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Original Articles

Care Demands Regarding Home-care Service: A Descriptive Study

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ABSTRACT

Aim: To characterize the profile of adult patients of the Home Care Program (HCP) of the Conceição Hospital Group (CHG) and their demands for nursing support. **Method:** This is a descriptive exploratory study incorporating retrospective data collection. **Results:** Of the 826 adult patients supported by HCP/CHG (median follow-up of 21 days and five visits), the majority were female (53.9%) and over 65 years of age (50.6%). The main pathologies were thromboembolism (10.9%) and cerebrovascular accident (10.3%). The main demands in terms of nursing care were dressing (32.4%) and monitoring blood glucose levels (19.7%). **Discussion:** The prevalence of elderly in the sample can be explained by population aging. This data, together with pathologies associated with greater physical dependence, can justify the need for specific nursing care. **Conclusion:** The characterization of patients can contribute to the evaluation of the complexity of home care and provide better guidance in terms of care in place.

Descriptors: Home Care Services; Nursing Care; Epidemiology.

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INTRODUCTION

The aging population and the epidemiological transition gives rise to different social problems and the changing needs in terms of health care[1], bringing challenges when it comes to guiding the search for forms of care that may provide coverage for the current scenario. The modalities of care focused on integrality including primary health, specialized and hospital care. The ways of providing care in the home arise in this context, giving rise to Home Care (HC) services[2].

HC is a modality of care with expertise in monitoring the health of individuals, in order to promote, maintain or restore it through actions undertaken in the domestic situation with regard to health promotion and prevention, as well as the treatment of diseases[1]. Reducing costs by discharging patients is one of the organizational aspects of HC (1). However, the possibility of reducing the risk of exposure to hospital infections and allowing the recovery of the patient in his own home, within his family and in his social reality, denotes the real contribution of this modality as part of the National Unified Health (NUHS).

The first experiences with HC in Brazil involve the Emergency Medical Home Care Service (EMHCS). This was founded in 1949 and is linked to the Ministry of Labour. Since 1960, the HC services went through an expansion, involving care aimed at patients who suffered from acquired immunodeficiency syndrome, skin lesions, severe neurological disorders, and patients who needed palliative care and treatment of infections, as well as the dehospitalization of patients following long hospital stays[3]. HC was established in 2002 as a modality of care in the NUHS by adding a chapter and an article to Law 8080of 1990[4]. In 2006, the Resolution Board of the National Health Surveillance Agency (NHSA) was created in order to guide the functioning and structuring of the services that provide HC[5]. Five years later, the Ministry of Health implemented the service *Better at Home*, based on Decree 2527 of October 2011[6] with the aim of regulating HC in full within various NUHS's modalities of care.

The Home Care Program of the Conceição Hospital Group (HCP/CHG) was implemented in Porto Alegre (state of Rio Grande do Sul) in 2004. Patients supported by HCP live in the northern region of the city (catchment area = 400,000 inhabitants) and are referred from inpatient units or by the emergency services of the four hospitals of the Group. The HCP/CHG operates through home visits involving minimum core teams, composed of physicians, nurses and nursing assistants, and it is supported by physiotherapists, social workers and nutritionists. The aim of HCP/CHG is to support patients in their homes in order to complete their health treatment, reduce overcrowding in emergency facilities, perform the transition from hospital care, and to guide and assist patients and their families. The monitoring period is thirty days on average. After clinical stabilization and the establishment of the care plan, the patients are discharged from the Program and relinked to their primary health care unit.

Considering the needs of the patients and their demands for nursing health services, this study aimed to characterize the profile of adult patients supported by HCP/CHG and to assess their demands for nursing care.

METHODS

This is a descriptive exploratory study, in which a retrospective data collection was

extracted from a convenience sample consisting of all patients admitted to the HCP/CHG between January 2011 and December 2012.

Data were collected in the HCP/CHG database and in the electronic records of patients through a standardized form of data collection that was developed by the researchers. This form included socio-demographic data and features that were related to the HCP/CHG service.

Among the socio-demographic characteristics, data related to age, sex and the reference primary care unit of the patients was collected. The units of reference were grouped into three categories, based on Brazilian primary health care criteria: Basic Units, Units of the Family Health Care Strategy (both from the Municipal Health Authorithy)and also Health Care Units administered by CHG.

