

## Functional activity and depression in elderly people over 70 years of age visiting Accident and Emergency Departments

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### *Abstract*

*Purpose: The purpose of this study was to investigate the functional home activity and depression incidence in the elderly people (over 70 years of age) after an Accident and Emergency Department visit. It is well known that elderly people commonly use emergency services; however, elderly patients have been less studied in acute care settings than other age groups. Sample and materials: Data were collected by interviewing 141 elderly people aged 70 years and older from one university hospital district in Finland and by analysing the person's medical records. The interview included the Lawton Instrumental Activities of Daily Living, Social Activity Measures and the Geriatric Depression Scale. Results: Elderly people 70 years and older who were living at home had predominantly independent activities of daily living statuses, and their self-reported ability to manage their life was good despite their functional characteristics. However, unidentified depression, continuous melancholy and the lack of assistance in activities of daily living were identified problems for this group of elderly people. Conclusions: In acute care settings, it is of utmost importance for advanced nursing practitioners to pay attention to elderly patients' ability to function at home and to identify depression symptoms in these patients. It is a challenge for care continuity, to empower elderly people and recognise these common threats to their ability to manage at home.*

*Keywords: Activities of daily living, Depression, Elderly people, Interview, Social activity*

### **Introduction**

Advanced practice nurses within acute care settings are responsible for providing healthcare to a rapidly expanding population

of elderly patients. Medical advances have contributed to the population's longevity, resulting in an increase in such age-related challenges as functional decline, chronic conditions, and cognitive impairment. To

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ensure the best care for older patients and their families, it is important that acute care nurses become familiar with the most common threats to elderly people who live at home. Such threats include a lack of assistance with daily living tasks, feelings of loneliness and depressive symptoms (Chang & Chueh 2011; Ekwall, Hallberg, & Kristensson, 2011).

Functional assessments are critical when caring for older adults. Normal ageing changes, acute illness, worsening chronic illness, and hospitalisation can all contribute to a decline in the ability to perform tasks necessary for living independently in the community (Graf, 2006, 2008). Objective data from a functional assessment can help target individualised rehabilitation needs and specific in-home services, such as meal preparation, nursing care, domestic services, personal care, and/or continuous supervision. A functional assessment can also help the clinician focusing on the patient's baseline capabilities, facilitating the early recognition of any changes that signify a need for additional resources or a medical work-up (Gallo & Paveza, 2006; Savikko, Tilvis, Routasalo, Strandberg, & Pitkälä, 2005). Ageing causes changes in the human body, and it is important that elderly people be able to cope with those changes in their everyday life. Acute care nurses are on the frontline of evaluating those changes and possible assistance needs to ensure that the elderly people are functioning at home.

Depression affects elderly people's overall health and quality of life. Many of the changes they face, such as the deaths of friends and loved ones, increased isolation, and medical problems, can lead to depression. Depression in older people is often linked to physical illness, which can increase the risk of depression.

Chronic pain and physical disability can cause depression. Depressive symptoms can be associated with medical problems, such as dementia, or as a side effect of prescription drugs. Left untreated, depression affects much more than just mood. It can impact physical health, impair memory and concentration, and prevent affected individuals from enjoying life (Chang & Chueh, 2011; Hustey & Meldon, 2002; Meldon, Emerman, Schubert, Moffa, & Etheart, 1997; Mion et al., 2003). However, depression is not a normal or necessary part of ageing, and it is very important to recognise it as early as possible.

Loneliness is a major issue affecting the quality of life of the elderly people (Ekwall, Sivberg, & Hallberg, 2005). Unfortunately, it is a common problem in Finland. In the study by Savikko et al. (2005), 39% of the respondents suffered from loneliness, and 5% did so often or always. Elderly people face many losses, such as the deaths of their spouse and friends, and feelings of loss are a part of loneliness. Social activity can be an excellent way to avoid loneliness. Glass, Mendes de Leon, Marottoli, and Berkman (1999) found that socially active and productive people lived significantly longer over a 13-year observation period. The benefits of nonphysical activities were observed among those who were less healthy and less physically active. Glass et al's study (1999) supports the importance of social engagement for older people, and it suggests that factors other than physical fitness may explain why activity is good for health.

