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Original Article

Occupational therapy perspectives for patients with circulatory system diseases in medium complexity hospital care[1]

Perspectivas de terapia ocupacional na atenção aos usuários com doenças do aparelho circulatório no contexto hospitalar de média complexidade

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Abstract

Introduction: Circulatory System Diseases have become the leading causes of adult and elderly population mortality and hospitalization worldwide over the years. Such reality was observed in the prevalence of hospitalized patients due to these diagnoses in a University Hospital. **Objective:** This study aimed to describe and analyze the occupational therapeutic strategies developed by Occupational Therapy in a medical clinic Ward of a medium-complexity hospital with this population during hospitalization. **Method:** The research has an exploratory and retrospective qualitative character, carried out between June and September 2019, based on documentary research referring to the Occupational Therapy records and the discharge summary of patients from 2014 and 2018. **Result:** Forty-six of 200 medical records selected with Diseases of the Circulatory System were analyzed. Most of them were male and over 60 years old and about half 22 (49%) reported diseases related to stroke. All participants showed some degree of dependence in the Modified Barthel Index. The themes and occupational therapeutic strategies were diversified and focused on functionality, subjective aspects of the patients, multi-professionality, and follow-up in the service network, and out-of-hospital care. **Conclusion:** Occupational Therapy favored the development of therapeutic strategies centered on the patients' demands from the perspective of humanization and comprehensiveness of care in line with SUS principles and guidelines and contributed to the expansion of knowledge about the contribution of Occupational Therapy in people's care who have CAD in the context of hospitalization.

Keywords: Occupational Therapy, Hospitalization, Chronic Diseases, Humanization of Assistance, Integrality in Health, Patient Care Team.

[1]All ethical procedures were followed to carry out the study and it was approved by the Research Ethics Committee, protocol No. 365/2013. The study is part of research and intervention.

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Resumo

Introdução: As Doenças do Aparelho Circulatório têm se configurado ao longo dos anos como as maiores causas de mortalidade e hospitalização de adultos e idosos em todo o mundo. Tal realidade foi observada na prevalência de usuários internados em um Hospital Universitário. **Objetivo:** Descrever e analisar as estratégias terapêuticas ocupacionais desenvolvidas com adultos e idosos hospitalizados com Doenças do Aparelho Circulatório. **Método:** A pesquisa tem caráter qualitativo exploratório e retrospectivo, realizada entre junho e setembro de 2019, com base em pesquisa documental referente aos registros dos prontuários de terapia ocupacional e o resumo de alta hospitalar de usuários acompanhados no Hospital Universitário da Universidade de São Paulo, no período de 2014 e 2018. **Resultados:** Dos 200 prontuários selecionados, foram analisados 46 registros de usuários com Doenças do Aparelho Circulatório, sendo a maioria do sexo masculino e acima de 60 anos, e cerca da metade, 22 registros, apontaram doenças relacionadas ao Acidente Vascular Cerebral. Quanto ao Índice de Barthel Modificado, todos apresentaram algum grau de dependência. Os temas e as estratégias terapêuticas ocupacionais se mostraram diversificados e voltados para funcionalidade, aspectos subjetivos dos usuários, multiprofissionalidade e seguimento na rede de serviços e cuidado extra-hospitalar. **Conclusão:** A terapia ocupacional favoreceu o desenvolvimento de estratégias terapêuticas centradas nas demandas dos usuários na perspectiva da humanização e da integralidade do cuidado em consonância com os princípios e diretrizes do SUS e colaborou para a ampliação do conhecimento sobre a contribuição da terapia ocupacional na atenção de pessoas que possuem DAC no contexto de hospitalização.

Palavras-chave: Terapia Ocupacional, Hospitalização, Doenças Crônicas, Humanização da Assistência, Integralidade em Saúde, Equipe de Assistência ao Paciente.

Introduction

Over the past few decades, it was possible to identify changes in the population's morbidity and mortality profile. After the technological and industrial revolutions, which ensured more effective treatments for the survival of people with potentially fatal diseases, added to the growing phenomenon of population aging, there is now a predominance of diseases and deaths due to chronic non-communicable diseases (NCDs), such as cardiovascular, respiratory diseases, cancers, diabetes, among others (Malta et al., 2015). NCDs in Brazil and other countries are a major health problem since they are responsible for 72% of the population's causes of death. Within this group, 31.3% correspond to Circulatory System Diseases (CSD) (World Health Organization, 2011). Each year more people die from CSD than from any other disease (World Health Organization, 2018). These diseases affect individuals from all socioeconomic strata. However, vulnerable groups, such as individuals with low education are more strongly affected. Most deaths from NCDs are attributable to CSD, neoplasms, and chronic respiratory diseases (Istilli et al., 2020).

The circulatory system, also known as the cardiovascular system, is formed by the heart and blood vessels. It is responsible for transporting nutrients, oxygen, hormones, and lymphatic fluids to different parts of the body. In 2017, the diseases that affect this complex system in the municipality of São Paulo corresponded to about 19% of deaths (Brasil, 2018a) and 12% of hospital admissions (Brasil, 2018b). For Soares et al. (2018), CSD is currently the main cause of mortality, corresponding to approximately one-third of all deaths worldwide.

