Esc Anna Nery 2022;26:e20210232

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Behavioral responses presented by elderly people after hospitalization in the intensive care unit and return home

Respostas comportamentais apresentadas por longevos após internação na Unidade de Terapia Intensiva e retorno domiciliar

Respuestas comportamentales presentadas por longevos después de la hospitalización en la Unidad de Cuidados Intensivos y regreso al hogar

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Submitted on 07/02/2021.
Accepted on 10/21/2021.

DOI:https://doi.org/10.1590/2177-9465-EAN-2021-0232

Abstract

Objective: to identify the behavioral responses presented by elderly people at home after hospitalization at the intensive care unit and hospital discharge. **Method:** a qualitative study was conducted with people aged 80 years or older. The data collection setting was the intensive care unit and the homes of the elderly people hospitalized in the unit using open interviews. Data analysis consisted of Bardin's method of content analysis based on the Callista Roy adaptation model. All ethical aspects were respected. **Results:** two categories emerged: changes in the pattern of response to physiological needs and loss of autonomy and psychosocial changes and impairment in performing daily leisure and work activities. **Conclusion and implications for practice:** behavioral responses were related to physiological and psychosocial factors, culminating in dependence and loss of autonomy to perform basic life activities. Difficulties experienced in returning home were also noticed, which caused significant changes in daily activities, thereby evidencing the need for multidisciplinary teams to begin preparing for the return home during hospitalization. Strategies seeking to improve critical care outcomes are highly suggested to be implemented in this population.

Keywords: Adaptation; Patient Discharge; Aged, 80 and over; Critical Cares Outcomes; Intensive Care Units.

Resumo

Objetivo: identificar respostas comportamentais apresentadas por longevos no domicílio, após internação na Unidade de Terapia Intensiva e alta hospitalar. **Método:** estudo qualitativo, realizado com pessoas de 80 anos ou mais. O cenário da coleta de dados foi a Unidade de Terapia Intensiva e o domicílio de longevos que estiveram internados na unidade, por meio de entrevista aberta. Para análise dos dados, utilizou-se o método de análise de conteúdo de Bardin, pautada na teoria de Adaptação de Callista Roy. Todos os cuidados éticos foram respeitados. **Resultados:** emergiram-se duas categorias: Alterações do padrão de resposta às necessidades fisiológicas e perda de autonomia e Alterações psicossociais e comprometimento na realização de atividades cotidianas de lazer e laborais. **Conclusão e implicações para a prática:** as respostas comportamentais foram relacionadas aos modos fisiológicos e psicossociais, que culminaram em dependência e perda de autonomia para realização das atividades básicas de vida. Perceberam-se dificuldades vivenciadas no retorno ao domicílio, que provocaram alterações significativas na realização de atividades cotidianas, evidenciando a necessidade de se iniciar o preparo para o retorno domiciliar, pela equipe multiprofissional, ainda durante a hospitalização. Espera-se que estratégias visando melhorias dos resultados de cuidados críticos sejam implementadas nessa população.

Palavras-chave: Adaptação; Alta do Paciente; Idoso de 80 Anos ou mais; Resultados de Cuidados Críticos; Unidade de Terapia Intensiva.

Resumen

Objetivo: identificar respuestas comportamentales presentadas por longevos en el domicilio después de internación en la Unidad de Cuidados Intensivos y alta hospitalaria. **Método:** estudio cualitativo, realizado con personas de 80 años o más. El escenario de la recolección de datos fue la Unidad de Cuidados Intensivos y el domicilio de longevos que estuvieron internados en la unidad, por medio de entrevista abierta. Para el análisis de los datos se utilizó el método de análisis de contenido de Bardin, pautado en la teoría de Adaptación de Callista Roy. Todos los cuidados éticos fueron respetados. **Resultados:** surgieron dos categorías: Alteraciones del patrón de respuesta a las necesidades fisiológicas y pérdida de autonomía y Alteraciones psicosociales y compromiso en la realización de actividades cotidianas de ocio y laborales. **Conclusión e implicaciones para la práctica:** las respuestas comportamentales fueron relacionadas a los modos fisiológicos y psicosociales, que culminaron en dependencia y pérdida de autonomía en la realización de las actividades básicas de la vida. Se percibieron dificultades vividas en el retorno al domicilio, que provocaron alteraciones significativas en la realización de actividades cotidianas, revelando la necesidad de iniciar la preparación para el retorno domiciliar por el equipo multiprofesional aún durante la hospitalización. Se espera que estrategias que busquen mejoras de los resultados de cuidados críticos sean implementadas en esa población.

