

# IDENTIFICATION OF PALLIATIVE CARE REQUIREMENT IN HOSPITAL INPATIENTS IN INTERNAL MEDICINE SERVICES IN A PERUVIAN REFERENCE HOSPITAL

IDENTIFICACIÓN DE REQUERIMIENTO DE CUIDADOS PALIATIVOS EN PACIENTES HOSPITALIZADOS EN LOS SERVICIOS DE MEDICINA INTERNA DE UN HOSPITAL DE REFERENCIA PERUANO

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## ABSTRACT

**Introduction:** Hospitals of greater complexity tend to care for patients with advanced chronic diseases, which is why it is important to recognize the need for palliative care. **Objective:** To identify the proportion of patients who require palliative care in the medicine department of a Peruvian referral hospital. **Methods:** Observational, analytical, cross-sectional study. All hospitalized patients were studied in the Department of Internal Medicine of the Peruvian hospital during the period April-May 2018. To determine the need for palliative care, the NECPAL CCOMS-ICO © instrument was used. The quantitative variables are presented as median and interquartile range (IQR); and numerical variables, such as frequencies and percentages. For the comparison of numerical variables, the Mann Whitney test was used and the chi-square test for categorical variables. **Results:** They were evaluated in 281, where 102 (37.9%) required palliative care. The median age in patients requiring palliative care was 69.5 (IQR: 58-81) years. The median hospital stay in patients with and without the need for palliative care was 7 days (IQR: 4-11) and 9 days (IQR: 5-19) respectively, the mortality in patients with and without the need for palliative care was 37.25% and 4.19% respectively. **Conclusions:** There is a high frequency of need for palliative care in patients hospitalized in internal medicine wards, the requirement for palliative care was associated with higher mortality and hospital stay, which evidences the need for comprehensive and personalized care based on medical services specialized.

**Keywords:** Palliative care; Hospitalization; Non-communicable diseases; Patient care. (Source: MESH-NLM)

## RESUMEN

**Introducción:** Los hospitales de mayor complejidad suelen atender a pacientes con enfermedades crónicas avanzadas, es por ello importante el reconocimiento de la necesidad de cuidados paliativos. **Objetivo:** Identificar la proporción de pacientes que requieren cuidados paliativos en el departamento de medicina de un hospital de referencia peruano. **Métodos:** Estudio observacional, analítico, transversal. Se estudió a todos los pacientes hospitalizados en el Departamento de Medicina Interna del hospital peruano durante el periodo abril-mayo del 2018. Para determinar la necesidad de cuidados paliativos se usó el instrumento NECPAL CCOMS-ICO©. Las variables cuantitativas se presentan como mediana y rango intercuartil (RIC); y las variables numéricas, como frecuencias y porcentajes. Para la comparación de variables numéricas se utilizó la prueba de Mann Whitney y para las categóricas la prueba de chi cuadrado. **Resultados:** Se evaluaron 281, donde 102 (37,9%) requerían cuidado paliativo. La mediana de edad en pacientes con requerimiento de cuidados paliativos fue 69,5 (RIC: 58-81) años. La mediana de estancia hospitalaria en pacientes con y sin requerimiento de cuidados paliativos fue de 7 días (RIC: 4-11) y 9 días (RIC: 5-19) respectivamente, la mortalidad en los pacientes con y sin requerimiento de cuidados paliativos fue 37,25% y 4,19% respectivamente. **Conclusiones:** Se evidencia una alta frecuencia de necesidad de atención paliativa en pacientes hospitalizados en salas de medicina interna, el requerimiento de cuidados paliativos se asoció a mayor mortalidad y estancia hospitalaria, lo que evidencia la necesidad de atención integral y personalizada en base a servicios médicos especializados.

