Coping with everyday life after hip fracture rehabilitation for the elderly living at home

- A literature review

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Degree Thesis

Human Ageing and Elderly Services

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Työn ohjaaja (Arcada):	Marianne Tast, Solveig Sundell
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Tiivistelmä:

Yhteiskunnan päätavoitteena on tarjota vanhuksille mahdollisuus asua kotona niin pitkään kuin mahdollista. Tilastot osoittavat, että monet sairaalan kiireellisistä tapauksista on yhdistettävissä vahinkokaatumisiin. Tämä opinnäytetyö on yhdistetty Espoon Living Lab innovaatio -projektiin, jossa hoidetaan ulkopuolisia potilaita. Tutkimuksen päätarkoituksena on tutkia kohdattuja ongelmia ja miten pärjätä kotona kuntoutuksesta kotiutumisen jälkeen. Tutkimuksen kysymykset ovat:

(1) Mitä selviä ongelmia kotona kohdataan lonkkamurtumasta kuntoutumisen jälkeen?

(2) Minkälaista tukea ja mitä apuvälineitä tarvitaan kotona selviytymiseen? Tutkimuksen menetelmänä käytettiin kirjallisuuskatsausta ja artikkelit analysoitiin sisällön analyysilla. Yleisimmät teemat ryhmiteltiin yhteen vastaamaan pääteemaan eli tutkimuskysymyksiin.

Tulokset osoittavat, että vanhukset kärsivät edelleen sairaalasta kotiutumisen jälkeen. Monniammatilliset tiimit koettiin erittäin tärkeiksi koko prosessin ajan. Yhtä oleellisina asioina potilaat kokivat informaation saannin lonkkamurtuman tilanteesta sekä kotona pärjäämisestä.

Lopuksi voidaan todeta, että kuntoutuksen kotiuttamisprosessia tulisi pitkittää ja se tulisi suunnitella tarkasti, ottaen huomioon esteet kuten kipu. Potilaiden ja omaisten lisäksi myös monniammatillisen tiimin valistaminen on tärkeää asioissa, jotka vaikuttavat toipumiseen, kuten esimerkiksi kipu sekä mielialavaihtelut.

Avainsanat:	Hip-murtuma, ikäisiä tai vanhuksia, Kuntoutus, koti, toiminta, jatkuvuus
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Abstract:

The main objective of the society is to provide elderly independency to live a healthier life in their individual homes for as long as possible. Statistics show that many of the hospital related emergency cases are related to accidental falls. This thesis is connected to Espoo Living Lab Innovation project where people go to check their health and later go back home. Therefore, the main aim of this study is to examine the problems faced and how to cope at home after discharge from rehabilitation center. The research questions are; (1) What are the specific problems encountered at home after rehabilitation due to hip fracture? And (2) What support and coping mechanisms are needed to cope at home?

Literature review method was used in this study and content analysis method was used to analyze the articles. The common themes were grouped together in order to answer the main theme which are the research question.

The results indicate that elderly still suffered after discharge from hospital. The multi professional teams were also seen to be very important in whole process. Information on the hip fracture situation and how to cope was seen as relevant from the patient's side of view.

In conclusion, the discharge rehabilitation process should be prolonged well detailed putting in mind the obstacles like pain. Educating not only the patients and relatives but also the Multi professional team on issues that affect recovery for example pain and mood changes.

Keywords:	Hip-fracture, age Or elderly, Rehabilitation, home, activity, continuity
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FOREWORD

First of all author would like to thank the Almighty God for his guidance through the whole process. It was a rough journey but I made it thank you Lord again.

Many people assisted the author in many ways. They are: - My family especially my sweet daughter Shanice who supported my busy schedule, Pauline Njoroge who gave me the courage to go back to Arcada and continue my studies, thanks to Emily Waweru, Nancy Chebet, James Kamau, and Kaia Kamau for prof reading my work and translating the abstract.

The teachers are: - Birgitta Dahl for helping me in making the required progress so as to catch up, Marriane Tast for her support in the whole thesis process, Sulveig Sundell for reviewing my work and giving good remarks and lastly thanks to the whole Arcada system for giving me a good environment to study.

Thank you all so much.

1 INTRODUCTION

One of the greatest challenges of ageing is falling. Falls have been shown to be devastating for older individuals and expensive to the health system. Evidence has clearly shown that the risk of falling increases with age and that approximately one out of three individuals over 75years fall each year (Kloseck et al 2008) A study done in the Sweden showed that falls among people aged 60 years or older were estimated to account for one-third of the total cost of medical treatment for all injuries. (Jensen et al 2002)

In the U.S.A, the total cost of elderly care after falls in the year 2000 was $ 19 billion. (Caby et al 2011, Sirky & Rosner 2009) *"The total number of hip-fracture estimated worldwide in 1990 was 1.26 million and is expected to approximately double to 2.6 by the year 2025. The data also shows that women have a 16-18% risk of hip-fracture than men who have 1-6% risk. At the age of 80 every fifth woman has suffered hip fracture and at the age of 90 every second woman".* (Sachpekidis et al 2009: 1184) On the other hand, the healthcare costs in Canada were estimated at one billion dollars a year. The falls also accounted for forty percent of all nursing home admissions. The authors also estimate that a reduction by twenty percent would result in approximately 7,500 fewer hospitalizations and a saving of 138 million dollars a year. Most people who sustain fractures that are related to falls will require rehabilitation to bring them to the state of independence they had before the fall (Kloseck et al 2008)

The fear of falling among elderly is very common and the worst consequence, but often among women than men. It has been noted that fear increases more among both sexes of those who have fallen earlier or have history of falling. As discussed by Chou & Chi (2008), fear of falling ends up in depression, the person avoids participating in activities, interacting with other people because of keeping to him/herself. The person will never be ready to open up thus leading to low quality of life and reduced activity of daily living. There is also an increased weakness, frail and restricted movement due to lack of socializing (Caby et al 2011)

This thesis is part of a project in Espoo, Finland called the Espoo Living Lab Innovation (ELLI). In relation to Arcada University of Applied Sciences, the project aims at planning a new health centre where the elderly check their health. They later go back home to continue recuperating. Good advice is given for support mechanisms needed at home. In this case, victims of hip fracture should be able to benefit from a multidisciplinary team. It is important that the patients are satisfied at discharge. Risks for new fall should be put into consideration so as to avoid further accidents. This could be done through educating the public by showing the importance of continuity through different activities.

The motivation came about when the author was doing a course called living conditions and elderly services. When writing the report on this course, the author thought that it will be nice to find out what happens after hip fracture rehabilitation since many articles focused on causes and prevention of hip fracture. Since falls cannot be stopped, the elderly who have already fallen should also be put into consideration. Therefore, this thesis investigates the problems faced at home after hip fracture and the strategies that would assist in coping at home. The findings will be presented in a form of a pamphlet to be issued to the elderly who are being discharged after rehabilitation. See appendix sample 1 and 2.

2 THEORETICAL FRAMEWORK

Theoretical framework is a collection of interrelated concepts, like a theory but not necessarily so well worked-out. It guides the research, determining what things are to be measured, and what statistical relationships to look for. Theory is like a lens where observations can be done by different kind of lenses and then the viewer will be able to figure out questions on different perspective. (Bengtson et al 2009)

As mentioned earlier in this study, falls account for the greatest challenges of aging, expensive healthcare cost and devastating for anyone who has been a victim. In many western countries the percentage of older people has increasing greatly and will still continue in the future. The theories that support this thesis are disengagement and activity theory, and continuity.

Continuity theory explains how people should continue with positive living despite changes. The chosen theories concepts are to show that, when people grow old, their behavior changes, their social interactions change automatically thus making it their own task to continue with life no matter what happens. (Howe 2009, Atchley 1987, 2000)

2.1 Disengagement and Activity Theory

Disengagement theory proposes a mutually desirable withdrawal between older persons and others in their social life system. There is reduced interaction between the aging person and the society. To explain further, disengagement happens when the elderly cut off from roles or activity level. The whole transfiguration is more or less a characteristic of aging people which results in an automatic or natural withdrawal from social life. More concern of self, reduced involvement with others occurs thus leading to disengagement with society. This theory also happens due to some psychological process resulting to loss of interest and commitment in later life. (Howe 2009, Atchley 1987, 2000)

Activity theory is to support the maintenance of life satisfaction. The most successful aging results to those people who have been active all their life. (Howe 2009) As Atchley explains, despite the elderly health issues that come with aging and disabilities, they still have the same psychological and social needs as the middle aged people. Withdrawal from the society decreases as a result of aging. Therefore, according to this theory, the elderly people do not want this withdrawal thus staying active and resist reduction in their social world.

Activity theory is to stay active as long as possible or maintain the same activeness until it's time to give up on some which might be a bit hard due to biological changes which cannot be resisted. Examples given are, those who have retired from work should find something to replace the working hours or also the bereaved should try and find some friends or relatives to cover up for the lost one though it does not have to be honest. Research has also supported this idea that healthy people who keep being active do for sure have higher life satisfaction than those who are in active or in poor health. (2000)

2.2 Continuity theory

Continuity is an adaptive response to internal pressures which comes from our basic need for stable viewpoints concerning ourselves and the world we live in. Continuity theory provides a way of moving on with life. This theory means that personalities of individual remain constant throughout their life despite aging changes. (Howe 2009) New life experiences occur against a solid setting of common and rather persistent attributes and processes for both the self and the environment.

One of the most repeated outcomes in gerontology is that continuity outshines change for most people in midlife and after. It has been found to be true that not only do internal aspect (personality and self) matter but also the external which includes relationships, housing, community residence, activities and life-style. External pressures emerge from the environment strengthening and from the demands of the role we occupy. The environment shapes us to fit in where their demands remain steady thus pressure for continuity is required. Food, clothing, shelter and transportation are seen to be the first when it comes to life-style and residence. Roles and activities come in second

whereby an effective way to maintain one's capacity to meet the elderly socio emotional needs for interaction and support. The third is independence and personal effectiveness seen as the best way to maintain self-esteem. (Atchley 1987:245)

The theories above were chosen because they relate more to the research questions in this study. The elderly cut off from social life due to the age related changes. Feeling of being old and taking it easy in life takes the best of the elderly transition. They consider aging as a natural course in life that needs to be respected. A hip fracture is considered to be a big blow and takes a big part in the life of the elderly. Fear of falling again makes the victims of hip fracture to avoid going out and socializing. This leads to low quality of life since there is no engagement in any social activity thus leading to depression.

Continuity means that one moves on with life process in the same way as the earlier life as possible. Hip fracture makes someone to avoid so many things therefore trying to be even more careful in life thus making wrong choices as avoiding interaction with the outside world. Adapting to the new situation will be able to support continuity in the new situation. Personal and psychological factors for example stimulating one's own will and inspiration, not being afraid and to encourage oneself in getting better where engagements like physical exercise will help to recover.