The data with regard to the HCP/CHG service were: duration of home care (days of monitoring by the program); number of home visits; outcome (rehospitalization, death or discharge by the referral health care unit) and a medical diagnosis provided by International Classification of Diseases 10 (ICD 10). The most frequent infections were analyzed separately. Where the main ICD was referring to the use of some support technology or need for procedure, we used the secondary ICD and the information available in the electronic record.

Whereas the inclusion of patients in the HCP/CHG is done subsequent to consulting with Medical Services, the origins of patients regarding the Hospital units was also analyzed.

As for nursing care, we collected information available in the database. This information was about use of intravenous, subcutaneous and/or intramuscular medication; gastrostomy, jejunostomy or nasoenteric probe; need for urinary catheter; management of colostomy, urostomy and/or tracheostomy; need for airway aspiration and management of wounds/ulcers during the follow-up period.

The study was approved by the Ethics and Research Committee of Conceição Hospital Group under number 202,473/2013. An Instrument of Consent was not required since it was research carried out on a database and electronic medical records. Throughout the study, the confidentiality and anonymity of the data was ensured, respecting the conditions of Resolution 466/2012[7].

Data were stored in an Excel spreadsheet and analyzed by a statistician by means of the software SPSS 18.0. Descriptive statistics for the analysis and presentation of data were used. The normality of variables was analyzed by means of the Kolgomorov-Smirnov test. For the parametric quantitative variables, the mean and standard deviations were calculated; for the quantitative non-parametric variables, the median and interquartile range (P25-P75) was also calculated; for the categorical variables, absolute and relative frequencies (percentage and number of patients with the characteristics analyzed) were calculated.

RESULTS

Sociodemographic Profile

Eight hundred and twenty-six adults were supported by HCP/CHG in 2011 (n=438, 53%) and 2012 (n=388, 47%), among whom 445 (53.9%) were female. All were included in the study. The average age of the patients was 62.66±18.31 years, and the most prevalent age group was above 65 years (n=418, 50.6%), followed by the age group 51 to 64 years (n=230, 27.8%).

Regarding the referral primary health care units (Table 1), 381 patients (46.12%) belonged to the catchment area of the Basic Health Care Units (BHCU) of the Municipal Health Authority, while 118 (27.60%) belonged to the Health Care Units (HCUCHG) administered by the Conceição Hospital Group.

Table 1- Distribution of patients admitted to the HCP in 2011 and 2012 according to the referral healthcare unit. Porto Alegre, 2013.

Reference health units	%	n
Community Health CHG	27,60%	228
BHU	46,12%	381
ESF	14,28%	118
Health Center	6,90%	57
Out of area	4,72%	39
Not registered	0,38%	3

Source: HCP/CHG database.

Characteristics related to the participants cause of hospitalization and attendance on the program

Table 2 presents the distribution of specialists who have referred patients for HCP/CHG in the period selected for this study. It can be seen that the internal medicine (33%) and the emergency (22.6%) units have forwarded the greatest number of patients to the HCP/CHG.

Table 2- Distribution of specialties that have referred patients for HCP in the years 2011 and 2012. Porto Alegre, 2013.

Specialty	n	%
Internal Medicine	277	33%
Emergency	187	23%
Neurology	95	11%
Vascular surgery	65	8%
Gynecology and obstetrics	48	6%
Outhers	154	19%

Source: HCP/CHG database.

The main reasons for monitoring in the HCP/CHG Program, considering the diagnoses presented in the discharge report of the Program, were embolism and thrombosis (10.9%), cerebrovascular accident (stroke - 10.3%), pneumonia (8.4%), neoplasm (7.5%) and diabetes mellitus (DM - 7.3%), as detailed in Table 3.

Table 3 - Distribution of main ICDs of hospitalizations in the years 2011 and 2012. Porto Alegre, 2013.

Main CID	n	%
Embolism and thrombosis	90	10,9
Encephalic vascular accident	85	10,6
Pneumonia	69	8,7
Neoplasia	62	7,5
Diabetes mellitus	60	7,3
Cardiac disorders	52	6,3
Urinary tract infection	49	5,9
Chronic Obstructive Pulmonary Disease	40	4,8
Skin Infections	33	4
Outhers	286	34

Source: HCP/CHG database.

The median follow-up period of patients in the HCP/CHG was 21.5 days (13-36) and the number of visits made by the home care team averaged was 5.0 (3.0 to 8.0).