The study by Marques & Confortin (2015) pointed out that CSD was the main cause of hospitalization in the elderly population between 2003 and 2012, in Brazil. The survey also indicated that, during this period, the rate of CSD hospitalizations was higher in men in southern Brazil.

CSD are the main cause of morbidity and mortality in Brazil and the world, highlighting strokes, coronary heart disease, and systemic arterial hypertension (SAH) (Brasil, 2006). SAH is a multifactorial clinical condition with high and constant blood pressure levels. It is an important risk factor since it is the most frequent cause of CSD. The main risk factors for CSD found widely in the literature are smoking, physical inactivity, unhealthy eating, and alcohol consumption (Malta et al., 2015).

Treatment for CSD is very long, burdening individuals, families, society, and health systems (Brasil, 2011; Marques & Confortin, 2015). CSD are diseases whose control and prevention have been a challenge for the health professionals and the managers of the different services at SUS, as they remain the main cause of population mortality and have a significant impact on the quality of life and productivity of the adult population (Cesse et al., 2009).

Considering the prevalence of CSD in the hospital, both in mortality and in the treatment of acute symptoms resulting from this group of diseases, we need to emphasize the importance of multidisciplinary care in intra and extra hospital care (Brasil, 2006). The National Hospital Care Policy (*PNHOSP*) (Brasil, 2013) proposes a model of care centered on patient care with a multidisciplinary and interdisciplinary approach (Brasil, 2013). The multi-professional team must be composed of different professions: Nutritionists, Nurses, Doctors, Physiotherapists, Occupational Therapists, Psychologists, Social Workers, among others. In the context of hospitalization, the team is often mediators of the occupational therapist's contact with the patient, requesting care and partnerships in the case discussions and joint actions (Pereira et al., 2020).

In the hospital context, occupational therapy care focuses on activities and daily activities, and health care due to the different manifestations and discontinuities of illness and hospitalization (Galheigo, 2008). The opportunity to re (build) and (re) significance of the occupational history of the patient, family, and caregiver, and the promotion of quality of life and functionality stand out to face possible disabilities and difficulties from hospitalization. (De Carlo et al., 2018).

Furthermore, considering that CSD is a chronic disease, we need to value discharge planning as an indispensable action for comprehensive care during hospitalization and after discharge (Toldrá et al., 2019). We also emphasize the contribution of occupational therapy to the reduction of readmissions, length of hospital stays, and complications from diseases (Galheigo & Tessuto, 2010). Therefore, the approaches in the health-disease process during the hospitalization process must be in line with the integrality and humanization of care; guiding health practices proposed by the Unified Health System (SUS) (Galheigo, 2008).

The Federal Council of Physiotherapy and Occupational Therapy (*COFFITO*) reaffirms that the occupational therapist acts in hospital contexts for the prevention, promotion, protection, education, intervention, and rehabilitation. The procedures provide for evaluation, intervention, and guidance, which must cover the patient/family member and caregiver (Brasil, 2014).

As explained and considering the complexity of CSD disorders, the high prevalence, and the need for greater visibility on the contribution of occupational therapy care to this population, this study aims to describe and analyze the occupational therapeutic strategies developed by occupational therapy in a medical clinic ward of a University Hospital (UH) of medium complexity in the city of São Paulo with the adult and elderly population hospitalized for CSD.

Methodological Process

This research has a qualitative character with an exploratory, retrospective approach, using the document analysis procedure as a data collection procedure. Qualitative exploratory research is a method aimed to describe the way a given phenomenon occurs. Through this method, we expect to obtain a deeper understanding of the object of the research, which has been little or not analyzed so far (Gil, 2008). Documentary research refers to any written material used as a source of information on human behavior (Minayo, 2007).

The documents analyzed were occupational therapy records and the discharge summary from the University Hospital of the University of São Paulo. The medical records were developed by occupational therapists who are part of the Multi-professional Residence in Health Promotion and Care in Hospital Care - concentration area for Adults and the Elderly People at the Department of Physiotherapy, Speech Therapy and Occupational Therapy at the University of São Paulo.

The occupational therapy records contain the assessment, the description of the appointments, and the discharge summary. The evaluation includes the Modified Barthel Index (MBI) used to assess functional capacity in carrying out Activities of Daily Living (ADL). The ADLs contemplated in the MBI are food, bath, clothing, personal hygiene, intestinal eliminations, bladder eliminations, use of the toilet, dressing, and undressing, transferring the bed chair, walking, and going up and down stairs (Shah et al., 1989). MBI tracks individuals' dependency according to a score of 0-100 and classifies it as total dependence (25 or fewer points), severe dependence (50-26 points), moderate dependence (75-51 points), mild dependence (99-76 points) and totally independence (100 points) (Shah et al., 1989). The medical record contained social and demographic, family, occupational and professional history; patients' expectations, habits, attitudes, expressions, and speeches; therapeutic approaches such as guidelines and techniques used; interaction with the team; referrals to the network of services and clinical information from clinical records (Pereira et al., 2020).

The documentary research was carried out between June and September 2019, based on a study of medical records of adult and elderly patients attended by occupational therapy at the medical clinic of the UH-USP. The selected medical records were from 2014 to 2018, totaling 200 medical records.

