ORİJİNAL ARAŞTIRMA ORIGINAL RESEARCH

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The Discharge Needs of Family Caregivers of the Patients Following Hip Fracture Surgery

Kalça Kırığı Nedeniyle Ameliyat Olan Hastalara Bakım Veren Aile Üyelerinin Taburculuktaki Gereksinimleri

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ABSTRACT Objective: Hip fracture is a common cause of morbidity and mortality, especially in the elderly. After hip fracture, patients need support from their family to adapt to their daily life. The aim of this study was to determine the discharge needs of family caregivers of the patients following hip fracture surgery. **Material and Methods:** This descriptive qualitative study was conducted with 25 family caregivers who met the inclusion criteria and agreed to participate in the study. Data were collected by using a semi-structured in-depth interview form and an audiotape. The interviews lasted approximately 20 minutes. The transcripts were coded by using content analysis, and themes were created. **Results:** The content analysis revealed three themes; i.e. "information needs", "difficulties encountered in the care of patients with Alzheimer's disease and hip fracture" and "worry about the patient's recovery and self-sufficiency". **Conclusion:** Family caregivers have insufficient knowledge about many issues concerning discharge, which causes them to experience anxiety. Therefore, nurses should offer family caregivers detailed information about the home care process at discharge. Effective education to be offered to family caregivers at discharge will make a positive contribution to their adaptation, facilitate the home care process and decrease their worries.

Keywords: Hip fracture; orthopedic surgery; caregivers; recovery process

ÖZET Amaç: Kalça kırığı, özellikle yaşlılarda sık karşılaşılan, önemli bir morbidite ve mortalite nedenidir. Kalça kırığı sonrası hastalar günlük yaşama uyum sağlamada ailelerinin desteğine gereksinim duymaktadır. Çalışmamızın amacı kalça kırığı nedeniyle ameliyat olan hastaya bakım veren aile üyelerinin taburculuk sırasındaki gereksinimlerini ortaya koymaktır. **Gereç ve Yöntemler:** Tanımlayıcı niteliksel tipteki araştırma örneklem kriterlerini karşılayan ve araştırmaya katılmayı kabul eden 25 bakım veren aile üyesi ile yapılmıştır. Veriler yarı yapılandırılmış derinlemesine görüşme formu ve ses kayıt cihazı kullanılarak toplanmıştır. Görüşmeler yaklaşık 20 dakika sürmüştür. Veriler içerik analizi kullanılarak kodlanmış ve temalar oluşturulmuştur. **Bulgular:** İçerik analizi sonucunda "bilgi gereksinimi", "Alzheimer hastalığı ve kalça kırığı olan hastanın bakımında karşılaşılan güçlükler" ve "hastanın iyileşmesi ve kendi kendine yeterliliği hakkında endişe" olmak üzere üç tema belirlenmiştir. **Sonuç:** Bakım veren aile üyelerinin taburculuk ile ilgili pek çok konuda bilgi eksikliği bulunmakta ve bu durum endişe yaşamalarına neden olmaktadır. Bu nedenle hemşireler bakım veren aile üyelerini taburculukta evde bakım verme süreci ile ilgili ayrıntılı bir şekilde bilgilendirmelidir. Bakım veren aile üyelerine yapılacak olan etkin taburculuk eğitiminin uyum sürecine olumlu katkı sağlayacağı, evde bakım sürecini kolaylaştıracağı ve endişeleri azaltacağı düşünülmektedir.

Anahtar Kelimeler: Kalça kırıkları; ortopedik cerrahi; bakım verenler; iyileşme süreci

Hip fracture is a common cause of morbidity and mortality, especially in the elderly. Each year over 300.000 older people those 65 and older are hospitalized for hip fractures.[1] The main cause of hip fracture is falling, in particular falling in sideways direction, as it induces a high level of force on the femur. Parameters that increase the risk of fall and apply a high level of force on the femur, especially in the elderly, are: mental impairment and confusion, impaired vision, impaired muscle reactions, slow reflex response, inability to effectively use the arms to reduce the energy of the fall, impaired neuromuscular coordination and neurological diseases (e.g., hemiplegia, Parkinson's disease), reduced soft tissue padding over the hip.[2-4]

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According to health statistics reported by the Organisation for Economic Co-operation and Development (OECD) in 2015, the incidence of total hip arthroplasty in Turkey was 44/100.000.[5] In the United States of America (USA), 258.000 hip fractures were identified in 2010, and this figure is estimated to reach 298.000 by 2030.[6] The number of hip fractures around the world may reach 8.2 million in 2050.[7]

