

IMPACT OF REHABILITATION ON ELDERLY PERSONS WITH DEMENTIA

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<p>Abstract</p> <p>Rehabilitation for dementia is plagued by misconceptions. Personal and professional caregivers of people with dementia often ask why they should support rehabilitation efforts when they know that the person with dementia is only “going to get worse” anyway. In recent years, however, researchers have provided evidence that individuals with Alzheimer disease (AD) and other types of dementia can benefit from structured behavioral treatments that reduce demands on impaired cognitive abilities and capitalize on spared ones. It is the above misconception that motivated the author to do this study and bring to light the impact of rehabilitation on elderly persons with dementia</p> <p>The aim of the study is to describe the rehabilitation impact on elderly persons with dementia and also describe the work of the caregivers in this process. Therefore the research question is what impact does rehabilitation have on elderly persons with dementia?</p> <p>The author started the project with a literature review. For database searches, the author mainly used the terms ‘rehabilitation’, ‘elderly’ and “dementia”. These searches were carried out on Google scholar, EBSCO, and nelli portal. They yielded hundreds of articles. The author`s choice of articles from the wide range available was based on the criterion that they were concerned with rehabilitation and dementia. The next step was to read through the abstracts those that did not focus on geriatric rehabilitation nursing (dementia) were omitted. The author used 3 categories in the results part namely Skills, Health and Communication to help in answering the research question.</p>	
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EXAMENSARBETE	
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<p>Sammandrag:</p> <p>Rehabilitering för demens är plågat av missuppfattningar. Personlig och professionell vårdgivare för människor med demens be ofta varför de borde stödja rehabilitering när de vet att personen med demens "kommer bara att bli värre" ändå.</p> <p>Under de senaste åren, men forskare har styrkt att personer med Alzheimers sjukdom (AD) och andra typer av demens kan dra nytta av strukturerade beteendemässiga behandlingar att minska kraven på nedsatt kognitiv förmåga och kapitalisera på spard de. Det är den ovan missuppfattning som motiverade författaren för att göra denna studie och ljus effekterna av rehabilitering för äldre personer med demens. The syftet med studien är att beskriva rehabilitering inverkan på äldre personer med demens och också beskriva arbetet med vårdgivare i denna process. Därför är forskning frågan vilken inverkan har rehabilitering för äldre personer med demens?Författaren startade projektet med en litteratur översyn.</p> <p>För databassökningar används författaren huvudsakligen termerna "rehabilitering", "äldre" och "demens". Dessa sökningar gjordes i Google scholar, EBSCO och nelli portal. De gett hundratals artiklar. Författarens val av artiklar från mängd som är tillgängliga var grundade på kriteriet att de berörda med rehabilitering och demens. Nästa steg var att läsa igenom abstracts som inte fokuserade på geriatrisk rehabilitering omvårdnad (demens) var utelämnas. Författaren används 3 kategorier i resultatlistan delen nämligen kompetens, hälsa och kommunikation för att hjälpa till att svara på frågeställningen.</p>	
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1 INTRODUCTION

Rehabilitation for dementia is plagued by misconceptions. Personal and professional caregivers of people with dementia often ask why they should support rehabilitation efforts when they know that the person with dementia is only “going to get worse” anyway. This situation is compounded by the fact that many health care professionals, including speech-language pathologists (SLPs) share this view. In a recent survey of speech-language pathologists in Canada, 44% of respondents did not agree that individuals with dementia could benefit from speech-language pathology interventions (Cleary, 2003).

In fact, many rehabilitation professionals, long-term care administrators, and third party payers have stated that the provision of cognitive interventions for dementia is unethical as individuals with dementia cannot be expected to benefit from such interventions.

In recent years, however, researchers have provided evidence that individuals with Alzheimer disease (AD) and other types of dementia can benefit from structured behavioral treatments that reduce demands on impaired cognitive abilities and capitalize on spared ones. The benefits of these interventions are observed in outcomes such as more time actively engaged in their environment and improved affect (Judge, et al 2000),

Improved ability to recognize or recall proper names (Brush & Camp, 1998a), improved ability to carry out specific tasks and reduced occurrence of negative verbal behaviors such as repetitive question-asking (Brush & Camp, 1998b).

It is the above misconception that motivated the author to do this study and bring to light the impact of rehabilitation on elderly persons with dementia.

2 AIM OF THE STUDY

The aim of the study is to describe the rehabilitation impact on elderly persons with dementia and also describe the work of the caregivers in this process.

Research question

What impact does rehabilitation have on elderly persons with dementia?

3 BACKGROUND

3.1 Defining Dementia

Dementia is a group of symptoms caused by gradual death of brain cells. The loss of cognitive abilities that occurs with dementia leads to impairments in memory, reasoning, planning, and behavior. While the overwhelming number of people with dementia is elderly, dementia is not an inevitable part of aging; instead, dementia is caused by specific brain diseases. Alzheimer's disease (AD) is the most common cause, followed by vascular or multi-infarct dementia.

(World Health Organization, WHO 2000).

The prevalence of dementia is difficult to determine, partly because of differences in definition among different studies and partly because there is some normal decline in functional ability with age. The prevalence of dementia roughly doubles for every five years of age beginning at age 60. Dementia affects about 1% of people between ages 60 and 64, 5-8% of all people between ages 65 and 74, up to 20% of those between 75 and 84, and between 30% and 50% of those age 85 and older. About 60% of nursing home patients have dementia. The Alzheimer's Association estimates that in 2007, 5.1 million Americans were living with a diagnosis of AD. (Alzheimer's Association,)

That number expected to grow substantially as the population ages. The cost of dementia can be considerable. While most people with dementia are retired and are not affected by income losses from their disease, the cost of care often is enormous. Financial burdens include lost wages for family caregivers, medical supplies and drugs, and home modifications to ensure safety. Nursing home care may cost a substantial amount of money a month. The psychological cost is not as easily quantifiable but can be even more profound. The person with dementia loses control of many of the essential features of his life and personality, and loved ones lose a family member even as they continue to cope with the burdens of increasing dependence and unpredictability.