Palabras clave: Adaptación; Alta del Paciente; Anciano de 80 o más Años; Resultados de Cuidados Críticos; Unidades de Cuidados Intensivos.

INTRODUCTION

As a consequence of population aging, there is also a rise in elderly people, who are defined as those aged 80 years or over. This growing profile requires new demands in the care given the increase of diseases, disabilities, and hospitalizations, making it imperative to undertake the rapid adaptation of health services to meet the needs of this population[1]. Numerous studies have reported higher hospitalization rates in the elderly population since, as a result of the aging population, there is an increased incidence of chronic degenerative diseases with a period of aggravation, in addition to promoting hospitalization in the intensive care unit (ICU)[2].

The hospitalization of elderly people triggers a succession of events that often lead to reduced functional capacity and quality of life, complications that may not be related to the problem that led to the initial hospital admission. Thus, hospitalization does not always result in improved health conditions[3]. A survey carried out with 128 elderly individuals hospitalized in the clinical, surgical, and emergency units of the São Paulo Hospital reported that the majority of the individuals presented a maximum degree of dependence during the hospitalization process and declined general state of health due to limitations in performing daily living activities (DLA) and the lack of knowledge of health professionals in understanding the need to stimulate them[4].

Another systematic review evaluated 48 studies and identified that the domains most affected by critical illness were related to the physical role and function, vitality, and social function. Nonetheless, there was an improvement in the quality of life related to these domains one year after discharge, thus emphasizing that interventions to help recovery after critical illness are more successful in the first year after discharge[5].

In this sense, the ICU team must appropriately prepare the patient and their family to return home after the hospital discharge to promote health. To this end, it is paramount to set individualized goals based on the needs observed during hospitalization, which enable the prevention of diseases and rehabilitation. Hence, it is expected that, at home, the advanced-age person will have a better quality of life, reducing the need for (re)hospitalization[6].

Callista Roy's adaptation model considers that the goal of nursing is to promote the adaptation of individuals and groups in the four adaptive modes: physiological, self-concept, interdependence, and role performance[7]. According to Roy and Andrews, "it is behavior that demonstrates the effectiveness with which resistance mechanisms can adapt to stimuli that affect the person," and the responses displayed should be systematically observed in each adaptive mode[8:63]. It is up to the nursing professional to plan and develop strategies for care that encompass actions at different levels of health care, with the person being assisted until they return to their daily life activities and social reintegration[7].

Given the information above, the underlying question is what are the behavioral responses presented by elderly individuals at home after hospitalization in the ICU. The objective is to identify behavioral responses of these individuals at home after being admitted to the ICU and hospital discharge.

Callista Roy's adaptation model will provide the nuances to understand the adaptive responses observed in elderly individuals and possible alterations beyond the physiological field and identified upon returning home. Such alterations may also be linked to the psychological, spiritual, social, and/or emotional fields and will require, from the elderly individual, adaptive responses when facing the stimuli triggered by hospitalization.

The behavioral responses presented by elderly individuals after hospitalization denote factors that hinder their return to routine activities at home and interfere with their autonomy. Moreover, by identifying behavioral responses that trigger ineffective adaptation, it will become possible to plan strategies that improve the results of critical care to prevent risks associated with hospitalization to promote quality of life to the elderly person at home.

METHODOLOGY

Type of study

This is a descriptive and exploratory study with a qualitative approach.