Finland is one of the fastest ageing countries in Europe. The proportion of people older than 65 years in the Finnish population is expected to increase from 17% at present to 27% by 2040 and to 29% by 2060 (Official

Statistics of Finland, 2011). The Ministry of Social Affairs and Health has established national objectives concerning services for older people in the form of a national framework for high-quality services for older people (Ministry of Social Affairs and Health in Finland, 2008). One of the most important strategic goals is improving the welfare of elderly people through promoting health with an aim that every elderly person is to live at home as long and as independently as possible. The nationwide aim is that by 2012, 91 to 92% of 75-year-olds will live at home independently or under the protection of appropriate social and health services provided on the basis of a comprehensive service needs assessment (Ministry of Social Affairs and Health in Finland, 2008). Accident and Emergency Departments plays an important role in these assessments, but currently they are used only sporadically.

Many studies have focused on elderly people in general (Crome, 2003; Eloniemi-Sulkava, 2002; Kristensson, Modig, Midlöv, Hallberg, & Jakobsson, 2010; Vass, Avlund, Hendriksen, Andersen, & Keiding, 2002). Few have addressed their use of health care services, especially in acute care, and after they return home. The challenge for continuity of care is to provide clinically useful advanced nursing in acute care settings and to optimise care for elderly people to ensure they can function when they return home after a hospital visit.

The purpose of this study was to characterise functional activity and depression in patients 70 years and older after an Accident and Emergency Department visit. Another goal was to identify common risk factors of depression among the elderly people, such as

a lack of assistance with daily living in the home. This study would generate information regarding elderly people's ability to manage at home after visiting an acute care setting. Information in this paper has been published in *Singapore Nursing Journal* (Kariniemi-Ormalala & Venviläinen-Julkunen, 2012).

In this study, functional activity refers to the more complex ADLs, such as shopping, cooking, and managing finances, which are necessary for living independently in a community (Graf, 2008; Lawton & Brody, 1969; Pearson, 2000).

### Aims and objectives

The purpose of this study was to investigate elderly persons who were 70 years and older who live at home and who returned home immediately after an Accident and Emergency Department visit and obtain information about their ability to manage at home after the visit. The research questions were:

1. What were the elderly participants' activities of daily living and social activities?
2. What levels of depressive symptoms did elderly participants exhibit?

### Sample

The study involved a convenience sample recruited over a one-year period. Patients were included in the study if they were aged 70 years or older, were discharged after an Accident and Emergency Department visit, and could provide conscious consent to participate in the study. One hundred and forty-one patients were included in the final study. The exclusion criterion was any disorientation. The majority of the excluded patients (n=39) were in poor

health or too disoriented to make a decision about participating. Fifteen patients declined participation, and 12 patients' interviews were incomplete.

### Measures

The Lawton Instrumental Activities of Daily Living Scale (IADL) was used in this study. The IADL is appropriate for assessing independent living skills (Lawton & Brody, 1969), which are considered more complex than the basic activities of daily living measured by Katz, Ford, and Moskowitz's (1963) Index of ADLs. It is useful for identifying how a person is functioning at the present time and for identifying improvement or deterioration over time. The instrument has been used in several studies (Cromwell, 2003; Graf, 2006; Ward, 1998) and in a systematic review of ADL instruments (Sikkes, de Lange-de Klerk, Pijnenburg, Scheltens, & Uitdehaag, 2009) in which Cronbach's alpha varied from 0.91 to 0.78. Eight domains of function are measured by the Lawton IADL Scale: the ability to use the telephone, shopping, food preparation, housekeeping, laundry, mode of transportation, responsibility for medications and ability to handle finances. Women are scored on all eight areas of function: historically, for men, the areas of food preparation, housekeeping, laundering are excluded. Participants are scored according to their highest level of functioning in each category. In this study, each item was rated trichotomously (1=unable, 2=needs assistance, 3=independent).