Hip fracture should not be a stumbling block towards life ahead but a way to learn to be careful in life and despite the fracture one should be able to overcome the new situation and move on with life. It may not be the same but finding a way to continue the same way with different techniques might really help thus good quality of life.

3 BACKGROUND

According to the population projection, the number of Finns aged 65 and over will increase with over 600,000 by the year 2030. (Kautto Mikko 2004:14) This will be as a result of not taking preventive measure of falls at an early timing. According to statistic Finland (2010), accidental falls are the most common accidents leading to death. A total of 49,104 people died in 2009 due to accidental falls. According to WHO (2007) the risk of falls increases with age meaning that an 85 year old is at more risk of falling than a young person. They go ahead to explain that the number of mortality rate due to accidental falls in Finland for people of 50 year and over is 55.4 in men and 43.1 in women per 100 000 population.

3.1 Definition of falls and the elderly

A fall is a sudden contact with the ground that happens abruptly. It may be due to obstacles lying around, miscalculation or not having enough reaction time. *"A "fall" is when a sudden, unintended loss of balance leaves the individual in contact with the floor or another surface such as a step or chair". "A fall is an event which results in a person coming to rest inadvertently on the ground or floor or other lower level".* (Lewis et al 2004:24)

All the developed countries have accepted the chronological age of an elderly person to be 65 and over. In African countries, it is believed that elderly is the age at which one begins to receive pension benefits. At the moment United Nations standards has not yet set any numerical criterion but they agreed that persons aged 60 years old and over to be referred to as the older population. (WHO 2011)

3.2 Causes and circumstances of falls

Intrinsic factors

Intrinsic factors such as medical and neuropsychiatric conditions, impaired vision and hearing, age related changes in neuromuscular function, gait and postural reflexes are a major factor to falls. People recovering from neuropsychiatric condition such as stroke and Parkinson have a difficulty in adapting to the new life. Having to try and work with one side is very difficult thus causing the risk for falls. Pain on the fractured hip has a negative effect leading to lack of exercise for the victim. This might also lead to the patient's withdrawal from the rehabilitation if the pain is not taken care of. The other diseases causing falls are seizers, tumors, transient istheamatic attack (TIA) among others. (Kane et al 2004, Kobayashi et al 2009)

The ageing process of many elderly individuals is associated with a decline in health conditions. This health conditions may become complicated thus demanding treatment with a variety of drugs. Poor health patients are more likely to develop fear of falling because of the medication as compared to people with good health. Acute illnesses such as metabolic disorders, anemia and dehydration, and cardiopulmonary disorders may also be a contributor to falls. It has been noted that mostly in women, feeling of unsteadiness was a predictor of fear of falling. This is because women with the increasing age and a history of drugs containing antidepressant agents in the past year were at risk of falling. (Lach 2005)

Age related factors are also a big risk for falls where older one gets the more risky it becomes. The examples given are; changes in postural, changes in gait, increased prevalence of pathological conditions relative to stability, increased occurrence of conditions causing nocturnal for example heart failure and increased occurrence of dementia (Kane et al 2004)

Muscles become weak thus making it difficult to support the body when it ages. When faced by challenges the body of the elderly tends to resist thus becoming more susceptible to falls. Complications like loss of appetite makes it hard for the elderly to get the energy and the nutrients they need to keep them going. Gender can also be an issue whereby women are reported to have high risk of falling as compared to men. (Todd et al 2006)

Extrinsic factors

People suffering from dizziness and balance disorders due to medications that are being used to treat chronic illnesses have a likelihood of falls related injuries. An elderly person may have more medication (poly pharmacy) to take at once thus causing side effects which lead to risk of falling. (Todd et al 2006)
Mistakes made by the staffs for example, the clients are left alone or forgetting to put brakes on assistive devices like wheelchairs lead to accidental falls. Misuse of walkers' and miscalculation when stepping or trying to sit down contributed to a number of 14 falls. (Kallin et al 2004)

Hazardous factors in the environment contribute to too many causes of accidental falls. A report done by (Johnston et al) shows that the location of 242 falls occurred at home with a total of 32.2%, transition area covered 16.1% and those that occurred outside covered 51.2%. Poor lighting, slippery floors and rugs, clutter and handrails play a very big role in a third of falls caused by environmental features for elderly living at home. Majority of these factors can be modified thus making it safe for the elderly. How the elderly people behave must also be put into consideration where most of the risk of falling is increased by them. This is because the elderly person may wake up in the night to go to toilet without adequate light thus stumble into an obstacle and fall. They may also have a tendency to rush to open the door due to habitual behavior thus tumble on an obstacle. (Johnson et al 2001) Fig 1 illustrates how the intrinsic and extrinsic factors lead to falls.

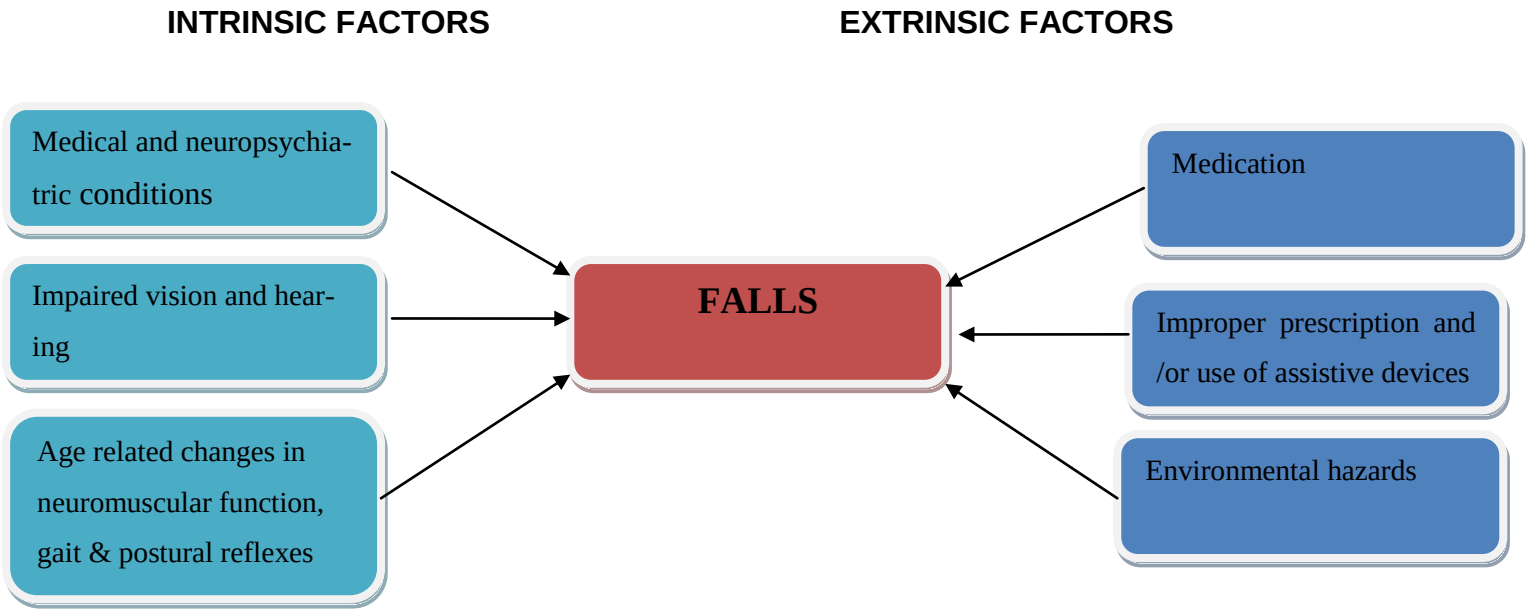

Fig. 1 Intrinsic and Extrinsic factors leading to falls in the elderly
Kane et al 2004:221

Consequence of falls

As mentioned earlier, falls can be very critical and fatal which might result to health expenses, decreased activities and most important quality of life. In extreme cases it can cause death (Stephanie et al 2004). Here in Finland,the percentage of accidental falls registered by the Statistics Course of Death Finland in 2009 was 64.4% in men and in women 76.7 %(2010) Falls risk increases with age and could account to a very large health problem. The victims suffer not only physically but also psychologically and socially.

This is because the person does not want to be active because of fear falling again. As a result, this leads to being alone most of the time thus being isolated. A fall can be a beginning for dependency process which many of the elderly fear. This means that the victims depend on their caregivers on majority of daily activities. Simple tasks as dressing up, going to the toilet and even feeding may not be easy for some of them. (Faith & Ellenius 1997) It becomes very frustrating for someone who has been active to have to wait for period of time in order to go to the toilet or take a shower. Some of this falls can be very fatal thus leading to permanent disabilities and less ability to be independent

especially for a person who has been functional all their lives. The victim ends up needing help in Activity of Daily Living (ADL) thus lowering quality of life and leading to psychological problems like depression.

The fear of falling again among elderly is very common and the worst consequence, but often among women than men. It has been noted that fear increases more among both sexes of those who have fallen earlier or have history of falling. The fear of falling ends up in depression because the person avoids participating in activities, interacting with other people and keeping to him/herself. The person will never be ready to open up thus leading to low quality of life. There is also an increased weakness, frail and restricted movement because the victim does not trust his/her body in time for movement (Faith & Ellenius 1997)

Falls can cause very fatal injuries such as superficial cuts, abrasion, bruises and sprains. Some injuries like femoral neck fractures and many bone fractures lead to hospitalization or even death. There are different types of hip fractures whereby it depends on where the fracture is and what has been affected. They could be simple, open or closed fractures. There are also fracture of the neck and trunk. Many elderly in most cases are admitted in hospital due to injury related falls. (Spink et al 2008)

3.3 Consequences of fall and quality of life in the elderly

"Quality of life (QOL) is seen as the degree of which satisfaction or dissatisfactions are felt by people with various aspects of their lives. It is also seen as the provision of necessary conditions for happiness and satisfaction". In other words the life satisfaction of an individual's value and need through the actualization of their abilities or lifestyle. Quality of life has four various dimensions which are grouped into two namely: The first is objectives, which includes general health and functional status. Second is subjective, which are life satisfaction and self esteem. It has also been defined that quality of life is a complete model consisting of "*personal autonomy, expressed satisfaction,*

physical and mental well being, social integration and cultural factors". (Bond and Corner 2004:15)

QOL is a broad issue which includes physical, physiological and social functioning. (Lin et al 2007) As quoted by Bond & Corner (2004), health is seen to be the first priority when it comes to quality of life. For many elderly ill-healths is a barrier to successful ageing which causes physical and psychological dependency. Also reminds them of an avoidable mortality. This leads to fear of becoming totally dependent due to physical and mental decline because no one wants to be told what to do or having there chores done by somebody else . QOL formulates everything that makes the elderly to be satisfaction and to feel good.