Hip fracture is usually treated with surgical procedures including closed or open reduction with internal fixation, partial arthroplasty, total hip arthroplasties and locked intramedullary nailing.[8] Hospital stay due to hip fracture can vary with such factors as general health status of patients and type of surgery. It is reported that the mean duration of hospital stay in European countries ranges from 9.80 to 18.90 days.[9] The mean length of hospital stay in Turkey was reported to be 11 days by Hepgüler et al. and 14 days by Çamur et al. It takes time for patients to gain their independence after surgery and they have knowledge and support needs about adaptation to their daily life.[10,11]

Older adults at 12 months after hip fracture become dependent on caregivers for help with activities of daily living and patients need rehabilitation and support to adapt to daily life.[12,13] Rehabilitation is essential for the patients to obtain their previous functional abilities after hip fracture. However, problems about access to post-hip fracture rehabilitation services have been reported in Turkey and in the world.[14-17] In a study conducted in the United Kingdom (UK), patients' access to post-hip fracture rehabilitation services was found to be limited in some areas; thus, every patient does not receive rehabilitation services in the same way.[14] In another study conducted in the USA, after hip fracture care, the majority of caregivers expressed concerns about the care provided in the rehabilitation setting, generally focusing on their care recipient not receiving the level and amount of care the caregiver assumed necessary.[15] In Turkey, home care services are offered by home care services units of the Ministry of Health and private home care centres. Physical therapy and rehabilitation services are provided in accordance with the guidelines numbered 25751 and issued by the Ministry of Health on 10 March 2005.[18] The studies conducted in Turkey showed that the patients often benefit from home care services due to chronic diseases and do not receive physical therapy and rehabilitation services in these centres.[16,17] These problems in the rehabilitation process cause family caregivers to take more responsibility and a more active role in the home care process. Therefore, family caregivers should receive good education about discharge and prepare for the family caregiver role.[19,20] Health care professionals, especially nurses, have important responsibilities for the adaptation of family caregivers to their new role.[21]

Nurses play an important role in satisfying needs of family caregivers offering care to patients with hip fracture. However, nurses may need the support of patients' family when conducting activities, such as bathing, dressing, toileting or feeding related to the care of these patients, due to the number of patients and excessive workloads.[22] In Turkey, service of care by the members of the patient's family is considered a patient right, and a relative of the patient may be requested to accompany the patient upon the decision of the physician, in accordance with the institutional policies, or if the patient's condition requires such care.[23] In Turkish culture, a patient is usually supported by his/her family members, which is perceived as a domestic responsibility. Experience and knowledge levels are influential on the basis of care provided by caregivers.[24,25] Therefore, family caregivers' knowledge about how they can perform the caregiver role, to what extent they should take part in care and how they can access appropriate sources before adopting responsibility of care is of crucial importance in terms of patient safety and quality of care.[24-26] Caregiving services offered by family caregivers have positive contributions like increased emotional interactions with patients, self-improvement, development of close relationships, receiving social support from other individuals, self-respect and personal psychosocial satisfaction, but they can be challenging.[27] All difficulties including physical, psychological, social and financial ones are defined as caregiving burden. Due to this burden, caregivers may experience depression, decreased social relationships, disrupted familial relationships and the feeling of loss of control.[28] In a study performed by Shyu et al. to reveal the needs of caregivers offering

care to the patients having surgery for hip fracture, the caregivers were found to have needs for receiving information about treatment and healing, social support and coping with stress.[29] In another study on caregivers of the patients having surgery for hip fracture, the caregivers reported that they were not given sufficient information about treatment and the caregiving process.[30]

In the literature, although a large number of studies have been conducted on family caregivers of patients with psychiatric disorders, colorectal cancer and hemiplegia, less attention has been paid to the needs of family caregivers providing care for the patients with hip fractures.[26,30-35] In a systematic review, Cuesta et al. reported that there is only a limited number of studies about family caregivers giving care to patients with hip fracture.[20] The same study emphasised that studies on family caregivers giving care to patients with hip fracture were predominantly conducted in Canada and the USA. According to the article, this condition limits the use of these studies' results for other countries' health systems. Therefore, there is a need for studies conducted in other countries. The present work could identify carers' needs, but cultural studies may be necessary to determine what is happening in practice.[20] The aim of this study is to reveal needs of family caregivers of patients having surgery for hip fracture at discharge. This study is believed to help family caregivers for the preparation of educational contents related to home care of patients undergoing surgery for hip fracture. It may also contribute to the determination and planning of interventions for home care of patients undergoing orthopaedic surgery for hip fracture.

