


Dependent person in self-care: analysis of care needs

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Background: The aim of this study was to assess the self-care dependency levels of the dependent person at the time of home discharge and its relationship between (1) the degree of dependency of each self-care domain; (2) the previous dependency levels; and (3) the gender of the dependent person. It also aims to assess the relationship between the degree of dependency of each self-care domain, the length of admission, the length of dependency and the age of the dependent person at the time of discharge.

Methods: A cross-sectional study was conducted. The sample comprised hospitalised adults and elderly in the medical services of a Portuguese hospital during the months of March, April and May of 2018. The data were collected by an interview conducted at the time of home discharge from the hospital medical ward.

Results: The average age of dependent people of the sample is 80.7 years (± 10.1) with the majority being women (51.7%), with no statistical difference in the mean age

according to gender ($U = 2205.500$; $p > 0.05$). They were hospitalised on average 11.4 days (± 33.2), most of them (44.0%) due to respiratory problems (85% of which were due to pneumonia). There were no statistically significant differences between the length of the hospital stay, the length of dependency and the participants' gender ($U = 2200.500$, $p > 0.05$; $U = 1688.000$, $p > 0.05$). Medication intake was the highest dependency domain amongst participants (41.3%), followed by instrumental activities of daily living (40.6%) and bathing (39.9%).

Conclusion: The amount of support required may vary according to the domain that the person is dependent. Thus, it is important to use a robust and reliable assessment tool that will be able to assess the degree of dependency on the various domains of self-care.

Keywords: needs, self-care, needs assessment, dependent person, hospitalisation, patient discharge.

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Introduction

The world is facing many sociodemographic changes, such as an increased average life expectancy (1–3) and the presence of chronic and noncommunicable diseases (2) which are happening worldwide, Portugal included (4,5). Those changes are linked to the person's survival, the presence of morbidity and, thus, an increase in the dependency to others (6). Ultimately, these phenomena will generate significant strains on healthcare services (7). Therefore, it is important to promote ageing along with good health, autonomy and independence (8).

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Although ageing correlates with a situation of dependency, a dependent person is not necessarily an old person. Dependency in self-care is not exclusive to the elderly (8) and could be related to anyone with a chronic disease, at any age of the lifespan. A dependent person is someone with limited capacity or inability to initiate and carry out a set of activities necessary for the maintenance of life, health and well-being, without the help of another person (9). It concerns basic actions in daily living activities such as eating, bathing, care of personal hygiene, the ability to position oneself, walking, transfer or even use of the toilet (10). One of the most important challenges for the future is to enhance the dependent person to be able to live as independently as possible in their usual way of living (8) and being able to perform those basic actions related to self-care.

The dependency on self-care has been a major concern, specifically with regard to the understanding of how a person may be considered as dependent and the

degree of his/her dependency (4). Furthermore, it is of utmost importance to assess the level of dependency of the person in each activity, which will allow understanding the way people should be assisted and what interventions are more appropriate to achieve independency goals in each specific situation (11,12). Although it is important to understand the level of global dependency of an individual, it is also important to comprehend the specific activities that the person has difficulties in performing. In fact, two people may get the same global dependency self-care score, even though they may present different needs at different activities (4). Studies with caregivers have been focused on understanding the areas of self-care that are usually compromised in a dependent person. The literature review highlights some of the areas typically compromised at a personal level, related to work or health. Research specifies personal tasks in daily living activities such as bathing, dressing, eating, transferring from the bed to a chair or going to the toilet; instrumental daily living activities such as housework tasks for example shopping, managing personal finances or transportation; and health tasks, usually related to medication, wound treatment and equipment monitoring (4,5,13).