Falls and fractures are the third leading course of need for care from a research done in Japan. QOL is significantly changed because mobile elderly become immobile due to falls consequences. The trauma is not only physical but also becomes a long-term psychological effect such as fear of falling and depression. Fear of falling leads to minimized Activity of Daily Living even though the person has capability. Physical functioning decreases, decreased activity and the overall QOL deteriorates. (Kato et al 2008)

3.4 Aim of the study

A large percentage of the Finnish population is comprised of the elderly. Evidence has shown that falls are a common problem for the elderly. The problem is worsened when coping after the fall is compromised. Therefore, it is important to work to ensure that the elderly are able to rehabilitate, and go on to cope at home after rehabilitation. In this way we will be able to promote independence of the elderly, increase emotional and psychological well being and save on costs of having to take care of them in the hospitals. The reduction in institutionalization will also reduce the rate of other problems for example nosocomial infections.

Literature review will be used to investigate this and present it in the form of a pamphlet to be issued to the elderly who are being discharged after rehabilitation. The aim of this

study is to investigate how the elderly cope at home after the rehabilitation process. The two research questions to be used are:-

1. What are the specific problems encountered at home after rehabilitation due to a hip fracture?
2. What support and coping mechanisms are needed to cope at home?

4 METHODS AND MATERIAL

In this chapter, the author will define and illustrate the methods used in building the entire study. The method used in this study is systematic literature review whereby selected literatures in relation to the research were used. The theoretical framework, background and progression of the study are used to develop the literature review. Content analysis is used to analyze data which was found in the previous research in order to arrive at the results that answer the question that relate to the study.

4.1 Literature review

Literature review is a method of data collection that involves searching of articles and analyzing them through reading reports, books and published articles and journals. It is also a way of acquitting the writer on the available knowledge on the areas of interest. Theoretical roots are also established, the ideas are clarified and the methodology is developed or refined. Comparison of findings is done and the literature review plays an extremely big role. (Kumar 2005)

Literature review in this study was used to broaden the writer's knowledge on the previous studies. This paper is written using literature review which means that the data used in this study will use the same method. Scientific articles that are written around this topic are downloaded and analyzed where at the end a general conclusion will be made from these results to answer the research questions. In other words, it is a description of the literature relevant to a particular field or topic whereby it covers anything that will support the topic of the research paper. A total of 18 articles were used and have been summarized in table 4.

4.2 Data base search

The articles were systematically chosen carefully to ensure the best available information and evidence relevant to the purpose of study making sure they answered the research questions. The following are the database used in carrying out the literature search. They are Proquest and Ebsco which helped in getting majority of the articles. The keywords used are hip-fracture AND age or elderly AND rehabilitation. Only the articles with full PDF form were checked on the first page of the hit results. Additional words for example AND home was added to make the search precise. The other words used are hip-fracture AND home AND activity or continuity, life after hip fracture which helped in getting articles for the research questions.

Google scholar was used in finding theories to support the research which were very useful since the writer of this thesis found a clear understanding on which one to use. The world health organization article on elderly falls prevention was also retrieved through this search engine. Google scholar had many hits but first articles on line were useful thus being chosen on that matter.
The study is written in accordance with the writing guidelines of Arcada University of Applied Sciences. There is use of relevant references and also headings which have different format and font sizes. Table 1 illustrates how the searching criteria are done and how many articles were used.

Table 1: Search process

Data base	Key words	Hits	Limitation	Articles re-trieved	Articles used
Ebsco	Hip-fracture AND age or elderly AND Rehabilitation AND home	97	20 38	8 5	9
	Hip-fracture AND home AND activity or continuity	24	6	3	3
Proquest	Hip-fracture AND age or elderly AND Rehabilitation AND home	67	 18	5 1	3 1
Google scholar	WHO global report on falls prevention (pdf) Life after hip fracture(pdf)	3,000,000 270 000	0		1 1

4.3 Excluding and including criteria

As mentioned earlier, all the articles that have been used in this paper are downloaded from EBSCO, Proquest, and Google Scholar search engines. Sources of literature that were found through each search engine had special criteria in order to retrieve the most reliable articles. The criteria included articles in full text, free of charge and published between

2000 to date. Relevancy of the articles was also checked to avoid taking information that was not useful in the study. Scientifically written articles with English language were also looked into. The articles that conflicted with the including criteria were grouped in the excluding criteria. Table 2 illustrates how the inclusion and exclusion of articles was done.

Table 2: Including and excluding criteria

INCLUDING CRITERIA	EXCLUDING CRITERIA
• Articles published between 2000 to date • Articles with an abstract • Articles that were free to access the full article • Written in English • Scholarly (Peer review) • Source type all result • Article relevant to the research questions.	• Articles that were not scientifically written. • Low quality • Lack of enough evidence • More than 10 years • Not in English • Not full text

4.4 Data/Content analysis

Content analysis is an approach to the analysis of documents and texts (which may be printed or visualized) that seek to quantify content in terms of predetermined categories and in a systematic and replicable manner. It is also a research technique for making replicable and valid inferences from text to the contexts of their use. This method increases the researchers understanding of new facts and providing new insights. (Bryman 2004:181, Krippendorff 2004:18)

As defined by Patton (1990), content analysis usually refers to analyzing text, scientific articles, news papers, interviews, scripts, diaries, journals or documents instead of observation-based filled notes. Any qualitative data reduction and sense making effort that

takes a big area of qualitative material and attempts to identify the main point and bring meaning is generally referred to as content analysis.

The core meanings found through this analysis are later called themes or patterns. On the other hand the process of searching for the same outline and themes may be distinguished in that order as pattern analysis or theme analysis. A systematic reading of scientific articles was done pointing out the specific areas with the help of the research questions. As Patton (1987) describes, content analysis involves identifying logical and important words which are pulled together to address a certain question. Since the method used in this was content analysis, the author grouped the results or the common themes that emerged from the articles. There were quite a number of similarities which were later grouped together through descriptive phrases where main titles emerged.

In this study, the author came up with common themes and grouped them into different categories. These categories were named sub-categories, category and main category. The main idea of data analysis is to get a clear understanding of the data being collected through reading the articles. The abstract, findings, discussion and conclusion parts of the articles' were read to retrieve information relevant to this study. The whole process of reading thoroughly through the articles was divided into three processes for the three categories. The main point was to group the data into subgroups and link them to the main part. These main parts which are the research questions will in this study be called main category.

The data collected from the literature review or the articles chosen, will be narrowed, broken down and draw a flow chart that will give the reader a clear understanding. It will be clear to see the idea behind the three categories whereby the findings were grouped into the same theme. Later, the elements in each group were divided into categories that shared the same theme. The groups that shared the same themes were linked to the main categories which in this study are the two research question
Figure 1 will answer question 1 and figure 2 will answer question 2 respectively. Since the subcategories were many, table 3 and 4 will give more examples of each question.

4.5 Validity and reliability

Reliability is the ability of a system on a component to perform its required functions consistently or repeatedly. (Kumar 2008) In this study, reliability refers to the stability of the study outcomes and the tendency that the same data is produced over and over again irrespective of the method used by different authors. This means that other studies can rely on the data produced by this study. Use of reliable sources was used to collect data which include previous researches conducted by health care professionals. Truthfulness, valid and recent sources of information which give good knowledge on elderly problems and how they can cope at home after rehabilitation.

Validity refers to the extent in which the research method used in this study measures the objectives set out to be measured at the beginning of the study. (Kumar 2008) The main objective of this study was to show the problems the elderly face at home after being discharged from hip fracture rehabilitation and what support and coping mechanism will they need to continue with life in a positive way. The study being a literature review, therefore all the information relied on published scientific articles. As long as the article were reflecting on the topic and were used to answer the research article which supports the validity of the study.

The data used to develop this study was chosen carefully putting in mind the research questions. The articles chosen were directly related to the subject matters of the study. Content analysis again aided in the tabulation of the data into categories. This makes the categorizations of the results relevant and corresponds to the research question and the objective of the study.

4.6 Ethical consideration

A thesis plan was first presented to the supervisors concerned at Arcada University of Applied Sciences where permission was granted to continue with this study. Reading through the Arcada ethical guidelines prior to conducting this study was done carefully. This was a secondary analysis of pre-analyzed data so the ethical part has already been taken care of.

The author also read carefully the rules and regulations of Helsinki Declaration (2004) so as to get a clear understanding of the ethical rules.

According to Kumar, *"Ethical means in accordance with principal of conduct that are considered correct, especially those of given professional or groups".* (2005: 210). Professionals have an overall policy of manner that directs the way a research should be followed. Principals are protected to avoid harm, invasion of privacy, lack of informed consent and cheating. (Bryan 2004) Ethical consideration for this work was considered by using only genuine search engines that had the legal right to publish these articles. Ethical considerations that directly affected the subjects being studied for example; autonomy, anonymity and so on had already been taken care of by the primary investigator.

This was confirmed by checking that these issues were taken into consideration in each of the article that was analyzed. Another thing that was looked into was that each of the authors showed scientific rigor in their work as well as validity. Each of the articles was then well referenced to avoid plagiarism. Any quotation taken directly from the books or articles in this study, has been quoted and written in italics form according to the Arcada rules of quoting direct quotations. This is to ensure there is no cheating of words.

There will be no misuse or bias of information gathered from previous researches. The research process and this study will be conducted keeping in mind the high maintenance of high standards of professional and good conduct, adherences to ethical principles of justice and of respect to people and avoidance of harm to others.

5 RESULTS

This chapter will report the findings that emerged from the articles that were used in answering the research questions. They will be presented one after the other so as to assist the reader in grasping each question separately. The articles used in both questions will be summarized and presented as Table 5.

5.1 Problems encountered at home after rehabilitation due to a hip fracture (Question 1)

This chapter will present the findings that answer the first research question. The results are discussed in terms of the main themes that kept appearing in research literatures. The first part is the main category where in this case is the first research question which is problems encountered at home after hip-fracture. The categories were; Pain, poor health, drugs, Change of behavior, fear, depression, anxiety, lack of supported discharge and information. The subcategories have been presented inform of two examples whereby the rest of example will be presented in Table 3. Fig 3 illustrates the whole concept there after an explanation of the findings related with question one.