With the rapidly aging population, it is expected that increases in cases of dementia will double over the next 20 years. Currently, there is no cure for diseases such as Alzheimer disease or front temporal dementia (FTD) that causes progressive dementia and only a few pharmacological interventions that slow the progression of the decline exist. Given that there is no cure available, a rehabilitation approach that emphasizes maintaining existing abilities

and removing excess disability (as opposed to emphasizing cure or recovery) for as long as possible is warranted. non pharmacological rehabilitation efforts need to target 5 broad areas/targets: memory enhancement, altering social contingencies and communication styles, improving self-care skills, the arrangement of physical environments to maintain and improve functioning, and increasing physical fitness/physical activity.. (Buchanan. A., 2011 Vol. 42).

Cognitive impairments are a defining feature of Alzheimer's disease and memory problems in particular are often one of the main problems experienced by people with Alzheimer's disease in its early stages. Similarly, memory problems usually arise in the early stages of vascular dementia. For the person with dementia, memory and other cognitive difficulties can have a major impact on self-confidence and can lead to anxiety, depression and withdrawal from activities, which in turn can result in the difficulties seeming worse. This is an example of what has been termed excess disability (Reifler, 1990).

Family caregivers are also affected due to the practical impact of cognitive problems on everyday life and to the strain and frustration that can result. Help with aspects of cognitive functioning, such as memory problems, therefore, may be important in the early stages of dementia. (Brandt, 1995)

The possible value of interventions to improve memory functioning is indicated by studies of memory and learning which show that, despite the severity of memory difficulties, some aspects of memory remain relatively intact in the early stages of AD and vascular dementia). Memory is understood to consist of a number of different sub-systems that can function relatively independently of one another, and in early-stage AD or vascular dementia it is typically the episodic memory sub-system, containing memory for personally- relevant events and episodes, that is significantly impaired.

Other sub-systems such as semantic memory (knowledge of facts about the world) and procedural memory (performance of skills and routines) are either intact or only very mildly affected. (Brandt 1995; Morris 1996)

3.2 Rehabilitation

Rehabilitation is a way of thinking, a philosophy within medical practice that states that there are always ways to help our patients even when traditional medical and surgical approaches are exhausted. Thus, physical, environmental and psychosocial considerations may all offer

avenues to assist patients to lead the fullest life possible in spite of a medically incurable state. This philosophy can be applied to many groups of patients who may have differing needs so that specialist areas of practice have come into being, e.g. neurological, musculoskeletal or prosthetic rehabilitation. Rehabilitation also relates to the interaction between the person with a disability and the health professionals who seek to diminish the impact of disability on the person's lifestyle. . (Occup Med Lond, 2006).

This view of the impact of disease on the person can be applied either in the context of generic services (e.g. primary care) or at the level of specialist rehabilitation provision. It can be used during a clinical consultation, or by using a rehabilitation team to overcome the effects of impairment. Consider a stroke which develops during an operation; providing rehabilitation at a level the post-operative patient can tolerate gives hope of functioning again and is a powerful help to patient and surgical team alike. The specialist neuro-rehabilitation team complements the surgical team to produce results that appear to be more than the sum of the parts. . (Occup Med Lond, 2006).

The primary practitioners within the rehabilitation team are the rehabilitation physician, the various therapists, often a psychologist and sometimes others (e.g. a dietician) with the individual at the centre of the process. This person is rarely isolated but exists within a family and often a workplace and indeed these interactions occupy much more of the person's time and life than the interaction with the rehabilitation or other clinical team. Rehabilitation will not be effective if it is available in secondary care alone but also needs to be followed by specialized community rehabilitation. Such teams in primary and secondary care ensure that patients maintain, or regain, their activities, e.g. mobility. (Occup Med Lond, 2006).

3.3 The aims and elements of rehabilitation

Research describes the possible targets-much the same as in rehabilitation of younger people-as restoration of lost function and the person's former role; maximal use of remaining function and attainment of an altered role; or adaptation to reduced function and a reduced role. With

realistic individually tailored targets rehabilitation failures should be rare-and they reflect not the moral turpitude of the patient but professional errors. (Brown &Hardy, 2007)

The assessment depends on knowing not only what the patient's present state is but who he was, who he is and how he got there. Thus the doctor (and other professionals) should if possible see patients and relatives in their own environment and [listen] to talk about things that matter to them. In this way rehabilitation can be based both on realism and on sensitivity to the individual's personality and wishes. Even if, as often happens, only small improvements are possible and independence is not to be hoped for, a rehabilitation approach may increase morale and self-esteem and lead people to make the most of what is left to them, or at least help to make their lives a little less barren. (Brown &Hardy, 2007)

Rehabilitation may also mean helping them to keep an attractive and resilient personality, to quote Arie, despite disability. With the elderly, everything is rehabilitation, even in acute illness: indeed, geriatrics has been ahead of general medicine in putting rehabilitation at the center. Patients are soon up and dressed, for example, and encouraged to get going again. Ideas and good practices abound and in many centres this is a developing and exciting area to work in. The multiplicity of disorders and difficulties in old age makes it especially important to pinpoint the separate strands of disability, searching for causes that can be remedied or modified. The expectations of patient and family, and even doctors, are often low; and social and economic adversity may well, of course, compound health problems at this time of life. So the teams approach with a truly interdisciplinary, cohesive team working together is here more than ever crucial to the planning process that must underpin rehabilitation. Workers emphasize the need for regular case conferences attended by everyone concerned, for discussing progress and barriers to progress and deciding on new strategies as needed. (Brown &Hardy, 2007)

3.4 The goals and means of geriatric rehabilitation

The goals of geriatric rehabilitation are to restore and maintain an optimal level of function despite the disabling effect of diseases and injuries. Each patient individually establishes the concrete meaning of the goal. All patients, regardless of age, should have access to rehabilitation, according to what they need to achieve: an optimal level of independency and well-being and to prolongment of active life expectancy.