MATERIAL AND METHODS

STUDY DESIGN AND SAMPLE

In the study, a qualitative descriptive approach and purpose sampling method was used.[36,37] It was conducted in the orthopaedic trauma unit of a university hospital in Izmir located in western Turkey. The inclusion criteria of the study were as follows: aged 18 and above, ability to read and write Turkish, agreeing to participate in the study, being a family member of a patient having undergone hip fracture surgery and providing care for such a patient for the first time. Family caregivers participate in such caregiving functions as mobilization and changing positions and diapers of patients. Duration of hospital stay can range from four days to nine days depending on general health status, age and type of surgery of patients. Education at discharge is not offered through a structured, active educational method. It is provided through a brochure given in two days after surgery. It contains information about pain management, time to present to hospital for follow-up, use of medications and prevention of infections and dislocation (e.g. not crossing legs and not sitting straight). It does not include detailed information about home care or any information about care for patients with Alzheimer's disease. Patients are not offered education at discharge except for the brochure. Data saturation refers to the degree to which new data repeated what was expressed in previous data.[38] The sample size was determined when a saturation point of acquired data was reached. The study was conducted between March 2017 and July 2017. A total of 25 family caregivers were enrolled in the study.

DATA COLLECTION TOOLS

Data were collected by using "Caregiver Sociodemographic Characteristics Form", "Patient Sociodemographic and Clinical Characteristics Form", and "Semi-Structured Interview Questions", which were developed by the researchers in light of the literature.

Caregiver Sociodemographic Characteristics Form: This form was prepared by the researchers; it consisted of seven questions related to sociodemographic characteristics such as age, gender, education level, marital status, health coverage, income state, occupation, degree of relation with patients (son, daughter and daughter in law etc.).

Patient Sociodemographic and Clinical Characteristics Form: This form was prepared by the researchers; it consisted of seven questions related to sociodemographic characteristics such as age, gender, education level, marital status, health coverage, income state, occupation, comorbid disease.

Semi-Structured Interview Questions: The interview questions were prepared by the researchers; it consisted of four questions (Table 1).

TABLE 1: Interview questions.

What are the needs of family caregivers of patients with hip fracture surgery regarding patient care at discharge?
Tell me about your experiences with providing care while the care recipient was in hospital.
What do you think about care management of your patient after discharge?
What education subjects should be taught to family caregivers of patients having undergone hip fracture surgery at discharge?

INTERVIEWS

The interviews were conducted in the orthopaedic trauma unit of a university hospital. The orthopaedic trauma unit has 60 beds and 17 nurses work. The interviews with the family caregivers were conducted in the hospital the day before the patients were discharged. Before initiation of the study, a pilot study was performed on five family caregivers to determine time of interviews and to test understandability of interview questions. The results of the pilot tests were not included in the study. Interviews with the caregivers in the pilot study were conducted on the day of discharge. The results of the pilot study showed that the caregivers were in a hurry and excited at discharge, did not want to leave the patients alone due to the possibility of completion of discharge procedures and focused on these procedures. Therefore, the interviews lasted a very short time on the day of discharge (4-5 minutes) or discontinued or the caregivers declined to have interviews. It became clear that the interviews with the family caregivers could not be conducted on the day of discharge. For this reason, they were conducted in the hospital the day before the patients were discharged. We modified the interview schedule in line with the results of the pilot test. A voice-recording device was used for data collection during the interviews in the study. An in-depth interview was conducted to guide the semi-structured interview questions, and the individual interviews were completed in a quiet, well-lit and well-ventilated room inside the facility. The interviews lasted approximately 20 minutes.

DATA ANALYSIS

An average and standard deviation were used for continuous variables. The categorical variables in the description of demographic data were presented in percentages. Inductive content analysis, in which obtained data were continuously compared by two researchers, was carried out to analyse the transcripts.[37] To perform this analysis, the recorded interviews were transcribed verbatim, and subthemes and main themes were determined independently by two researchers. The two researchers subsequently compared their coding and reached consensus on them. The themes were then analysed and confirmed by another researcher (investigator triangulation).[36,39]

RELIABILITY AND VALIDITY STRATEGIES

In the study, the criteria recommended by Lincoln and Guba were used for validity and reliability. In the criteria recommended by Lincoln and Guba, the terms dependability, confirmability, credibility and transferability correspond to internal reliability, external reliability, internal validity and external validity, respectively.[36]

To achieve dependability, each interview was based on a similar approach, and the two researchers independently examined the data. For confirmability, findings were stated clearly so that readers could understand them easily. Moreover, recordings of the interviews, transcriptions and analyses were retained for future confirmation use.[36,39]

In terms of validity (credibility), data were collected during in-depth interviews and analysed by two independent researchers. The interviews were recorded by one researcher, who also took notes during interviews. The researchers examined the findings to determine whether the findings accurately reflect the reality described by participants by questioning themselves critically. To achieve transferability, detailed descriptions and purposeful sampling were used. When the researcher provides a detailed description of the enquiry and participants were selected purposively, transferability of the inquiry was facilitated.[36,40]