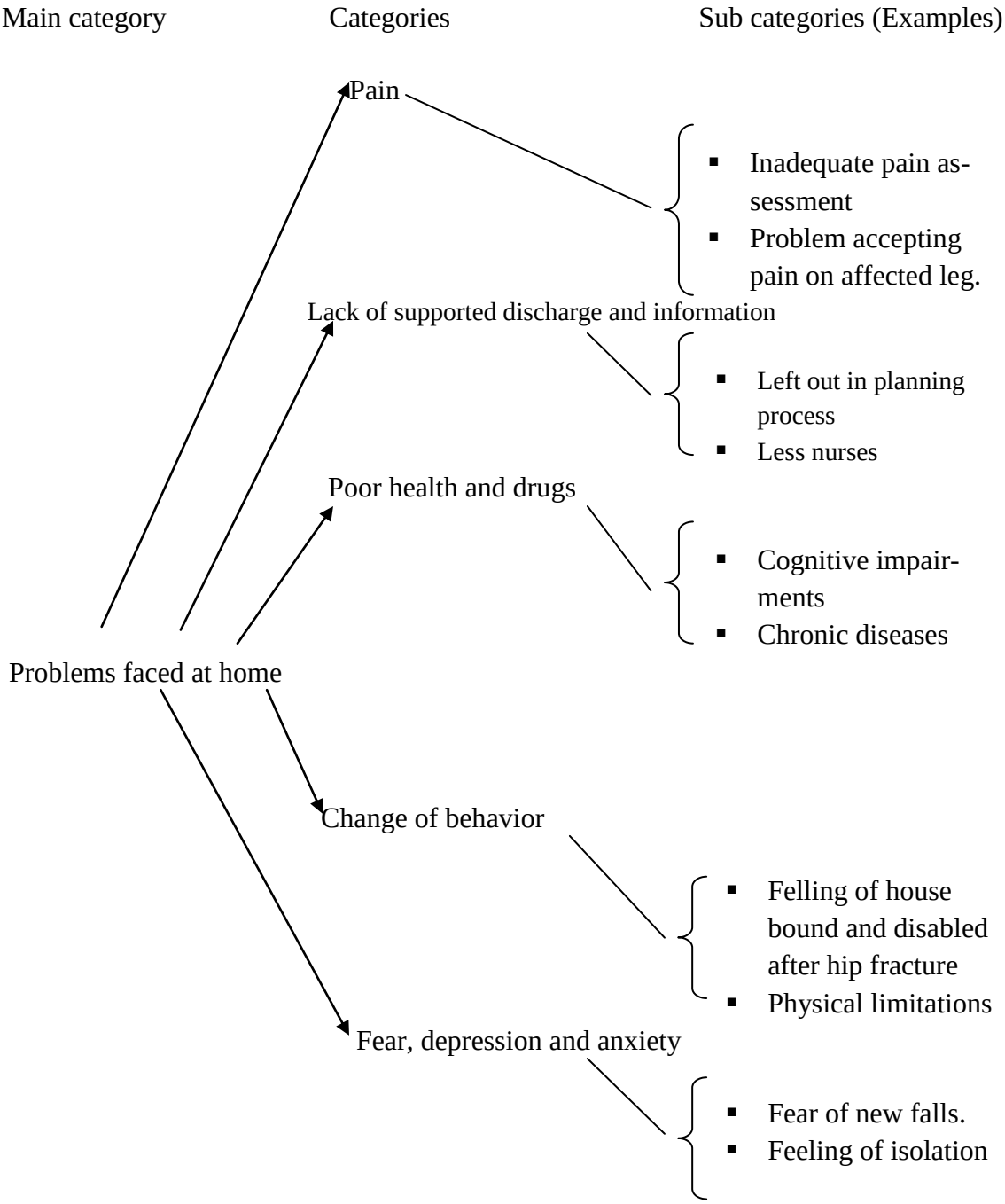

Fig 2: Problems faced at home (Refer also to Table 3 for more sub categories examples)

5.1.1 Pain

Pain was seen to be the one of the biggest problem associated with disability. This leads to patients refusal to comply with treatment or rehabilitation program recommended for them. An increase in incidence of nausea, respiratory complications, decreased of normal return to activity, increased risk of deep vein thrombosis and damage to pressure

areas and psychological stress were related to pain. Evidence showed that poorly controlled pain led to emotional distress. More care and attention was still being needed even after rehabilitation so as to ensure patients full recovery. Falls are considered to be traumatic and functional outcome is affected drastically due to pain caused by the fractured hip. (Arinzon et al 2006)

Clinicians were seen not to consider pain in the discharge criteria even after being seen as the biggest limitation in performance. It was thought that maybe some level of the pain was considered to be acceptable and was included as part of the recovery process. The patient was also at risk of giving up or not pushing themselves if the pain management is not controlled immediately after the recovery process starts. (Taylor et al 2010)

Accepting weight into the affected leg after hip fracture remained notably impaired even after rehabilitation. This problem with weight transfer on the affected leg, leads to slow recovery and even a risk of new falls since the pain is unbearable. The fact that the victims are released from rehabilitation centers to go and live at home, there are more attention needed in the first phase of recovery at home which will determine what the results would be.(Nightingale et al 2010)

5.1.2 Lack of supported discharge and information

Despite the health policy to minimize hospital stay, the hip fracture victims are negatively discharged from the hospital without proper follow up. This leads to the elderly making their own decisions that were not appropriate to their recovery without consultation from professionals. They also have less access to services which are important in restoring mobility in the early face of recovery. (Crotty et al 2000)

Misuse of walking aids whereby the follow up in the early phase of recovery by physiotherapist is limited .What was shocking in the findings is that, even after the patients discharge they were still at risk of falling. This is because; when the participants' are managing to return to their walking aid, it still does not mean that it has been done so

appropriately and in a safe way. The walking aid was either inappropriately selected or incorrect usage of the equipment where balance will be compromised.

Another issue was that patients inaccurately assumed that because hired specific equipments had a specific loan period, this directly affected the amount of time they will require to use the walking aid. The goals that were set by multi professionals' team were non-specific. Judgments that relied on safety issues may be difficult for the patients to make without discussing together with physiotherapist. An example of these judgments were; "use until safe to try a walking stick" or "use until able to walk an aided". This shows that change of walking aid was influenced by factors other than what physical needs are. (Thomas et al 2010)

Research shows that the original plan for intervention is to involve multi-professional teams to make home visits as many times as possible for a period of time. This however is not fulfilled due to insufficient nurses. The shortage of nurses affected the recovery process since a day missed led to going back to square one. (Ziden et al 2008a)

Many of the victims and the caregivers felt that they did not have a clue on the new situation brought about by hip fracture. They still needed explanation on the joint that has been operated and how to take care of it. The care giver was not offered a proper plan on how to take care of their loved ones. The hospital rehabilitation services focused more on returning the victims home thus rationing their services. Victims are left out in the discharge planning thus being left unsatisfied with the rehabilitation process. The elderly people wanted that they are involved in the planning whereby they are able to give their own views. (Olsson et al 2007)

5.1.3 Poor health and drugs

Metabolic reaction changes with age due to biological factors are very common with elderly. This affects the way medication is broken down. Research shows that if medication is not controlled (non adherence) this will lead to the following complications

namely; alertness is altered, judgment, coordination such as dizziness and balance mechanism. The ability to avoid or recognize obstacles' due to stiffness or weakness is increased thus leading to risk of falling. (WHO 2007)

Poor health especially cognitive impairment, chronic diseases and use of anti psychotic drugs was seen to be a big contribution to creating risk of falls. Drugs were seen to be one of the major causes of risk of falling. The findings show that majority of nursing homes have inappropriate prescriptions. This is because some of this diseases for example worsening mental health agility, depression, restricted physical activities, use of anti psychotic drugs were related to accident related falls. Antipsychotic drugs used to heal the given diseases were seen to be the biggest connection to risk of falling again. Irrespective of the drugs used, the patients still had feelings of depression, anxiety, nervousness and fear. Insomnia but not hypnotic use was another factor found that contributed to the risk of falling. It was noted that diseases were at a high risk of falls related accidents than drugs. (Iiattiniemi et al 2008)

5.1.4 Change of behavior

After the fall, the elderly tend to cut back on normal activities and become less active which might be due their muscle being unstable. Hip fracture has been reported to negatively influence patients' quality of life and mood changes. The loss of ability to live independently after a hip fracture had considerable negative effect on perceived quality of life. The performance criteria including body functions such as strength, balance, pain and endurance as well as activities such as the ability to perform basic transfers and walking task including steps weakens. (Taylor et al 2009)

According to a research done by Ziden et al (2008c), found that hip fracture patients were affected severely in their entire life situation. All the interviewees also expressed feeling of limitations in relation to movement and loss of confidence with their bodies. They never trusted their bodies and felt that it has become more fragile than before. Hip fracture was considered as a final blow which was compared to a serious disease that

could lead to permanent disability or death. The experience of being old included a feeling of embarrassment for example if the victim is not being able to stand on ones feet.

5.1.5 Fear, depression and anxiety

Ziden et al (2008c) did a research where a group of 18 subjects were interviewed on how their experiences were after hip-fracture. The result showed that the interviewed victims felt functional and social activity is not fully gained despite intense rehabilitation. There were also psychological stress such as fear of falling again, depression and anxiety. Physical limitations and eroded independence was experienced due to the traumatic situation brought by the hip-fracture. They felt dependant on others, trapped, feeling of insufficiency due to limited capacity to move and lack of confidence in their bodies. Simple daily activities such as washing clothes, climbing up stairs and shopping become difficult to perform. They also felt betrayed by their bodies and not able to trust it again.

In another article, Ziden et al (2010b) reported that the victims felt more isolated than before, fear of falling again and activity restrictions. The interviewees also expressed a feeling of hopelessness which could mediate depression especially those who believe they have little control over their body.

As mentioned earlier, pain can cause patients to avoid participating in any recovery process, getting enough rest and eating as required. This is because, they are unable to sleep enough, appetite is loss, pre-disposition of to anxiety, depression, decreased cognitive function and socialization where they all lead to being frail. (Arizon et al 2007)

Depression and anxiety in the acute phase of the injury since it was noted in majority of the articles related to this study. Feeling of being disabled, housebound, permanently impaired and social death was seen to take effect of the victims Activity of Daily Living. (Olsson et al 2007, Iiattiniemi et al 2008) Not only do the victims have these psychological changes, but also their relatives who take care of them since they don’t have a time of their own. They also suffer anxiety, lack of sleep and fatigue and problems

with their social relations. They had feeling of sadness due to the loved one suffering, exhaustion and lack of enough sleep. Worries especially when they have to live their loved ones alone to go somewhere thus putting them at a risk of new falls. (Lin and Lu 2005)

Costs for care at home were unrecognized or not accounted for thus making the family members to use their own money. The cost of the caring process at home goes unrecognized thus posing a burden on the care givers. The family caregiver felt that if they complained about the care given to their loved ones for the fear of suffering further. Since there is a gap of who takes care of the client, the client is not safe at home. This gap is currently filled by relatives who at the end have to suffer (Dow 2004)

5.1.6 Discussion on question 1

The problems of hip fracture still remain after rehabilitation. The victims suffer from depressive issues that make them not to be active. Feeling of being trapped and not able to trust their body was also reported since the victims felt more fragile than before the pre factures period. The idea of depending on somebody or having to wait for a certain time in order to just do a simple task as going to the toilet or eating seemed to be so devastating to majority of the victims. The rehabilitation period assumed by the multi professional team is still not enough especially if the home visits to the victims place are not fulfilled.