The goals are achieved by:

- Early detection of rehabilitation needs and an early start of re-habilitation to avoid complications.
- Establishing the rehabilitation process as a continuum from geriatric expertise to social and family support.
- Promoting active follow-up.

(Brown & Hardy, 2007)

3.5 The patients in need of geriatric rehabilitation

The geriatric patient is an elderly person with a complex clinical presentation who usually has multiple needs. The presenting issue is often the tip of the iceberg, with a multiplicity of other issues simultaneously lying beneath the surface. The rehabilitation is not likely to be successful unless the patient is systematically evaluated and all treatable and/or modifiable issues are dealt with simultaneously. (Brown & Hardy, 2007)

Older people with the following problems should be considered for referral to geriatric rehabilitation:

- Any new disorder or disease presenting in a patient with multiple underlying pathology.
- Disability of uncertain cause.

- New impairment of uncertain cause.
- Unexpected or rapid deterioration of impairment, disability or a handicap.
- Strain on caregiver resources.
- Barely coping, permanent institutional care being considered.
- New referrals to home-care services.

3.6 The model for geriatric rehabilitation

A framework widely adopted for comprehensive functional assessment of geriatric patients was described as the main pathway to disability in Geriatric work-up in the Nordic countries by Sletvold and co-workers. This framework is also the basis for interdisciplinary intervention. Ageing affects all biological functions, modulated by environmental stress and personal lifestyle factors, and results in reduced function or reserve capacity. The consequences of disease in an ageing organism, caused by an agent or event, are considered at four mutually balanced levels. (Brown &Hardy, 2007)

Level I *Pathology* - at cell and tissue level as intrinsic occurrence of injuries or disturbances of normal processes and structures (biochemistry, histology, etc.).

Level 2 *Impairment* - at organ or body system level, as occurrence of injuries or disturbances of physical and mental functions (symptoms and signs, diagnosis)

Level 3 *Functional (in)-capacity* - at the personal level, as experience of restrictions in basic functions such as gait, communication, vision, hearing, memory, orientation, etc. (objectified in relation to tasks: simple function tests).

Level 4 *(Dis)ability* - at society level - functional (in)-ability to perform socially and culturally defined roles (at the level of activities of daily life; ADL).

Ageing - affects all biological functions, modulated by environmental stress and personal lifestyle factors and results in reduced function (or reserve capacity).

Handicap - the social consequences of disability.

Intervention can affect any transition between these levels. Intervention works as a "buffer" against the functional consequences of disease. In real life there is an interplay involving a multitude of factors. (Brown &Hardy, 2007)

Pathology, impairment, incapacity and disability are used to describe different aspects of the consequences of disease caused by an agent or event. Self-reported competence or feeling of dependency depends on the relationship between functional capacity, personal resources and social circumstances. Functional incapacity due to age - and impairment-related limitations in physical and mental functions are influenced by motivation, expectations, confidence, and self-efficacy, on the one hand, and environmental factors, on the other, which contribute to the specific meaning that the functional limitations have for an individual. (Brown &Hardy, 2007)

To relieve the consequences of age and disease for the patient, it is necessary to minimize any discrepancies between disability and environmental demands and the patient's own expectations. Handicap is a gap between disability (ADL), social conditions and personal expectations. (Brown &Hardy, 2007)

The disability gaps can be reduced by intervention: first, to apply preventive measures, treatment and training to improve and maintain functional capacity (both physical and psychological): second, to improve social conditions, and, last, to motivate the patient to participate in rehabilitation and/or accept irreparable functional limitations. (Brown &Hardy, 2007)

Rehabilitation potential is the sum of positive avenues available for improvement of the patient's abilities, environment and personal re-sources. The challenge is to restore as many

functional abilities of daily living as possible. The identified problems can be classified into those that are curable, those that may improve with treatment, and those that are untreatable, but for which functional limitations are avoidable. Geriatric assessment and rehabilitation may thus be considered as a combination of primary, secondary and tertiary prevention. Primary prevention is conceived as modification and avoidance of risk factors. Secondary prevention takes the form of early detection and treatment of intervening diseases and modification of risk factors. Tertiary intervention hinders the automatic functional consequences of disease by instituting training as early as possible. (Brown & Hardy, 2007)

3.7 The rehabilitation context

Promoting independence for older people is a key theme in current health and social care policy and has led to an increased focus on rehabilitation services. For example, the National Service Frameworks (NSFs) in UK have set new national standard and service models of care across health and social service for all older people this has led to rehabilitation being a new concept and the need to consider rehabilitation as an approach is emphasized. (Nolan and Nolan, 2005)

Horne (1998), Farrell et al. (1999) and Edwards (2000) have all highlighted the link between a lack of rehabilitation and an over reliance on expensive residential and nursing home care, suggesting that services for elderly people often fail to support them to live independently and do not acknowledge an individual's expectation of living an ordinary life.

Nurses have an important role in the rehabilitation of elderly people, but it has long been undervalued and remains ill defined. There are many definitions of rehabilitation but it is apparent that, whatever suggestion is adopted, rehabilitation is tied up with the process which exists at various levels within the hierarchy of health, and that similar concepts are labeled differently by different writers. Widespread confusion about the meaning of rehabilitation makes it difficult at times to distinguish from other forms of care and support according to Royal College of Nursing (RCN), 2007.