Study site

This experiment was conducted in northeastern Brazil in a city located in the southwestern state of Bahia. The study was conducted in two locations: in a public hospital and the homes of elderly people admitted to the ICU of the hospital after being discharged. This ICU has ten beds for adult and elderly patients with clinical and surgical demands and is located in a general hospital that receives patients from various municipalities, including rural areas.

Research participants

The study was developed with elderly people admitted to the ICU and discharged home. The inclusion criteria included: people 80 years of age or older who remained in the unit for at least 24 h, even if their discharge came from another unit; to have been discharged from the hospital within a minimum of one week and a maximum of 12 months; and to be fully able to develop a coherent dialogue in the interview.

Elderly people who, at the time of the interview, were in poor health conditions and presented, for instance, drowsiness, hypoactivity, indisposition or pain, or were in situations in which, after two attempts of telephone contact for scheduling and/or home visit the collaborator was not reached, were excluded.

Data collection and research instrument

Data collection was carried out in two settings: in the ICU and at the residence of the elderly person hospitalized and discharged. In the ICU setting, information on the participants was obtained using the ICU's record book to identify the individuals classified as elderly and their hospitalization and discharge dates, including those who had been hospitalized and discharged from

the unit within a year; the first day of the researchers' visit was used as the base date (October 16, 2017). Therefore, collection occurred between October 16, 2016, and October 16, 2017. At that time, the hospitalization diagnosis and city of residence were also determined.

After the first identification in the registration book, the researchers used the ICU's database to obtain the residential address and telephone number of the eligible participants; 26 candidates were identified, of which 6 had died during hospitalization and 20 had been discharged from the unit. After telephone contact, the family member or responsible caregiver informed the researcher that 5 died after returning home and 2 presented incoherent speech; it was impossible to locate 2 other individuals. Thus, 11 elderly individuals participated in the study.

Upon determining the participants, telephone contact was made to explain the purpose of the study to the individuals or their caregivers depending on the choice of the participants, since some individuals preferred the explanation to be made to their caregivers. If they agreed to participate, a home visit was scheduled. The visits took place between December 2017 and February 2018 and occurred in seven municipalities near the health service unit where the ICU was located. None of the participants refused to participate in any of the stages of the study.

Data collection consisted of an open interview with eight guiding questions that had been previously prepared and closed questions regarding the individuals' sociodemographic information. The answers were recorded using a tape recorder. Forms were employed to evaluate the Katz and Lawton Indexes of each participant and assess their ability to perform basic activities of daily living (BADL) and instrumental activities of daily living (IADL), respectively, in addition to a script provided by the Ministry of Health for observing the structure of the home[9].

In order to preserve the identity of the participants, letters and numbers were used to differentiate the statements. We used the letter "E" for an elderly person, followed by "M" or "F" to denote male or female, and a number representing the order in which the interviews were conducted (i.e., EM1, EM2, EF3... EM11).

Analysis of the testimonies

The data were analyzed using the thematic content analysis technique proposed by Laurence Bardin, which uses systematic and objective procedures to describe the content of the messages in three stages: 1) pre-analysis; 2) material exploration; and 3) treatment of results and interpretation[10].

In the pre-analysis, the corpus of the study was built using floating reading to identify and select relevant ideas obtained in data collection and focus on the object of study[11]. In the exploration stage, the study was deepened through an exhaustive reading of the material to categorize the results according to the themes identified. Finally, in the treatment stage, attention was paid to interpretation, homogeneity, objectivity, and the results that could produce new knowledge. At this moment, the theoretical reference of Callista Roy's adaptation model was also used for the reflections of the participants' dialogues.

Ethical aspects

The study followed the guidelines of Resolution No. 466 of the National Health Council. To this end, the project was forwarded to the Research Ethics Committee of the Bahia State University and approved (CAAE no. 73792317.3.0000.0057) on September 11, 2017.