ETHICAL APPROVAL

Non-interventional Ethics Committee of the University approved the conduct of this study with the

resolution number of 2016/25-03 dated 26.09.2016. Institutional approval to conduct the study was obtained from the University Hospital on 13.02.2017 with the number 6651525237/102. The patients or if necessary, their legal representatives were informed about the aim of the study, and their verbal and written consent was obtained. The study was conducted in accordance with the ethical standards of the Declaration of Helsinki, which promotes respect for all human beings and protects their health and rights.[41]

RESULTS

The mean age of the family caregivers participating in the study was 41.84±8.19 years (Min: 24, Max: 56). Of the participants, 23 (92%) were women, 22 (88%) were housewives and 15 (60%) were the daughters, 6 (20%) were the daughters in law, 2 (10%) were spouses, 2 (10%) were sons of the patients. The mean age of the patients receiving care was 65.48±6.89 years (52-82). Of all the patients, 20 (80%) were women, 5 (20%) had Alzheimer's disease and 23 (92%) had chronic diseases such as hypertension and diabetes.

As a result of the analysis of qualitative data, the following themes were determined: "information needs", "difficulties encountered in care of patients with Alzheimer's disease and hip fracture" and "worry about the patient's recovery and self-suffiency".

THEME 1: INFORMATION NEEDS

All family caregivers stated that they were not knowledgeable about matters such as postoperative nutrition, use of assistive devices, care at home and exercises.

POSTOPERATIVE NUTRITION

Some family caregivers expressed that they did not know what they should focus on regarding postoperative nutrition and the effect of diet on healing. Some of them described their need for information about nutrition as follows:

"I think that her drinking or eating does not affect. All in all, she has a hip fracture. Does eating or drinking have an effect? I do not know anything about that at all, for example. Which food will help her recover more quickly? I would like to know…." (C1, Spouse, 50 years old).

"Is there a special diet requirement? I don't know. I would like to get information on this subject …" (C2, Daughter, 48 years old).

USE OF ASSISTIVE DEVICES

Most of the family caregivers indicated that they needed information regarding how and how long assistive devices should be used. Some of the patient relatives described this need as follows:

"Which device should we use? Crutches? A walker? …'"(C3, Daughter in law, 42 years old).

"I should learn how to use assistive devices. Is he going to use a crutch or a walker? How much time does he have to use it? I do not have any information because such a thing is happening to me for the first time…" (C4, Spouse, 45 years old).

CARE AT HOME

All of the family caregivers said that they needed to be informed about what they should pay attention to at home during the postoperative period, when and how the patient should take a shower or bath and how he/she would manage to go to the toilet. Some of the patient relatives described this requirement as follows:

"What should I pay attention to at home? Will I help her to go the toilet, or will I use a bedpan? When will she be able to go to the toilet by herself?..." (C5, Daughter, 46 years old).

"I do not know what to do and how to give care at home. When, for example, will she take a shower? Should she be standing or sitting while taking a shower? Beds in the hospital are adjustable; can she sleep in a normal bed at home? Or should we buy a bed of this type?..." (C6, Son, 42 years old).

EXERCISES

Most of the family caregivers stated that they lacked knowledge about what exercises should be done and how long and how frequently these exercises should be done. Some of the family caregivers' statements about this need are as follows:

"The most important point is how long we should walk her in a day? I mean, for example,

should she rest for 2 hours and walk for half an hour? We should know that. And how far should we walk her?…"(C7, Son, 46 years old).

"*I know that exercises are very important. However, I do not know how much to do and how long I should continue these exercises...'"(C8, Daughter, 36 years old).*

THEME 2: DIFFICULTIES ENCOUNTERED IN CARE OF PATIENTS WITH ALZHEIMER'S DISEASE AND HIP FRACTURE

Some of the family caregivers (five family caregivers) expressed that they had difficulty managing and maintaining the service of care to patients with Alzheimer's disease, they could not communicate with the patient and they did not know how to deal with the problem. With regard to this issue, some of the family caregivers described the difficulties they experienced as follows:

"Because my father is not thoroughly conscious, we cannot talk to him. Other family caregivers tell their patient what he should and should not do and the patient behaves accordingly. But my patient is not like that. For example, I know that he should keep his legs separate, but because he is not conscious; he constantly moves his feet and crosses his legs; what should I do in this case? How can I solve this problem?…" (C9, Daughter, 48 years old).

"My patient has severe Alzheimer's disease and diabetes. After surgery, he eats very little, so his blood glucose level drops below normal. Here they try to balance it with liquid, but what will I do at home? How will I look after the patient at home? How will I walk him? I do not know how to deal with this situation…" (C10, Daughter in law, 46 years old).