**Palabras clave:** Cuidados paliativos; Hospitalización; Enfermedades no transmisibles; Atención al paciente. (Fuente: DeCS-BIREME)

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Cite as: Velasquez-Manrique A, Benavides-Luyo C, Chaupi-Rojas S, Andahua-Inuma S, Andrade-Acuña M, Sánchez-Ruiz R, et al. Identification of palliative care requirement in hospital inpatients in internal medicine services in a peruvian reference hospital. Rev Fac Med Hum. 2023;23(1):52-60.[doi:10.25176/RFMH.v22i3.4621](https://doi.org/10.25176/RFMH.v22i3.4621)

Journal home page: <http://revistas.urp.edu.pe/index.php/RFMH>

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## INTRODUCTION

Palliative care, according to the World Health Organization (WHO) and the Spanish Society for Palliative Care (SECPAL), is recognized as a human right, embodied in a care model that encompasses physical, emotional, social, and spiritual aspects of the patient suffering from chronic oncological or non-oncological diseases<sup>(1)</sup>. The main objective of palliative care is to improve the quality of life of these patients and their families<sup>(2)</sup>; as well as to prevent and alleviate suffering through early identification, evaluation, and adequate treatment of pain, among other symptoms that affect the patient's well-being<sup>(1-4)</sup>.

According to the WHO, annually 40 million people need palliative care and of these 78% live in low and middle-income countries. Unfortunately, only 14% of people requiring palliative care receive adequate care<sup>(2)</sup>. Despite being a public health problem, 80% of the countries do not recognize palliative care as a discipline, which means that it is not included in the different health systems<sup>(5)</sup>. In recent decades, the demand for palliative care has increased both in industrialized countries and in developing countries due to the fact that the population of older adults is growing, going hand in hand with the increase in the prevalence of non-communicable diseases<sup>(1,5)</sup>.

In Latin America, the number of services focused on palliative care is scarce compared to first world countries; Chile and Argentina have the largest number of multilevel teams<sup>(6)</sup>. According to the report by The Economist Intelligence Unit, in Latin America, there are less than two palliative care services per million inhabitants, and they only serve 1% of the total number of patients who require palliative care<sup>(7)</sup>. In Peru, according to the Palliative Care Atlas of Latin America (ALCP), there are no palliative care services at the first level of care or at home. At the second level of care, there is only one palliative care unit; at the third level, there are seven palliative care units, most of which are located in Metropolitan Lima<sup>(8)</sup>. For example, in social security hospitals (EsSalud), the availability of this service is limited, and the small population that receives the service does not have good symptom control<sup>(9)</sup>. This shows a delay in the implementation of this service compared to other Latin American countries.

In Latin America, there is little research regarding palliative care, both in patients with oncological and non-oncological diseases. Hospitals are receiving increasingly elderly patients and patients with multiple pathologies. However, there is no data on the magnitude and need for palliative care in the Ministry of Health (MINSa) hospital practice. This study aimed to identify patients who require palliative care among patients admitted to the medical service of a national reference hospital, as well as to compare their length of hospital stay and mortality compared to patients who do not require it.

## METHODS

### Design and study area

An observational, analytical, cross-sectional study was conducted in the internal medicine area of the Hipólito Unanue National Hospital (HNHU). It is a level III-1 care hospital of national reference, located in East Lima, which provides specialized and rehabilitation care.

### Population and sample

The study population was all hospitalized in the Department of Internal Medicine of the HNHU from April to May 2018. To calculate the sample size, a prevalence of 23%<sup>(10)</sup>, a margin of error of 5%, and a confidence level of 95%, obtaining 273 patients. A non-probabilistic sampling was carried out.

### Variables and instruments

The need for palliative care was considered a dependent variable. To identify this variable, the instrument NECPAL COMS-ICO© version 3.1 2017 was validated in Spanish, which consists of a surprise question (PS) "Would you be surprised if this patient died within the next year? And thirteen parameters: demand or need for palliative care, general clinical indicators of progression (functional decline assessed using the Barthel scale, nutritional and cognitive decline assessed using the Pfeiffer scale), severe dependence, geriatric syndromes, persistent symptoms assessed using the scale Edmonton





symptom assessment system (ESAS), psychosocial aspects evaluated using the Gijón scale, multimorbidity evaluated with the Charlson comorbidity index, use of resources and specific indicators of disease severity/progression.

A patient is considered to require palliative care when the response to the SP is "I would not be surprised if..." (positive SP) plus the presence of at least one of the associated parameters; otherwise, it is considered negative<sup>(11)</sup>. The independent variables are gender, age, number of hospital admissions, admission diagnoses, and admission condition. On the other hand, hospital stay and mortality were also analyzed according to the need for palliative care.

