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LETTERS TO THE EDITOR

RESEARCH STUDIES

Pre-COVID-19 work-life quality of regulated nurses in Canadian nursing homes

Dear Editor,

COVID-19 has disproportionately affected nursing homes, where up to 90% of residents live with cognitive impairment.[1] Researchers have reported worsening mental health among frontline nurses (registered nurses [RNs] and licensed practical nurses [LPNs]) working in nursing homes during the pandemic.[2] This workforce influences care quality both directly through providing vital care for nursing home residents and indirectly through supervising care aides who provide most direct resident care. While knowledge of pre-pandemic work-related outcomes is essential to interpreting peri- or post-pandemic reports, few studies have reported pre-pandemic data.[2,3] Additionally, these reports focused on selected work-related outcomes, such as burnout or job satisfaction.[2,3] It is crucial to have a more comprehensive

Table 1 Work-related outcomes

Variable	RNs, $n = 369$ n (%)	LPNs, $n = 552$ n (%)	Total, $n = 921$ n (%)	P
Responsive behaviors experienced from residents in the last 5 shifts				
Yelling and screaming	329 (86.81)	478 (86.59)	807 (86.68)	0.84
Verbal threats	182 (48.02)	303 (54.89)	485 (52.09)	0.04
Hurtful remarks or behaviors	213 (56.2)	362 (65.58)	575 (61.76)	<0.01*
Being spat on, bitten, hit, pushed, or pinched	143 (37.73)	261 (47.28)	404 (43.39)	<0.01*
Repeated and unwanted questions or remarks of a sexual nature	66 (17.41)	113 (20.47)	179 (19.23)	0.25
Sexual touching	19 (5.01)	35 (6.34)	54 (5.8)	0.39
Risk of burnout†				
Emotional exhaustion				
High risk	92 (24.27)	153 (27.72)	245 (26.32)	0.11
Medium risk	114 (30.08)	183 (33.15)	297 (31.9)	
Low risk	172 (45.38)	211 (38.22)	383 (41.14)	
Missing	1 (0.26)	5 (0.91)	6 (0.64)	
Cynicism				
High risk	97 (25.59)	190 (34.42)	287 (30.83)	<0.01*
Medium risk	184 (48.55)	215 (38.95)	399 (42.86)	
Low risk	92 (24.27)	142 (25.72)	234 (25.13)	
Missing	6 (1.58)	5 (0.91)	11 (1.18)	
Professional efficacy				
High risk	56 (14.78)	92 (16.67)	148 (15.9)	0.17
Medium risk	32 (8.44)	30 (5.43)	62 (6.66)	
Low risk	286 (75.46)	423 (76.63)	709 (76.15)	
Missing	5 (1.32)	7 (1.27)	12 (1.29)	
Worked short-staffed in the last month				
More or less every day	63 (16.62)	87 (15.76)	150 (16.11)	0.28
Weekly	145 (38.26)	201 (36.41)	346 (37.16)	
Monthly	50 (13.19)	63 (11.41)	113 (12.14)	
Less often	87 (22.96)	132 (23.91)	219 (23.52)	
Never	29 (7.65)	66 (11.96)	95 (10.2)	
Missing	5 (1.32)	3 (0.54)	8 (0.86)	
Engagement in decision-making meetings				
Team meetings about residents	170 (44.85)	230 (41.67)	400 (42.96)	0.62
Resident rounds related to review of overall resident care	169 (44.59)	232 (42.03)	401 (43.07)	0.56
Family conferences	83 (21.9)	70 (12.68)	153 (16.43)	<0.01*
Engagement in continuing education				
Interactions with any clinical educator/instructor/nurse specialist/nurse practitioner	63 (16.62)	63 (11.41)	126 (13.53)	0.06

(*Continues*)