Taking into account the aforementioned description of a dependent person, it is easy to note that there are different areas of self-care management that are being investigated and that are considered a major concern in this area. For instance, the literature shows that one of the highest dependency areas of functioning is in medication preparation (5). This could be related to the cognitive impairment for an effective and responsible management of the therapeutic regimen, nonincentive of the caregiver in the promotion of autonomy and the inoperability of health professionals for teaching and training the dependent person (14). Literature has also found that patients' empowerment is of utmost importance to medication adherence (15,16). Another major area of greater dependency is related to daily living activities whose execution requires greater movement coordination and motor capacity, as well as greater manual dexterity, muscular strength or body balance: eating, bathing, dressing and undressing, walking, use of a wheelchair and use of toilet (4,5).

In a recent study, it was verified that the majority of the participants that were dependent from a caregiver had difficulties in the preparation of medication, eating and reaching objects for bathing (17). In a study with families that integrate dependents in self-care, Fernandes (5) found that half of the sample required help of a person to take a bath, with a predominance of dependency on washing and drying the body; more than 80% needed the help of a person to put on and to remove socks and shoes, with more than 94% not eating if they did not get help in food preparation (14). Results from

this study suggest that the more complex the activity in the active range of motion, the greater the inability to perform the activity. Another area of concern is the use of wheelchairs. In his study, the majority of the dependents that had the need to use a wheelchair at home were completely unable to manoeuvre in curves, access ramps and other obstacles at different speeds with difficulties being able to move the body from side to side. Difficulties in moving are another major area of concern, especially regarding transfers, rise and turn which have a great impact on the dependents' ability to get out of bed (5).

Hospitalisation is a dramatic event at any age, but especially to adults and older people. Almost one-third of older patients hospitalised for acute care suffer functional decline (18). Some studies revealed that 35–50% of older hospitalised patients experience a decline in baseline activities of daily living after admission, 40% presented a loss of autonomy in more than three activities of daily living, and for half of them, this loss of autonomy persisted for more than 3 months after hospitalisation (19). Age, lower functional status before hospital admission, impaired cognitive status, depression and prolonged length of hospital stay are significant predictors of hospital-related functional decline in elderly patients. Furthermore, functional decline, defined as a new loss of independence in activities of daily living or deterioration in self-care skills, may also result in physical and psychosocial problems, such as dehydration, malnutrition, falls, depression and delirium (18), which becomes a particular problem when transitioning from hospital to home to be care for family informal caregivers. Nonetheless, there are few studies reporting the functional status decline and dependency in self-care of hospitalised patients at discharge from hospital to home, especially regarding Portuguese reality.

The transition of care from hospital to home is a challenge for the health professionals, the dependent person and the informal caregiver with one of the biggest difficulties being related to the noninclusion of the dependent person and their caregiver in care (20). The empowerment of the dependent person in self-care and their informal caregiver during hospitalisation has been demonstrated as one of the strategies that promote the dependent person's and caregiver's quality of life.

Understanding the care needs of a dependent person in self-care is of great importance because it may help to reach a more accurate diagnosis of the situation and help improve the self-care of the dependent person. Moreover, accessing the self-care needs of the dependent person and identify its determinants such as age, gender, length of stay and previous dependency might be an issue to address during the transitioning from hospital to home,

focusing the informal caregiver's needs and abilities to care for a dependent person.

This study is a part of a larger research project. The aim of this paper is to:

- 1 Assess the self-care dependency levels of the dependent person at the time of home discharge.
- 2 Assess the relationship between the degree of dependency of each self-care domain, the previous dependency and the gender of the dependent person at the time of discharge.
- 3 Assess the relationship between the degree of dependency of each self-care domain, length of admission, length of dependency and age of the dependent person at the time of discharge.

The following hypothesis was tested:

H1: Dependency level is correlated to patient characteristics: age, gender, previous dependency, level of dependency, length of admission and length of dependency.

Methods

This study is reported in line with the STROBE statement for cross-sectional studies (21).

Study design

This cross-sectional study was conducted using a face-to-face interview.

Participants and setting

The sample comprised hospitalised adults and elderly in the medical services of a Portuguese hospital during the months of March, April and May of 2018. The data were collected by an interview conducted at the time of home discharge from the hospital medical ward. Following hospitalisation, it was expected that patients have new incapacities or declined their independence in performing self-care, with consequences both to them and to their family caregiver (18,19).