The words re-ablement, enablement and re-enablement are used interchangeably throughout current policy document and caregivers have a continuing challenge in identifying an innovative role in this complex field of rehabilitation. However, if we empathize with the function of rehabilitation, the inter-changeability of these terms becomes an incidental. Rather than debating on terminology used, it may be more helpful to consider the impact of impairment, disability and handicap on the daily lives of individuals. Impairment refers to the reduction in physical or mental capacities, which may not always be visible and may not have adverse consequences for the individual however where the effects of impairment are not corrected a disability may occur. (RCN, 2007)

Disability refers to the restriction in the person's ability to perform a function they consider to be normal such as walking or shopping. Disability may or may not limit an individual's ability to fulfill a normal social role, depending on severity of the disability and on what the person wishes to do. Handicap refers to social disadvantage-such as loss of income or social interaction- which in turn has an effect on health and wellbeing of the person. (RCN, 2007)

Function ability can be described as the degree to which an individual is able to perform socially allocated roles free from physical limitations. However these activities may be fundamental to how an elderly person views their role in society, and being unable to do one or more of these activities may be the one thing which has the most effect on their general being. This has particular relevance for the concept of rehabilitation, and if caregivers are to fulfill a crucial role and provide care to its fullest potential they must understand the underpinning principles of rehabilitation as well as potential intervention. While the term rehabilitation is frequently used in literature related to this topic, definitions should incorporate the person's perspective, and their need to feel valued and to be able to construct a meaningful future which supports their social functions. (Nolan and Nolan, 2005)

3.8 The health status of older people

Though ageing does bring an increasing risk of disability, the assumption that older age is inevitably associated with disease, disability and frailty does not reflect the reality for the majority of elderly people. This means that practices must focus on what an individual can do and indeed wishes to do rather than on stereotypes. Long held beliefs about the aging process are now being questioned. Much of what was once considered to be inevitable deterioration is in reality the results of individual behavior and environmental conditioning. Although

changes in physiology are part of ageing, the accumulated evidence shows that many of the disease processes we think as usual can be modified and minimized through learning more about them and preventative interventions.

This means that rehabilitation needs to encompass all individual's daily activities and should have three main focal points;

- Enhancing and maintaining quality of life
- Restoring physical, psychological and social functioning by recognizing the health potential of the individual
- Preventing disease and illness

(RCN,2007)

3.9 Rehabilitation in practice

Rehabilitation is a complex concept and it is not easy to provide an encompassing definition. It is simple and more helpful to provide a description of the role of rehabilitation; and as (Wade, 1992) put in his book care of the chronic aged sick,

“Rehabilitation should aim to maximize the person's roles fulfillment and independence in his or her environment, all within the limitations imposed by the underlying pathology and impairment and availability of resources. This helps the person to make the best adaptation possible to any difference between the roles achieved and the roles desired”

Achieving this is a challenge for every caregiver regardless of the practice setting. While only some of the elements of this approach may be achieved in particular settings, the approach to rehabilitation and the person-centred focus should remain constant.

The following takes account of the physical, emotional, mental and spiritual domains of an individual:

Physical;

- Enhance sensory and motor functioning
- Actual and potential strengths and abilities of the person

- Understand symptoms and what they mean from the perspective of the person
- Help to adapt to changes in function
- Incorporate the perspectives of the carers and family in the adaptation changes

Emotional;

- Understand and respect the coping strategies used by the elderly person
- Suggest ways of reducing stress, tension and anxiety if possible include complementary therapies which are appropriate and acceptable
- Provide advice or legal opinion in all aspects of decision making and when required
- Facilitate a range of support systems for the person and all other carers and family members
- Be sensitive to, and respect different cultural perspectives and needs.

Mental

- Identify and take account of previous life history and usual routine
- Undertake appropriate mental health assessment to provide an understanding of the person's ability to adapt and adjust
- If required, provide a range of activities to decrease mental confusion and optimize mental function
- Offer choices and enhance autonomy relevant to cognitive state

Spiritual

- Ensure the person is able to maintain contact with their social world
- Be aware of, and facilitate the continuity of all religious and spiritual activities

(RCN, 2007)

3.10 Types of rehabilitation

As a complement to acute and curative medicine, rehabilitation medicine is recognised as an efficient tool in the treatment of patients in the Western world. According to the World Health Organization, the aim of rehabilitation is to maximise function and minimize limitation of activity and restriction of participation resulting from an underlying impairment or disease. WHO's international classification of functioning, disability, and health (ICF) framework takes into account not just medical or biological dysfunction but the social aspects of disability as well. It shifts the focus of rehabilitation medicine from cause to impact and places all health conditions on an equal footing in assessing the impact of multiple domains on a person's functioning.

The growing number of people aged 75 years or older in the developed countries is an enormous challenge to public health care systems and to medical and social services. Living at home as long as possible is a public health priority for elderly people, and also a priority for the elderly themselves. (Robine and Michel, 2004)

Rehabilitative actions that maintain physical functions, prevent or delay disability (Wells et al., 2003) and support the quality of life (Vaapio et al., 2007; Leinonen et al., 2009) are central factors in the support of coping at home. The strongest evidence from studies on the rehabilitation of elderly people has focused on acute diseases such as stroke and hip fracture (Stroke Unit Trialists' Collaboration, 2002).

Evidence has also been presented for the reduction of functional limitations (Latham et al., 2003), for which intervention has been carried out through home, out- or inpatient rehabilitation programs lasting from weeks to months, with the focus on physical exercise training. More than half of persons aged over 85 years have mobility limitation, a reduced energy intake and multi-morbidity (Gill et al., 2002), which leads to frailty and disability.

A few studies have demonstrated that rehabilitation improves daily coping (Binder et al., 2002) and reduces disability. It has been suggested that the extension of rehabilitation to psychological, social and cognitive functioning is profitable (Pitkälä et al., 2009). Studies focusing on gender differences in geriatric rehabilitation are rare. A few disease-specific studies have revealed differences between men and women, for instance, in the occurrence of

stroke, pain, falls and hip fractures, but none have focused on physical performance (Lieberman, 2004; Aberg, 2006; Vaapio et al., 2007; Berge's et al., 2008).

Furthermore, women live longer than men, and they have higher rates of chronically disabling conditions and more musculoskeletal problems (Leveille et al., 2000). Women also constitute a greater proportion of the growing elderly population and of older patients in healthcare. Musculoskeletal pain is more common and persistent among older women with disability than among men with comparable conditions and it also may increase the risk of falls through more than one mechanism, the most obvious being mobility problems (Tinetti et al., 1995; Leveille et al., 2001).