### Procedures

A data collection form was created for the sociodemographic and clinical variables: gender, age, length of hospital stay, number of hospital admissions, admission diagnoses, and discharge status, the NECPAL CCOMS-ICO© version 3.1 2017. The researchers, including a geriatrician with experience in palliative care, carried out the data collection as part of the project to improve the quality of care prior to the implementation of the palliative care unit of the Department of Internal Medicine of the Hospital Nacional Hipólito Unanue. Once the patient's consent was obtained, the NECPAL , then out the surprise question was asked to the doctor in charge of managing the patient was reviewed the clinical history-ICO© version 3.1 2017. Finally, to estimate the risk of mortality, a longitudinal follow-up of each patient was carried out until their outcome, either discharge or in-hospital death.

### Statistical Analysis

The data obtained from the collection forms were

entered into a database developed in the Microsoft Excel 2016 program to be later exported to the statistical program Stata version 12 (Stata Corp LP, College Station, TX, USA). Numerical variables were presented as means and standard deviations or medians and interquartile range (IQR) according to the distribution of the variables. The Mann-Whitney test was used in the case of numerical variables, and The Chi-square test or Fisher's exact test in the case of categorical variables to compare the characteristics of patients with and without palliative care requirements. To estimate the risk of mortality, the crude RR was calculated and adjusted for age, gender, and degree of dependency using Poisson regression with robust variances. A value of  $p < 0.05$  was considered statistically significant.

### Ethical aspects

The present study had the informed consent of the patients and relatives in case the patients could not provide. A code was assigned to each to maintain the anonymity of the patient. The Institutional Research Ethics Committee approved the study of the Hipólito Unanue National Hospital (LETTER N° 72-2019-CIEI-HNHU).

### RESULTS

During April and May 2018, 281 patients hospitalized in the Department of Internal Medicine were evaluated. In 12 cases, obtaining the information on palliative care requirements was impossible, so they were excluded. The population finally analyzed was 269 patients; 102 (37.9%) required palliative care. Regarding the characteristics of all the patients, 139 (51.67%) were women, the median age was 61 years (IQR: 46-73), and the median length of hospital stay was 8 days (IQR : 5-13) ( $p < 0.002$ ) and the median number of admissions was 1 (IQR: 1-1) (Table 1).

**Table 1.** Characteristics of patients hospitalized in the internal medicine service.

Variable	Total (n=269)	Patients without palliative care requirements (n=167)	Patients with palliative care requirements (n=102)	p-value
<b>Age</b> (median and IQR)	61 (46-73)	56 (39-67)	69.5 (58-81)	< 0.001
<b>Géender</b>				
Female	139(51.67 %)	79 (47.31%)	60 (43.17%)	0.09
Male	130 (48.33%)	88 (67.69%)	42 (32.31%)	
Length of hospital stay	8(5-13)	7(4-11)	9(5-19)	0.002
Mortality	45 (16.73%)	7 (4.19%)	38 (37.25%)	< 0.001

IQR: interquartile range.

The most frequent reasons for admission in patients requiring palliative care were malignant neoplasms (22.5%), chronic renal failure (17.6%), and sequelae of cerebrovascular disorder (15.7%) (Graph 1).

Within the group of neoplasms, the most frequent were neoplasms of the lung (21.7%), gallbladder (17.4%),

colon (13%), and uterus (13%) (Graph 2).

Table 2 shows the characteristics of the support scales to complete the NECPAL parameters of patients requiring palliative care; the median of the Barthel scale is 35 (IQR: 20-60). Seven patients could not be assessed on the Pfeiffer scale and 46 patients on the ESAS scale due to impaired consciousness.

**Table 2.** General characteristics of patients with palliative care requirements.

Variables	Frequency	Percentages
<b>Barthel Scale (n=98)</b>		
Independent	5	5.10%
Mild	1	1.02%
Moderate	13	13.27%
Severe	42	42.86%
Dependent	37	37.76%
<b>Pfeiffer Scale (n=43)</b>		
Normal	20	46.51%
Mild	3	6.98%
Moderate	7	16.28%
Severe	13	30.23%
<b>ESAS* (n=56) (Median, IQR)</b>		
Pain	3.5	0.5 - 6
Tiredness	4	0.5 - 7