The participants' selection was performed by the nurses of the respective services based on the following inclusion criteria: (1) to be dependent on at least one of the self-care needs, based on the International Classification for Nursing Practice (ICNP); (2) to be able to answer the questions posed by the healthcare professionals; and (3) to have cognitive ability and capacity to freely consent to participate in the study or to have the consent of their legal representative. Once, the research project focused particularly the dyad dependent person and caregiver and their abilities and capacities to self-care at transitioning from hospital to home. Therefore, participants that were transferred to other hospitals, to

homecare facilities or to continuing care facilities were excluded from this study. We were interested in understanding the needs of the dependent person and to empower and support their informal carers. When needed, dependency on self-care was confirmed by observation by the nurses who collected the data, following the ICNP criteria.

During the three months of data collection, 900 patients were discharged, with only 50% being discharged home. Of these, only 80% met the inclusion criteria ($n = 360$), and 247 were excluded either because they had no informal caregiver in the hospital at the time of discharge or because they did not consent to participate in the study. The final sample was composed of 143 dependent patients (44.1%).

Patient's face-to-face interviews were performed by independent research assistants (nurses and nursing students) who did not work at the unit in order to prevent bias by influencing patients' answers. A standardised protocol was followed. Participants were given information about the study, having been assured that they were free to withdraw from the study at any time, with no obligation to give a reason for withdrawal. The names and any other identifying details of participants were not collected in any of the surveys, in order to ensure the confidentiality of the data collected.

Variables/instruments

The interview consisted of two groups: Group I comprising sociodemographic and clinical characterisation data (e.g. age, gender, cause of admission according to the international classification of diseases – ICD-10, days of admission, dependency before hospital admission, areas of dependency before hospital admission and length of dependency); Group II comprising the assessment needs scale in self-care domains defined by the ICNP: bathing, dressing/undressing, grooming, toilet use, eating, getting up, turning, transferring, walking and taking medication (10). Self-care domains were assessed by 62 items organised on a Likert-type response scale with 5 options: Dependent/nonparticipant; Requires help from one person; Requires help from one person and equipment; Requires equipment only; and Completely independent.

Construction and validation of the instrument. Several instruments are currently used to assess activities of daily living (ADL): Katz Index of Independence in ADLs, a good fit in long-term care; Barthel ADL Index – suites for acute settings; Lawton & Brody ADL questionnaire; and Physical and Self-Maintenance Scale (22). Nevertheless, none of them is well suited to measure ADL performance and a combination of self-reported and performance-based measures is considered to be the best way to obtain

a picture of disability for a given individual (22). Moreover, none of these scales are suited to address specific tasks that are expected to be performed in each ADL by dependent people and their caregivers in order to minimise deterioration in functional status and avoid hospital readmissions (14,22). In fact, other instruments have been used in Portugal, encompassing specificities of the ADLs (14). Accordingly, and recognising there are new self-care domains that need to be accessed, the research team decided to create and validate a new instrument. The construction of this new instrument resulted from the adaptation of the questionnaire 'Families with dependent persons on self care' (14), whose design was based on the ICNP, Nursing Interventions Classification (NIC), Nursing Outcomes Classification (NOC) and literature review.

Creating and validating this new instrument was decided because the existing ones do not cover all areas of self-care. This will allow the global and interdisciplinary assessment of the dependent person's self-care needs.

The scale was subject to an improvement in its content and form, resulting from the contributions of healthcare professionals and teachers with experience in the area of self-care, thus contributing to face validity. A Delphi panel consisted of eight teachers and three healthcare professionals experienced in caring for a dependent person in a multidisciplinary team in the areas of nursing, nutrition and dietetics, physiotherapy, occupational therapy and speech and language therapy was created. Eleven individuals appeared to be sufficient according to several authors (23,24).

The first version of the scale was submitted to three rounds of a Delphi panel. Wilkes (25) states there is no agreement on the number of rounds of the Delphi technique, but most authors indicate two to three. At the end of the third round, a consensus of 90% agreement was obtained on each of the items that compose the instrument and the self-care domains assessed.