Table 1 Continued

Variable	RNs, $n = 369$ n (%)	LPNs, $n = 552$ n (%)	Total, $n = 921$ n (%)	P
Interactions with quality-improvement representative/specialist	38 (10.03)	26 (4.71)	64 (6.87)	<0.01*
Continuing education external to unit/nursing home	86 (22.69)	112 (20.29)	198 (21.27)	0.10
Instrumental research use,‡ mean (SD)	3.85 (1.06)	3.61 (1.22)	3.71 (1.16)	<0.01*
Conceptual research use,§ mean (SD)	3.49 (1.16)	3.39 (1.19)	3.43 (1.18)	0.21
Job satisfaction,¶ mean (SD)	4.19 (0.75)	4.15 (0.7)	4.17 (0.72)	0.48
Work engagement,†† mean (SD)				
Vigor	5.12 (1.14)	5.07 (1.11)	5.09 (1.12)	0.53
Dedication	5.35 (1.02)	5.34 (0.95)	5.35 (0.98)	0.86
Absorption	5.64 (0.67)	5.64 (0.65)	5.64 (0.66)	0.87
Psychological empowerment,‡‡ mean (SD)				
Competence	4.44 (0.51)	4.44 (0.49)	4.44 (0.5)	0.98
Self-determination	4.1 (0.74)	4 (0.73)	4.04 (0.74)	0.04
Meaning	4.56 (0.52)	4.52 (0.55)	4.54 (0.54)	0.29
Impact	3.82 (0.77)	3.69 (0.77)	3.75 (0.77)	0.01

Abbreviations: LPNs, licensed practical nurses; RNs, registered nurses.

*indicating statistical significance at the alpha level of 0.01.

†Measured with the Maslach Burnout Inventory 9-item short form. A high risk for burnout is indicated by one or more of the following: emotional exhaustion score of >3.00, cynicism >2.33, and efficacy <3.30. A low risk for burnout is indicated by one or more of the following: emotional exhaustion <1.67, cynicism <1.00, and efficacy >4.00. The score range for emotional exhaustion, cynicism, and efficacy is 0 (never) to 6 (daily), with higher scores indicating higher levels of all three.

‡Instrumental research use refers to the use of observable research-based practices when caring for residents. The score range is 1 (10% or less of the time) to 5 (almost 100% of the time), with a higher score indicating a higher frequency of instrumental research use.

§Conceptual research use refers to thinking about research-based knowledge and then using it to inform clinical decision making. The score range is 1 (10% or less of the time) to 5 (almost 100% of the time), with a higher score indicating a higher frequency of conceptual research use.

¶Measured with the Michigan Organizational Assessment Questionnaire Job Satisfaction Subscale. The score range for job satisfaction is 1 (strongly disagree) to 5 (strongly agree), with a higher score indicating a higher level of job satisfaction.

††Work engagement reflects a positive, fulfilling work-related state of mind. The score range is 0 (never) to 6 (daily), with a higher score indicating a higher level of work engagement.

‡‡Psychological empowerment reflects an active orientation in which an individual wishes and feels able to shape their work role and context. The score range is 1 (strongly disagree) to 5 (strongly agree), with a higher score indicating a higher level of psychological empowerment.

understanding of these and other interrelated outcomes (e.g., work engagement, psychological empowerment) assessed in a single sample of nurses. In addition, while RNs and LPNs work closely in care teams, these two workforces have different training backgrounds and work within different scopes of practice,[4] possibly leading to differences in the quality of their work life and indicating support interventions targeting each workforce. We aimed to address the gaps by describing a more comprehensive set of nurses' work-related outcomes in nursing homes in western Canada immediately preceding the COVID-19 pandemic.

We used data from the Translating Research in Elder Care research program and conducted a cross-sectional analysis of nurses' survey data collected between September 3, 2019, and February 28, 2020, immediately before the COVID-19 pandemic in Canada.[5] The study was approved by the research ethics committee at the University of Alberta (Pro00112020). It follows the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) reporting guidelines.

Nurses were from a stratified random sample (health region, owner-operator, bed size) of urban nursing homes in western Canada.[5] All eligible nurses who had worked for at least 3 months, with a minimum of 6 shifts per month in their nursing home, were invited to take part in an online survey. In 91 nursing homes, 369 (43.7%) of 844 eligible RNs, and 552 (41.4%) of 1332 eligible LPNs participated.

