Knowledge management in assessing of the life quality of intensivist nurses during the Covid-19 pandemic: A fuzzy approach

.J. T. V. Souza[1,2,3], C. H. S. Grecco[2], M. E. B. Rodrigues [3], F. R. B. de Barros [3,4], C. A. N. Cosenza[3], A. J. L. Costa[5], E. C. Silva[6], E. C. P. Santos[7]

E-mail: jaqueline.vianna@bolsista.ien.gov.br

[1]PPGIEN – IEN

.*[2]Division of Nuclear Engineering - IEN*
[3]COPPE/UFRJ
[4]FMT/HVD-UEA- State University of Amazonas
[5]IESC/UFRJ
[6]IM/UFRRJ
[7] Military Engineering Institute - IME

Keywords: knowledge management, Covid-19, life quality, worker health, nursing, fuzzy logic.

Social distancing strategies are still considered one of the strongest evidence for the control of COVID-19, but the recommendation to stay at home does not apply to intensive nursing, leaving them exposed to high particle load of SARS-CoV-2 and great psychological stress when caring for the infected in constantly inappropriate working conditions. Knowledge management (KM) deals with organizational conditions, localization, generation and sharing of knowledge, and the tools to be used in the communication and organization of content [1]. Thus, this work used the principles of the KM to obtain the opinion of the specialists to create a standard for assessing the life quality of the intensivist nurses in a domain in question. The principles of KM also were used to present a model for evaluating the life quality of intensivists nurse, during the Covid-19 pandemic in the Manaus city. This model adopts the concepts and properties of fuzzy set theory to deal with the subjectivity and consistency of human judgments in the evaluation of a domain [2]. The study followed a quantitative-qualitative approach in a sample of intensive care nurses and a sample of psychology and psychiatry specialists to determine an evaluation pattern. For data collection, two sets of instruments adapted from the WHOQOL-BREF for Domain 2, Psychological Aspects were structured [3]. The indicators of these instruments were associated with linguistic variables (Figure 1).
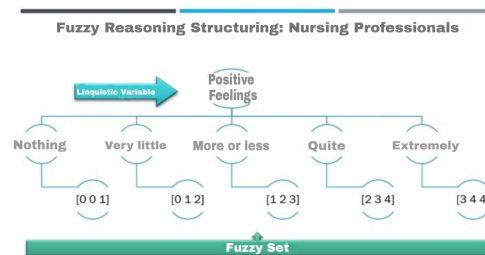

Figure 1. Fuzzy Reasoning Structuring

This fuzzy model allowed to process with a solid mathematical framework, opinions that are subjective measures obtained from the specialists who participated in the research in the context of Covid-19. The fuzzy model is a creative tool to evaluate the quality of nurses' occupational psychological domain. This model used indicators for the creation of the evaluation pattern by calculating similarities between opinions, generating corrective measures, and signaling the main impacts on workers' lifestyle and organizational climate. Therefore, this model can also be considered a monitoring tool of working conditions in the occupational psychological domain.

References
[1] SOUZA, J.T.V.; GRECCO, C.H.S.; CARVALHO, P.V.R.; COSENZA, C.A.N. A Fuzzy Decision-Making Method for Preventing the Loss of Knowledge in Nuclear Organizations. In: Arezes P.; Boring R. (Org.). Advances in Intelligent Systems and Computing. 1ed. USA: Springer International Publishing, 2020, v. 1204, p. 160-167.
[2] HSU, H. M.; CHEN, C. T. Aggregation of fuzzy opinions under group decision making. Fuzzy Sets and Systems, 1996, v.79, p.279-285.
[3] FLECK, M. P. A. WHOQOL- BREF. Saúde Pública, v. 34, n. 2, p. 178-183, 2000.