The participants' ability to function at home was evaluated by the Social Activity Scale. The Social Activity Scale used in this study was developed, tested and widely used in university hospital research, especially in

psychiatric care (Viinamäki et al., 1986). This Social Activity Scale measures twelve different areas by recording how often the subject engages in the activity (i.e., daily, weekly, monthly, rarely or never).

The Geriatric Depression Scale (GDS-15) was used to assess depression in elderly participants. The GDS-15 is a short form of a depression scale, and it was specially developed to differentiate depressed from non-depressed elderly people (Sheikh & Yesavage, 1986). The authors found that the shorter format of the GDS-15 successfully differentiated depressed from non-depressed elderly people with a high correlation with the longer form. There are many studies on the validity and reliability of GDS-15 (e.g., Brink, Curran, & Dorr, 1983; Cullum, Tucker, Todd, & Brayne, 2006; Friedman, Heisel, & Delavan, 2005; Kurlowicz & Greenberg, 2007), and it has been found suitable for screening elderly people for depression.

### Data collection

Data were collected by interviewing patients aged 70 years and older from one of the five university hospital districts in Finland and analysing their medical records over a one-year period. A structured interview was used to obtain information about the participant's health condition, losses of friends and family, fears and social activity. The prevalence of depression and the performance of activities of daily living were measured with the Lawton IADL (Lawton & Brody, 1969) and the GDS-15 (Sheikh & Yesavage, 1986). The interviews took place in the Accident and Emergency Department soon after the patients' discharge. Following a pilot study with 10 patients, a few corrections and clarifications were made to the interview's structure and the questions asked.

The patients' medical records were available in both electronic and paper form. The medical records were read and analysed either immediately after their interview or were accessed later through the Patient Records Office. The medical records were examined either in the Patient Records Office or in the Accident and Emergency Department. Notes were made on a separate data collection sheet and covered the same topics (illnesses, orientation, status) as the structured interviews.

The first author interviewed all the elderly participants and read their medical records. During the structured interview, the participants had time to consider their answers and were not rushed. The aim of the interviews was to gain an understanding of the participants' experiences of living, to identify the fears and losses they might experience, and to let them talk about their home life. The interviews lasted from 40 minutes to nearly three hours. The data were analysed statistically using SPSS 19.0 for Windows (SPSS Inc.) and descriptive and statistical procedures (frequency, percentages, cross-tabs, and measures of central tendency).

### Ethical considerations

The study was approved by the Research Committee for Ethics of the hospital district. The researcher made a commitment to inform medical personnel if something unexpected (unknown illnesses, medical errors) arose during the interview. The data were kept confidential. All the patients were informed verbally and in writing about the purpose and the methods of the study and its voluntary nature before they were asked to participate. The participants were asked for their conscious

permission to participate in the study. They were required to make the decision themselves, without a relative's assistance. They provided written consent to participate in the study. All the elderly persons participated voluntarily, and informed consent was obtained. The participants were permitted to withdraw from the study at any time.

### Results

#### *Demographic characteristics of the participants*

The participants' age ranged from 70 to 97 years, and more than half of them were women (n=96, 68%). Almost half of the them were married, lived with their spouse and resided in a block of flats. The most common education level was elementary school, and the most common profession was blue-collar worker or farmer (Table 1). The most common reason for their acute hospital visit was physicians' referral (n=106, 75%). Five participants received acute care because their home care workers recommended that they went. The main reasons for the visit were somatic symptoms or disease (88%) and accident or injury (n=22, 16%). The participants' length of stay in the Accident and Emergency Department varied from a few hours (n=23, 17%) to three days (n=1). The visit usually lasted for 24 hours (n=113, 80%), and the most common reason for the length of the hospital treatment was follow-up of the participant's condition (n=127, 90%). Eight participants (6%) visited the Accident and Emergency Department because their primary care institution could not take more patients. For three participants, the reason for staying was unclear. Only 14% (n=19) of the elderly used a safety phone at home.