This makes them to go back to square one on the rehabilitation process. The pain on the affected leg is under diagnosed thus making it impossible to even exercise. If the person is in pain, complying with the rehabilitation program arranged for them will be hard. This will lead to emotional distress and later disengaging from the society. As mentioned in the findings, pain was considered as part of the healing process, therefore, making it a big risk for the patient to give up if the pain is unbearable.

Assistive devices were not well checked and the victims did not know when to go back for new assessments. Information is not well given to the patients at discharge so are the

relative thus leading them to make wrong choices. Poor health condition for example cognitive impairments, chronic diseases and use of psychotic drugs were seen to be a big contributor to risk of new fall.

5.2 Support and coping mechanisms needed to cope at home (Question 2)

In this chapter, the author will report the findings that relate to the second question 2 above. The same criteria used in question 1 will be used also in this question. The main categories for question two are; Patients benefits from a multidisciplinary team, Patients satisfaction at discharge, early intervention on the risk of falls, public awareness and physical well-being and quality of life. Fig 3 illustrates how the whole idea on categories thereafter an explanation.

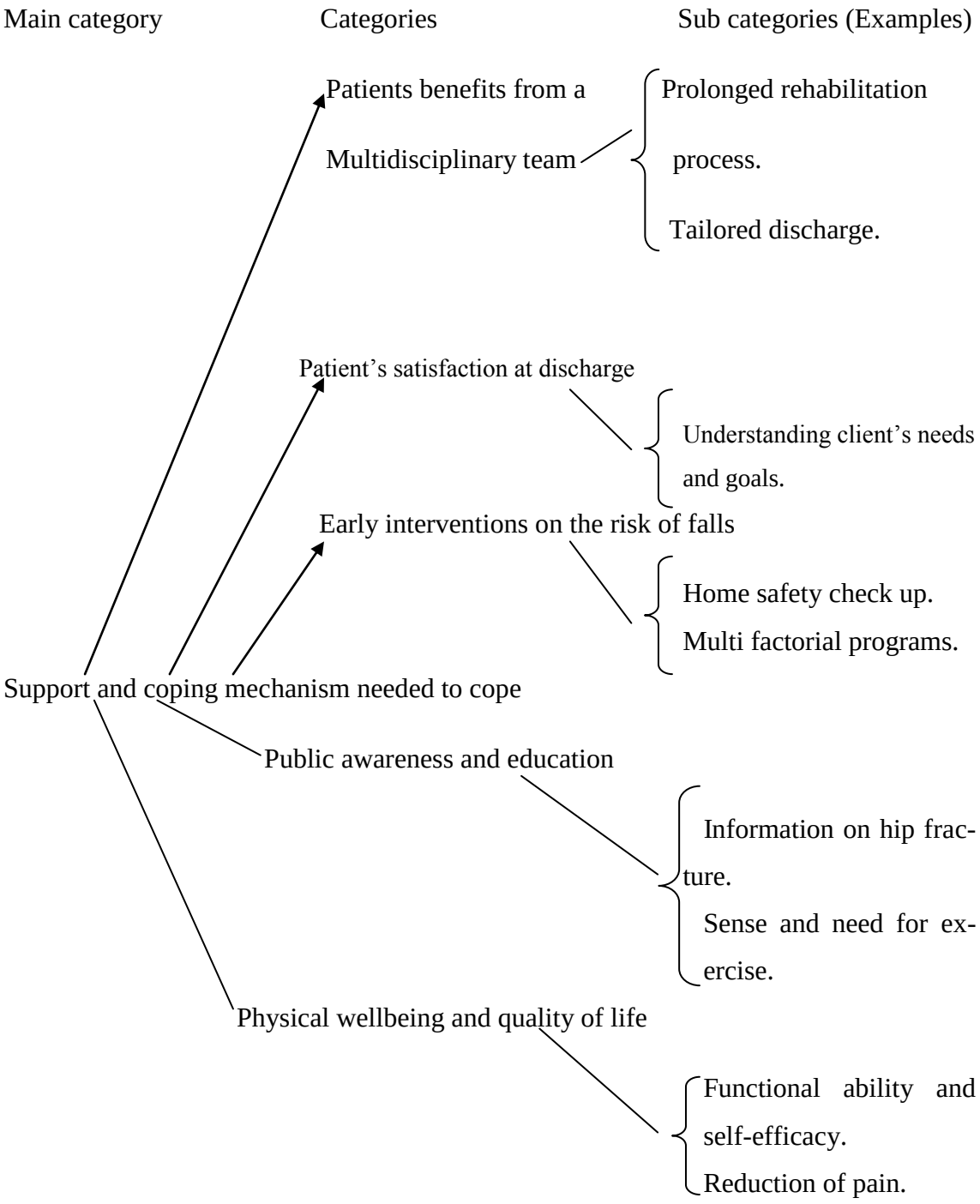

Fig 3: Support and coping mechanisms needed to cope at home (Refer also to Table 4 for more sub categories example)

5.2.1 Patients benefits from multidisciplinary team

Multi profession teams were seen to be very important with regard to rehabilitation after discharge. Continuity of the same rehabilitation process even at home contributed to a smooth and secure discharge of the patient as well as the relatives and the health care professionals. Learning by doing was emphasized to motivate independence in daily activities. The home rehabilitation reported evidence whereby after 1 year, the ability to function was regained. The aim of the supported discharge was to minimize the patients and relatives uneasiness of going back home instead of being at the hospital.

Occupational therapist and physiotherapist would accompany the discharged patient where there would be a brief intervention of three weeks. This was to ensure continuity and advancement of the client's progress and encouragement of training on their own. Activity safety was also emphasized where simple things like dressing, grooming, bathing and cooking were encouraged. (Ziden et al 2008a)
Nightingale et al (2010) thought that people suffering from hip fracture may benefit from long-term term rehabilitation programs that include quick stepping practice and weight shifting activities.

The patients should be thoroughly tested for new falls before leaving the hospital. According to Kristensen et al (2007a), the "Time Up and Go" (TUG) was seen to be a strong predictor which measured the patient's risks of falling again 6 months after discharge. TUG is used to measure the functional ability of an individual whereby the time taken to stand up from a chair walk 3Km on a line drawn on the floor and back to the same position. The mean(standard deviation (SD) of performance time from 7.7(2.3)to 23.6(16.7) second for TUG have previously been measured in community living elderly depending on the gender, age, chair seat height and use of walking aids. The highest mean (SD) performance time of 28.2 (23.0) and 30.0 (17.4) seconds have been recorded institutionalized elderly. This shows that the higher the SD the higher the risk of falling. Kristensen et al (2007b)

Home rehabilitation program focusing on enhancing self-efficacy improves the patients balance confidence and makes them more independent in the early phase after hip fracture. A clear home rehabilitation program should be emphasized in order to put into consideration the factors that will affect the rehabilitation process as shown in figure 1. It is also essential for the same occupational therapist and physiotherapist who had trained the patients at the hospital to perform home visits in order to ensure continuity and advancement in the rehabilitation process. (Ziden L 2008e)

Below are some of the factors affecting rehabilitation process which requires detail checkup on them when it comes to individual assessment.

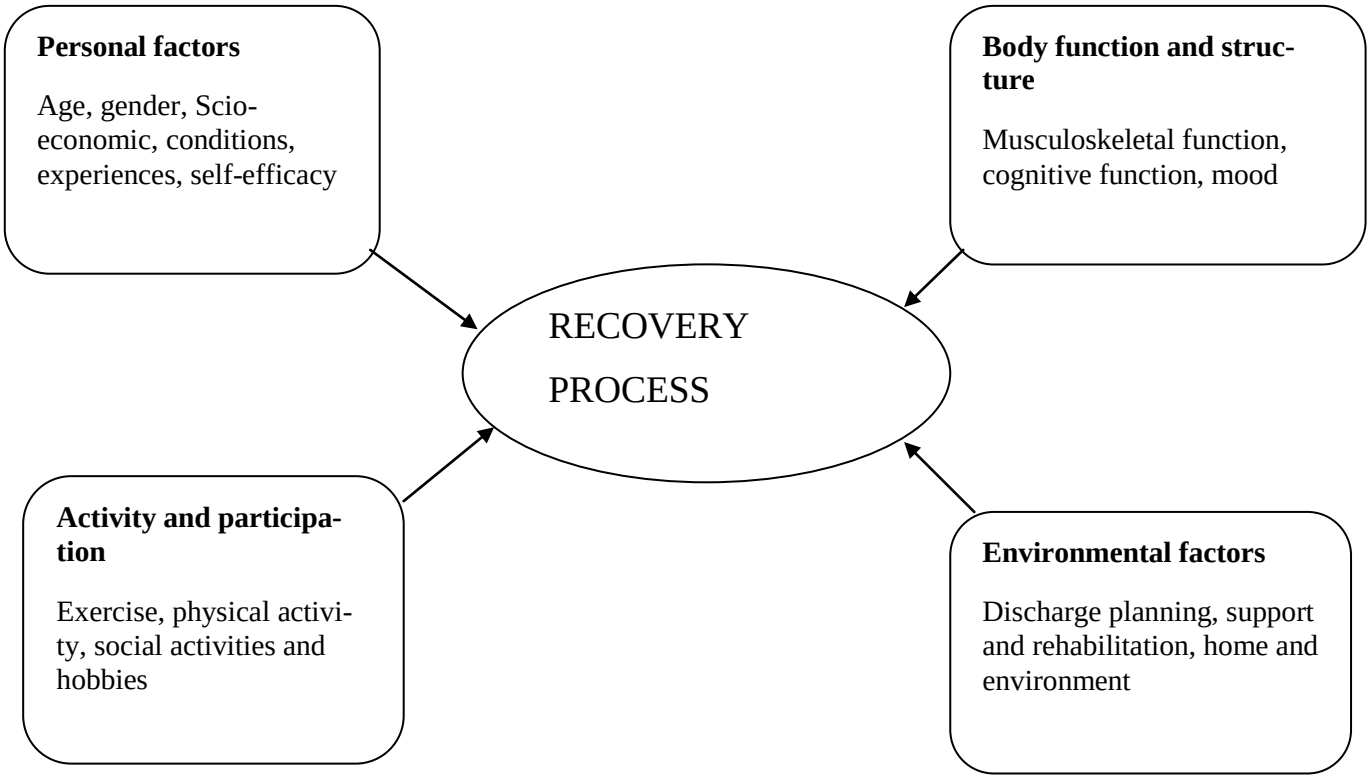

Fig:4 Factors influencing recovery after hip fracture, organized according to the International Classification of Functioning and Health (ICF) within the four components Personal Factors, Body Functions and Structures, Environmental Factors and Activity/Participation(Ziden L 2008:19e)