The inclusion criteria for conducting the research were the medical records of adult and elderly patients diagnosed with CSD, included in chapter IX of the ICD,

specifically in the range I10-I79, as they are more frequent in the population (World Health Organization, 2011, 2018) and correspond to the largest volume of medical records of patients in the studied period. We excluded medical records with diagnoses of diseases listed in the range I00-I15 and I70-I99 as they are less frequent both in the population and in the medical records studied. Thus, we excluded 154 of the 200 medical records consulted as they corresponded to other types of diagnoses other than CSD. Thus, we included 46 medical records diagnosed with CSD.

We analyzed the records of assistance provided by occupational therapy based on the method of thematic content analysis, described by Minayo (2007), according to the steps described: pre-analysis, material exploration, and treatment of results and interpretation. We described and grouped the data referring to occupational therapeutic strategies by thematic categories to systematize the information and reflections based on SUS references: guidelines and policy actions and plans related to humanized care for people with disabilities, chronic non-communicable diseases (CNCD), assistance in the scope of medium and high complexity and the production of occupational therapy in hospital contexts. The study is part of a broader study approved by the Research Ethics Committee of the Faculty of Medicine of the University of São Paulo with an opinion of nº 365/2013.

Results

The analysis of the medical records selected for this research shows the population affected by CSD in the UH and the practices developed by occupational therapy. The results show the clinical, sociodemographic data of patients and the themes and occupational therapeutic strategies used during the hospitalization process.

We analyzed 46 medical records of patients with CSD treated by occupational therapy. As for the main clinical diagnoses of patients hospitalized for CSD in the UH, we identified in the documents that about half of the medical records, 22 (47%), indicated diseases related to stroke, either the stroke or sequelae, as shown in Table 1. In low- and middle-income countries, more than three-quarters of heart disease and death are related to stroke (World Health Organization, 2018).

Table 1. Main clinical diagnoses of patients hospitalized for CSD at the UH of the University of São Paulo from March 2014 to July 2018. São Paulo, 2019.

ICD 10	Description	n=46	%
I50.0	Congestive heart failure	7	15.21
I63	Cerebral infarction due to thrombosis of pre-cerebral arteries	8	17.39
I64	Stroke not specified as hemorrhagic or ischemic	22	47.82
I67.6	Non-pyogenic thrombosis of the intracranial venous system	1	2.17
I69.4	Sequelae of stroke not specified as hemorrhagic or ischemic	4	8.69
I82.8	Embolism and thrombosis of other specified veins	2	4.34
I82.9	Unspecified vein embolism and thrombosis	2	4.34
TOTAL		4699.96	

Source: Clinical records of the University Hospital of the University of São Paulo, 2019.

Table 2 shows the survey of medical records with a prevalence of CSD in males, in individuals with fewer years of education, and the elderly population. As for the evaluation of MBI, about half of the patients, 22 (47%), assisted by occupational therapy in the ward were dependent (score less than 25 points) or severely dependent (26-50) for the performance in the ADLs. Regarding the follow-up at the Basic Health Unit (UBS), 27 (60%) of the patients regularly used the service, while 18 (40%) declared that they did not use the UBS, indicating difficulties for the continuity of care after hospital discharge.

Table 2. Social, demographic, and clinical profile of hospitalized patients at the medical clinic ward of the UH of the University of São Paulo. Sao Paulo, 2019.

Gender	**n=46**	**%**
Female	20	43
Male	26	57
Age	**n=46**	**%**
20 ≤ 39	4	8.69
40 ≤ 59	11	23.91
60 ≤ 79	18	39.13
80 ≤ 100	13	28.26
Education level	**n=46**	**%**
Between 0 and 4 years	8	17.39
Between four and eight years	17	36.95
Between nine and 11 years	6	13.04
Higher Education	13	28.26
Without information	2	4.34
Modified Barthel Index	**n=46**	**%**
Under 25 points	10	21.73
Between 26 and 50 points	12	26.08
Between 51 and 75 points	14	30.43
Between 76 and 99 points	10	21.73
UBS patients	**n=46**	**%**
Female	20	43
Male	26	57
TOTAL	**46**	**100**

Source: Occupational therapy records of the Multi-professional Residence in Health Promotion and Care in Hospital Care - Adult and Elderly population at the University Hospital of the University of São Paulo, 2019.

Table 3 shows the different occupational therapeutic strategies adopted by occupational therapy to meet the needs of patients during the hospitalization period. The strategies covered the patient, the family, and/or caregiver, and aimed at multi-

professional actions to enhance the interventions developed in the hospitalization process and the follow-up of care after discharge.

Table 3. Thematic approach and occupational therapeutic strategies developed with adults during hospitalization at the UH of the University of São Paulo. Sao Paulo, 2019.

Theme 1 - Approach on aspects of patient´s functionality
Evaluation
Stimulation of bodily functions
Guidelines and facilitation for mobility and bed positioning
Guidelines on energy conservation principles and techniques
Strategies for organizing routine in the hospital
Theme 2 - Approach on the subjective aspects of the patient
Support for clarifying the situation of illness
Welcoming the feelings of anxiety and anguish of the family member and/or caregiver
Identification and contact with the support network
Strategies for changing habits and self-care
Identification of expressive activities of interest to the patient
Survey of domestic, work, and leisure activities
Theme 3 - Approach on multi-professional and follow-up in the service network
Facilitating meetings between the team, patients, and family
Meetings with hospital staff for comprehensive patient care
Joint assistance with the team
Guidance on the continuity of treatment after discharge from the service network
Theme 4 - Approach on the extra-hospital care after discharge
Possibilities for routine reorganization
Guidelines for the care and use of devices
Guidance and delivery of instructional and informative booklets

Source: Occupational therapy records of the Multi-professional Residence in Health Promotion and Care in Hospital Care - Adult and Elderly population at the University Hospital of the University of São Paulo, 2019.