RESULTS

Out of the eleven elderly participants, six lived in small and medium-sized municipalities five lived in rural areas. Most of the participants were female, married (n = 05), with incomplete primary education (n = 08), and self-declared white (n = 05). All participants reported receiving an income of up to two minimum wages and being retired; the ages ranged from 80 to 94 years. Regarding hospitalization, the length of stay in the ICU ranged from 3 to 39 days, with a predominance of gastrointestinal disorders, such as acute obstructive abdomen, chyloperitoneum, and gastric tumor.

Upon returning home, regarding BADL performance, only two individuals were identified as independent for all activities; the others had dependence in one, two, four, five, or all six functions listed. As for the IADLs, most individuals (n = 5) were classified as severely dependent, two as totally dependent, and only one presented mild dependence; no participant was classified as independent for this classification. Chart 1 lists the characteristics collected from the participants at the time of ICU admission and during the visits to their homes.

Regarding the structural aspects of the homes visited, it was possible to note that the houses were not adapted for daily care activities. In light of Callista Roy's adaptation model, the analysis and interpretation of the speeches allowed two thematic categories to be created: Changes in the pattern of response to physiological needs and loss of autonomy and psychosocial changes and impaired performance of daily leisure and work activities.

Changes in the response pattern to physiological needs and loss of autonomy

The physiological model of Roy's adaptation model corresponds to how a person responds to internal and external stimuli, whose responses are behaviors that originated from these stimuli through the physiological manifestations presented by the organism[12]. The physiological manifestations present in the behaviors of the participants were identified in the speeches below:

> *Now I get bored, I eat almost nothing [...] I used to like juice better* (EF6).
>
> *I'm not eating almost anything; one day I eat, the next day I don't. That's why I'm feeling so concerned. So I'm feeling a lot of concern* (EM11).
>
> *I don't use diapers anymore [...]. Every hour I have to go to the bathroom. There are times that I don't even have time to reach the bathroom* (EF3).

Chart 1. Sociodemographic aspects of the elderly participants and their characteristics regarding age, number of days in the intensive care unit, diagnosis at the time of hospitalization, and results of basic activity of daily living and instrumental activity of daily living after returning home. Bahia, 2018.

Identification Education Marital status Race/color Income	Age	Days in the ICU	Diagnosis in the ICU	BADL level	IADL level
EM1 Non-literate Widower White Up to two minimum wages	92	39	Severe bradyarrhythmia; acute myocardial infarction; dilated myocardiopathy	Very dependent	Fully dependent
EM2 Non-literate Single White Up to two minimum wages	88	17	Immediate postoperative exploratory laparotomy (right hemicolectomy); acute obstructive abdomen; sepsis	Independent for all activities and has occasional urinary and/ or fecal incontinence.	Severely dependent
EF3 Incomplete elementary school Widow White Up to two minimum wages	82	09	Abscess drainage;	Receives assistance in bathing for more than one part of the body; receives assistance in picking up clothes or dressing; lies down and gets up from bed or chair with assistance; presents occasional urinary and/or fecal leakage. Eats without assistance except for cutting meat or buttering bread.	Severely dependent
EM4 Incomplete elementary school Married White Up to two minimum wages	81	09	Aortic dissection	Independent for all activities except bathing, picking up clothes, or dressing	Severely dependent
EF5 Incomplete elementary school Married Brown Up to two minimum wages	85	06	Coleperitoneum + systemic arterial hypertension + diabetes mellitus	Depends on assistance to bathe more than one part of the body and pick up clothes or get dressed. Receives assistance to go to the bathroom; lies down and gets up from bed or chair with assistance; eats without assistance except for cutting meat or buttering bread.	Fully dependent
EF6 Incomplete elementary school Widow Brown Up to two minimum wages	81	03	Pulmonary thromboembolism? heart disease; systemic arterial hypertension	Independent for all activities but has occasional urinary and/ or fecal leakage.	Moderately dependent

Source: Research data

Chart 1. Continued...