After the determination of the psychometric characteristics (internal consistency and factorial analysis in each of the dimensions), the scale consisted of 62 items distributed in nine dimensions: food (six items, $\alpha = 0.947$); vesical and intestinal elimination (seven items; $\alpha = 0.932$); transfers and mobility (14 items distributed by two factors – transfers and mobility, $\alpha = 0.965$); dressing/undressing and grooming (11 items distributed by two factors – dressing/undressing and grooming; $\alpha = 0.955$); shower (eight items; $\alpha = 0.932$); medication (two items; $\alpha = 0.831$); instrumental activities of daily living (IADL) (five items; $\alpha = 0.939$); communication (three items, $\alpha = 0.679$); and symptom management (six items, $\alpha = 0.968$). Higher values of the scale quotation correspond to a greater independence in self-care activities.

Ethical approval

The research protocol, participant information and informed consent forms were submitted to CNPD (no 3289/ 2017) and to the Ethic Committee that approved the study. An appropriate location for data collection was ensured during data collection and the Ethical Principles for Medical Research Involving Human Subjects were met, according to the Helsinki Declaration (2014).

Data processing

Descriptive and inferential statistics were used. Taking into account the size of the sample and subsamples, non-parametric statistical tests were used (Mann–Whitney test and Spearman's correlation) according to the type of variables.

Results

Sociodemographic and clinical characteristics of the participants

The average age of the dependent persons of the sample was 80.7 years (± 10.1), with the youngest being 37 and the oldest being 102 years old. The majority were women (51.7%), with no statistical difference in the mean age according to gender ($U = 2205.500$; $p > 0.05$). They were hospitalised on average 11.4 days (± 33.2), most of them (44.0%) due to respiratory problems (85% of which were due to pneumonia) (Table 1).

Of the 143 participants, 86.3% were already dependent before this hospital admission in at least one self-care domain (Table 2). The 121 users with the previous

Table 1 Sample distribution by pathology (CID-10)

Disease classification	No	%
Diseases of the respiratory tract	63	44.0
Diseases of the circulatory tract	23	16.1
Diseases of the genitourinary system	17	11.9
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	15	10.5
Mental and behavioural disorders	5	3.5
Neoplasms (tumours)	4	2.8
Unknown diagnosis	4	2.8
Diseases of the nervous system	4	2.8
Certain infectious and parasitic diseases	1	0.7
Digestive tract diseases	3	2.1
Diseases of the musculoskeletal system and connective tissue	2	1.4
Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	1	0.7
Endocrine, nutritional and metabolic diseases	1	0.7

Table 2 Sample distribution by the dimensions of dependency prior to admission (n = 121)

Dependency on self-care before admission	No	%
All	42	34.7
Walking; bathing/showering; medication intake	30	24.8
Bathing/showering; symptom management	10	8.3
Hygiene; eating; walking; transfers and mobility; vesical and intestinal elimination	10	8.3
Eating and medication intake	9	7.4
Eating and bathing/showering	6	5.0
Hygiene	6	5.0
Walking	4	3.3
Symptom management	4	3.3

dependency in self-care were already dependent, on average, for 2 years and 7.5 months (± 41 months), with 34.7% of the sample being dependent in all areas of self-care. There were no statistically significant differences between the length of hospital stay, the length of dependency and the participants' gender ($U = 2200.500$, $p > 0.05$, $U = 1688.000$, $p > 0.05$).

The degree of dependency and needs per self-care domain

There are several dependent people who need support in self-care. They are totally dependent on all transfers and mobility activities (24.5%; 35 participants); 28.7% (41 participants) dependent on vesical and intestinal elimination; 25.2% (36 participants) on eating; 30.1% (43 participants) on dressing/undressing and grooming; 39.9% (57 participants) on bathing/showering; 41.3% (59 participants) on their medication intake; 40.6% (58 participants) on instrumental activities of daily living (IADL); 7.7% (11 participants) on communication; and 37.1% (53 participants) on symptom management.