Discussion

In line with the World Health Organization (2011), stroke was the diagnosis most frequently found in the UH of the University of São Paulo among the CSDs. Most patients attended were elderly men, had high levels of dependence, and a few school years, a profile similar to that indicated by the Ministry of Health (Brasil, 2011).

The occupational therapist during hospital care considers determinant aspects during the hospitalization period, which impact the person's daily life, which is: chronological age, stage of development in the life cycle, limitations or disabilities that can affect the patient from the disease, environmental (physical, social and cultural) and temporal factors (Santos & De Carlo, 2013).

In the medical records on the care developed by occupational therapy, we identified 4 thematic categories: approach on aspects of the patient's functionality; approach on the subjective aspects of patients; approach on multi-professionality and follow-up in the service network; approach on extra-hospital care after discharge. Each theme corresponded to different occupational therapeutic strategies developed below.

Approach on aspects of patient´s functionality

Based on the evaluation process, the study showed that occupational therapists sought to identify the patients' difficulties and outline the objectives to be addressed in the care, and involve members of the professional team. In the evaluation, we addressed aspects related to hospitalization, illness process, self-care activities during hospitalization, and previous activities carried out before hospitalization to favor the expression of expectations and doubts of patients and map vulnerabilities, since this period is experienced uniquely.

According to Brasil (2008), diseases that affect the circulatory system have highly disabling potential. The main sequelae are hemiplegia, loss of strength, difficulty in expressing, urinary and fecal incontinence, confusion, and memory loss, among others. Bearing in mind that 22 (49%) of the 46 medical records analyzed were from patients affected by stroke (Table 1), care with the limitations described above is essential so that rehabilitation and improvement of functional capacities are possible as soon as possible.

Brasil (2013) points out that, during the period of hospitalization, specialized care by the rehabilitation team should be started as early as possible to avoid possible complications resulting from the hospital stay, added to the disease. Thus, changes in body functions such as *sensory functions* (tactile, pain, and body perception, among others), *neuromusculoskeletal and movement-related functions* (joint mobility, muscle strength, tone, paresis, neglect, among others), and *mental functions* (attention, memory, spatial/temporal orientation, among others) guided the conduct of occupational therapeutic intervention. Table 3 describes that the professionals adopted different therapeutic strategies, aiming at hospital care, rehabilitation, and home return, among other aspects.

The knowledge of occupational therapists on approaches to the *stimulation of bodily functions* has been configured as a resource to minimize pain, edema, changes in sensitivity and mobility, among other symptoms presented by patients. In line with these demands, occupational therapists adopted sensory stimulation techniques with materials of different textures, retrograde massages, and self-massages to reduce edema, breathing exercises, active and passive limb mobilization, activities to increase muscle strength and range of motion, relaxation and body awareness techniques (Santos et al., 2018). Such therapeutic strategies have been used with significant frequency by occupational therapists as strategies aimed at functionality and minimizing symptoms.

Technical interventions to *stimulate cognitive and executive functions* took place through games, use of calendars, activity tables, newspaper articles, which helped to recover significant data for patients related to personal life, events in the economy, politics, sports, among others. Like the other professionals of the multidisciplinary team of the UH, occupational therapy residents used strategies aimed at f*acilitating mobility and positioning in the bed and in armchairs*, through changes in decubitus and use of materials, such as rolls and pillows to increase comfort and prevent deformities. Occupational therapists' knowledge about bed angulation, postural adequacy, changes in decubitus, prevention of pressure injuries, care with intravenous accesses, among other aspects, were essential for performing the positioning procedure during hospitalization. Associated with the positions, *energy conservation principles and*

techniques were used and taught for greater comfort, safety, and functionality for carrying out activities, well-being, and preventing possible injuries.

Table 2 shows that 30 (46%) of the patients attended were elderly, and all (100%), according to the MBI screening, had some degree of dependence for performing ADLs. With the degree of dependence of patients, occupational therapists sought, together with the patient, family/caregivers, and staff, *strategies for the organization of routine in the hospital*, facilitating self-care, and encouraging leisure activities. Some of these strategies identified in the medical records were walks in the infirmary, invitations to watch television, asking the companion to bring personal objects to the hospital, such as radios, cell phones, notebooks, books, makeup, among others. In this way, occupational therapeutic interventions can result in benefits related to improving functionality, independence, and stimulating human development (Santos & De Carlo, 2013).