Nauseas	3	0 - 6.5
Depression	3.5	0 - 6
Anxiety	4	0 - 6
Somnolence(n=55)	4	0 - 6
Appetite	4	0 - 7
Malaise	5	0 - 7
Dyspnea	3.5	0 - 6
Insomnia	3.5	0 - 6
Xerostomia	2	0 - 4
Constipation	2	0 - 5

ESAS: Edmonton symptom assessment system, IQR: Interquartile range.  
 \*ESAS: minimum score zero, maximum score ten

In the parameters studied by NECPAL, we found that 79% of patients show a nutritional decline; variables such as persistent symptoms and multimorbidities also stand out with 70% and 64%, respectively. (Table 3)

**Table 3.** Frequencies and percentages of the different variables in the NECPAL Questionnaire EVALUATED

Variables	Pacient	Frequencies	Percentages
Demand*	73	25	34%
Need**	73	45	62%
Nutritional decline	73	58	79%
Cognitive decline	74	47	64%
Severa dependency	102	38	37%
Geriatric syndromes	77	44	57%
Persistent symptoms	73	51	70%
Distress	78	32	41%
Social vulnerability	73	27	37%
Multimorbidity	75	48	64%
Use of resources	102	52	51%
Specific indicators	73	47	64%

\*Request for palliative care  
 \*\*Requires palliative care

Of 64 patients analyzed with the Charlson comorbidity index, we found a similar distribution between the different scores, standing out above 37.5% (n=24) with a score of 1 to 2, indicating that the majority of the sample analyzed has more than 2 comorbidities. (Table 4)

**Table 4.** Frequencies and percentages according to the scores obtained in the Charlson Questionnaire.

Score	Frequency (n=64)	Percentages
0	12	18.75%
1-2	24	37.5%
3-4	16	25%
>5	12	18.75%

Regarding mortality, the need for palliative care was associated with a RR of 8.65 (CI95: 4.00-18.71) compared to those patients who did not require palliative care. The results did not change substantially when adjusting for

age (RR: 8.38; CI95: 3.64-19.26). No association was found between age, gender, number of previous admissions or Barthel index at admission with mortality in patients requiring palliative care.(Table 5)

**Table 5.** Factors associated with mortality in the group of palliative patients. Raw and adjusted analysis results.

Variables	Crude analysis			Adjusted analysis		
	RRC	95% IC	p-value	Rra	95% IC	p-value
Age	1	0.98-1.01	0.773	0.99	0.98-1.01	0.942
Gender	0.93	0.55-1.56	0.790	0.99	0.57-1.71	0.976
Number of admissions	1.37	0.58-3.19	0.465	1.43	0.59-3.48	0.420
Total Barthel	0.99	0.98-1.01	0.93	0.25	0.05-1.21	0.086

\*Compared with the independents.

95% CI: 95% confidence interval, RRa: Adjusted relative risk, RRC: Crude relative risk.

## DISCUSSION

The study was based on the need to identify the proportion of hospitalized patients requiring palliative care, which is often underestimated. The results show a high proportion of palliative care requirements among patients hospitalized in internal medicine services. These findings are consistent with an Argentine study in a hospital and outpatient population, where 29.5% of patients with advanced chronic diseases were found<sup>(12)</sup>.

In contrast, our figures are much higher than European studies such as the one by Meffert in Germany, where 7% of patients were identified as needing palliative

care<sup>(13)</sup>. However, it is difficult to conclude because few studies have analyzed the need for palliative care in non-oncological diseases<sup>(14)</sup>. Although the need for palliative care in both oncological and non-oncological diseases seems to be quite frequent, many Latin American countries do not have laws, national programs or resources to finance the implementation of a specialized palliative care unit<sup>(5)</sup>. The median age in patients requiring palliative care was 69.5 years old. A similar result was found in a study in Portugal and Spain, where the population included elderly non-cancer patients in need of palliative care with a mean age of 70.4





and 66.5 years old, respectively<sup>(15)</sup>. Considering that the aging of the Peruvian population increased from 5.7% to 13% between 1950 and 2021, the increase in the number of patients with chronic diseases will predictably be associated with an increase in the need for palliative care. The INEI also indicates that 83.9% of the elderly female population has some chronic health problem, a figure higher than the 70% of the male population<sup>(16)</sup>. This figure is consistent with our findings where women have a higher percentage of palliative care requirements.