In Finland, an extensive rehabilitation scheme for the World War II veterans has given possibilities and resources to organize and develop their rehabilitation. These rehabilitation programs were originally planned from the perspective of men. However, studies focusing on the effectiveness of veteran rehabilitation are rare (Hanhela, 1995; Roilas, 2004; Hinkka et al., 2006), and the need to verify the effectiveness of rehabilitation for other elderly people is increasing. Women are forming an increasing proportion of those who participate in veteran rehabilitation (Laatikainen et al., 2009 (Hanhela, 1995; Roilas, 2004; Hinkka et al., 2006). It is therefore important to understand the differences between the genders and to improve the rehabilitation programs with better targeting (Tosi et al., 2005).

4 METHODOLOGY

The purpose of methodology in research is to guide an author in systematic attempt to investigate and arrive to a solution or a conclusion to a problem.

The purpose of research is to discover answers to questions through the application of scientific procedures. The main aim of research is to find out the truth which is hidden and which has not been discovered as yet. Though each research study has its own specific purpose, we may think of research objectives as falling into a number of following broad groupings:

1. To gain familiarity with a phenomenon or to achieve new insights into it (studies with this object in view are termed as *exploratory* or *formulative* research studies);
2. To portray accurately the characteristics of a particular individual, situation or a group (studies with this object in view are known as *descriptive* research studies).
3. To determine the frequency with which something occurs or with which it is associated with something else (studies with this object in view are known as *diagnostic* research studies).
4. To test a hypothesis of a causal relationship between variables (such studies are known as *hypothesis-testing* research studies). (Krippendorff, 2004)

The author started the project with a literature review. For database searches, the author mainly used the terms 'rehabilitation', 'elderly' and "dementia". These searches were carried out on Google scholar, EBSCO, and nelli portal. They yielded hundreds of articles. In addition, the author reviewed the reference lists of rehabilitation articles in order to find which articles were quoted most often and which of them had been published before 2000 although the author used some articles which were much older depending on the quality of the material in the articles. The author`s choice of articles from the wide range available was based on the criterion that they were concerned with rehabilitation and dementia. The next step was to read through the abstracts; those that did not focus on geriatric rehabilitation nursing (dementia)

were omitted. The total number of 8 selected articles helped to gain a broad, overall view of geriatric rehabilitation. These articles met the following criteria as they:

- Described the rehabilitation impact elderly dementia patients
- Described the work done by caregivers in this process

The articles were carefully read to see how geriatric rehabilitation had been described and examined. Geriatric rehabilitation was described in relatively general terms.

Many of these articles were theoretical papers that involved no empirical research. They dealt with philosophical and ethical issues, as well as theoretical perspectives on rehabilitation. Some authors discussed rehabilitation in general terms or with special reference to geriatric rehabilitation. Other subjects covered in these articles included motivation, nursing and rehabilitation, the role of nurses and nursing, and teamwork. The empirical articles were classified according to their evidence.

In the empirical studies that showed strong and moderate evidence, rehabilitation was combined with the perspectives of nurses or staff members, patients, nursing homes or rehabilitation teams. The subjects addressed included the rehabilitation process, nurses' attitudes and roles, teamwork, encouragement and detection of disability. Data collection was based upon various instruments such as Functional Independence Measure, Mini-Mental State

The analyses focused on functional status, either alone or in combination with cognitive status, depression, motivation, exercise activity, efficacy beliefs and emotional support. The studies, in which both staff members and patients had been involved, dealt with the rehabilitation process and the role of nurses in hospital ward rounds. Rehabilitation in nursing homes and rehabilitation goal setting were examined.

4.1 Content analysis

Researchers regard content analysis as a flexible method for analyzing text data (Cavanagh, 1997). Content analysis describes a family of analytic approaches ranging from impressionistic, intuitive, interpretive analyses to systematic, strict textual analyses.

The specific type of content analysis approach chosen by a researcher varies with the theoretical and substantive interests of the researcher and the problem being studied (Weber, 1990). Although this flexibility has made content analysis useful for a variety of researchers, the lack of a firm definition and procedures has potentially limited the application of content analysis (Cavanagh, 1997).

There are two main approaches to content analysis: qualitative and quantitative. The author concentrates on qualitative approach in this study. The main idea of the procedure of analysis is thereby, to preserve the advantages of qualitative content analysis as developed within communication science and to transfer and further develop them to qualitative-interpretative steps of analysis.

This has some basic ideas:

- Fitting the material into a model of communication: It should be determined on what part of the communication inferences shall be made, to aspects of the communicator (his experiences, opinions feelings), to the situation of text production, to the socio-cultural background, to the text itself or to the effect of the message.
- Rules of analysis: The material is to be analyzed step by step, following rules of procedure, devising the material into content analytical units.
- Categories in the center of analysis: The aspects of text interpretation, following the research questions, are putted into categories, which were carefully founded and revised within the process of analysis (feedback loops).
- Criteria of reliability and validity: The procedure has the pretension to be inter subjectively comprehensible, to compare the results with other studies in the sense of triangulation and to carry out checks for reliability. (MARYING, 2000)

4.2 Method

The author started by conducting a search on some well-known search engines, EBSCO, Google Scholar and Nelli for relevant literature related to elderly, dementia and rehabilitation. The aim was to find 8 articles which were relevant to the study of REHABILITATION AND DEMENTIA and that the articles were published between 2000 and 2011.

In this study qualitative content analysis was chosen as a method of study. Qualitative method emphasizes the importance of understanding the meaning of human behavior and the socio cultural context of social interaction. This includes developing empathic understanding based on subjective experience and understanding the connection between personal perception and behavior. (patton,2002).

The idea is that the many words in text are organized into categories with similar interest, the quotations, words, phrases and similar text with same underlying issues, ideas or concepts are put into major themes and categories through content analysis.