Identification Education Marital status Race/color Income	Age	Days in the ICU	Diagnosis in the ICU	BADL level	IADL level
EF7 Incomplete elementary school Married Brown Up to two minimum wages	81	16	Congestive heart failure; pneumonia	Dependent for all activities	Severely dependent
EF8 Incomplete elementary school Widow Cafuza Up to two minimum wages	94	05	Immediate postoperative exploratory laparotomy (gastric tumor); constipation; systemic hypertension; diabetes mellitus	Independent for all activities	Mildly dependent
EF9 Incomplete elementary school Married White Up to two minimum wages	84	06	Systemic arterial hypertension; cerebral hematoma; thrombocytopenia	Independent for all activities but has occasional urinary and/ or fecal leakage.	Moderately dependent
EM10 Incomplete elementary school Married Grizzly Up to two minimum wages	85	03	Immediate postoperative correction of a femur fracture; humerus trauma, femur fracture	Independent for all activities except bathing, dressing, toileting, and cutting meat.	Severely dependent
EM11 Non-literate Common-law marriage Black Up to two minimum wages	80	07	Acute abdomen	Independent for all activities.	Moderately dependent.

Source: Research data

> *I get up five or six times at night to urinate and very little comes out. And as for the feces, I've already gone to the bathroom two or three times today and it doesn't come out* (EM4).
>
> *I arrived* (from the hospital), *I was bedridden, my mind was good. But I did not feel like eating or sleeping* [...] *And taking daily medication* (EF9).

The physiological functions are essential to ensure conditions and quality of life for the elderly, and the triggered changes increase the possibility of dependence and the need for caregivers, which can lead to the loss of autonomy to perform BADL and IADL. These responses cause important changes in the life of the elderly person, as discussed below:

> *I take a bath sitting down, the person who gives me a bath is X,* [...] *because my legs can't take it* (EM1).
>
> *Since a few days ago, I have been walking with this here* (walker), *before I was not even walking. To go out, the boys hold me sideways, but now I am tempted to walk* [...] (EM4).
>
> *I was on rest for more than a month. I went from there, sat here. I couldn't walk properly for several days; I felt heavy on my legs. I was more bedridden* (EF6).
>
> *I do nothing, I just lie in bed* [...], *I only walk in a wheelchair. To take a shower, they pick me up and take me away* (EF7).
>
> *Here, the difficulty* (to adapt) *was only when I wanted to go to the bathroom or the backyard* (EM4).
>
> *I stay here; there are times that I sit, there are times that she* (daughter) *puts me on the sofa,* [...] *I also sunbathe and then she puts me here. To tell you the truth, I live more lying down. The day it rains, I do not sleep, I feel a lot of pain in my bones* (EF5).
>
> *Here, in the bathroom and the bedroom, they* (daughters) *made bars for me to grab on to. They used to shower me sitting down, now I shower standing up, but even so, I don't bend down to wash my feet, nor my back, nor my head. I still need a lot of help. I had difficulty walking, sitting,*

> *standing up, and going to the bathroom. They had to take me or I would pee in the bedpan* (EF3).

Some participants also pointed out the discomfort experienced by the need to use geriatric diapers, even temporarily, as listed in the following statements:

> *Of all my illnesses, the one I had the most difficulty with was using a diaper. To use a diaper for others to take care of is awful* (EM10).

> *When I left the ICU, in the first days, she* (companion) *helped me to get up. In the first days, I needed to use a diaper* (EM11).

Psychosocial alterations and impairment in the performance of daily leisure and work activities

The elderly individuals portrayed feelings of sadness and dissatisfaction through their testimonies due to the difficulties, privations, and/or impossibility of returning to leisure activities after falling ill. Therefore, it was possible to observe the changes that the diseases generated in the behavior of these individuals, which culminated in significant changes in their lifestyles.

> *I used to take care of my farm, I used to take my trips, my fishing trips, I used to do everything inside the house. Now, after I got sick, business went downhill* (EM2).

> *I really like to dance* [...]. *It would make me happy if I danced, but I can't* [...]. *I am Catholic,* [...] *the priest throws a party and brings accordion players* [...]. *Now I want to see if there will be a party after I get better* (EM1).

> *I miss doing everything because, for those who were used to it, it is hard* [...]. *I used to do everything and I didn't feel it* (EF3).