Approach on the subjective aspects of the patient

Hospital care has the challenge of humanizing care. This process, contrary to the doctor-centered, requires several actions from hospital institutions, such as teamwork, valuing different knowledge, right to a caregiver, among other aspects pointed out by the National Humanization Policy (*PNH*) (Brasil, 2004). Occupational therapists highlight the bond as essential for care in the hospital (Galheigo & Tessuto, 2010), given that hospitalization and the fragilities of health status generate a rupture in the daily lives of individuals and the hospital environment becomes little conducive to the elaboration of stress arising from this condition (Santos & De Carlo, 2013). Thus, the relational aspects are considered actions that act in the adaptation and comfort in the hospitalization process (Aniceto & Bombarda, 2020). The occupational therapist, acting in the perspective of humanization and patient-centered practices, can enhance the development of strategies with the patient and the team to allow new experiences for coping with hospitalization using welcoming procedures, active listening, and use of different activities (Santos & De Carlo, 2013; Santos et al., 2018).

According to Table 3, occupational therapists carried out different strategies during hospitalization to respond to the subjective demands presented by the patients, family members, and/or caregivers. In the process of monitoring the patient, the occupational therapist sought to provide the expression of expectations and identification of beliefs, values, activities of interest, among other aspects that can reverberate in the hospitalization experience. Considering that many patients were unaware of their diagnoses and prognosis, one of the initial strategies was to support clarification regarding the situation of the illness in an accessible language, to allow them to understand their current health status, considering that most of them had low education. Thus, knowing the factors that may have caused the illness and understanding the health and disease process, the patients can reframe their hospital process and develop strategies to cope with adversities (Santos et al., 2018; Brasil, 2004). We highlight the occupational therapist's relevance in addressing and understanding the patient's suffering due to the complex experience related to illness and hospitalization (De Carlo et al., 2018).

We could identify in the records that occupational therapists on several occasions enabled the participation of the team, spaces for discussion with patients and caregivers to favor the reception of feelings of anxiety and anguish. Given the fragility of the patient's clinical condition, the family's lack of preparation to deal with the patient's health condition and, in many situations, the denial of the prognosis, the team, the patient, and family members had meetings to demand a welcoming and empathetic attitude by the professionals. The possibility of meeting these actors involved in patient care can answer complex identified demands, such as non-acceptance of the disease and discharge given the prognosis, delicate family decisions, such as the continuity of invasive procedures in situations in which the prognosis is not favorable, for example, agreements and goodbyes.

Given that, the more strengthened the support networks are, the greater the chances of healthy coping with the disease (Andrade & Vaitsman, 2002), professionals in their interventions sought to know the social support network of patients for *identification and contact with the network* when needed. Thus, recognizing the challenges and potential of patients' social support networks was important to support the coping with difficulties resulting from the health-disease process and hospitalization.

In the interventions, according to the documentary record, the patients and their families discussed *strategies for changing habits and adopting self-care measures* during hospitalization and routine life, such as regular engagement in physical activities, participation in groups at the UBS, reinforcement in the routine guidelines for adapting eating habits, and greater involvement of the patient in their health process. Such strategies were fundamental, considering that factors such as physical inactivity, smoking, high blood pressure, among other conditions, are risk aspects for the development and worsening of CSD (Brasil, 2011). Thus, the occupational therapeutic process during hospitalization led to a reflection on the care of patients with their health and life habits, which was configured as a powerful resource for their co-responsibility in the prevention of possible injuries and health care.

Considering the obstacles that hospitalization can cause, in their interventions, occupational therapists explored the *identification and use of expressive activities* of the patient´s interest. We identified painting, crochet, drawing activities, among others that enabled the reduction of stressors from hospitalization, and favor the stimulation of motor, sensory, and cognitive functions in a more integrated manner. According to Santos et al. (2018), expressive activities change the focus of the disease to the promotion of life as it allows the increase of the occupational repertoire, the expression of feelings and interests, the development of skills and care.

Since the evaluation process, the valorization of the occupational history allowed the occupational therapy professionals to *survey the domestic, work, and leisure activities* carried out and to rescue patients' projects that due to physical and health restrictions needed to be reorganized during and often after the hospitalization period. This rearrangement could be facilitated with the use of assistive technologies, with specific adaptations, according to the particularities of the person (Silveira et al., 2012).

Approach on multi-professionality and follow-up in the service network

The PNH (Brasil, 2004) provides for the establishment of multi-professional teams of reference for hospitalized patients. Thus, given the challenges in the treatment of CSD, we need multidisciplinary care during hospitalization and also in extra-hospital care (Brasil, 2006). For this, meetings with the different actors involved in hospitalization are necessary to enhance the care line of each service patient and his social support network (Brasil, 2004). In the dynamics of the UH, such meetings between staff, patients and family members often required the use of strategies to be made compatible due to shifts, schedules, among other aspects of the service. Thus, given the importance of team discussions, occupational therapy residents sought to *make meetings between the team, patients, and family members feasible* and, for that purpose, managed some difficulties, such as calling the family member and/or caregiver asking for their presence, negotiating with the team certain flexibility of visiting hours to favor the meetings.

After the worsening of a CSD, when patients needed to include in their routines the use of new medications to control pain, blood pressure, diabetes, among others, the records pointed out that occupational therapists frequently identified the need for meetings with the team for the comprehensive care of the patient, offering clarifications and information about the disease, health care and reduction of the patient's stress when diagnosed, and covering their different needs. Professional meetings of occupational therapy, nursing, doctors and pharmacists, patients, and family members participated for clarifications on the correct use of medications, guidance on dosage, regular use and storage of medications, preventing risk for other health problems. Occupational therapists also contacted the team to address social, emotional, and functional issues of assisted patients such as access to social security benefits, the possibility of purchasing devices to aid walking, devices to aid mechanical breathing, clarification of doubts about prognosis, among others.