It is important that the client and their home environment are assessed by an occupational therapist for their safety and suitability for rehabilitation at home; this can be

done either just before or after discharge from hospital. The author further suggests that home medications and equipment should be supplied as required and a post discharge program of visits start off immediately. (Dow 2004)

5.2.2 Early interventions on the risk of falling

The aim of rehabilitation is to restore the client to his or her optimal level of functioning in their home and community. It has been seen that good rehabilitation process increases the patient's empowerment. Collaboration between the hip fracture victims, loved ones and the multi professional team was seen to be beneficial because everyone gives in their point of view on what is best. The patients felt that it would be very beneficial if they were involved in the discharge program (Ziden et al 2008 b)

The professional making the home visits should be in a position to make out which are the risk factors for new falls at the patient's home. A checklist should be put in order to make a thorough evaluation of how safe the home is. According to Akol (2007:194), a checklist for evaluating safety during home visits includes; *"floors; remove throw rugs, secure carpet edges, remove furniture and objects on the floor, reduce clutter, remove cords and wires on the floor, check lighting for adequate illumination at night and picking up things(Papers, magazines, books and e and get out easily". In the bathroom, install grab bars in the bathtub or shower and by the toilet. Use of rubber mat in the bathroom or shower, take off floor mats when the bathtub is not in use and install a raised toilet sit. Stairs and steps; secure carpet or trends on stairs, pick up things on the stairs, fix loose or uneven steps, have only one light switch for the stairs, make sure hand rails are as long as the stairs and on both sides running from one end to the other. Outdoors; repair cracked sideways, install handrails on stairs and steps, trim shrubbery along the pathway to the home and install adequate lighting by doorways and along ways leading to the doors. Bedroom; ensure the lighting near the bed can be reached, install adequate lighting. Other safety tips are; keep emergency numbers in large print near the phone, put a phone number near the floor in case of falling and cannot get up and think about wearing an alarm device that will bring help in case of fall.*

One other intervention seen to be beneficial was the hip protector. It is a specialized form of pants shaped to cover the proximal femur. It contains pads along the outside of each hip designed to prevent hip fractures following a fall. The risk of hip fracture can be reduced in frail elderly adults by the use of an anatomically designed external hip protector. Due to chronic diseases, the elderly given are prescribed a number of medicines. These medicines later when taken may react with each other and due to low metabolism they may cause gastrointestinal side effect. Accessing this prescription every now and then on when to change it or remove the medicines that are not required will do a great favor on the elderly. (WHO 2007)

Older people who take part in regular strength and balance training are less likely to experience a fall. Since the falls accident itself cannot be reduced, research has found that some intrinsic risk factors such as strength and balance may improve with exercise based rehabilitation. There are different types of exercise namely; "Ti Chi" which has different level of styles and movement depending on the strength of the victim. The yang style for example, is considered to be the most suitable method because of its simplicity and practicability. One hour a day seven days a week of "Ti Chi" practice was seen to have a great improvement on fear of falling. (Harling and Simpson 2008)

The world health organization (2007) reported that, taking daily vitamin D and calcium supplements can also strengthen muscle and bones, helping to prevent falls in people who are 65 years and over. Law dietary intake of calcium and vitamin D may lead to risk of falls because the bones are not strong.

5.2.3 Public awareness and education

Information on hip-fracture was seen to be very important to the patients and relatives. The importance of knowing what one is going to experience throughout the whole process was seen to be very essential. Knowledge on the basic safety transfers should be emphasized to encourage continuity and being independent in the life ahead. (Olsson et al 2007)

According to WHO (2007), they thought that in order for people to make a choice, they should have at least a basic information on the importance of exercise. An explanation on how good it will be to them if they participated in activities that are targeted for not only prevention but also good quality of life should be made available. The need to exercise before and after hip-fracture is important since it creates good balance and strong body muscles. People should be emphasized to take balance and exercise training rather than reduction of risks of falling since many are ignorant.
There also need to develop a way of communicating to the patients and the ability to absorb the information. It should be given both oral and writing. (Olsson et al 2007)

Personal recovery depends on self efficacy where by the victim's ability to engage in recovery process and how determined they are to perform in certain situations. Self efficacy was seen to increase in those people who received training and information from occupational and physiotherapist. This helped in positive outcomes since the victims are guided at the same time given advice on the hip fracture**.** Person's own expectations on the recovery depended mostly on their judgments of how well they are going to achieve in a given situation. Those who have strong belief in achieving something, have the ability to perform even difficult tasks. (Ziden 2008e)

The healthcare structures should provide education to not only the patients about the possibility of pain, but also the nurses and physicians in order to provide a more detailed assessment and adequate treatment. (Arizon et al 2007)

5.2.4 Physical well being and health related quality of life

One of the serious consequences of falls if fear of falling thus leading to activity restriction and loss of confidence. Hip fracture is also related to decline and prolonged impact in health related quality of life (HRQoL). A substantial number of programs have been found to reduce fear of falling and improve balance and confidence. Some of the examples given were Ti Chi, hip protectors and community based group interventions. In one of the case study showed that the degree of confidence in balance increased after partic-

ipating in a six week program. Home rehabilitation programs and also good tailored collaboration with the multi professional teams have been reported to bring positive outcomes and good self efficacy. Physical well being can be associated with many things namely; factors that give life satisfaction like family, friends, income and quality health. (Ziden el al 2010d)

Findings show that pain can play a major role in relation to activities leading to stressful situations such as depression and being isolated from the society. There should be a through checkup or evaluation and treatment of pain and mood changes. Symptoms of depression may be reduced by optimal pain management and early recognition. (Arizon et al 2007)

5.2.5 Discussion on question 2

The findings in this chapter show how important it is for the multi professional team to be involved in the discharge process. The victims needed to continue with the same rehabilitation process even at home with the help of this team. A schedule for follow up by the physiotherapist will be of help to the patient. It will be important for the health professionals to evaluate more the victim at hospital so as to make good conclusion in relation to the ability of the patient. Collaboration between the hip fracture patient, relatives and the multi professional team was seen to be beneficial since the interventions are discussed before they are put into practice for the best of the victim.

This is also to ensure a smooth discharge process and a good support system for the care givers. The victims should be encouraged to practice learning by doing in order to increase independency when the home visit program comes to a closure. The more active the elderly is the more likely are to be satisfied with their life thus a good quality of life. Coping strategies, own motivation to take responsibility and interest are factors that will determine the speed at which the person will recover. If a person chooses to just sit and not do anything then it's hard for such a person to be helped.

Factors that will affect rehabilitation should be well assessed by the professionals for the safety of the patient. Emotional distress caused by the fear and worries clearly show that more support and attention is needed in this area for a healthy start in the changes brought by the hip fracture situation.

Risk factors were found to be many. It was seen as an important issue for the professional making home visit to be able to tell if the place is safe for continuality of the rehabilitation or not. The TUG assessment should be included in the discharge program in order to assess the risk for falling. Older people who keep up with regular exercise and strength activities are less likely to fall. Ti and Chi was seen to be beneficial for strength and balance for the elderly. Depending on the ability one can choose the one that suits their strength.

Education was seen to be also very important for not only the patients but also the whole public. The need to exercise before and after hip fracture is important because it creates the good balance and strong body muscle. The hip fracture patient should be thoroughly evaluated and treated in cases of acute pain and mood immediately after the operation and at the beginning of rehabilitation.

6 DISCUSSIONS

The findings show that hip fracture comes with very many problems. The rising number of elderly especially here in Finland means that more precautions are needed. Aging itself determines the functional capacity of the person. As discussed in the theoretical part, disengagement and activity levels declines automatic as part of aging process. The active life of an elderly involves participation in the society and participating in activities that would slow down the declining of functional capacity. Well-being is indomitable by physical, social and mental health. Hip fracture automatically cuts off the elderly person from activities. The person experiences fear thus not able to do anything since they cannot trust their body.

The main objective of the society is to provide elderly independency to live a healthier life in their individual homes for as long as possible. Considering the remaining long-lasting negative consequences of hip injury, it is important that rehabilitation programs supporting patient's self-reliance and hope for recuperation to be given first priority. The occupational therapist and physiotherapist working within the field should make an extra effort to guide patients to overcome fear and insecurity caused by the injury in order to be able to realize desired actions, such as getting out of home and retaining social activities. All the health care professionals who meet the patients need to consider the patient's own experiences and possible fear of falling and not merely focus on the physical injury and disabilities.

Continuity is an important issue not only for the elderly but also the public at large. Therefore being active for example in balance activities increases the functional capacity and well-being of individuals. Information and education was seen to be very important in the continuity of the hip fracture patients. It is important that all the people involved in the rehabilitation process be well informed about the consequences of hip fracture and how to cope. Fear of falling is one major problem that was noted in most of the study.

The Involved team should be well aware of the emotional changes such as depression, anxiety and fear in order to enhance continuity in the whole process. Initiation of immediate mood and pain interventions should be put into consideration when being discharged from hospital. Education about pain should not only be for the hip fracture patients but also the nurses. This will not only help in giving a good and detailed assessment but also treatment that is relevant.

The pain and discomfort of the injured limb will definitely make the person not to do anything. The findings show that pain is one of pain problem that leads to mood changes such as depression and fear. The patient is at risk of backing out from the rehabilitation program arranged for them. Pain can make them not sleep, eat well and emotional distress thus leading to social isolation. Optimal pain management will help in reducing depression which will help in reducing rehabilitation period. The more the pain the more the person is at risk of new falls since the person will not continue with the program given when the professionals are not around.

Information also on the whole process involving hip fracture should be well explained or presented in a way that the victim would understand. The importance self efficacy in their own strength should be emphasized because otherwise no can force them. People own motivation and interest really affect the rehabilitation process. The government should be able to react immediately to the needs of the elderly living at home. Assistive devices should be well instructed to the people using it or the informal caregiver in order to avoid further accidents that will lead to hospitalization. The patient should be in position to do safe transfers for example from chairs to bed or standing up. Teaching the patients how to stand up safely in case they fall down will really help because the person is in a position to call for help in good time.

The caregivers should be helped to develop a solid support system and discharge plan. It should be satisfactory to all the people around the patients for better result. Teaching the caregivers illness related knowledge and skills to provide home supported follow up services by multi professional.