Despite the problems acquired from the illness, one must consider that the elderly people may present weaknesses and vulnerabilities arising from their age and aging process, making it challenging to perform leisure activities. Nevertheless, the elderly themselves highlighted precisely the disease as a landmark for their altered lifestyles.

In this study, in addition to the perceived changes in leisure activities, the interviewees highlighted that their absence from work-related activities also led to changes in their lifestyles.

> *I can't take care of anything; I can't work in the fields. Then I get worried because I can't do any of the things I used to like to do and have* (EM11).

> *Back in the field, even today, I have a herd of oxen that I have to tend. Now it is the boys who go there to see. I talk to them: God forbid I die and you don't give continuity, you have to be taking care of the farm, the fence with the neighbor* [...]. *And these boys don't do what I do in the field. And now I don't have the confidence to go. Because, sometimes, I used to walk through those woods looking if everything was right. And now, with this, I don't go alone* (EM4).

> *I used to do everything inside the house* [...]. *Today, I can make perhaps just a little food. Doing the laundry is not possible because I am afraid of falling and my hands are also a little stiff* (EF3).

Such behavioral responses of ineffective adaptation culminated in weaknesses and feelings of sadness and incapacity, which triggered hopelessness regarding life, as observed in EM1's dialogue, when he says: *Here, I do nothing* [...] *I am almost dead, my daughter*.

DISCUSSION

Regarding the length of stay in the ICU, this study presents similar data to another paper with 128 elderly individuals admitted to the ICU of the teaching hospital of the Federal University of São Paulo, in which the length of stay ranged from 3 to 42 days; hypertension and diabetes were the most frequent comorbidities. There was also a predominance of elderly females, self-declared white, retired, uneducated, or with incomplete primary education and earning between one and two minimum wages[4].

A study conducted in England, Wales, and Northern Ireland aimed to explore admissions, resource use, and the risk of in-hospital mortality in older patients admitted between 1997 and 2016 in general adult ICUs and reported an increase in the number of hospitalizations of elderly people, and this increase was proportionally more significant than the expansion of older people in the general population of the UK. It was also observed that older patients stayed longer in hospital after being discharged from the ICU and that the in-hospital mortality rate increased at higher ages[13].

The medical diagnosis that predominated in this study is in disagreement with another study conducted in an ICU of Salvador (Bahia State), which identified the clinical and sociodemographic profile of 252 elderly individuals hospitalized in the unit, and showed that diseases of non-infectious causes, especially stroke and acute myocardial infarction (AMI), were the main causes of hospitalization observed in this population (84.5% of participants)[14].

From the speeches of the participants, it was possible to verify that, of the five basic needs related to physiological integrity described in Callista Roy's adaptation model (oxygenation, nutrition, elimination, activity and rest, and protection), only the need pertaining to protection, which refers to skin integrity, was not mentioned by the participants. All the others were reported as a problem after returning home.

It is worth mentioning that the adaptation problems concerning oxygenation cannot be accurately ascertained since EM1 only refers to having less "breath," requiring a more detailed assessment. As for nutrition, problems that may be allusive to malnutrition

and ineffective resistance strategies to the altered means of digestion can be observed.

A study carried out in a hospital in Rio Grande do Sul State evaluated the factors that most hindered oral feeding in hospitalized elderly individuals. The sample consisted of 111 elderly people, and the results indicated that environmental factors were the most reported by the population, followed by dietary, physiological, and staff-related factors[15].

The participants of this study, despite being at home and under the care of family members, claimed difficulties in accepting the diet after hospital discharge. This factor should be investigated even during hospitalization as a way to seek solutions to the problem. Considering the importance of maintaining an adequate and balanced oral diet to promote a more effective recovery, an important strategy to help people aged 80 years or more in this aspect would be to receive guidance from a nutritionist at the time of discharge and, preferably, to follow up with the professional after returning home to improve the acceptance of the diet and promote the balance of nutritional needs.