Occupational therapists requested or were requested for *joint care with the team*, mainly with physiotherapists and speech therapists. Shared care potentiated interventions as more knowledge were added to better identify and meet patients´ demands. In these moments, gait training, sensory stimulation of the affected hemi-body, carrying out expressive activities to stimulate speech, writing, hearing, elaboration of instruments for alternative communication, among others, were facilitated.

Considering the importance of extra-hospital care, the patient's reference UBS was identified since the evaluation, favoring the continuity of health care, and the prevention of possible injuries. Thus, in the analyzed medical records, we could verify actions of *guidance for patients and/or caregivers about the importance of continuity of care* after discharge from the SUS service network. According to Table 2, 18 (40%) of the patients did not follow up at the Basic Reference Unit. Thus, reinforcing the importance of adherence to primary care was a fundamental guideline, since the risk factors for CSD such as high blood pressure, diabetes, and smoking are determinants of health widely assisted in Primary Health Care (Alves & Calixto, 2012).

As *PNHOSP* (Brasil, 2013) points out, there must be an articulation with the other points of the Health Care Network for the continuity of care. Thus, the importance of clarifying the maintenance of the link with the health services available in the community is highlighted, and the challenge of patients and family members due to the new responsibilities and tasks of care to be performed at home (Pereira et al., 2020). Therefore, as stated in the analyzed documents, for extra-hospital care, occupational therapists guided the patients on the continuity of care, and developed strategies such as writing reports with a brief description of the patient's health conditions and referrals to occupational therapy professionals who worked in other points of care, such as Psychosocial Care Centers and Specialized Rehabilitation Centers.

To mediate the patient's contact with the reference UBS, occupational therapists contacted services via telephone or through written *referrals*, describing the identified demand and making possible suggestions, such as: need to purchase a wheelchair, crutches, home monitoring, etc. Patients were informed about the possibilities of continuity of rehabilitation in Specialized Rehabilitation Centers (SRC), the participation of groups in Community and Cooperative Centers (*CECCO*), among other services in the network to contribute to the comprehensive care of the patient. When patients needed, they were also referred to the Multidisciplinary Support Group for High Multi-assistance Care (*GAMMA*), developed by residents in the UH of XXX. *GAMMA* proposes to favor referral and counter-referral mechanisms for patients who need rehabilitation follow-up after discharge (Toldrá et al., 2019). Follow-up is carried out by telephone contact, to contribute to referral and insertion of patients in the network of rehabilitation services through guidance, clarifications and welcoming patients in their specific rehabilitation demands and information on how to access services for carrying out the treatments indicated at discharge (Toldrá et al., 2019).

Approach on the extra-hospital care after discharge

Since CSD are chronic diseases, we highlight the importance of discharge planning as an indispensable tool for comprehensive care during hospitalization and after discharge (Toldrá et al., 2019). *PNHOSP* (Brasil, 2013) considers hospital discharge as a process in which care is transferred. Therefore, patients and family members need guidance regarding the continuity of treatment to promote the individual's independence and aiming at self-care. Thus, there is a need for guidance for the patient and his support networks regarding basic care, such as food, dressings, probes, activities of daily living, instrumental activities of daily living, mobilization, and movement, and the use of adaptations and/or technical devices (De Carlo et al., 2018).

With the scenario of changes in daily life, which may occur after discharge, occupational therapy professionals should articulate with the medical and nursing staff, the family, and the patient about *possibilities for routine reorganization* before the hospital discharge. One of the aspects of discharge that require attention is the reinforcement regarding the use of medicines. Since the irregular and improper use of medications can cause serious health problems, organizing medication

schedules, and their location in the home has been a resource to prevent possible errors and health complications.

Given the impossibility of some patients to live alone after discharge, meetings were held to discuss the patient's place of residence, since, after the worsening of a CSD, many patients had significant functional deficits. The Elderly Companion Program (*PAI*) is among the strategies proposed by occupational therapists to family members and/or caregivers. It is located in the city of São Paulo, which aims to support and accompany people over 60 who experience social, functional vulnerability, and economic problems.

For the extra-hospital routine, *guidance was given on the domestic environment* such as furniture adaptations, purchase of a wheelchair, bath chair, adapters for household items, support bars, among other devices aimed at preventing falls and preserving independence and functionality.

Occupational therapists provided family members and caregivers with *guidance and delivery of instructional and informative booklets* regarding the prevention of possible health problems and self-care strategies. The educational and instructive material facilitated the orientations with health promotion objectives. Since most of the patients, 26 (53%), had low levels of education, the information contained in the material was described in an accessible and objective language and the reading was carried out together with the patient and his family and/or caregiver. In this way, the printed booklets favor greater adherence to the guidelines, as they can be consulted later after their delivery, which helps people to better understand their health-disease process and use care and rehabilitation strategies (Pimentel & Toldrá, 2017).