7 CRITICAL ANALYSIS

The whole thesis process was challenging but interesting to write since the writer put more effort on what she wants to learn. The theoretical frame work discusses the way elderly cut off automatically from activities and society with the reason that they are old. The hip fracture situation puts a risk of disengaging from the society because of fear. They become dependent thus the activity level and quality of life is reduced. Despite the changes in health, functional capacity and social status, most elderly people still have the same wants they hard when in the middle age. The hip fracture patients should be encouraged to continue no matter what circumstances. This is because most of the recovery strength comes from them. Despite not mentioning almost none theoretical framework in the articles used, majority of the writers seem to emphasize continuity theory. This is because the recovery process meant that the patients continued with the same process as advised by the Multi professional team.

The method chosen for this thesis was appropriate since it allowed the writer to dig deeper and absorb more knowledge. It would have been more fruitful to find out what this people felt and how are they coping with the whole hip fracture process through interviews and even try some of the exercises that were just mentioned to see the outcome. This is because most of the articles used interviews and observation method. There was no specified country since this would limit some important information. Few of the articles would not also specify the country where the research was done. The age limit was also not specified because some of the articles had a limit of as low as 50 and over.

The total number of articles used was 18 where some had to problem and solution in the same paper. The whole idea of this project is to answer the two research question and to give the reader various information on after hip fracture. This is because most articles dealt with the problems after discharge which was appropriate for question 1. Question 2 had difficulties in finding what the best ways to cope after hip fracture are. Fear which was one of the main problems that caused the elderly to disengage from the society was not well given the solution. Information on how to help the patients overcome fear was limited thus making it hard to know what exactly how to go about it. The whole inclusion and exclusion criteria can be found in chapter 4.

Typing the key words mostly lead to the same articles that were fast retrieved by the first question. Most of the interventions done were not reported since most of the authors could not finish their research due to time shortage. Majority of the writers suggested that more time is needed in order to reach the ultimate goal. Example of this is the Harling and Simpson (2008), where they suggested that Ti Chi needed a long term follow-up to determine the therapeutic mode, dose, context and prescriptive validity to support the use in reducing fall incidence.

Most of the literature used had the same writer. For example Ziden L had quite a number of articles which revolved around the two research questions. They might have been the same person but were very useful. It would have been nice to find out what other articles with different writers other than the mentioned one. Few articles did not have full content or would somehow need password in order to access them thus giving up on important information.

It was a pity not to find many articles done in Finland. Due to language problem getting articles in Finnish language then translating them brought a totally different meaning which was hard to understand.

8 CONCLUSION

The problems of falls still remain even after rehabilitation and to many is a big blow in their life ahead. This is because the elderly see it as the end of their privacy and have to depend on someone for simple task. The importance of the Multi professional teams was seen to be the best way to assist the patients in all the way possible. Prolonging the rehabilitation time was also seen to the most efficient because the healing process takes time. To be able to trust one's body again, be fearless and be able to use the injured hip again take baby steps in order to get good result. Self-efficacy was also emphasized since the patients need their own determination to be able to push themselves. The Multi-professional team should sure that the patients understand everything that is told to them. Writing down the information would also assist the patient's relatives to find a place to refer in case they have forgotten. The pamphlet is one way of making not only

the patients remember what important things they need to know but also the Multi-professional team. See picture 1 and 2.

9 RECOMMENDATIONS FOR FURTHER STUDIES

Further studies are required to establish how long should a rehabilitation period take for one to achieve good results on the recovery of hip-fracture. Few articles portrayed more on the fact that the interventions were just for research purposes then what happens next still remains a mystery. Since the patients discharged go back home, who is responsible for their care? Education on the importance of exercising and eating well should be well published.

The media should also play the biggest role in publicizing in newspapers since many people at home love to read newspaper. Another example is channels that repeat evening news the following morning. They do this is to make sure that everyone is informed. This channel can do the same to simple movement exercises as many times as possible thus targeting those who live alone at home. The author of this thesis is already aware that there is a program for exercise on television, but the time it comes is not clear for which audience it is meant for.

10 IMPACT ON POLICY

From the results of the study, there are a few things that the government can do to assist the elderly cope after rehabilitation. These cost-effective actions will further reduce the risk factors of falls and also reduce the financial burden on health industry. Some of the actions we recommend are:

- Subsidies on drugs needed after rehabilitation for example pain medicine
- Subsidies on assistive devices for example walking aids
- Proper diagnosis (emotional distress)since prevention is better that cure
- Provision of healthcare workers to follow-up on the progress at home after discharge
- Recognition of the family caregivers
- Publicity and education.

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APPENDICES

Appendix 1: Table 3. Problems faced at home after discharge

Sub category	Category	Main category
Inadequate pain assessment -Problem accepting pain on affected leg. -Activity restrictions	Pain	Problems faced at home
-Left out in planning process -Less nurses -Walking aids are not reviewed -Not knowing when to go back for checkup. -Participants' making own decisions -Inadequate knowledge about hip fracture. -Rapid discharge from hos-	Lack of supported discharge and information	

pital -Rehabilitation process		
-Cognitive impairments -Chronic diseases -Use of antipsychotic drugs.	Poor health and drugs	
-Feeling of house bound and disabled after hip fracture -Physical limitations -Trapped	Change of behavior	
-Afraid of losing their self independence. -Fear of not able to recover.	Fear, depression and anxiety	

-Fear of new falls. -Feeling of isolation. -Lack of sleep. -Activity restriction -Loss of confidence -Social restrictions -Felling of betrayal		

Appendix 2: Table 4: Support mechanisms needed to cope at home

Sub category	Category	Main category
-Prolonged rehabilitation process -Close contact with relatives and social workers for a smooth discharge. -Tailored discharge by Physiotherapist, occupational therapists and nurses	Patients benefits from multidisciplinary team	Support and coping mechanism needed to cope at home

-Understanding clients need and goals.	Patient satisfaction at discharge	
-Testing the patient's ability to be at risk of falling -Hip protectors -Ti Chi -Multi factorial programs -Home safety checkup. -Reviewing the medical prescriptions	Early interventions on the risk of falling	
-Information on hip-fractures -Coping strategies. -Sense and need for exercise. -Knowledge on basic safety transfers. -Educating family members	Public awareness and education	

-Reduction of Pain and dis-comfort. -Encouraging the patients to train by themselves -Functional ability and self efficacy. -Health status.	Physical wellbeing and Quality of life	

Appendices 3: Picture 1 and 2 (sample of the pamphlet)From Microsoft templetes 2010

ELLI PROJECT

ESPOO LIVING LAB INNOVATION

CHECK YOUR HEALTH, GET GOOD ADVICE ON THE IMPORTANCE OF TAKING CARE OF YOUR SELF FOR EXAMPLE AFTER HIP FRACTURE.

IMPORTANCE OF EXERCISE

- Good quality of life
- Prevent diseases e.g. heart diseases etc.
- Improve mobility
- Enhance continuity in life
- Enhance self-independent
- Mood changes
- Sleep is improved

Talk to your physiotherapist on what is best in your own situation.

Enter Contact information
555 Street Address
City, State 55555

Phone | 555.555.5555
Fax | 555.555.5555

www.website.com

ARE YOU AT RISK OF FALLING?
CHECKLIST FOR SAFETY AT HOME (OWN EVALUATION)

Are there any obstacles on your way e.g. loose carpets, clatter, wires etc.?

Do you have enough lighting in the whole house?

Do you have rubber mats in your bathroom and grabs?

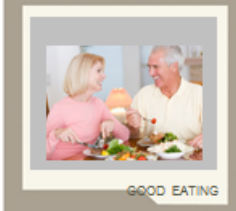
What do you do when you wake in the night to go to the toilet or open the door?

Check your house for common risks.

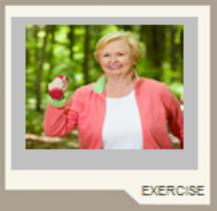
Other safety tips are; keep emergency numbers in large prints near the phone, put a phone number near the floor in case of falling and cannot get up and think about wearing an alarm device that will bring help in case of fall.

AFTER HIP FRACTURE

www.website.com

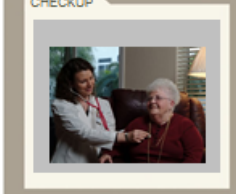


GOOD EATING



EXERCISE

CHECKUP



SOCIAL

Law dietary intake of calcium and vitamin D may lead to risk of falls because the bones are not strong.

Older people who take part in regular strength and balance training are less likely to experience a fall.

Socializing helps improve well being

WHAT TO KNOW BEFORE LEAVING THE CENTER

Ask as many questions about the hip fracture situation for example:-

1. How to deal with mood changes
2. Optimal pain management
3. Review the medication prescription with the help of a professional (Doctor)

   Good dietary advice
4. Make sure that you know what the risk factors are for new falls.
5. Practice safety transfers with your physiotherapist.
6. Participate in community based activities such as ELLI.

If the information given verbally is too much, tell the person to write it down or discuss what the best way to always remember the information is.

SELF-EFFICANCY AND COTINUITY

ARE YOU AT RISK OF FALLING?
CHECKLIST FOR SAFETY AT HOME

Personal recovery depends on self-efficacy where by the victim's ability to engage in recovery process and how determined they are to perform in certain situations.

Continue to do what the multi professional team has laid out for you.