THEME 3: WORRY ABOUT THE PATIENT'S RECOVERY AND SELF-SUFFICIENCY

All the family caregivers were concerned with how long the postoperative recovery process would take and how long until the patient could return to his/her normal life. Family caregiver expressed their worries about the the patient's recovery and self-suffiency as follows:

"I wonder what should or shouldn't I do after surgery? She was able to go to the toilet before the surgery and eat her food by herself. Would she be able to do all these after the surgery? Will she become bedridden? As you see, there are so many things I do not know…" (C5, Daughter, 46 years old).

"How long will the patient receive care, I mean, how long will it take him to recover? Will he be able to stay on his own? Will the patient be able to continue his life alone without needing us? I would like to find out…" (C11, Daughter in law, 46 years old).

DISCUSSION

In the hospital, the family caregivers have the support of health professional and the caregivers do not experience the total care needs that the patient requires. They feel alone with many uncertainties regarding patient care when they go home after discharge.[19,42] This information is important to plan care which include the caregivers of the patients from the very early stages of hospitalisation.[42] For this reason it is important to determine the experiences and needs of family caregivers in the acute care period after hip fracture surgery. However, a limited number of studies have been reached to determine the needs of caregivers during the acute care period.[19,42] In the literature, studies on the caregivers of patients with hip fractures have generally been conducted with caregivers experiencing the home care process. Most of the relevant studies reported in the literature included samples of caregivers who had experienced home care. The sample of the present study comprised of caregivers who had not experienced home care yet. However, both reported samples and the present sample had similar needs.

The results of the study revealed that family caregivers who provide care to the patients with a hip fracture for the first time were confronted with many different roles and responsibilities. In addition, all the family caregivers stated that they lacked important knowledge such as postoperative nutrition, use of assistive devices, care at home and exercises because they assumed the caregiver role unprepared. The results of the study were consistent with those in the literature. A study by Asif et al. showed that the caregivers were not provided sufficient information about the use of assistive equipment, physical activity and

home care during their hospital stay and at discharge.[19] Nahm et al. conducted a study involving family caregivers who gave care to patients with hip fractures and found that majority of family caregivers assumed the role of a caregiver unprepared; thus, they lacked knowledge about many issues.[15] In a systematic review of family caregivers of patients with hip fractures, results demonstrated that family caregivers lacked knowledge; moreover, meeting their information needs by healthcare professionals so that they may adapt to their caregiving role is of critical importance.[20] Toscan et al. suggested that family caregivers of patients with hip fractures assumed the caregiver role unprepared and lacked knowledge; therefore, they had difficulty in providing care.[43] In a study conducted by Ree et al., the caregivers were not offered detailed information during hospital stay and discharge.[44] The family caregivers' need for information in our study can be explained by the fact that they took on this role for the first time and were caught unprepared such that healthcare workers could not allocate sufficient time to train them due to their heavy workload. If family caregivers are to be effectively prepared for this role, then they should be actively involved in the caregiving process, adequate time should be allocated to training and the decision for the discharge of the patient should be made by both family caregivers and healthcare workers.[20,30,45]

In our study, the family caregivers who gave care to patients diagnosed with Alzheimer's disease and hip fracture stated that they had difficulty managing and maintaining the service of care because these patients had low-level cognitive function, and they needed counselling to cope with this issue. In other studies performed on the same topic, family caregivers of the patients with Alzheimer's disease and underwent surgery due to hip fracture reported difficulty in the caregiving process because of low cognitive levels of these patients, and they should be supported during this process.[46,47] Our results demonstrated that all the family caregivers had difficulty in providing care for a patient who had surgery due to hip fracture because this was the first time they provided care for such patients. However, those who provided care to patients with Alzheimer's disease experienced more difficulty in the caregiving process than those who gave care to the patients without Alzheimer's disease. One study was conducted to determine burden of care amongst those who gave care to patients after they had hip fracture surgery, and results showed that those who gave care to patients with cognitive dysfunction had higher levels of burden of care than those gave care to patients with lower levels of burden of care.[48] In Kamiya et al.'s study, a patient with a disease comorbid with his/her cognitive dysfunction made the management of his/her care especially difficult.[49] In a study designed to determine the experiences of family caregivers of patients with hip fracture and cognitive dysfunction in the recovery process, those giving care to patients with cognitive dysfunction were found to experience more difficulty in care management and needed more support than those giving care to patients without cognitive dysfunction.[46] Family caregivers of the patients with Alzheimer's disease experience difficulties during the care process, which is thought to result from the fact that Alzheimer's disease adversely affects these patients' adaptation process, and the presence of a disease comorbid with Alzheimer's disease makes the service of care complex.