As for the outcome of monitoring in the HCP/CHG, 629 patients (76%) were discharged from the Program and were referred to their primary health care units of reference, 17 (2.05%) were administratively discharged, 22 (2.7%) died and 156 (18.9%) required rehospitalization. Among the deaths, 40% (n=9) had underlying pathologies such as neoplasm and pneumonia, and were predominantly over 65 years of age (n=18, 82%). Among those who required hospital re-admission (n=156), the main underlying pathologies were neoplasia (n=22, 14%), pneumonia (n=21, 13%) and stroke (n=19, 12%). As to the age of this group of patients, most were older than 50

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years (n=142, 91%), and 57% (n=89) were over 65 years.

Characteristics related to nursing care

During the study period, the main nursing demands of patients admitted to the HCP/CHG were dressing (n=268, 32.4%), blood glucose levels monitoring (n=163, 19.7%) and anticoagulation laboratory control (n=125, 15.1%). 14.9% of patients (n=123) required handling of nasoenteric tubes, while 8.7% (n=72) required administration of intravenous medication, as detailed in Table 4.

Table 4 – Distribution of nursing care in the years 2011 and 2012. Porto Alegre, 2013.

Characteristics	n	%
Wound Dressing	268	32,4
Capillary glycemic control	163	19,7
Anticoagulation control	125	15,1
Nasoenteric sonda	123	14,9
Endovenous medicament	72	8,7
Subcutaneous medicament	55	6,7
Indwelling urinary catheter	48	5,8
Airway aspiration	43	5,2
Use of oxygen	25	3
Gastrostomy	21	2,5
Intramuscular medicament	13	1,6
Colostomy	7	0,8
Jejunostomy	3	0,4
Urostomy (yes)	3	0,4

Source: HCP/CHG database.

DISCUSSION

The data regarding age and gender observed in this study - predominantly of women and older adults - are similar to another study found in the literature about the use of HC services in Brazil[8]. The study conducted in the HC service in the city of Montes Claros (MG) revealed a higher prevalence of women (54.7%) and patients aged between 61 and 80 years (37.2%)[8].

The predominance of women among patients of EE services observed in studies conducted in Brazil, is also described in six rural towns in Japan[9]. The high prevalence among elderly patients of HCP/CHG is similar to that found in national and international relevant literature[8,9]. This is possibly explained by the aging population, the increased occurrence of chronic diseases and, consequently, greater demand for hospital care and use of other health services in this age group.

The HCP/CHG promotes an interface between tertiary (hospital) and primary health care, as upon discharge from the Program, patients are referred to their primary health care units. Given the difficulty associated with patients' access to primary care, the HCP/CHG acts to accomplish this transition between hospital and the healthcare unit through communication established between services during or at the end of monitoring, ensuring the continuity of care. Almost half of the individuals who participated in the study were covered by the Basic Health Care Units of the Municipal Health Authorithy, while about a third used the health care units associated with the CHG. It is noteworthy, in this context, that home care acts as an articulation mechanism between hospital services and the basic health care units[1] in order to provide an opportunity for comprehensive care, since the scarcity of communication between these services favors the segmentation of care, and reduces its ability to meet the specific needs of the user[10].

The emergency rooms and Internal Medicine inpatient units of four CHG hospitals were those that most requested consulting by the HCP/CHG. The fact that patients are referred by general care units points to a great clinical conditions diversity among the patients of the Program. Indeed, the underlying pathologies

of the hospitalized patients with regard to the HCP/CHG during the study period were quite varied. The analysis of the HC service in Montes Claros (MG),as previously cited, also identified a diversity of diagnoses - twelve kinds of underlying diseases were described, totaling 41% of the pathologies presented by the patients who were evaluated. Pneumonia and diabetes mellitus were the most prevalent[8].