- Are there any obstacles on your way, e.g. loose carpets, clutter, wires etc.?
- Do you have enough light in the whole house?
- Do you have rubber mats in your bathroom

Appendix 4: Table 5. Literature review

Article title	Author and date of publishing	Country of study	Demographic of cases	Aim	Result	Article number
Pain perception during the rehabilitation phase following traumatic hip fracture in the elderly is an important prognostic factor and treatment tool.(Problem & Solution)	Arinzon Z. et al 2007	Israel	65+	To evaluate the role of pain perception on admission to geriatrics rehabilitation on the functional recovery after rehabilitation treatment in the patients with hip fracture and on the length of stay.	Pain is seen to play a very big role in the victim's recovery process. Lack of early assessment of pain may lead to a prolonged rehabilitation time. Depressive symptoms, emotional distress, activity restriction, sleep disturbances, fatigue and decrease in overall physical and mental function, up to social isolation are associated with greater disability in older persons with pain. The article suggests that there should be more critical evaluated of pain and mood changes immediately after operation and in the rehabilitation process	1

Walking aid use after discharge following hip fracture is rarely reviewed and often 4inappropriate: an observation study(Problem)	Thomas S. et al 2010	South Australia	70+	To describe the prescription of walking aids and how ,why and by whom the walking aids are progressed after discharge following surgery for hip fracture	The article talks about how there is lack of enough information on walking aids and a follow up on the device is minimal especially during the beginning stage of recovery. This leads to most patients' making their own decisions and lack of safety repercussions about walking aids thus risk of new falls. There were also a number of patients who did not understand English. This makes communication difficult especially the part where they hard to get information to take home.	2
A life breaking event: early experiences of the consequences of a hip fracture for elderly(Problem)	Ziden L et al 2008	Sweden	75+	To explore and describe the consequences of an acute hip-fracture as experienced by home-dwelling elderly	The subjects described a new experience of physical social limitation, hopelessness and eroded independence. They also felt trapped at home, limited capacity to move, lost confidence in their bodies (insecurity, fear and frailness). Activity	3

				people after discharge from hospital.	of daily living was also minimized. Depression has been found to predict poor functional outcome after hip fracture. Having to depend on someone or use a time table so as to go to the toilet or do chore was very scary for many victims. The patients also thought that one month for rehabilitation was a short time.	
Hip fracture: Family caregivers' burden and related factors for older people in Taiwan. (Problem& Solution)	Lin P-C& Lu C-M 2005	Taipei, Taiwan	65+	To explore the burden experienced by caregivers during transition from hospital to home	The patients were discharge without a proper plan to assist in caring for the loved ones. Mood changes such as anxiety and fear are experienced. Feeling of isolation from the family caregivers' side since they have to take care of their relatives. Lack of sleep and fatigue. Elderly still needed a lot professional help even after discharge. Formulation of evidence based discharge	4

					plan and professional home health care services to assist the caregivers.	
Impaired weight transfer persists at least four months after hip fracture and rehabilitation. (Problem & Solution)	Nightingale J E et al 2010	Sydney, Australia	62-95	To determine whether choice stepping reaction time performance is impaired in people after hip fracture and whether it improves after rehabilitation	Many daily activities, such as walking and stair climbing are affected due to persisting deficits. Difficulties with weight transfer on the impaired leg during the rehabilitation time remained notably the same thus leading to poor balance and risk of falling. Suggestion on long-term rehabilitation program that includes first stepping practice that will help improve balance, mobility and reduce the risk of more falls.	5
Hip fracture treatments-What happens to patients from residential care?	Crotty M et al 2000	Southern Adelaide, Austarlia	60+	Describe the treatment and 4 months outcomes of patients with fractured hips who	Most of the government's policy is to return patients home as quickly as possible. The patients are discharged after a short rehabilitation period. This leads to	6

(Problem)				were admitted to Flinders Medical Center in South Australia from the community and residential care.	lack of access to therapy programmers' that will help in restoring mobility, reduce risk of falling again improve quality of life. Therefore the patients will still be at risk of falling and most of all have fear which leads to depression thus poor quality of life	
Fall risk among a very old home dwelling population. (Problem)	Iinattiniemi S et al 2009	Northern Finland	65-75	To examine risk factors of falling in a home dwelling population	Psychotropic drugs use by the elderly are the biggest risk of falling. This is because the elderly react differently to medicine. The extra pyramidal effects, anti cholinergic and blockade of---adrenergic receptors affect fall risks especially in elderly. The things that lead to risk of falls were feelings of anxiety, nervousness and fear irrespective on the use of drugs.	7
Admitted with a hip fracture: patient perceptions	Olsson Lars-	Sweden	71+	To describe the hip-fracture patients own	There was lack of inadequate knowledge about their condition. Worries about	8

of rehabilitation. (Problem + solution)	Eric et al 2007			perception of their situation and views of their responsibility in the rehabilitation process	having successful rehabilitation and not being satisfied with discharge planning were observed. One of the elderly was reported saying that one has to fight harder despite having fallen 3 times. Fear and worries expressed by the elderly shows a clear need for attention and emotional support especially in the start of transition. There was need to find a way to educate patients and relative so that they can digest the information. It should be offered both in writing and orally so that they can be able to remember.	
Discharge planning for patients receiving rehabilitation after hip fracture: A qualitative analysis of physiotherapists	Taylor et al 2010	Australia		To explore the perception of clinicians about walking requirements and discharge criteria for patients being dis-	The need to walk or transfer safely was seen to be an important issue with all the clinicians but it was not clear how long the walking distance should be. The clinicians were more interested in circums-	9

perceptions(problem)				charged home in the community from rehabilitation after hip fracture.	tances of an individual instead of objective performance criteria. Pain was not seen to be an issue but only one clinician saw it as an important part of discharge planning. In conclusion, the clinicians predicted that the patients could have problems with outdoor ambulation, pain and a lack of confidence after returning home which were less considered in the discharge planning.	
The shifting cost of care: early discharge for rehabilitation(Problem)	Dow B 2004	Victoria		The aim was to bring to awareness that despite the policy of early discharge from hospital, the state has shifted care from hospital to home resulting in the work of caring and its cost being ren-	Social isolation, depression and lack of sleep were noted with the family care givers. Lack of enough information on how to continue with the rehabilitation at home was minimal. Risk of new falls may occur since the elderly are sometimes left alone. No arranged rehabilitation program is arranged after discharge. The cost of care for the elderly is left	10

				dered invisible	unresolved thus putting the entire burden to the caregiver. There is a gap left on who should take over and on this case it's the family member who will fill in.	
Home rehabilitation after hip fracture. A randomized controlled study on balance confidence, physical function and everyday activities(Solution)	Ziden L et al 2007	Central and Western Göteborg Sweden	70+	The aim was to make every patient who had been able to walk outdoors pre-fracture to resume that activity within rehabilitation period	Supported discharge by multidisciplinary professionals helped in improving the rehabilitation at home. This was done by encouraging the elderly to exercise and by doing as many activities on their own to help in stimulating the resumption of ordinary daily activities. The daily activities included safety and independency especially in basic things such as transfers, dressing, grooming, bathing, cooking and shopping. This will also create a smooth discharge process for all the people around the patient.	11

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.(solution)	Ziden L et al 2010	Sweden	65+	To investigate the long-term effect of home rehabilitation (Home Rehabilitation) after hip fracture in elderly people.	The result showed that long term home rehabilitation program had a big effect on independence, balance confidence and physical function. Intervvention such as hip protectors and practicing balance related exercise as Ti Chi was seen to be very important. The program focused more on self efficacy and training of daily activities, as well as a high degree of continuity and cooperation among the involved professionals. Community based programs were seen to be helpful whereby ways of reducing risk of falls was put first. Home screening of safety and good advice was given by those who visited the home.	12
Timed “Up & Go” Test as a predictor of falls within 6 months after hip	Kristensen et al 2007		Median age 80 where 19% were	To determine whether TUG scores obtained upon discharge from	The article explains how the TUG could be used in future to predict the risk of fall within the first 6 months after dis-	13

fracture surgery(Solution)			under 65 years	an acute orthopedic hip fracture unit can predict falls in people with hip fracture during 6-months follow up period.	charge. The 95% of subjects who had fallen had TUG score not> 24 seconds which resulted in 93 % of subjects who did not fall and this subjects were only 0.1 times as likely to fall as were other subjects. Therefore this TUG test should be used in the early period of rehabilitation and finding out what are the problems that can make the elderly fall.	
Falls in the elderly: what can be done?(Solution)	Akyol A D 2007			The articles gives information about falls in the elderly	This article talks about risk factors for falls increases with age, medication use cognitive impairments and sensory deficits. A home safety check list of some of the risk factors could be done at the patient's home. Since the fall itself cannot be stopped, some of the risk factors can be reduced. Therefore clinicians and researchers have identified a risk assessment tools to help in pointing out which	14

					are the risk factors. Those factors are Environmental hazards, use of many prescribed medicines, any impairments or mobility, altered mental status, independent bed rest among other things	
The break remains- Elderly peoples experiences of a hip fracture 1 year after discharge. (Problem and solution)	Ziden L et al 2010	Umea University. Sweden	66-94 mean grade 80	To explore experienced long-term consequences of a hip fracture and conceptions of what influences hip fracture recovery among community-living elderly people after discharge	The elderly interviewed felt betrayed by their bodies, fear to move around and trapped in the house. The suggestion that came along was that the physiotherapists around this field should be made to guide patients to overcome fear and insecurity caused by the injury. All the health care professional around the patient need to consider not only physical injury and disability but also patients own experience from fear, confidence and avoiding the mood changes that come along with the transition. The patients thought it was also	15

					very important to be satisfied with the discharge process	
A systematic review to determine the effectiveness of Tai Chi in reducing falls and fear of falling in older adults. (Solution)	Harling A & Simpson P J 2008		60+	The aim of this systematic review was to examine the current literature surrounding the effectiveness of Tai Chi in reducing the incidence of and fear of falling in older people.	The results of this review suggest that Tai Chi is more likely to be beneficial to an unselected group of older people as opposed to those with risk factors for falls or known fallers. As the health costs goes high emphasis on evidence based practice should provide motivation for more research regarding the use of Ti Chi as fall prevention based exercise for older people. Future plans should focus on targeting defined clinical subpopulations with high quality, well designed RCT (randomized controlled trial) of sufficient size and with long term follow up for better result. The Yang style was seen to be more beneficial due its slow movement.	16

WHO global report on falls prevention(Problem and solution)	World Health Organization 2007	Victoria Canada	60+	The article is based on the conclusions reached and suggestions made by WHO technical meetings on falls prevention.	The article has several chapters whereby each one focused on different aspects of falls. Magnitude of falls has been seen to be very consequential ranging from serious injuries as well as death to high hospital bills. Four main factors seen as causes of falls were; behavioral risk factors, biological factor, social economic factors and environmental factors. One of the coping strategies mentioned was that the health professional should teach the patients on how to pick themselves up after falling. Strength and balance training, environmental modification and medical care were evidently reported to reduce risk of falling. The people should have at least basic information on the benefits of participating in activities. Encouragement by means of invitations by professionals to participate in activities.	17

					In residential settings, multi factorial approaches such as staff training and guidance, changes in medication, resident education, environmental assessments and changes and frequent check up and supply of walking aids and hip protectors should be done.	
Life after hip fracture. Impact of home rehabilitation verses convectional care and patients experiences of recovery process in short and long term perspective(Problem & solution)	Ziden L 2008	Sweden	65+	In a short and long-term care perspective compare a geriatric home rehabilitation programme (HR) for patients with hip fracture with convectional care (CC), and to capture the patients experience of the consequences of the injury and their conceptions	The consequences for hip fracture still remains. A big task is left to the health care to create continued possibilities for rehabilitation after discharge from hospital in longer duration and not only the medical and physical needs but also psychological and experiences that come with fall consequences. The physiotherapist uses his/ her own ability to make the patient use body and movement as the main part in rehabilitation. It can also be used by the patient to overcome fear	18

				of what influences their recovery process.	and insecurity caused by the injury	