It is important to note that 5.6% of the participants are totally dependent on the 62 self-care activities assessed. If we consider the weighted average (1- totally dependent; five totally independent) in each of the self-care domains (Table 3), it is possible to see that it is in the medication intake that people are more dependent. On the other hand, in the communication domain, people are more independent.

The relationship between the degree of dependency per domain of self-care, prior dependency and the gender of the dependent person

Table 4 presents the degree of dependency which is not related to the gender of the dependent person ($p > 0.05$), although women (with the exception of communication) presented higher values of independence.

Based on the analysis of Table 5, participants who already had some degree of self-care dependency before

Table 3 Sample characterisation regarding the degree of dependency of each self-care domain (n = 143)

	Weighted average	SD
Transfers and mobility (Total)	2.52	1.28
Mobility	2.41	1.33
Transfers	2.71	1.43
Vesical and intestinal elimination	2.39	1.28
Eating	2.82	1.51
Grooming and dressing/undressing (Total)	2.29	1.23
Grooming	2.49	1.41
Dressing/undressing	2.05	1.19
Bathing/showering	2.10	1.12
Medication intake	1.80	0.99
Instrumental activities of daily living	2.16	1.44
Communication	3.74	1.33
Symptom management	2.20	1.35

this hospital admission are more dependent on vesical and intestinal elimination ($p = 0.030$); eating ($p = 0.029$); grooming and dressing/undressing ($p = 0.015$); and bathing/showering ($p = 0.049$), compared to those who were not dependent on self-care before admission.

The relationship between the degree of dependency per domain of self-care, the length of admission, the length of dependency and the age of the dependent person

When analysing Table 6, it is possible to verify that the length of admission, the dependency time and the age of the dependent person are not significantly correlated to the self-care domains of the dependent person. The exception is observed for grooming and dressing/undressing, where it was found that older participants are more dependent ($r_s = -0.172$).

Although these relationships do not have statistical significance, it is important to emphasise that, with the exception of the IADLs, there is a tendency to become more dependent as the length of admission increases. On the other hand, the increase in dependency time seems to be followed by gains in autonomy, even though the correlations are not significant.

We chose not to perform multivariate analysis because of the relationship between the areas of dependency in self-care and because the variables under study did not present relationships with statistical significance except for four dimensions in a single relationship.

Discussion

This study gives us an insight into the care needs of the dependent person in self-care and corroborates the sociodemographic changes that the world is facing. This change has led to an increase in the life expectancy (1–

Table 4 Results of the Mann–Whitney test on the differences between the levels of self-care dependency by gender

	Female (74)		Male (69)		U	p
	Median	Mean/SD	Median	Mean/SD		
Transfers and mobility	2.54	2.60 ± 1.33	2.50	2.44 ± 1.22	2377.000	0.474
VIE*	2.43	2.59 ± 1.36	2.00	2.18 ± 1.17	2122.500	0.078
Eating	3.83	3.06 ± 1.58	2.33	2.58 ± 1.41	2079.000	0.052
Dressing/undressing**	2.27	2.46 ± 1.32	2.00	2.12 ± 1.12	2183.500	0.130
Bathing/showering	2.38	2.26 ± 1.22	2.00	1.93 ± 1.15	2172.500	0.111
Medication intake	2.00	1.95 ± 1.11	1.50	1.64 ± 1.08	2206.000	0.131
Communication	1.40	2.03 ± 1.33	4.00	3.71 ± 1.44	2520.000	0.889
IADL	3.67	3.77 ± 1.23	1.80	2.3 ± 1.55	2375.000	0.456
Symptom management	2.00	2.40 ± 1.50	2.00	2.00 ± 1.15	2249.000	0.198

*Vesical and intestinal Elimination.