As for bathroom-related issues, it was perceived that those related to adaptation were caused by urinary incontinence and constipation. Urinary incontinence is perceived as one of the most critical geriatric syndromes and should be acknowledged in clinical practice[16]. Hospitalization favors the development of incontinence in this population due to being bedridden and the use of diapers, and this is an important issue to be considered during hospitalization and preparation for being discharged from the unit. Such a statement was evidenced in a study that aimed to obtain the incidence of incontinence development at hospital discharge in patients aged 65 years or older and diagnosed with dementia or cognitive impairment and who were continent pre-hospitalization. The findings revealed that out of the 100 elderly individuals evaluated, 57% presented some incontinence during hospitalization, being 36% urinary incontinence, and, of these, 2% also presented fecal incontinence at the time of discharge[17].

Moreover, a study carried out in Montes Claros (Minas Gerais State) with 686 elderly individuals (mostly females) identified a prevalence of urinary incontinence in 31.1% and in 23.2% of male individuals. In both genders, frailty was a factor that was associated with the presence of urinary incontinence[16].

Regarding activities and rest, it was observed in the speech of EF9 that problems of adaptation after hospital discharge may have come from being bedridden, which leads to restricted mobility and inadequate pattern of activity and rest with sleep deprivation.

Another study in a university hospital aimed to analyze the prevalence and factors associated with the need for help to perform BADL after hospital discharge and identified that, of the 144 people assessed, 43.1% needed help to perform BADL after hospital discharge. The researchers highlighted the need to have an effective relationship between hospital care and continuity of care at home and emphasized that when such care is inadequate, it results in readmissions, the onset of new diseases, and/or loss of autonomy of the elderly person[1].

In this study, most of the elderly patients stayed in the ICU for a considerable period (six to ten days), a fact that may have interfered with the increased need for care and functional dependence. A study that evaluated 373 elderly individuals enrolled in a Family Health Strategy (FHS) unit in Taiboeiras (Minas Gerais State) observed that the variables that presented the greatest association with the functional state of dependence were living without a partner, not being literate, and being female. As for age, the variables were categorized into age ≥80 years and <80 years, showing that being less than 80 years old was related to greater independence for BADLs[18].

Regarding the variables, the ones that had divergent results to this study were those related to marital status and literacy since most participants were married and had incomplete elementary school education. Even so, it can be noted that the variable age may have been related to a higher dependence on functional capacity compared to other age groups since most of the elderly individuals were dependent in one or more functions to perform the BADL and were severely or totally dependent in the IADL.

The loss of functionality in the elderly is the most relevant condition for unfavorable outcomes in this population as it implies a lower quality of life for the person, their families, and their caregivers. As a result of the declined functional capacity, hospitalization, institutionalization, and mortality rates of the elderly increase[19].

Thus, the elderly must be stimulated by health professionals, family members, and caregivers to perform BADL and IADL during hospitalization whenever possible and at home to promote independence and autonomy[20]. These actions will provide mechanisms for the elderly person to present favorable behavioral responses and achieve a more active and functional life; hence, it should be initiated even during hospitalization.

When returning home after hospitalization, the presence of psychosocial alterations experienced by these individuals contributes to an effective behavioral response or not, thereby hindering their recovery and rehabilitation. In this sense, the objective is to promote means that provide the conservation or recovery of health through interventions necessary for this purpose[21].

A survey carried out with 6,913 elderly individuals aged 60 years or more and living in urban areas in 59 cities of Rio Grande do Sul State identified that 22.5% of elderly individuals and 9.2% younger elderly individuals claimed not to leave their homes on a weekly basis, showing that the percentage of elderly people who did not leave their homes was significantly higher. In both groups, the lack of safety and difficulty getting around were the most frequent reports. The results obtained suggest that these individuals exhibited more significant limitations in leaving their homes than younger elderly individuals[22].

Furthermore, sedentary behavior in the elderly is a crucial factor in identifying the suspicion of common mental disorders in this population and constitutes a risk factor that health professionals must investigate and acknowledge[23].