**Table 1**

Demographic characteristics of the participants (n=141)

Demographics	n	%
Age		
70-79	88	62
80-89	49	35
90 and over	4	3
Marital status		
Married	68	48
Widow	59	42
Unmarried	7	5
Divorced	7	5
Living		
Alone	62	44
With spouse	68	48
With somebody else	11	8
Gender		
Female	96	68
Male	45	32
Education		
Elementary school	89	63
Occupational school	44	31
Higher education	6	4
No education	2	1
Profession		
Blue-collar workers	73	52
Farmer	31	22
White-collar workers	23	16
Academic workers	14	10
Live in a		
Block of flat	75	53
Detached house	40	28
Row house	26	18

*Functional characteristics of the participants*

The participants' functional characteristics (vision, hearing and mobility) were usually weakened, meaning that these functions could be enhanced with assistive devices as glasses, an audio phone, a walking stick or a walker (Table 2). One-fourth (25%) of the patients received help from community services, and nearly the same proportion employed private help they paid for themselves. Relatives helped 11% (n=16) of the elderly participants. Four participants (6%) said that they had

asked for help from community service but did not receive it. Three participants would have obtained private help if they could have afforded it. Return visits to the acute care unit were rare among this elderly group. However, almost half of the elderly people reported that their last health care visit had been during the same month (within a week, n=10, 7%; within two weeks, n=18, 13%; and within a month, n=32, 23%). Most frequently, the last health care visit was at the participant's own health centre (n=79, 56%) and for a routine visit (n=75, 53%).

**Table 2**

Functional characteristics of the participants (n=141)

Functional characteristics	n	%
Vision		
Normal	75	53
Weakened	62	44
Weak	4	3
Hearing		
Normal	107	76
Weakened	34	24
Mobility		
Normal	75	53
Weakened	63	45
Weak	3	2
Assistance		
Community nurse's help	35	25
Private nurse's help	32	23
Relatives' help	16	11
No assistance	58	31

The IADL assessment results varied among the eight domains, but more than half (65 to 88%) of the participants had an independent IADL status in each domain. One domain's scores were below this level: only 36% (n=51) of the participants had an independent role in housekeeping. The need for assistance varied markedly, from 6% to 34%, in connection with the domain of assessment. Remarkably, a need for assistance was found in every domain. The elderly people needed the most assistance in Housekeeping (n=48, 34%) and Shopping (n=32, 23%). Self-assessments of "unable" to function were also found for each section. The proportion of participants who described themselves as "unable" ranged from 6% to 21% among the domains, and Housekeeping (n=29, 21%) and Shopping (n=32, 23%) were again the most frequently affected domains.

#### ***Depressive symptoms of the participants***

Mild depression was found in 6% (n=9) of the participants, and no symptoms of depression were reported by 92% (n=130) of the people. However, the participants did report some degree of melancholy (n=18, 13%), a state in which they are not interested in anything, have little strength to do anything, or life seems meaningless. In those situations, the GDS-15 scores usually reflect mild depression. Two participants had serious depression, and they were hospitalised after participating in the study.

The participants spoke about their losses. Nearly half of them were afraid of falls (n=61, 43%) and death (n=30, 21%) either occasionally or constantly. Losses were common, especially those involving the participant's health (n=85, 60%) and their relationships (n=65, 46%). The death of a spouse was frequently mentioned as human relationship loss. The women also spoke of the

death of a child, even if it had happened fifty or sixty years ago. Only 18% (n=25) of the participants reported that they were not afraid of any losses.

The participants' social activity was linked to their signs of depression. The participants with depressive symptoms were less socially active. No similar correlation between depressive symptoms and ADLs was found, although participants with depressive symptoms had a greater need for assistance. The participants' most common social activities were meeting and calling their relatives (n=90, 64%) and friends (n=66, 47%) daily and weekly and engaging in hobbies (n=65, 46%). Religious occasions, society meetings, concerts, movies, theatre, amusements, dancing, and restaurant visits were rare.