4.3 Ethical consideration

While writing the study the author read and understood the principles and guidelines of the Helsinki declaration.

The primary purpose of medical research involving human subjects is to understand the causes, development and effects of diseases and improve preventive, diagnostic and therapeutic interventions (methods, procedures and treatments). Even the best current interventions must be evaluated continually through research for their safety, effectiveness, efficiency, accessibility and quality. (Helsinki declaration, 2000).

In this study selected words, phrases, text or quotation taken from research articles, journals or books the author quotes the source at the end of this paper.

4.4 Sample processing

The author started the search from Google scholar database with the words `dementia`, `elderly` and `rehabilitation`. This resulted into a hundreds of references but only a few seemed related to this study. In this search the author chose 3 articles.

Table 1 : Google scholar search statistics

Key words	Number of hits	Found literature	Chosen literature
Dementia and elderly	1	27,000	1
Rehabilitation and elderly	2	20,000	1
Rehabilitation, dementia and elderly	2	40,000	1

Source; authors calculation

Table 2: Ebsco search statistics

Next the author conducted a search on the EBSCO data base. 2 articles were chosen.

Key words	Number of hits	Found literature	Chosen literature
Dementia and elderly	3	8000	0
Rehabilitation and elderly	3	6000	1
Rehabilitation,	2	12,000	1

dementia and elderly			
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Source; authors calculation

Table 3: Nelli Portal E-Resources search statics

Finally the author conducted a search on NELLI PORTAL E-RESOURCES and chose 3 articles which were relevant to this study.

Key words	Number of hits	Found literature	Chosen literature
Dementia and elderly	2	5000	1
Rehabilitation and elderly	1	4000	1
Rehabilitation, dementia and elderly	3	6000	1

Source; authors calculation

The main task was to study the collected articles thoroughly in order to understand their content for data collecting purpose, similar findings and quotes were basically explored so that they reflect the same research issue. These data were subdivided into coherent patterns and themes in order to much with the objective of the study.

4.5 Inclusion and exclusion

At the beginning of large systematic reviews, researcher develops a series of inclusion and exclusion criteria to fit in with the research question. Systematic reviews often exclude studies if they do not conform to certain study designs or are not relevant to the study being

undertaken. The author included articles which were relevant to the study and excluded the ones which were not or had been overtaken by events.

Table 4 Presentation of the 8 article

Author	year	Name of the articles	
Jeffrey A. Buchman, Angela Christenson and Daniel Houlihan	2010	The role of behavior analysis in the rehabilitation of persons with dementia.	
Lisa S. Caddell, Linda Clare	2010	The impact of dementia on self and identity: A systematic review	
C. Hautier, M. Bonnefoy	2007	Training for older adults	
Bachmann S, et al	2010	Inpatient rehabilitation specifically designed for geriatric patients: systematic review and meta-analysis of randomised controlled trials	
Weber D. C. Et al	1995	Rehabilitation of Geriatric Patients	
Amerilis Acevedo and David Loewenstein	2007	Nonpharmacological cognitive interventions in aging and dementia	
E.londos,K.Boschian,A.linden,L.Minchon And J.Lexell	2008	Effects of a goal oriented rehabilitation program in mild cognitive impairment:A pilot study.	
Royal College of Nursing	2007	Maximising independence: The role of the nurse in supporting the rehabilitation of older people.	27

5 RESULTS

As mentioned in methodology part, by analyzing 8 articles the answer to the research question is sought. Then the author has come up with the result part which has three main categories namely SKILLS, HEALTH AND COMMUNICATION.

5.1 Impact of rehabilitation: Skills

Table 5

Category	Sub categories	Outcome
Skills	Slow deterioration and preserve existing skills	Living at home longer which saves cost

Although diseases that cause dementia cannot currently be cured, rehabilitation is still a worthwhile goal that is increasingly being recommended (Arkin, 2001; Bird, 2000). With other conditions, rehabilitation efforts typically focus on cure or recovery, but with dementias a worthy goal is stabilization. As will be discussed in the sections below, improving or strengthening specific skills may be possible to a certain extent with some dementia patients. Ultimately, however, rehabilitation with the goal of cure or recovery is clearly not warranted in the case of dementia. . . .” These goals of rehabilitation with regard to dementia can be conceptualized quite well within the framework of the selective optimization with compensation model. (Baltes & Baltes, 1990).

This model proposes that older people best adapt to age related declines through a process of: **Selection**, involves restricting life work to fewer domains or activities that are of highest importance to the person; **Optimization**, involves efforts to maximize successful execution and satisfaction with chosen life domains.

Compensation, involves implementing new adaptive strategies when existing abilities are lost or are insufficient for adequate functioning.

The application of the selective optimization with compensation model to persons with dementia is slightly different than originally proposed by Baltes and Baltes in that caregivers (not just the patient) are very involved in the process of selection of relevant repertoires, efforts to optimize these repertoires, and implementing strategies to help patients compensate for lost abilities. Some brief examples may clarify the relevance of this model to the rehabilitation of persons with dementia and the role caregivers can play in carrying out these processes. (Baltes & Baltes, 1990)

First, consider the process of selection. Selection is related to the rehabilitation goal of preserving existing repertoires in that the first step in a rehabilitation program is choosing specific behaviors to be preserved (e.g., self-care, independent ambulation, or recalling the name of a caregiver). Although patients may be directly involved in selecting relevant behaviors to target during rehabilitation, in cases where patients are more severely cognitively impaired, selection will likely involve input from caregivers such as family members, nurses, or occupational therapists. (Baltes & Baltes, 1990)

The process of optimization is also related to the rehabilitation goal of preserving existing repertoires in that efforts can be made to help individuals maximize and maintain selected repertoires. For example, teaching caregivers strategies such as prompting, reinforcing, and assisting with the repeated practice of behaviors such as ambulating independently or recalling specific pieces of information can help patients optimize these remaining skills. (Baltes & Baltes, 1990)