In this study, it was possible to observe statements that revealed ineffective behavior, demonstrating the need to change the environment, make it adaptable, and promote health and quality of life for people 80 years old and older. It is noted that a considerable part of the changes in their lifestyles, which negatively affected adaptation after returning home and led to deprivations related to leisure activities, which were routine before hospitalization.

Regarding hospitalized elderly people, one study conducted in Mexico sought to evaluate depression scores and other physical and mental health variables in the elderly with and without depression and hospitalized in a trauma ward for hip fracture showed high depression rates, especially in women and individuals 81 years of age[24].

Another study with 552 hospitalized elderly individuals demonstrated that there was a higher prevalence of depression in females, single individuals with low family income, smokers, and individuals who had been hospitalized in the last 12 months prior to the interview. The results also showed that regular participation in leisure activities significantly reduced the risk of developing depression and that this protection was 62% for those who participated in at least three leisure activities in the last month[25].

The participation of the elderly in leisure activities (e.g., outings, trips, and dancing) is critical to stimulate their social integration and favor the expansion of the support network, communication, and self-esteem, producing psychological and social benefits[25].

In this study, it was possible to notice that, in some participants, illness and hospitalization triggered changes that made it impossible to perform previously developed work activities, generating concern, insecurity, and anguish. This was especially noted in those who performed work activities in rural areas since such activities require strength and manual labor, which may be temporarily or permanently impossible for people aged 80 years or more after hospital discharge.

Notably, due to the hospitalization, some elderly people presented a decrease in their functional capacity. As a result, they showed disbelief in returning to work, and this feeling generated sadness since they had performed these activities for a lifetime. A study carried out with 87 elderly individuals identified that 60.92% of them still performed work activities in their houses or volunteer services, even though they were retired. The results showed that 6.89% were directly or indirectly responsible for the care of family members; 42.52% worked in vegetable gardens, flower gardens, or with domestic animals, and 23.43% had domestic activities[26].

It is observed that, in the absence of disease, many elderly people have an active life and develop labor activities, either in the field or at home. The onset of disease and the need for intensive care in a closed unit can determine changes that will impair the performance of daily activities, in addition to the possibility of making previously active individuals sedentary.

CONCLUSIONS AND IMPLICATIONS FOR PRACTICE

As behavioral responses that contribute to an ineffective adaptation, those related to physiological and psychosocial modes were identified. Regarding the physiological manifestations, it was possible to observe that they increase the possibility of dependence and loss of autonomy of the elderly to perform the BADL and IADL, leading to the need for a caregiver. This relationship may be associated with the condition of being previously hospitalized in an ICU and trigger frailty and loss of functionality, even more so when considering the age factor.

The perceived psychosocial changes were related to the difficulty in performing daily leisure and work activities. It was also depicted that, after the critical illness that culminated in these alterations, elderly individuals presented feelings of sadness and dissatisfaction due to the acquired difficulties and privations, implying significant changes in their lifestyles. The difficulties experienced by the participants upon returning home from the ICU were noticed, which caused significant changes in daily activities, highlighting the need to start the preparation for the return home by the multiprofessional team during hospitalization.

Interdependence of the biopsychosocial dimensions is evident in all categories, and it is possible to see that one interferes with the other. This is consistent with Roy's adaptation model, which recognizes the person as a holistic and adaptable system. Through this study, it was possible to notice how grateful and valued the elderly feel when a health professional visits them and seeks information about their health conditions, which is an essential tool for the care of the elderly.

As a limitation of this study, we perceived the impossibility of investigating the BADL and IADL by the participants before hospitalization since the scales were only applied after hospital discharge. Thus, it was not possible to compare the functional capacity of elderly individuals before and after hospitalization.

ACKNOWLEDGMENTS

To the Federal University of Bahia (UFBA) and the State University of Bahia (UNEB).

FINANCIAL SUPPORT

This work was carried out with support from the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior - Brazil (CAPES) - Funding Code 001, and the Fundação de Amparo à Pesquisa do Estado da Bahia (FAPESB).

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