**Grooming and dressing/undressing.

Table 5 Mann–Whitney test on the differences between the level of self-care dependency and dependency prior to hospital admission

	Yes (121)		No (22)		U	p
	Median	Mean/SD	Median	Mean/SD		
Transfers and mobility	2.43	2.44 ± 1.28	2.64	2.97 ± 1.23	959.000	0.064
VIE*	2.00	2.31 ± 1.29	2.71	2.87 ± 1.15	905.500	0.030
Eating	2.42	2.72 ± 1.52	4.00	3.49 ± 1.35	902.500	0.029
Dressing/undressing**	2.00	2.19 ± 1.22	3.00	2.89 ± 1.15	860.000	0.015
Bathing/showering	2.00	2.03 ± 1.10	2.75	2.53 ± 1.21	947.000	0.049
Medication intake	1.75	1.76 ± 0.96	2.00	2.05 ± 1.15	1064.500	0.184
Communication	3.67	3.68 ± 1.33	5.00	4.13 ± 1.30	1002.000	0.096
IADLs	1.40	2.10 ± 1.47	2.40	2.50 ± 1.23	989.000	0.084
Symptom management	2.00	2.21 ± 1.41	2.00	2.18 ± 1.04	1169.000	0.503

Bold indicates significant p values ($p < 0.05$).

*Vesical and intestinal Elimination.

**Grooming and dressing/undressing.

3), also observed in this study where the mean age was 80.7 years; the oldest participant was 102 years old. Literature refers that dependency is not exclusive to the old person (8) and could be related to a chronic disease. Accordingly, the youngest participant of the current study was 37 years old and data analysis found that 44% of the participants were hospitalised due to respiratory problems.

Reporting that a person is dependent on others for self-care is not sufficient to understand the patient's real needs. They may be dependent for transfers but not for medication intake, or vice versa. The amount of support required may vary with regard to the area/domain that the person is dependent. The results demonstrate that the highest dependency domain is the medication intake, where 41.3% of the participants were dependent on a caregiver, followed by instrumental activities of daily living (IADL) domain (40.6%) and bathing (39.9%), which is in line with the literature (4,5). This could be related not only to a diminished cognitive and functional capacity but also due to the lack of time to prepare an effective

discharge planning that included teaching and training of the dependent person and the informal caregiver. Furthermore, as it has been found in previous research (17) the results show that patient needs are normally in more than one domain and the nonspecification of the quantity and quality of care required for each domain does not help the healthcare professional designing a bespoke discharge programme for each patient. The assessment scale used in this study may help the healthcare professional, not only during the assessment but also when planning discharge, as it gives them an overview of the person's needs and their level of dependency in a range of domains separately.

It was also verified that although not statistically different, the degree of dependency is not related to the gender of the dependent person. However, it was possible to see a trend where women, with the exception of the communication domain, presented higher values of independence in all other domains explored. It is recognised that women, in general, have a tendency to be more independent in self-care behaviours than men; however,

Table 6 Spearman's correlation between the self-care domains of the dependent person, length of admission, age of the participant and length of dependency in months

	<i>Length of admission (days)</i> <i>Spearman's rho</i>	<i>Participant's age (years)</i> <i>Spearman's rho</i>	<i>Length of dependence (months)</i> <i>Spearman's rho</i>
Transfers and mobility	−0.075	−0.061	0.070
VIE**	−0.137	−0.100	0.079
Eating	−0.044	−0.122	0.062
Dressing/undressing***	−0.086	−0.172*	0.053
Bathing/showering	−0.073	−0.164	0.029
Medication intake	−0.035	−0.084	0.052
Communication	−0.015	−0.098	0.057
IADL	0.109	−0.001	−0.010
Symptom management	−0.117	−0.061	0.127

* $p < 0.05$.

**Vesical and intestinal Elimination.

***Grooming and dressing/undressing.

the relationship between gender and self-care has not been fully examined in this study nor in the literature. Thus, further studies are needed to examine the impact of gender, ageing and self-care behaviours.

Furthermore, it was verified that the participants who had some degree of self-care dependency prior to admission were more likely to be dependent when compared to those who were not dependent previously. This might be due to the fact that they were more physically disabled to complete their self-care activities previous to this latest hospitalisation. On the other hand, patients that were already receiving some kind of formal or informal care tended to rely more on others to complete these activities for them. Nevertheless, hospital stay did not contribute to the patient's independence in any of the self-care domains.

