with mention substance use." There were a few exceptions, however, in which there was some discussion of marijuana, particularly in cases where it was legal and outside of the work environment, which were noted clearly by the participants.

Here is an example. "While it's not brought up in conversation, it would not surprise me how many people use marijuana, even in the nursing profession. If it helps people cope and enjoy themselves, I'm all for it. Just not at work." So, our second theme reflects the indirect reporting of substance use. While not reporting substance use among colleagues or themselves directly, nurses were quick to point to a problem with substance use in the larger nursing profession.

Several participants made comments like this one. "I think it's a lot more prevalent than most people would like to admit." Another example is "I would go as far to say as that most nurses use some substance to get through the day, whether that's coffee, alcohol, sleep aids, recreational drugs, etc. I can't think of any nurse who I know who is substance-free." This theme suggests that there is still hesitation to openly discuss substance use, reflecting similarities in previous literature describing substance use as taboo or unacceptable among nurses and other healthcare workers, yet perhaps is a problematic issue in some proportion of nurses.

And finally, we developed a theme called "Caffeine is king and alcohol is queen." Here we reflected that participants readily described, at times, heavy use and reliance on legal substances like coffee, tea, energy drinks, and beer or wine, related to preparing and managing for their work day and subsequent time at home.

The first two quotes reference caffeine, and the third references alcohol. For example, "I drink coffee, three to four cups a day. And most of my coworkers drink coffee in varying amounts. Some drink other caffeinated beverages such as pop or energy drinks. And I've seen some people using herbal supplements as well." Another said, "It seems like we all come in with a coffee cup in our hands, and most of my coworkers crack a Red Bull by lunch."

And then finally, "I love my after-shift beer, and I'm not afraid to admit it. I run a hot bath, drink a beer or two, and then can actually get to sleep." The full manuscript detailing these findings are published in the Journal of Nursing Regulation, if you'd like to learn more. In the second part of this presentation, I'll focus on another paper that we're developing based on the participants' description of their sleep, shiftwork, and work stress, and how that impacts their wellbeing and patient outcomes.

Again, we've developed three themes: "Our voice should matter," "Tired but wired," and "We're only human." In our first theme, we found a multifaceted narrative regarding stress related to staffing, overtime, and on-call hours and the use of organizational resources and budget.

Overwhelmingly, participants wanted a safe patient care environment that included their voice in staffing decisions since they were the workers at the bedside. There was an undercurrent of frustration when administrators who made staffing decisions either weren't nurses or unfamiliar with the clinical challenges that nurses faced in an understaffed situation. This participant described, "I don't feel like we have a voice in staffing issues. The CNO and other administrators are fully aware of the stress that we are under due to poor staffing. They are reminded of it at least every month during nursing forums. The solution would seem to be just to hire more nurses, but we have been told that that is not in the budget. It adds a sense of hopelessness because the admins do not provide any solutions whatsoever."

Being asked to work overtime or take on additional cases was described as another form of stress. And at times, it was met with mixed feelings. Some felt like they could comfortably decline overtime, which is a good thing. However, others expressed a sense of guilt in declining overtime because they could empathize with their colleagues who are working in an understaffed situation.

For example, this participant described, "I feel like I can say no to the overtime, but I know what it is like to be at work and no one volunteers to work. You are on a sinking ship and no one is willing to help out, and that stinks." When a bonus or overtime hourly rate was offered, the financial incentive was often not worth the additional stress of working in an understaffed environment or on a scheduled day off.

This participant said, "We must really have a good reason not to take extra work, or help a coworker, or take a file. Depending on my day and the work, money or bonusing doesn't usually make a difference. It doesn't make a crappy or stressful day any better." Our second theme demonstrated nurses' articulation of the link between work stress, whether related to understaffing, difficult schedules, shiftwork, or sleep problems, and how the two are connected in a vicious cycle.

One participant explained the physiological experience of work stress and the impact on sleep. She said, "Your adrenaline pumps so much during a stressful shift that it's hard to wind down and go to sleep afterward. Sometimes I get no more than four hours of sleep due to this." Ruminating about a stressful shift at work or needing to decompress after a long shift often resulted in difficulty going to sleep.