Occupational therapeutic interventions performed during the hospitalization period show the contribution of occupational therapy in improving functionality and independence; in facilitating relationships in the hospital environment, to face this process; in favoring the return to daily activities and in the social participation of the patient, given the discontinuities resulting from the illness and hospitalization process.

Conclusion

The high incidence and prevalence rates of CSD are expressed in the study carried out at UH/USP since most patients assisted by Occupational therapy were men, older adults, people with low education, following official national and international data. Considering that hospitalization generates a situation of discontinuity in daily life and weakening of independence and autonomy, the insertion of occupational therapy professionals in this context favored therapeutic practices focused on patients' demands, in the perspective of humanization and comprehensive care in line with the *PNHOSP*.

Occupational therapists used several care strategies to stimulate and improve the functionality of patients due to the great possibility of limitations for carrying out the activities resulting from the sequelae of CSD, and those focused on the subjective dimensions of the context of hospitalization and illness. In their practices, the professional sought an approach focused on multi-professionality to

build possible joint interventions with other team professionals to enhance the assistance provided. Also, the actions involved hospital discharge, at which time the patient, family members, and/or caregivers were approached with resources for the continuity of care in the network, and home return strategies to favor security, independence, and autonomy.

As a limit of the research, we highlight that it was based on documentary analysis, with the occupational therapy medical records of patients who presented CSD. Thus, we consider that research with other methodological strategies should be implemented. However, we can recognize that the study contributed to the expansion of knowledge about the contribution of Occupational Therapy in the care of people who have CSD in the context of hospitalization.

References

Alves, B. A., & Calixto, A. A. T. F. (2012). Aspectos determinantes da adesão ao tratamento de hipertensão e diabetes em uma Unidade Básica de Saúde do interior paulista. *Journal of the Health Sciences Institute*, *30*(3), 255-260.

Andrade, G. R. B., & Vaitsman, J. (2002). Apoio social e redes: conectando solidariedade e saúde. *Ciencia & Saude Coletiva*, *7*(4), 925-934.

Aniceto, B., & Bombarda, T. B. (2020). Cuidado humanizado e as práticas do terapeuta ocupacional no hospital: uma revisão integrativa da literatura. *Cadernos Brasileiros de Terapia Ocupacional*, *28*(2), 640-660.

Brasil. (2004). *Política Nacional de Humanização. Relatório Final da Oficina HumanizaSUS*. Brasília: Ministério da Saúde. Recuperado em 3 de abril de 2018, de http://bvsms.saude.gov.br/bvs/publicacoes/oficina_nac_humanizaSus.pdf

Brasil. (2006). *Prevenção clínica de doenças cardiovasculares, cerebrovasculares e renais*. Brasília: Ministério da Saúde. Recuperado em 15 de março de 2018, de https://aps.saude.gov.br/biblioteca/visualizar/MTE5MQ

Brasil. (2008). *Política Nacional de Saúde da Pessoa Portadora de Deficiência*. Brasília: Ministério da Saúde.

Brasil. (2011). *Plano de ações estratégicas para o enfrentamento das doenças crônicas não transmissíveis (DCNT) no Brasil 2011-2022*. Brasília: Ministério da Saúde. Recuperado em 15 de maio de 2018, de http://bvsms.saude.gov.br/bvs/publicacoes/plano_acoes_enfrent_dcnt_2011.pdf

Brasil. (2013, 30 de dezembro). Portaria n° 3.390, de 30 de dezembro de 2013. Institui a Política Nacional de Atenção Hospitalar (PNHOSP) no âmbito do Sistema Único de Saúde (SUS), estabelecendo-se as diretrizes para a organização do componente hospitalar da Rede de Atenção à Saúde (RAS). *Diário Oficial [da] República Federativa do Brasil*. Brasília. Recuperado em 2 de junho de 2018, de http://www.saude.gov.br/atencao-especializada-e-hospitalar/assistencia-hospitalar/politica-nacional-de-atencao-hospitalar-pnhosp

Brasil. Conselho Federal de Fisioterapia e Terapia Ocupacional – COFFITO. (2014, 26 de abril). Resolução nº 445 de 26 de abril de 2014. Altera a Resolução-COFFITO nº 418/2011, que fixa e estabelece os Parâmetros Assistenciais Terapêuticos Ocupacionais nas diversas modalidades prestadas pelo terapeuta ocupacional. *Diário Oficial [da] República Federativa do Brasil*. Brasília, seção 1, p. 128-132.

Brasil. Departamento de Informática do Sistema Único de Saúde. (2018a). *Sistema de informação de mortalidade*. Recuperado em 3 de abril de 2018, de http://tabnet.datasus.gov.br/cgi/tabcgi.exe?sih/cnv/nisp.def

Brasil. Departamento de Informática do Sistema Único de Saúde. (2018b). *Sistema de Informações Hospitalares do SUS (SIH/SUS)*. Recuperado em 3 de abril de 2018, de http://tabnet.datasus.gov.br/cgi/deftohtm.exe?sih/cnv/niuf.def

Cesse, E. Â. P., Carvalho, E. F., Souza, W. V., & Luna, C. F. (2009). Tendência da mortalidade por doenças do aparelho circulatório no Brasil: 1950 a 2000. *Arquivos Brasileiros de Cardiologia*, *93*(5), 490-497.