In our country, life expectancy in women has improved, but they continue to present high figures for disability and chronic illness. In addition, some authors associated it with the “accumulated burdens” during their lives<sup>(17)</sup>. The study found a median hospitalization time of 9 days in patients requiring palliative care. Although the stay was significantly longer compared to patients without the need for palliative care, most studies show longer stays. Bernabeu-Wittel found that the mean length of hospital stay for patients requiring palliative care was 14.5 days<sup>(18)</sup>. In a Peruvian study, the mean hospital stay in patients over 60 was 13.6 days<sup>(19)</sup>.

When analyzing the degree of dependency according to the Barthel index, it is observed that 42.86% of patients requiring palliative care are located in the degree of severe dependence. These results are similar to those obtained by Pérez, who indicates a degree of severe dependency in non-cancer patients who met the inclusion criteria to receive palliative care<sup>(1)</sup>. The results indicate a high frequency of patients requiring palliative care in hospital wards, which directly affects

mortality and length of hospital stay in our country. The indicators proposed in the Practical Guide for the Construction of Peruvian Hospital Management and Evaluation Indicators do not consider the population of patients who require palliative care, causing a bias when interpreting the data. The recommendations suggest mortality of less than 3 to 4% and a stay of 6 to 8 days in hospitalized patients as a goal<sup>(20,21)</sup>.

When observing the data of the total population hospitalized in our study, they would not meet the recommended standards. However, when separating the populations according to the need or not for palliative care, we found that the indicators of the group of non-palliative patients are within what is recommended, for which it is important to individualize the group of patients with the need for palliative care to obtain more realistic data due to its high frequency, mortality, and long hospital stay. The high proportion of patients identified in our study justifies considering the implementation of palliative care units in hospitals in our country.

The identification of the patient who requires palliative care represents a comprehensive challenge. The little research added to the little relevance given to academic training in palliative care, plus the lack of public policies, the centralization of these services in the most complex hospitals, among other factors, does not allow establishing an adequate management of this population, mainly due to the lack of data on the number of patients who require this palliative care, especially in those with non-oncological pathology, since the main health programs on palliative care are focused on these patients. In addition, they present various comorbidities, generating the permanent need



for a caregiver susceptible to developing Burnout syndrome. In addition to medical comorbidities, mental health disorders are an important part of morbidity in these patients<sup>(9,22-28)</sup>.

Our study is one of the first in Peru that evaluates this problem and provides reference data that can be useful for decision-making and the development of interventions. The results obtained confirm the need for the implementation of palliative care units, and their preliminary presentation served as evidence for the implementation of the palliative care unit in the hospital where the study was carried out. Given the current pandemic situation, these patients have been neglected in disease control and drug delivery, in addition to the delay in early diagnosis, which was a challenge for many countries despite establishing policies and strategies for prevention. same. Difficulty was also observed in the care of the elderly population, especially patients with comorbidities, these already being a population at risk from COVID-19<sup>(29-32)</sup>. The impact of the implementation of this unit in our hospital and in other health centers is a pending issue that must be addressed from the scientific point of view through operational research.

**Author's contributions:** The authors participated in the genesis of the idea, project design, data collection and interpretation, analysis of results, and manuscript preparation of the present research work.

**Financing:** Self-financed.

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Among the limitations we must mention the sample size, having carried out a non-probabilistic sampling and the possible seasonal variations that could not be addressed. On the other hand, our findings may not be generalizable to other hospital populations such as EsSalud, private clinics, hospitals of the armed forces, and other MINSA hospitals, but they allow us to draw conclusions about the study participants.

## CONCLUSIÓN

Ein conclusion, a high frequency of need for palliative care was evidenced in patients hospitalized in internal medicine wards of a Peruvian reference hospital. On the other hand, the requirement for palliative care was associated with higher mortality and hospital stay, which shows the need for comprehensive and personalized care based on specialized medical services aimed at improving the quality of care in this growing population group. The implementation of palliative care units is an urgent need in the Peruvian health system, particularly in the establishments of the health system.

**Acknowledgements:** To the Hipólito Unanue National Hospital, for allowing us to carry out this research work.

**Declaration of conflicts of interest:** The authors declare no conflict of interest.

**Received:**

**Approved:**







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