Nurse Education in Care of Delirium: Achieving a Change from Transcription and Translation to Interpretation for Reduced Strain

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Stress refers to a specified load that is applied to an object or a system in engineering terms. Strain on the other hand is the amount of change of deformity of the object or system as a result of the stress. In medical research, these terms are often used interchangeably leading to poor understanding of stressors and in turn ineffective recommendations to address strain. Stress and strain are more commonly discussed in relation to lung mechanics where clarification of their definitions leads to better understanding and in turn, improved ventilator strategies to address various lung pathologies.[1] Nurses who care for acutely or critically ill patients with delirium are noted to have varying levels of knowledge gap, suffer higher workload, anxiety along with stress, physical safety concerns, and lack of clear coping strategies. The above research statement clearly fails to understand the specifics of stress and strain leading to the mixed message where stressor and strain are deemed to be both cause and effect for the said individual.[2] This editorial refers to an article by Jose S et al., who evaluated the subjective strain of emergency and intensive care unit (ICU) nurses whilst caring for patients with delirium. During the reading of this article, one could refer to an acutely ill patient who is agitated and/or involved in pulling of indwelling devices and monitoring equipment as considered 'the stressor' and the difficulty the nurse feels or change in her capacity to look after such patient is the 'strain' experienced.[3]

Intensive care unit delirium as the literature notes, is a stressor with various faces (e.g., verbally or physically agitated patient, withdrawn patient, etc.,) and leads to various levels of strain but is often presented vaguely in literature as 'stress in health care personnel'.[4] Study by Jose S et al. discusses one of many factors that may alter strain levels for a given stress (ICU delirium) in the said nurse population. This nurse education via an online multi-session module to bridge delirium related knowledge gap.[3]

Research not just into delirium but other illness spectrum of ICU or emergency care has shown improved strain with better knowledge acquisition through problem or concept-based learning curriculum for improvements in interpretive skills.[5] It is understood that with the above strategy, one might achieve change not just in knowledge but also in attitude towards care by transiting from simple transcription (documenting or informing other health care staff that a patient is agitated) to translating (nurse with help of prior knowledge which is applied to emergency or ICU patient care to communicate more information relating to the said agitated patient like prior cognitive deficits, fever or pain, etc.,)

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and to a state of interpretation (bedside nurse noting the scenario diagnoses one as delirious achieving early diagnosis leading to initiation of appropriate pharmacological and non-pharmacological therapies).[6,7]

Indian nurse education is evolving rapidly in the last decade with multiple organizations providing opportunities for critical care training. Despite these efforts, these organizations have poor or no control on work-loads, working conditions, knowledge-imparting strategies, and other organizational factors.[8–10] Online nurse education has blossomed during the COVID and post-COVID pandemic era. Online education though is not a complete substitute for in-person engagement has been able to bring expertise from far and wide. If the web-based training encompasses problem or context-based teaching which has been shown to enhance critical thinking compared to traditional methods, then they will become a valuable tool for critical care nurse education. Specific modules could even be tailored to the needs of the organization based on available resources and being adept to the language, geographical and cultural factors.[11,12]

Higher burden of patient care, work hours, nurse-patient ratio, and organizational attitudes are some of the modifiable factors that influence strain on nurses. There is clear evidence in the Indian critical care setting has the above negative factors (high nurse-patient ratio, predominant open ICUs, higher work hours) making this population more vulnerable to higher strain in comparison to resource-rich settings.[7,13]

The future of ICU delirium care involves artificial intelligence (AI). Machine learning using a large electronic health record data set to achieve this goal has been in action for the last few years

and may make the identification of the pathology and in turn early management of the same. This might potentially improve patient outcomes along with likely reduced strain on nurses.[14,15]

In conclusion, there is increasing evidence for the use of continued nurse education (online and/or on-site) that enhances critical thinking as a way to achieve competency and indirectly leads to a reduced strain on critical care nurses. Barriers to the above in the Indian scenario include workload, organizational factors, and possibly suboptimal curricula and teaching methods. Emphasis and efforts to improve critical care nurse education during the last decade may in the future translate into a reduced strain on the workforce. Artificial intelligence may come to the aid of predictive models and facilitate an early diagnosis and improved outcomes not just for patients but for critical care nurses.