De Carlo, M. M. R. P., Kebbe, L. M., & Palm, R. C. M. (2018). Fundamentação e processos da Terapia Ocupacional em contextos hospitalares e cuidados paliativos. In M. M. R. P. De Carlo, & A. M. Kudo (Orgs.), *Fundamentação e processos da terapia ocupacional em contextos hospitalares e cuidados paliativos* (pp. 1-33). São Paulo: Editora Payá.

Galheigo, S. M. (2008). Terapia ocupacional, a produção do cuidado em saúde e o lugar do hospital: reflexões sobre a constituição de um campo de saber e prática. *Revista de Terapia Ocupacional da Universidade de São Paulo*, *19*(1), 20-28.

Galheigo, S. M., & Tessuto, L. A. A. (2010). Trajetórias, percepções e inquietações de terapeutas ocupacionais do Estado de São Paulo no âmbito das práticas da terapia ocupacional no hospital. *Revista de Terapia Ocupacional da Universidade de São Paulo*, *21*(1), 23-32. https://doi.org/10.11606/issn.2238-6149.v21i1p23-32.

Gil, A. C. (2008). *Métodos e técnicas de pesquisa social.* São Paulo: Editora Atlas.

Istilli, P. T., Teixeira, C. R. D. S., Zanetti, M. L., Lima, R. A. D., Pereira, M. C. A., & Ricci, W. Z. (2020). Avaliação da mortalidade prematura por doença crônica não transmissível. *Revista Brasileira de Enfermagem*, *73*(2), e20180440. http://dx.doi.org/10.1590/0034-7167-2018-0440.

Malta, D. C., Stopa, S. R., Szwarcwald, C. L., Gomes, N. L., Silva Júnior, J. B., & Reis, A. A. C. D. (2015). A vigilância e o monitoramento das principais doenças crônicas não transmissíveis no Brasil-Pesquisa Nacional de Saúde, 2013. *Revista Brasileira de Epidemiologia*, *18*(Supl. 2), 3-16. http://dx.doi.org/10.1590/1980-5497201500060002.

Marques, L. P., & Confortin, S. C. (2015). Doenças do aparelho circulatório: principal causa de internações de idosos no Brasil entre 2003 e 2012. *Revista Brasileira de Ciências da Saúde*, *19*(2), 83-90.

Minayo, M. C. S. (2007). *O desafio do conhecimento: pesquisa qualitativa em saúde*. São Paulo: Hucitec.

Pereira, J. B., Almeida, M. H. M. D., Batista, M. P. P., & Toldrá, R. C. (2020). Contribuições da terapia ocupacional no atendimento a usuários com insuficiência renal crônica no contexto de hospitalização. *Cadernos Brasileiros de Terapia Ocupacional*, *28*(2), 575-599. http://dx.doi.org/10.4322/2526-8910.ctoAO1855.

Pimentel, P. P., & Toldrá, R. C. (2017). Desenvolvimento de manual para orientações básicas do dia a dia para pessoas com esclerose múltipla. *Cadernos de Terapia Ocupacional da UFSCar*, *25*(1), 67-74. http://dx.doi.org/10.4322/0104-4931.ctoAR0773.

Santos, A. V. S., & De Carlo, M. M. R. P. (2013). Hospital como campo de práticas: revisão integrativa da literatura e a terapia ocupacional. *Cadernos de Terapia Ocupacional da UFSCar*, *21*(1), 99-107.

Santos, L. P., Pedro, T. N. F., de Almeida, M. H. M., & Toldrá, R. C. (2018). Terapia Ocupacional e a promoção da saúde no contexto hospitalar: cuidado e acolhimento. *Revista Interinstitucional Brasileira de Terapia Ocupacional - REVISBRATO*, *2*(3), 607-620.

Shah, S., Vanclay, F., & Cooper, B. (1989). Improving the sensitivity of the Barthel Index for stroke rehabilitation. *Journal of Clinical Epidemiology*, *42*(8), 703-709.

Silveira, A. M. D., Joaquim, R. H. V. T., & Cruz, D. M. C. D. (2012). Tecnologia assistiva para a promoção de atividades da vida diária com crianças em contexto hospitalar. *Cadernos de Terapia Ocupacional da UFSCar*, *20*(2), 183-190.

Soares, G. P., Klein, C. H., Souza e Silva, N. A., & Moraes, G. M. (2018). Evolução da mortalidade por doenças do aparelho circulatório e do produto interno bruto per capita nos municípios do estado do Rio de Janeiro. *International Journal of Cardiovascular Sciences*, *31*(2), 123-132.

Toldrá, R. C., Ramos, L. R., & Almeida, M. H. M. D. (2019). Em busca de atenção em rede: contribuições de um programa de residência multiprofissional no âmbito hospitalar. *Cadernos Brasileiros de Terapia Ocupacional*, *27*(3), 584-592.

World Health Organization – WHO. (2011). *Global status report on non communicable diseases 2010.* Geneva: WHO.

World Health Organization – WHO. (2018). *HEARTS: technical package for cardiovascular disease management in primary health care: team-based care*. Geneva: WHO.

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Daniele Tatiane Hein: conception and conduct of the study, data collection and analysis, and text writing. Rosé Colom Toldrá: study design, data analysis, and final text review. All authors approved the final version of the article.

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