Among the diagnostic causes for admission in HCP/CHG, embolism and thrombosis were the main issues. This finding is explained by the fact that the HCP/CHG is a reference unit within the Conceição Hospital Group for oral anticoagulation prophylaxis and treatment. In addition, thromboembolic events such as deep vein thrombosis, pulmonary embolism and stroke are more prevalent in the elderly[11], the predominant sample age group.. Moreover, the presence of stroke as a second most common cause for diagnostic monitoring in HCP/CHG is consistent with the global reality, since cardiovascular diseases affect about 17 million people worldwide[12]. Neoplasms and diabetes mellitus were also frequent reasons for hospitalization, which corroborates the epidemiological profile of these clinical conditions in the population. Data for the Brazilian Surveillance of Risk and Protective Factors for Chronic Diseases (VIGITEL) from 2011 suggest a prevalence of diabetes mellitus in 5.6% of the population, in which case it is higher in the elderly, women, and individuals with less education, common features of the HCP/CHG patients [13]. In relation to neoplasms, according to the global report of non-communicable diseases of the World Health Organization (WHO), cancer will become a major cause of morbidity and mortality in all regions of the world in a few decades[12]. The same report demonstrates the increased incidence of cancer - 12.7 million new cases in 2008 to 21.4 million in 2030. This fact was related to different causes, including increased life expectancy and population aging[12].

The hospitalization average length of HCP/CHG patients was 21.5 days, and the number of visits made by the home care team was 5.0. Most patients were discharged from the Program and were redirected to their health care unit. Approximately 3% of patients died, and 19% required rehospitalization. The main causes of death and rehospitalization are consistent with the WHO data, which indicate cardiovascular diseases, neoplasms, chronic respiratory diseases and diabetes as the main causes of global mortality due to non-communicable diseases[12]; and pneumonia as one of the central causes of hospitalization among the infectious diseases.

The demands on nursing within HC are numerous. In the present study, the main ones were dressing wounds and blood glucose monitoring. The predominance of older adults patients and pathologies associated with greater physical dependence among the patients of the sample, can justify the need for specific nursing care. The assistance provided by the nursing staff, regardless of demand, contributes to a better patient care and to a solution for patients' problems. A systematic review has shown positive results in terms of the home care performed by nurses in relation to the recurrence of leg injuries, caregiver burdenand global health issues[14]. Another piece of research has also shown positive results on terms of reducing mortality in the elderly population, in general, through home care visits (RR: 0.76, CI 0.61 to 0.89)[14]. Therefore, we highlight the key role of nurses who are prepared to deliver home care, which allows the provision of care consistent with

social reality through guidance to patients, caregivers and family, without disregarding the uniqueness of the elements involved in home care, but with mutual and simultaneous support[15].

Different nursing actions were provided for patients of the HCP/CHG during the study period. Therefore, the implementation of the home care plan points to a potential benefit to the patient, since nurses guide and adapt the home, in order to empower patients and caregivers in terms of effective care, adapting existing resources to the needs of the individual. It is also noteworthy that often different nursing demands are common to the same patient. This leads to a greater complexity of care, and its determination (within the profile and in terms of the patient's social status) of the basis for nursing care, and to the need for guidelines and training for patients and carers.

The classification of care complexity allows the prioritization of attention with regard to cases that require greater resources in terms of health services and with regard to the monitoring of the multidisciplinary team. It is one of the determining factors mentioned in the Home Care Guidelines of the Brazilian Ministry of Health for eligibility of the individual concerning HC services[1]. The HC modalities established by it include the home care performed by the primary health care team. This modality looks after medically stable patients with a reduced need for health resources, and who are unable to go to the Health Care Unit (referred to as HC1); care provided by HC multidisciplinary teams is implemented to patients that requiring continuous monitoring (modality HC 2); and patients who require more complex care, such as oxygen therapy, ventilatory support, paracentesis and peritoneal dialysis are look after multiciplinary teams inmodality HC 3[1].

The present study provided us with an opportunity to characterize a representative sample of patients of HCP/CHG, which will contribute to a better management of care by the staff, particularly that care provided by nursing staff. The fact that the study was done by means of the collection of data in electronic databases and medical records can be a potential limitation, as such a methodology impedes standardization terms of data collection. Likewise, it was only possible to identify nursing interventions related to supporting technologies, need for dressing, and laboratory examinations.

CONCLUSION

The assistance provided by the nursing staff, regardless of demand, can improve the care provided to patients through continuity of care, and also helps to prevent readmissions. Longitudinal studies may help to confirm these inferences.

At the end of the follow up period conducted by the HCP/CHG, most patients were referred to their health care unit, reinforcing the role of the Program in promoting an interface between primary and tertiary care. This intervention is important in terms of strengthening the relationship of the patient with the network of primary health care.

The characterization of patients contributes to the literature on the subject, allowing greater insight into the profile of patients of HC public services, and may provide better qualified services.

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