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REFERENCES

1. Nieman GF, Satalin J, Andrews P, Habashi NM, Gatto LA. Lung stress, strain, and energy load: Engineering concepts to understand the mechanism of ventilator-induced lung injury (VILI). Intensive Care Med Exp 2016;4(1):16. DOI: 10.1186/s40635-016-0090-5.
2. Thomas N, Coleman M, Terry D. Nurses' experience of caring for patients with delirium: Systematic review and qualitative evidence synthesis. Nurs Rep 2021;11(1):164–174. DOI: 10.3390/nursrep11010016.
3. Jose S, Cyriac MC, Dhadapani M. Nurses' knowledge and subjective strain in delirium care: Impact of a web based instructional module on nurse competence. Indian J Crit Care Med 2024;28(2):111–119.
4. Patil VC, Patil SV, Shah JN, Iyer SS. Stress level and its determinants among staff (Doctors and Nurses) working in the critical care unit. Indian J Crit Care Med 2021;25(8):886–889. DOI: 10.5005/jp-journals-10071-23949.
5. Brussow JA, Roberts K, Scaruto M, Sommer S, Mills C. Concept-based curricula: A national study of critical concepts. Nurse Educ 2019;44(1):15–19. DOI: 10.1097/NNE.0000000000000515.
6. Kong LN, Qin B, Zhou YQ, Mou SY, Gao HM. The effectiveness of problem-based learning on development of nursing students' critical thinking: A systematic review and meta-analysis. Int J Nurs Stud 2014;51(3):458–469. DOI: 10.1016/j.ijnurstu.2013.06.009.
7. Sasidharan S, Dhillon HS. Intensive care unit stress and burnout among health-care workers: The wake-up call is blaring! Indian J Psychiatry 2021;63(6):606–609. DOI: 10.4103/indianjpsychiatry.indianjpsychiatry_464_21.
8. Evans C, Razia R, Cook E. Building nurse education capacity in India: Insights from a faculty development programme in Andhra Pradesh. BMC Nurs 2013;12:8. DOI: 10.1186/1472-6955-12-8.
9. Indian Nursing Council. Nurse practitioner in critical care (Post Graduate-Residency Program). 2024. pp. 63. Available from: https://main.mohfw.gov.in/sites/default/files/57996154451447054846_0.pdf.
10. Tiwari RR, Sharma K, Zodpey SP. Situational analysis of nursing education and work force in India. Nurs Outlook 2013;61(3):129–136. DOI: 10.1016/j.outlook.2012.07.012.
11. Mojarad FA, Hesamzadeh A, Yaghoubi T. Exploring challenges and facilitators to E-learning based Education of nursing students during Covid-19 pandemic: A qualitative study. BMC Nurs 2023;22(1):278. DOI: 10.1186/s12912-023-01430-6.
12. Rezayi S, Amanollahi A, Shahmoradi L, Rezaei N, Katigari MR, Zolfaghari M, et al. Effects of technology-based educational tools on nursing learning outcomes in intensive care units: A systematic review and meta-analysis. BMC Med Educ 2022;22(1):835. DOI: 10.1186/s12909-022-03810-z.
13. Kashyap R, Vashistha K, Saini C, Dutt T, Raman D, Bansal V, et al. Critical care practice in India: Results of the intensive care unit need assessment survey (ININ2018). World J Crit Care Med 2020;9(2):31–42. DOI: 10.5492/wjccm.v9.i2.31.
14. Liu S, Schlesinger JJ, McCoy AB, Reese TJ, Steitz B, Russo E, et al. New onset delirium prediction using machine learning and long short-term memory (LSTM) in electronic health record. J Am Med Inform Assoc 2022;30(1):120–131. DOI: 10.1093/jamia/ocac210.
15. Bishara A, Chiu C, Whitlock EL, Douglas VC, Lee S, Butte AJ, et al. Postoperative delirium prediction using machine learning models and preoperative electronic health record data. BMC Anesthesiol 2022;22(1):8. DOI: 10.1186/s12871-021-01543-y.