This participant described, "As time has passed, I have found increasing difficulties sleeping after a difficult shift. I may be physically tired, but my mind is or can be so frazzled from the work day that I dwell on it while trying to sleep. I will try to meditate or deep breathe to relax my mind, but sometimes it's not successful."

Our third theme explores nurses' description of what happens to them from several dimensions physical, mental, emotional when they're sleep-deprived due to their work schedules and/or shiftwork. The nurses further detailed how their exhaustion can lead to patient care problems.

We titled this theme "We're only human." First, the nurses described physical exhaustion from grueling work schedules, long shifts, and heavy workloads. This nurse describes, "When I work several days in a row, I feel drained and almost hung over with exhaustion, but I do get as much sleep as I am able to. It just feels constantly like I need more." The 12-hour shift was the most common shift in our sample, and it's the most common shift in the country.

But this shift is mentioned by participants as particularly tiring when working back to back to back or greater numbers of consecutive shifts. For example, this participant said, "Working three 12s makes my sleeping erratic. I'm usually in various states of tired. Feeling well-rested is not the norm." Nurses communicated the mental toll that sleep deprivation caused in their performance at work, and the consequences were notable.

This participant describes it very clearly, saying, "Stress and poor sleep definitely alters work performance for me and my coworkers. It causes an inability to focus, forgetfulness, disorganization, irritability, and lots of other negatives. I notice that I'm not able to devote adequate time to my patients when I'm having to spend extra time scrambling to organize the next steps I need to take because I can't think clearly. Charting definitely becomes less detailed and is probably inaccurate by the time it gets filled in at the end of the day because there isn't time to chart as you go."

Others described difficulty in communicating and working with their colleagues, saying, "When I work night shift, I had trouble word finding towards the end of my shifts. And during report, I would always pray that I didn't forget anything. My reports always felt like word vomit, and I would always be apologizing because my mind wouldn't follow a normal SBAR report. It just kept jumping around."

And lastly, I wanted to share an exemplary quote of the impact that fatigue played in part on a patient safety outcome. One clear description was recalled by a participant, saying, "I've definitely forgotten things in report by the end of the day when I'm exhausted, or felt like I was missing something that was happening with my patients due to fatigue. One time, I was coming in on nights exhausted because I hadn't slept well during the day, and I didn't reset the bed alarm for my patient when we left the room after bedside report. That patient fell out of bed 20 minutes later and had an injury that needed surgery. It was a horrible night and a reminder of how being tired can make me miss things."

So, I'd like to acknowledge the limitations of this work in that early career nurses are not representative necessarily of all nurses, and that we were talking about some sensitive topics, so we might not have had the whole scope of the problem described to us, even though we ensured anonymity and a virtual format.

And that finally, that this study design is not meant to generalize. However, I do want to note an important strength of this work in that it represents an underused methodology in nursing and it proves that we could be successful in recruiting a national sample of nurses who would not otherwise have been brought together in an in-person focus group. In summary, we found that our research fit well within the Work, Stress, and Health framework, and that nurses were experiencing troublesome levels of work

stress fueled by heavy workloads and understaffing, as well as exhaustion from shiftwork and schedules, and signaled potential problems with substance use outside of caffeine and alcohol.

Interventions regarding sleep hygiene, when to seek evaluation for possible sleep disorders, and healthy coping strategies without the use of substances may offer promising next steps. The findings of this work are relevant and timely, especially given the high stress that the COVID-19 pandemic has brought upon the nursing workforce, where we're observing skyrocketing sleep problems related to work stress and anxiety.

Our findings confirmed previous quantitative studies on these topics that were studied separately and point to several action items to mitigate the negative sequelae of work stress and sleep problems. First, self-care activities are crucial, whatever that means to the individual nurse, whether that's going for a hike, practicing yoga, or socializing with friends.

Second, careful attention should be paid to scheduling and overtime practices with oversight from nurse managers and upper management, depending on how the schedules are created. Third, there's an importance for sleep hygiene and education and how to manage shiftwork. Interestingly, our participants reported virtually no pre-licensure education on this topic.

And finally, there's a need to encourage nurses to seek help when their coping turns maladaptive or they might have a sleeping problem that warrants further evaluation. Thank you for your time and attention today, and please feel free to reach out to me via email if you have any further questions or comments. There is a question regarding participants' discussion of how the stress may contribute to their desire to leave the profession.