#### **Discussion**

The primary purpose of this study was to characterise the functional activity and depression of patients 70 years and older after an Accident and Emergency Department visit. A second purpose was to identify possible risk factors shared by these elderly persons, such as lack of assistance with daily life in the home. We aimed to generate information about elderly persons' ability to manage at home after visiting an acute care setting.

Our results showed that elderly participants living at home were mostly independent in their ADL. However, we also found that the elderly participants encountered a lack of assistance with tasks in every ADL domain. The participants' social activity was connected to their need for assistance with ADL and with their depression symptoms (Ekwall et al. 2005, 2011). Despite their functional characteristics, the participants' self-reported experiences of

managing their lives were generally good. Participants with depressive symptoms were a notable exception.

Previous study found depressive symptoms could affect elderly persons' perceptions that they were functioning adequately (Savikko et al., 2005). In Finland, one of the fastest ageing countries in Europe, the target is for every elderly person to live at own home as long and as independently as possible. To realise this target, it is important to ensure that the nation's elderly people are able to manage their life needs. It is important to understand that elderly people are a vulnerable group and that the use of health care services is influenced by depressive symptoms and loneliness. Advanced practice nurses who are working at the acute care settings are at the front line for recognising unidentified depression and a need for assistance with ADL among elderly people. Advanced practice nurses could use instruments such as the GDS-15 or the Lawton IADL, which are quick and valid ways to evaluate home capabilities and depressive symptoms among elderly patients in acute care settings.

In this study, over a one-year period, 141 elderly patients were interviewed using structured instruments. Interviewing older adults often requires special considerations. Written materials should be printed in a large font for ease of reading, and patients' eye-glasses should be available. When interviewing elderly patients using a questionnaire, as we have used in this study, the patient's comfort is important. The environment must be without distractions, and hearing aids should be used if needed. Some older adults may require more time to complete the interview. If the assessment requires the demonstration of a task, such as transferring, walking, or pivoting, the researcher must provide stand-up assistance

or a contact guard, such as placing a hand on the patient's back or arm for support (Lach & Smith, 2007).

Older adults may be reluctant to participate in a functional assessment if they fear losing independence as a result of the assessment. They may report that their living situation is adequate, even if it is not. These questions were handled successfully with nearly every participant in this study, and measures were used to minimise anxiety and fear in the participants.

#### **Study limitations**

Although an archivist helped with retrieving the participants' records, 16 medical records were missing. This reflected that the participants' medical records were largely inadequate. It seemed as though nurses and doctors were not keen to document patients' information. Thus in this study, it was impossible to compare the participants' self-reports with staff reports in the medical records.

#### **Conclusion**

To facilitate their home life and to identify their symptoms of depression, elderly patients seen in acute care settings warrant careful evaluation for depressive symptoms and their ability to function at home. It is a challenge for continuity of care to empower elderly people and recognise the most common barriers to their well-being.

#### **Acknowledgement**

The authors would like to thank the *Singapore Nursing Journal* for giving permission to the authors to reprint this article in the *Hong Kong Journal of Mental Health*.

摘要

超過七十歲的長者使用意外及急症部門後的機能活動及抑鬱症

目的：調查長者（超過七十歲）使用意外及急症部門之後的機能家居活動及的抑鬱事件。雖然長者經常使用急症服務，但是年老病人於急性照顧環境下的研究較其他年齡組別為少。

樣本及材料：採訪一百四十一名年齡超過七十歲或以上住在芬蘭一間大學醫院區域的長者，並分析他們的病歷以取得資料。

結果：年齡超過七十歲或以上住在家中的長者，在日常生活狀況上顯著地較獨立，他們在管理生活的自我評價是良好。但是，未能識別的抑鬱、持續的憂愁及缺乏日常生活活動的幫助，都是這個組別長者面對的明顯問題。

結論：在急性照顧環境下，高等的護理人員需特別關注年長病人於家居的活動能力，及辨別他們出現的抑鬱徵狀。在護理延續、提升長者能力及識別他們在家居管理能力的常見威脅等問題，都是業界需要面對的挑戰。

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