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Titolo tesi: The palliative care network and its related challenges: access, service utilization and staff/skill-mix composition

ABSTRACT

Background: palliative care is defined as an approach that improves the quality of life of patients (adults and children) and their families who are facing the problems associated with life-threatening illness. Quality of life is so the main outcome that need to be assessed and need to be kept at the higher level possible in palliative care. Despite the continuous growing of palliative care, to date only 12% of the need of palliative care worldwide is covered. Several barriers to adequate palliative care provision are recognized, such as appropriate policies, adequate access to medicines, education of health-care workers and the public, implementation of palliative care services at all levels of the health system, research implementation, and community education. As palliative care is facing a developing process, more efforts are still needed to enhance adequate palliative care service utilization for all patients who need it.

Aim: The aims of this doctoral program were as follows. (1) To describe which factors, based on the Andersen Behavioral Model of Health Services Use, determine an inequitable access to palliative care of advanced cancer patients. (2) To describe which factors of patients with palliative care needs were associated with specialized palliative care service (SPCS) utilization. (3) To analyze the optimal palliative care team members' characteristics (number, skill mix, educational level), hospice size and length of stay to adequately control patient symptoms.

Methods: The first study was a retrospective cohort study using administrative healthcare data of 13,656 patients with cancer. To describe factors associated with SPCS utilization, following the Andersen Behavioral Model of Health Services Use, all patient predictors were grouped into predisposing factors (i.e., individuals' characteristics), enabling factors (i.e., systemic/structural factors) and need factors (i.e., type/severity of illness). A logistic hierarchical regression model was performed. The second study was a retrospective cohort study, including 35,869 patients with palliative care needs. Two hierarchical regression models were performed, and variables were categorized in predisposing, enabling, and need factors according to the Andersen behavioral model of health services use to analyze factors related to place of death and patient disenrollment. The third study was a multicenter prospective longitudinal observational study including 992 patients in 13 Italian hospices. We performed two generalized estimating equations (GEE) logistic models to analyze the effects on optimal patient symptoms control by (1) patient-to-healthcare worker ratios, and (2) health professionals' qualification levels.

Results: From the first study, the logistic hierarchical regression showed that older patients (odds ratio [OR] = 1.45; <0.0001) of Caucasian ethnicity (OR = 4.17; 0.02), with a solid tumor (OR = 1.87; <0.0001) and with a longer survival time (OR = 2.09; <0.0001) were more likely to be enrolled in a palliative care service. From the second study, results show that 34,178 died within an SPCS. Patients were more likely to die at home if: they were older (>83 years OR: 1.14; 95% CI: 1.06-1.23), with wait time \geq 3 days (OR: 1.38; 95% CI: 1.27-1.49), had a survival time \geq 15 days (OR: 1.92; 95% CI: 1.83-2.01) and they had an oncological diagnosis oncological (OR: 1.51; 95% CI: 1.41-1.63). Instead, a total of 1,691 (7.8%) out of 22,466 patients considered were disenrolled from SPCSs. Patients were more likely to be disenrolled if: they had a low education level (OR: 1.46; 95% CI: 1.10-1.95), they had a longer wait time (OR: 1.80; 95% CI: 1.53-2.11) and they had a longer survival time (OR: 1.35; 95% CI: 1.21-1.50). From the third study, the following 'optimal' model was found: Patient-to-Physician ratio (5.5:1–6.5:1); Patient-to-Nurse ratio (1.5:1–2.7:1); Patient-to-Nurse-Assistant ratio (4.1:1–6.3:1); with the most balanced staff composition including 19% physicians, 23% nurse assistants, and 58% registered nurses; hospice beds (12–25); length of stay (median=12 days).

Conclusion: Several factors are associated with patient enrollment or utilization of SPCS. All the sociodemographic and contextual factors associated with SPCS enrollment and utilization represent potential inequities for patients in need of palliative care. Moreover, the most propitious organizational environment for optimal management of disturbing symptoms found is still underused in the hospices analyzed. All the results of this PhD project provide policymakers and hospice managers with specific, evidence-based information to support decision-making processes regarding SPCS enrollment, utilization, and appropriate hospice staffing and organization.

Keywords: Andersen Behavioral Model, health service utilization, inequity, patient discharge, personnel/staffing, workforce.