In the current study, the family caregivers reported feeling worried about their patient's recovery process after surgery and return to daily life. Hip fracture is a sudden traumatic event. As a result, family caregivers of the patients with hip fracture have many uncertainties regarding patient care, causing them to feel anxious. In a qualitative study that was conducted to determine the experience of family caregivers giving care after hip fracture during the first 6 months, results revealed that the caregivers had concerns about the healing process of their patients.[15] In our study, our findings suggested that the reason underlying the caregivers' concerns was inadequate information about the recovery period and return to normal daily life. Therefore, family caregivers should be offered information about the recovery process after surgery and expectations regarding return to daily life.

LIMITATIONS

This research is a qualitative study performed on a sample of family caregivers of the patients with hip

fracture living in the western part of Turkey. Therefore, the results of the study cannot be generalised to all family caregivers of patients with hip fracture in Turkey.

CONCLUSION

The lack of knowledge amongst family caregivers regarding postoperative nutrition, use of assistive devices, care at home, exercises and recovery process after surgery makes the care giving process difficult and causes caregivers to worry. Therefore, they should be offered detailed information by nurses about the discharge planning so that they can positively contribute to the adaptation process, facilitate the care process and decrease unnecessary worry. Family caregivers of patients with Alzheimer's disease with hip fracture experience more difficulty in care management than those providing care to patients without Alzheimer's disease. For this reason, rehabilitation in patients with Alzheimer's disease can be more challenging and may require specialized geriatric rehabilitation teams. Multidisciplinary intervention program, such as comprehensive geriatric assessments and rehabilitation, designed to prevent delirium, falls, pressure injuries and malnutrition, which improved rehabilitation outcome after hip fracture for people with Alzheimer's disease can be established and thereby family caregiver can manage and maintain the service of care successfully.

Source of Finance

During this study, no financial or spiritual support was received neither from any pharmaceutical company that has a direct connection with the research subject, nor from a company that provides or produces medical instruments and materials which may negatively affect the evaluation process of this study.

Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: *Buket Çelik, Özlem Bilik;* ***Design:*** *Buket Çelik, Özlem Bilik;* ***Control/Supervision:*** *Özlem Bilik;* ***Data Collection and/or Processing:*** *Buket Çelik;* ***Analysis and/or Interpretation:*** *Buket Çelik, Özlem Bilik;* ***Literature Review:*** *Buket Çelik;* ***Writing the Article:*** *Buket Çelik, Özlem Bilik;* ***Critical Review:*** *Özlem Bilik;* ***References and Fundings:*** *Buket Çelik;* ***Materials:*** *Buket Çelik.*

REFERENCES

1. HCUPnet. Healthcare Cost and Utilization Project (HCUP). Agency for Healthcare Research and Quality, Rockville, MD.2012. http://hcupnet.ahrq.gov. [Link]
2. Sarvi MN. Hip Fracture: Anatomy, Causes, and Consequences. Total Hip Replacement: An Overview; 2018:67. [Link]
3. Marks R. Hip fracture epidemiological trends, outcomes, and risk factors, 1970-2009. Int J Gen Med. 2010:3;1-17. [Crossref] [PubMed]
4. Ahuja K, Sen S, Dhanwal D. Risk factors and epidemiological profile of hip fractures in Indian population: a case-control study. Osteoporos Sarcopenia. 2017;3(3):138-48. [Crossref] [PubMed] [PMC]
5. OECD. Hip and knee replacement. In Health Care Activities Health at a Glance 2015: OECD Indicators. Paris: OECD Publishing; 2015. p.112-3.
6. Stevens JA, Rudd RA. The impact of decreasing U.S. hip fracture rates on future hip fracture estimates. Osteoporos Int. 2013; 24(10):2725-8. [Crossref] [PubMed] [PMC]
7. Sambrook P, Cooper C. Osteoporosis. Lancet. 2006;367(95827):2010-8. [Crossref] [PubMed]
8. Özkan S, Adanaş C. [Current approaches in femoral neck fractures]. Van Tıp Dergisi. 2018;25(1):76-81. [Crossref]
9. Medin E, Goude F, Melberg HA, Tediosi F, Belicza E, Peltola M. European regional differences in all-cause mortality and length of stay for patients with hip fracture. Health Econ. 2015;24 Suppl 2:53-64. [Crossref] [PubMed]
10. Hepgüler S, Çetin A, Toros Ş, Kara A. [Osteoporotic hip fracture costs in the elderly Turkish population]. Acta Orthop Traumatol Turc. 2011;45:472.
11. Çamur S, Kılınç BE, Sönmez MM, Çelik H, Öç Y. [Medical cost analysis of the osteoporotic hip fractures]. Turk J Osteoporos. 2015;21:118-21. [Crossref]
12. Shyu YI, Chen MC, Liang J, Wu CC, Su JY. Predictors of functional recovery for hip fractured elders during 12 months following hospital discharge: a prospective study on a Taiwanese sample. Osteoporosis Int. 2014;15(6):475-82. [Crossref] [PubMed]
13. Zidén L, Kreuter M, Frändin K. Long-term effects of home rehabilitation after hip fracture-1-year follow-up of functioning, balance confidence, and health-related quality of life in elderly people. Disabil Rehabil. 2010;32(1):18-32. [Crossref] [PubMed]
14. Neuburger J, Harding KA, Bradley RJD, Cromwell DA, Gregson CA. Variation in access to community rehabilitation services and length of stay in hospital following a hip fracture: a cross-sectional study. BMJ Open. 2014;4(9):e005469. [Crossref] [PubMed] [PMC]
15. Nahm ES, Resnick B, Orwig D, Magaziner J, Degrezia M. Exploration of informal caregiving following hip fracture. Geriatr Nurs. 2010;31(4):254-62. [Crossref] [PubMed] [PMC]