Contrary to what one would expect, it was verified that the length of admission and dependency time were not significantly related to the degree of dependency. However, age and degree of dependency were significantly related when it comes to the grooming and dressing/undressing domains, where it was found, as one would expect, that older participants, in general, are more dependent.

It was also verified that there is a tendency to become more dependent as the length of admission increases. It should not be ignored that prolonged stay in acute hospitals increases the risk of cognitive impairment and functional dependency (18,19,26), in spite of nursing work in self-care training during the hospital stay and the planning of discharge which occurs with the involvement of the healthcare team. On the one hand, other studies have also demonstrated that prolonged hospital stays are associated with poorer functional status and mobility which in turn will affect the degree of dependency post-discharge (18,19,23,26–28). On the other hand, the increase in dependency time seems to be followed by

gains in autonomy, even though the correlations were not significant. This might be explained by the fact that people that have been dependent for longer may have adopted and/or found other ways to complete their tasks or adapted the activities in order to be able to complete them independently.

There are some limitations to acknowledge in this study. First, the number of participants and the sampling procedures used in the study constitute constraints on generalisation. As a novel instrument to assess the needs of dependent people was used, the study results should be interpreted carefully, acknowledging possible bias related to the self-assessment instrument itself. Asking patients about their dependency prior to the hospitalisation may lead to a bias due to the fact that patients, especially older ones, may have difficulty structuring that type of information. Another limitation is related to data collection; it was used only one hospital ward and one moment to collect the information. A longitudinal study, rather than a cross-sectional, would be more reliable in evaluating the readmission index related to the patients' dependency in self-care.

Practice implications

Further work is needed to explore in depth the results obtained in this study. However, the results suggest that the adequacy of care following hospitalisation is a crucial determinant of readmissions. Therefore, a careful discharge plan should be in place, designed based on patient self-care needs and discussed with the informal caregiver prior to the dependent person being discharged from the hospital to their home environment. Understanding the needs and skills of the informal caregiver is also key when designing the discharge plan and sessions. Healthcare professionals should prioritise teaching and supporting informal caregivers and empower their ability to

address and face the dependent person needs, in order to prevent early readmissions. Therefore, it is of utmost importance to understand the real needs of the person in each specific domain. An accurate assessment tool is required to guide the healthcare professional during admission and discharge, as well as appropriate resources to manage home discharge.

Conclusion

This paper gives us an insight into the real self-care needs of the dependent person pre-discharge. Dependent persons were mainly elderly women, hospitalised for more than one week, mostly due to acute respiratory disease.

At the time of home discharge, dependency in medication intake was the most prevalent together with dependency in developing instrumental activities of daily living. Being dependent in self-care prior to admission was determinant to worsen the functional status in basic activities of daily living such as elimination, eating, grooming and dressing/undressing and bathing/showering.

Dependency was not related to the length of stay, gender, age and time of dependency.

Reporting that a person is dependent on others for self-care is not sufficient to understand his or her real needs. The amount and type of support required may vary with regard to the area/domain the person is dependent and also with the caregiver skills. Thus, it is important to use a robust and reliable assessment tool that is able to assess the degree of dependency on the various domains of self-care. With information on the real specific needs, the healthcare professional is able to design a bespoke discharge patient-centred plan, not only with the dependent person but also with the informal caregiver.

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Competing interests

The authors declare that they have no competing interests.

Authors' contributions

All authors have made substantial contributions to all of the following: (1) the conception and design of the study, or acquisition of data, or analysis and interpretation of data; (2) drafting the article or revising it critically for important intellectual content; and (3) final approval of the version to be submitted.

Ethics approval and consent to participate

The study has been approved by the Research Ethics Committee at Central Hospital of Leiria (04 - 2017/05/02).

Participants have been informed of the research objectives and have given their written consent. Their anonymity has been guaranteed.

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