We didn't have enough to aggregate to a theme to talk about turnover or leaving the profession. However, we did have several participants who described switching positions within their organization or switching their schedule because they couldn't adapt or felt unable to work a night shift, for example, and they felt so ill or they just didn't feel like they could stay in the profession if they work in that existing shift, so they did switch within their institution to either a different unit that could accommodate a day shift or the more preferable shift, or another unit or another shift within their organization.

Another question came in about asking if a PowerPoint can be shared, and I would be happy to share a PowerPoint.

I think we'll ask our conference hosts how we can do that, but I'd be happy to share a PowerPoint, for sure. I'm seeing one more question. Another question was asking about participants sharing any sort of self-care activities to help mitigate stress and fatigue.

We did have some nurses talking about what they did individually. There was less discussion about sort of organizational level interventions to mitigate the effects of stress and fatigue, so I think that's an area that is certainly ripe for additional research and questioning.

Someone's commenting about the theme "We are only human," and the talk about being heroes is unfair and inaccurate and leads to nurses using substances, legal or not, in order to meet expectations.

I think there's certainly a lot of dialogue happening regarding the hero narrative that has occurred post and during COVID. And I agree with the comment that sort of it can lead, in general, nurses can have this expectation that they have to always meet the care of others, and that if somehow perhaps they care for themselves, that that's not the most ideal situation.

So I think there's a lot of work to be done in ways to support nurses in their self-care and how to do that in a way that's positive and it doesn't lead to substance use. So, we have a comment coming in from a new nurse graduating in May. Congratulations.

That's a huge milestone. We welcome you to the profession. And the questions are about why the admins don't hire more workers to improve staffing and how to support a new grad like yourself and coworkers with self-care and stress management during a demanding and caring work environment.

I think those are great questions, and they certainly are big questions that I'm not sure I'm equipped to fully answer. I think it's difficult for many in management to simply hire more staff for a variety of reasons.

And we can certainly hear the frustration in our participants' description of why simply hiring more nurses, which seems like a very logical approach to these issues, would be. So there's a lot at stake and a lot at play and a lot of stakeholders in those decisions. But I think there are certainly ways to support yourself and your coworkers.

And that's also something that we can do something about as individuals. So identifying those sorts of self-care and destressing activities that have been successful for yourself as a student will probably translate into your first professional role.

So working and understanding what those are is an important endeavor and something that takes a look at yourself and what you really need. So there's no one way to answer that question, or one approach that will work. So I would encourage learning a little bit more and finding ways to understand sleep hygiene and your sleep practices.

And we found a lot of this rumination and anxiety that interfered with sleep, so ways that you can sort of release that stress and let that go so that your body is able to sleep is one area to potentially think about.

We've got another question coming in. So, another question is regarding sleep hygiene and education and best places to access some of that information.

The National Sleep Foundation is one place online to look. The CDC and NIOSH have actually developed a whole toolkit, like sort of a little curriculum for nurses to understand how to manage shiftwork and to improve sleep.

So that's another free and fully available resource that nurses can use to learn about sleep hygiene and help improve their coping with that. Another question coming in. These questions are so great, everyone.

Thank you. "Are you going to pursue an intervention related to sleep hygiene with a post-survey? I agree that many nurses do not know how to do this, especially new nurses." And the answer to that question is yes, that we are looking to pursue additional funding for intervention work based on these findings.

So I'll have to keep you posted on that. But yeah, we're definitely seeing a need for sleep hygiene and stress management interventions for nurses. One last question.

Let me see. "Do you have any recommendations for nurse regulators?" And I would definitely say that the findings from this work and others should certainly be considered when debating and thinking about implementing regulation over new-to-practice nurses or nurses upon re-licensure, and thinking about potential questions around the impact of scheduling and their sleep and any additional interventions that could be included perhaps at those junctures that could help promote the self-care and the wellbeing of nurses.

Okay. I think I got to all of the questions. And again, I am happy to answer any additional questions via email, send my PowerPoint slides, or anything else you might have questions for.

So, again, thank you so much for these great questions and the discussion.