16. Karaman D, Kara D, Atar NY. [Care needs and disease states of individuals, who home health care services are provided evaluating: example of Zonguldak provience]. Gümüşhane University Journal of Health Sciences. 2015;4(3):347-59.
17. Çatak B, Kılınç AS, Badıllıoğlu O, Sütlü S, Sofuoğlu AE, Aslan D. [Profile of elderly patients who use health services in their homes and in-homa care]. Türkiye Halk Sağlığı Dergisi. 2012;10(1):13-21.
18. Resmi Gazete (10.03.2005, Sayı: 25751) sayılı Evde Bakım Hizmetleri Sunumu Hakkında Yönetmelik; 2005. p.1. [Link]
19. Asif M, Cadel L, Kuluski K, Everall AC, Guilcher SJ. Patient and caregiver experiences on care transitions for adults with a hip fracture: a scoping review. Disabil Rehabil. 2019;1-10. [Crossref] [PubMed]
20. Cuesta LS, Tutton E, Langstaff D, Willett K. Understanding informal carers' experiences of caring for older people with a hip fracture: a systematic review of qualitative studies. Disabil Rehabil. 2016;40(7):740-50. [Crossref] [PubMed]
21. Shyu YL, Chen MC, Wu CC, Cheng HS. Family caregivers' needs predict functional recovery of older care recipients after hip fracture. J Adv Nurs. 2010;66(11)2450-9. [Crossref] [PubMed]
22. Rocha SA, Avila MAGD, Bocchi SCM. The influence of informal caregivers on the rehabilitation of the elderly in the postoperative period of proximal femoral fracture. Rev Gaucha Enferm. 2016;37(1):e51069. [Crossref] [PubMed]
23. T.C. Sağlık Bakanlığı Geleneksel, Tamamlayıcı ve Fonksiyonel Tıp Uygulamaları Daire Başkanlığı. Hasta Hakları Yönetmeliği; 2016. [Link]
24. Taşdelen P, Ateş M. [The needs of home care patients and the burdens of their caragivers]. Hemşirelikte Eğitim ve Araştırma Dergisi. 2012;9(3):22-9.
25. Beşpınar FU. [Social gender and family]. Turğut M, Feyzioğlu S, editörler. Türkiye Aile Yapısı Araştırması Tespit ve Önerileri. 1. Baskı. İstanbul: T.C. Aile ve Sosyal Politikalar Bakanlığı; 2014. p.238-50.
26. Toscan J, Mairs K, Hinton S, Stolee P. Integrated transitional care: patient, informal caregiver and health care provider perspectives on care transitions for older persons with hip fracture. Int J Integr Care. 2012;12:e13. [Crossref] [PubMed] [PMC]
27. Dökmen ZY. [The relationship between mental health and perceived social support of family caregivers]. Ankara Üniversitesi Sosyal Bilimler Dergisi. 2012;3(1):3-38. [Crossref]
28. Hua X, Dolansky MA, Su Y, Hua X, Qu M, Zhou L. Effect of a multidisciplinary supportive program for family caregivers of patients with heart failure on caregiver burden, quality of life, and depression: a randomized controlled study. Int J Nurs Stud. 2016;62:11-21. [Crossref] [PubMed]
29. Shyu YL, Chen MC, Wu CC, Cheng HS. Family caregivers' needs predict functional recovery of older care recipients after hip fracture. J Adv Nurs. 2010;66(11):2450-9. [Crossref] [PubMed]
30. Glenny C, Stolee P, Sheiban L, Jaglal S. Communicating during care transitions for older hip fracture patients: family caregiver and health care provider's perspectives. Int J Integr Care. 2013;13(31):e044. [Crossref] [PubMed] [PMC]
31. Malak AT, Dicle A. [Burden of caragivers for patients with brain tumors and affecting factors]. Türk Nöroşirürji Dergisi. 2008;18(2):118-21.
32. Karahan AY, İslam S. [A comparative study on caregiver burden of caregivers to physically disabled, pediatric and geriatric patients]. Marmara Üniversitesi Sağlık Bilimleri Enstitüsü Dergisi. 2013;3 Suppl 1:1-6. [Crossref]