The process of compensation is clearly related to the rehabilitation goal of compensating for cognitive losses. For example, introducing external memory aids such as lists or calendars can help compensate for deficiencies in short-term memory. Compensating for cognitive decline may also involve changing the social environment. For example, social environments that provide too much and/or too little support may serve as a source of excess disability that causes impairment in functioning disproportionate to that directly attributable to the disease. (Loewenstein,2007)

Rehabilitation efforts with those with dementia have a different set of goals, namely preserving existing skills and compensating for existing cognitive deficits. Similarly, Bird states the goal of rehabilitation in the case of dementia as “. . . minimizing the emotional and behavioral sequelae of cognitive loss and maximizing the potential of the social, physical, and sensory world to make it less confusing and confronting. (Baltes & Baltes, 1990)

Learning skills helps in making the most of remaining memory ability, for example by identifying the best ways of taking in important information or carrying out important, real-life practical skills. (Boschian et al, 2008)

Interventions designed to teach staff more effective ways to assist patients during personal cares may remove this source of excess disability by helping patients compensate for cognitive and physical impairments while also maintaining existing repertoires. Rehabilitation efforts with this set of goals in mind may produce a number of important outcomes. For example, slowing deterioration and preserving existing skills may result in patients living at home longer, an outcome that is often desirable because home care is usually less expensive than care provided in a facility and patients typically are much happier living at home. Furthermore, when patients live at home longer, government insurance programs such as Medicaid also save money. Patients may also experience improved psychological and physical well-being as a result of participating in comprehensive rehabilitation programs. Finally, rehabilitation efforts may also reduce the burden and stress experienced by caregivers (family or professional) because patients function more independently. (Camp, 1989)

5.2 Impact of rehabilitation: Health

Table 6

Category	Sub categories	Outcome
Health	Improve psychological and physical well being	Reduce the burden and stress experienced by caregivers because patients function more independently.

Cognitive rehabilitation is a more individualized approach to helping people with cognitive impairments in which those affected, and their families, work together with health care professionals to identify personally-relevant goals and devise strategies for addressing these (Wilson 2002).

The emphasis is not on enhancing performance on cognitive tasks as such, but on improving functioning in the everyday context. The cognitive rehabilitation approach was developed mainly through work with younger brain injured people, but has recently been applied to assist people with dementia (Clare & Woods 2001).

Cognitive rehabilitation has been broadly defined, in relation to brain injury, as the use of any intervention strategy or technique which intends to enable clients or patients, and their families, to live with, manage, by-pass, reduce or come to terms with deficits precipitated by injury to the brain (Wilson 1997).

This definition is equally appropriate to the rehabilitation of cognitive deficits due to early stage dementia. For the purposes of the present review, 'any intervention strategy or technique' will be interpreted as relating to those strategies or techniques which directly and explicitly target cognitive functioning, including a focus on memory, rather than those forms of psychosocial intervention that might perhaps indirectly benefit cognitive functioning, such as for example relaxation sessions or music therapy. (Wilson 1997).

Finding ways of compensating for difficulties such as using memory aids or adjusting the environment so that the demands on memory are reduced. This involves the application of methods and techniques that support learning or facilitate changes in behavior so as to manage everyday tasks or situations better. (Bird 2001).

Cognitive rehabilitation interventions aim to tackle directly those difficulties considered most relevant by the person with dementia and his or her family members or supporters, and target everyday situations in the real-life context, since there is no implicit assumption that changes instituted in one setting would necessarily generalize to another. Goals for intervention are

selected collaboratively, and interventions are usually conducted on an individual basis. For people with mild to moderate dementia, this approach is likely to be accompanied by provision of information aimed at facilitating an understanding of cognitive strengths and difficulties and by supportive discussion relating to individual emotional reactions or other needs, and where appropriate links are made with other possible sources of support. (Bird 2001),

Methods derived from cognitive rehabilitation have also been applied in the care of people with more advanced dementia to facilitate enhancement of basic skills (Camp 1997) or reduction in behaviors regarded as problematic. A comprehensive review supported the efficacy of cognitive rehabilitation approaches for people with early-stage Alzheimer's disease, emphasizing however that interventions must be of sufficient duration and supported by caregiver involvement, and highlighting the importance of flexibility to allow for individual needs. (Bird 2000, Bird 2001).

In selecting studies for this review the author has classified them in relation to these definitions on the basis of the way in which the interventions are described, and in some cases the allocation may differ somewhat from the terminology adopted by the researchers. The author acknowledges that the identified categories represent broad definitions and that in some cases there may be an overlap between elements of cognitive 'training' and cognitive 'rehabilitation', which in turn may have some commonalities with cognitive 'stimulation'; therefore, while these categories seem an appropriate way of classifying the current literature, they may require refinement in the future. (Clare, 2010).

In addition, the author focuses here primarily on interventions for memory difficulties, reflecting the main emphasis in the literature to date, and there may be scope for further development in this respect. With a growing emphasis on early detection and intervention in dementia care, the need for a clear evidence base for cognitive training and cognitive rehabilitation interventions is becoming increasingly apparent (Clare, 2010).

Furthermore, the possibility that a combination of cognition-focused intervention and medication could be more effective than medication alone highlights the need to explore the potential of these approaches. Finally, one can perhaps speculate that progress in the provision of effective cognition-focused interventions may provide possibilities for the future

development of preventive approaches for those at risk of developing dementia. (Clare, 2010).

5.4 Impact of rehabilitation: Communication

Table 7

Category	Sub categories	Outcome
Communication	Increase quality and quantity of communication.	Improve recall of names and items with minimal help from caregivers.

Therapeutic goals for individuals with dementia must be focused on reducing activity limitations and participation restrictions (International Classification of Functioning, Disability and Health, 2001).