We calculated frequencies and percentages for categorical variables; means and SDs for continuous variables. We used Chi-square tests (categorical variables) and independent-sample t-tests (continuous variables) to compare RNs and LPNs. $P < 0.01$ indicates statistical significance.

The sample of regulated nurses ($n = 931$) was composed predominantly of women (832 nurses [89%]), aged 40 years or older (598 nurses [64%]), and most were born outside of Canada (613 nurses [66%]). Approximately half of the nurses reported working part-time. On average, nurses had worked in their current facilities for 6 years (SD = 6) and worked 60 (SD = 20) hours in a 2-week period.

Approximately 58% of the nurses reported moderate to high risk for emotional exhaustion ($n = 542$), and 74% reported moderate to high risk for cynicism ($n = 686$), which are two core indicators of burnout (Table 1). Approximately half of the nurses (496 nurses [53%]) reported working short-staffed daily or weekly in the past month. Fewer than half of the nurses reported frequent involvement in continuing education or decision-making meetings about resident care. LPNs reported a worse quality of work life than RNs, such as higher rates of aggressive physical behaviors from residents and less engagement in family conferences.

On the other hand, nurses reported high levels of job satisfaction, professional efficacy, and high levels in all sub-scales of work engagement (vigor, dedication, absorption) and psychological empowerment (competence, self-determination, meaning, impact).

Nurses in our sample worked in strained work environments prior to COVID-19, but reported feeling satisfied, engaged, and empowered on their job. These findings, compared with a

previous report,[4] suggest that the pre-pandemic conditions were consistent over a relatively long period (2015–2020).

Our findings offer a critical context for interpreting recent peri-pandemic publications about the overall trend of worsening work-related outcomes among nursing home staff, including nurses.[2,3] Collectively, these reports and our study suggest that nurses working in nursing homes are in urgent need of support to limit the impact of suboptimal work-related outcomes both on their own well-being and on the quality of resident care. Agreeing with calls for policy changes and investments in long-term care at the system level,[6] we suggest that efforts to improve the work environment be given primacy.[7]

Generalizations of our findings to nurses with characteristics different from those in urban areas of western Canada should be made with caution. Survey responses are subject to the usual cautions when interpreting findings (e.g., self-report biases).

Using cross-sectional data collected immediately prior to the COVID-19 pandemic, we reported a comprehensive picture of demographic characteristics and work-related outcomes among regulated nurses (RNs and LPNs) working in nursing homes. Our findings indicate a strained work environment for this vital workforce pre-pandemic, especially for the LPNs. Also, the relatively high levels of professional efficacy for this workforce might be a critical asset for the quality of care in nursing homes. We suggest that peri-pandemic studies on this workforce use our report as a comparison to contextualize their reports.

Author contributions

YS, TT, and CE designed the study. YS, TT, YD, GC, PN, JS, and CE contributed substantially to the analysis and interpretation of data. YS and TT developed the draft manuscript. YD, GC, PN, JS, and CE provided critical reviews of multiple drafts of the manuscript. All authors read and approved the final manuscript.

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Disclosure statement

The authors declare no conflict of interest.

Data availability statement

Data availability statement. The data used for this article are housed in the secure and confidential Health Research Data Repository (HRDR) in the Faculty of Nursing at the University of Alberta (https://www.ualberta.ca/nursing/research/supports-and-services/hrdr.html), in accordance with (a) the health privacy legislation of participating TREC (Translating Research in Elder Care) jurisdictions and (b) ethics approvals of universities and institutions participating in TREC. These health privacy legislations as well as the ethics approvals covering TREC data prohibit public sharing or removal of disaggregated data (i.e., individual level records) from the HRDR - even if de-identified. The data were provided under specific data sharing agreements only for approved use by TREC within the HRDR. Where necessary, access to the HRDR in order to review the original data may be granted to those who meet pre-specified criteria for confidential access, available at [https://trecresearch.ca/resources/dataaccesspubs]. Statistical and anonymous aggregate data, the full dataset creation plan, and underlying analytic code associated with this paper are available from the authors upon request, understanding that the programs may rely upon coding templates or macros that are unique to TREC.

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