33. Grover S, Chakrabarti S, Ghormode D, Dutt A, Kate N, Kulhara N. Clinicians' versus caregivers' ratings of burden in patients with schizophrenia and bipolar disorder. Int J Soc Psychiatry. 2014;60(4):330-6. [Crossref] [PubMed]
34. Kaynar GÖ, Vural F. Assessment of the caregiver burden of caregivers of colorectal cancer patients. Turk J Colorectal Dis. 2018;28:164-71. [Crossref]
35. MacLeod M, Chesson RA, Blackledge P, Hutchison JD, Ruta N. To what extent are carers involved in the care and rehabilitation of patients with hip fracture. Disabil Rehabil. 2005;27(18-19):1117-22. [Crossref] [PubMed]
36. Yıldırım A, Şimşek H. [Validity and reliability in qualitative research]. Nitel Araştırma Yöntemleri. 10. Baskı. Ankara: Seçkin Yayınevi; 2016. p.273-90.
37. Colorafi KJ, Evans B. Qualitative descriptive methods in health science research. HERD. 2016;9(4):16-25. [Crossref] [PubMed]
38. Saunders B, Sim J, Kingstone T, Baker S, Waterfield J, Bartlam B, et al. Saturation in qualitative research: exploring its conceptualization and operationalization. Qual Quant. 2018;52(4):1893-907. [Crossref] [PubMed] [PMC]
39. Creswell JW, Hanson WE, Clark Plano VL, Morales A. Qualitative research designs: selection and implementation. J Couns Psychol. 2007;35(2):236-64. [Crossref]
40. Anney VA. Ensuring the quality of the findings of qualitative research looking at trustworthiness criteria. JETERAPS. 2014;5(2):272-81.
41. The World Medical Association. World Medical Association Declaration of Helsinki Ethical Principles for Medical Research Involving Human Subject. Seoul, Korea: 59th World Medical Association General Assembly; 2008. [Crossref]
42. Ariza-Vega P, Ortiz-Piña M, Kristensen MT, Castellote-Caballero Y, Jiménez-Moleón JJ. High perceived caregiver burden for relatives of patients following hip fracture surgery. Disabil Rehabil. 2019;41(3):311-8. [Crossref] [PubMed]
43. Toscan J, Manderson B, Santi SM, Stolee P. "Just another fish in the pond": the transitional care experience of a hip fracture patient. Int J Integr Care. 2013;13:e023. [Crossref] [PubMed] [PMC]
44. van de Ree CL, Ploegsma K, Kanters TA, Roukema JA, De Jongh MA, Gosens T. Care-related quality of life of informal caregivers of the elderly after a hip fracture. J Patient Rep Outcomes. 2018;2(1):23. [Crossref] [PubMed] [PMC]
45. Elliott J, Forbes D, Chesworth BM, Ceci C, Stolee P. Information sharing with rural family caregivers during care transitions of hip fracture patients. Int J Integr Care. 2014;14:e018. [Crossref] [PubMed] [PMC]
46. Hedman AMR, Strömberg L, Grafström M, Heikkila K. Hip fracture patients' cognitive state affects family members' experiences-a diary study of the hip fracture recover. Scand J Caring Sci. 2011;25(3):451-8. [Crossref] [PubMed]
47. Krupic F, Eisler T, Sköoldenberg O, Fatahi N. Experience of anaesthesia nurses of perioperative communication in hip fracture patients with dementia. Scand J Caring Sci. 2016;30(1):99-107. [Crossref] [PubMed]
48. Vega PA, Piña MO, Kristensen MT, Castellote-Caballero Y, Jimenez-Moleón JJ. High perceived caregiver burden for relatives of patients following hip fracture surgery. Disabil Rehabil. 2019;41(3):311-8. [Crossref] [PubMed]
49. Kamiya M, Sakurai T, Ogama N, Maki Y, Toba K. Factors associated with increased caregivers' burden in several cognitive stages of Alzheimer's disease. Geriatr Gerontol Int. 2014;14 Suppl 2:45-55. [Crossref] [PubMed]