These limitations and restrictions exist, in part, because of the effects of the cognitive impairments on functioning; however, the environment of the long-term care facility has an equally negative effect on communication. Kaakinen (1995) and colleagues discussed the lack of communication occurring among residents in LTC facilities and discovered several unwritten “rules” of conversational conduct that govern talking between residents, with the majority being classified as inhibitory (e.g., Do not talk to the opposite sex; Do not talk about yourself). Several other researchers also have commented on the limited opportunities for communication in LTC (long term care). Communication in the LTC environment from the perspective of the Communication Predicament Model. In this model, age stereotypes and the resultant constraining behaviors of conversational partners are related to reduced quantity and quality of communication displayed by some older adults (Orange et al., 1995)

Further, the authors contend that the communication predicament is most likely to occur in settings or situations that “elicit a negative prototype of aging” (p. 23); specifically, LTC

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Therefore, when writing goals, SLPs (speech language pathologist) must consider the resident within a communication milieu that includes formal caregivers, other residents, general staff, and visiting family members.

The focus should be on educating potential conversation partners as to the abilities of the resident with dementia. Also, the SLP should create opportunities for conversation as part of a therapy program. For example, many family members and staff members lament that they don't know how to have a conversation with a resident who has dementia. Indeed, it is difficult to talk with someone who cannot recall the context of the conversation, the name of the conversation partner, or her own intentions (Bayles & Tomoeda, 1993). However, by providing individuals with tangible stimuli such as photographs, memory wallets, or other personal belongings, conversational partners can focus more on the “here and now” (Bayles & Tomoeda, 1993) rather than relying on impaired episodic and working memory systems.

The following is a typical impairment-based goal: Mr. Y will improve his recall of names to 90% accuracy with minimal cues from caregivers. This goal might be appropriate for someone who does not have a progressive neurological disease; however, for long-term care residents with dementia, a more appropriate goal would be the following: Mr. Y will answer simple choice and yes/no questions 100% of the time during menu selection in the dining room when prompted by servers. Both goals focus on improving communication, but the second activity-based goal focuses on preserved abilities such as semantic memory, auditory comprehension for simple material, recognition memory and familiar routines, all within the context of a meaningful activity of daily life. (Bonney, 2007)

Recall that under the rules of a FMP (functional maintenance program), these goals should be selected by the SLP, in conjunction with the resident and caregivers when appropriate, and tasks to reach them implemented by other staff. Improving the communication of the resident with dementia involves ongoing staff training and education as to the benefit of social interactions for the resident and the caregiver, the most effective way to talk to residents with dementia during daily care activities, and the preserved abilities of individuals with dementia, even at the late stages of the decline. (Bonney, 2007)

6 DISCUSSION AND CONCLUSION

As pointed out earlier the aim of this study is to show the impact of rehabilitation on elderly patients with dementia or Alzheimer`s disease (AD). Also mentioned is the role of the caregivers and family members of the patients and the issue of cost in taking care of the patients with AD. Therefore discussed below is the summary of the study.

Patients with Alzheimer`s disease (AD) gradually lose their cognitive competence, particularly memory, and the ability to perform daily life tasks. Neuropsychological rehabilitation is used to improve cognitive functions by facilitating memory performance through the use of external aids and internal strategies.

The available evidence, as shown on the results part of this paper, shows that alternative and innovative ways of memory rehabilitation for Alzheimer's patients can indeed be clinically effective or pragmatically useful with a great potential for use within the new culture of a more graded and proactive type of Alzheimer's disease care. AD patients present memory problems in both the storage and retrieval stages causing ADL (ACTIVITY OF DAILY LIVING) impairment. It may be possible to reduce these deficits through strategies that use the patient`s implicit memory to learn or re-learn information, and training in ADL with external aid.

Memory difficulties are a defining feature of Alzheimer's disease (AD), with significant implications for people with AD and family members. Interventions aimed at helping with memory difficulties, therefore, may be important in reducing excess disability and improving well-being. There is a long tradition of cognition-focused intervention in dementia care.

Research conducted to date indicates that many intervention techniques for both patients and caregivers are effective in improving certain aspects of dementia.

The need for educational, psychological, and social support services is crucial for those caring for relatives with AD, or with dementia in general. These programs should, on the one hand, provide information on the disease and how to manage it and, on the other hand, help the caregivers express their emotions and learn to cope with them. Where possible, these programs should be integrated with cognitive stimulation interventions aimed at the patients

also family members are a significant resource in patient management and represent a gateway to the efficacy of treatment and the management and reduction of costs. Achieving caregiver well-being can help reduce the indirect costs related to the caregivers themselves, on the one hand, and on the other hand, delay and avoid institutionalization. The education of caregivers is therefore the most effective strategy to develop this resource and reduce the social costs of the AD.

Thanks to interventions focusing not only on the patient but also on the caregiver, the well-being of both can be effectively improved. This further stresses the need for centers providing patients and caregivers with an environment capable of accommodating and supporting the difficulties of dementia, and to promote the training of personnel specialized in managing both dementia patients (in cognitive and functional terms) and their caregivers (in psychological and educational terms).

Conditions that cause progressive dementia inevitably lead to the deterioration of a host of abilities (e.g., short-term memory, language, reasoning, computation, and self-care). Professionals and family members may feel hopeless in the face of such inevitable decline. Many patients, as well as their families who provide care, often ask a variation of the following question: Is there anything I can do to stop or slow down the progression? Patients, especially families, often want to do everything possible to fight the progression of the disease, even if positive results are uncertain. It is the case that patients are usually prescribed medications such as cholinesterase inhibitors or glutamate inhibitors that have been shown to slow cognitive and functional decline (Geldmacher et al., 2006).

Caregivers, however, are often not provided additional tools to manage the behavioral or emotional aspects of the disease beyond recommendations to attend support groups or are given general advice such as keep the patient active.

One of the reasons for this is that providers may be unaware that there is a growing body of empirical work supporting the effectiveness of nonpharmacological interventions for improving or maintaining important skills such as short-term memory, verbal communication, or self-care.

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