People with dementia and challenging behavior with a focus on aggression in long-term care facilities

An international comparison of care and nursing concepts, measures, strategies and methods

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Master's thesis
April 2023
Jyväskylä University of Applied Sciences
Health and Welfare
Master's Degree Programme in Health Care and Social Services Development and Management
Carinthia University of Applied Sciences
School of Health Sciences and Social Work
Health Management

jamk

Description

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Jyväskylä: JAMK University of Applied Sciences, CUAS Carinthia University of Applied Sciences, April 2023, 105 pages

Health and Welfare, Master's Degree Programme in Health Care and Social Services Development and Management, Master's thesis.

Supervisors: Irmeli Matilainen, Gabriele Hagendorfer-Jauk

Permission for web publication: Yes

Language of publication: English

Abstract

Background: Dementia is one of the most common neurological disorders in old people. People suffering from it show common neuropsychiatric symptoms, such as aggression or agitation. The relationship between aggression and dementia has been widely confirmed in international literature. Aggressive behavior poses a major challenge to carers, as special care is required for these patients.
The aim is to record and to provide a description of possible (care) concepts, measures, strategies and methods which are practiced on people with dementia and challenging behavior with a focus on aggression in long-term care facilities. An international comparison, specifically between Austria and Finland, of (care) concepts, measures, strategies and methods in long-term care facilities should be done.
Method: To answer the research question, a limited systematic literature search and qualitative expert interviews were conducted in Austria and Finland. A guideline based on Helfferich (2009) was used to conduct the expert interviews. The data analysis was carried out according to the method of content structuring qualitative content analysis by Kuckartz (2022).
Results: The results show a variety of different measures, strategies, methods and (care) concepts are used in the institutions, and that attempts are being made to develop a uniform concept for people with dementia. People with dementia show less aggressive behavior when they are cared for with special (care) measures for people with dementia.
Conclusions: Further research is necessary to be able to make statements about the effectiveness of the measures and the use of standardized, validated and, as far as possible, uniform measurement instruments. This would require randomized controlled trials with longer follow-up measurements on study populations that are as large as possible.

Keywords/tags (subjects)

Dementia, challenging behavior, aggression, long-term care facilities, care concepts, nursing measures

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STATUTORY DECLARATION

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Graz, 23rd April 2023 Bernadette Elisabeth Proell

(place, date) (student´s signature)

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1 Introduction

In Austria, due to the demographic change, dementia is one of the most common neurological diseases in old age (Höfler et al., 2014, p. 1). The term "dementia" is a collective term for chronic diseases in the brain which coincide with a gradual decline in cognitive, emotional and social abilities. People with dementia suffer from disorders of short-term memory and an associated increase in forgetfulness, which can extend to the loss of language skills, among other things, as the disease progresses. Globally, the number of people with dementia is 46.8 million and the number is projected to increase to 131.5 million by 2050, an 181% growth rate from 2015 to 2050 (Radtke, 2022). The numbers of people with dementia living in Europe will almost double by 2050. Assuming no change in prevalence rates in future years 18,846,286 people with dementia will be living with the condition in that year. With a focus on Austria and Finland, both countries follow the broader European trend of the numbers of people with dementia almost doubling by 2050. A key factor in this change appears to be the significant increase in the numbers of people aged over 65 in Austria, the significant increase in the numbers of people aged over 75 in Finland and in particular, the age range over 85 in both countries, which more than doubles between 2018 and 2050 (Alzheimer Europe, 2019, pp. 11-38).

1.1 Problem statement

Many people with dementia experience challenging behavior, which is also the main reason for long-term care facilities admissions. This challenging behavior leads to a loss of quality of life and stress for those affected, and caregivers are also exposed to more stress and a greater burden as a result. Particularly challenging in this behavior is agitation and aggression (Smalbrugge et al., 2017, pp. 55-66). These neuropsychiatric symptoms such as aggression or agitation often occur in the context of dementia, and the connection between aggression and dementia has already been confirmed in international literature. Aggression is a serious problem in patients with dementia and also poses great challenges for caregivers. For nursing staff and healthcare professionals it is particularly important to respond to the needs of these patients and to prevent and reduce challenging or aggressive behavior against them with various nursing measures (Enmarker et al., 2011). Enmarker et al. (2011) concluded from their findings that a person-centered approach is the optimal way to deal with aggressive and violent behavior by people with dementia in long-term care settings.

Another important issue is the communication between the people with dementia and the caregivers, which is always a major challenge (Smalbrugge et al., 2017, pp. 55-66). The management and care of people with dementia and challenging behavior, specifically aggression, requires a systematic and multidisciplinary approach that focuses on identifying and treating the underlying problems. Psychosocial interventions should be used first and foremost, and only then should psychoactive drugs be used after controlled indications (Smalbrugge et al., 2017, pp. 55-66).

In international literature, there are not enough studies on the topic of people with dementia and challenging behavior with a focus on aggression in long-term care facilities and (care) concepts, measures, strategies or methods. There is still the need to carry out further studies on this topic. The report from Austria "Scientific monitoring of the dementia strategy - A systematic presentation of the current state of knowledge on the questions posed by the participating experts" also comes to the conclusion that there are many possible and individual interventions and measures for the non-drug prevention and therapy of dementia, but for implementation further studies would have to be conducted and a uniform dementia strategy or concept would have to be developed. Subsequently, these measures would also have to be standardized and summarized in manuals (Pertl et al., 2016, p.7 and p, 80).

1.2 Research question

“Which care or nursing measures can be taken to reduce or avoid challenging and aggressive behavior by people with dementia in long-term care facilities?"

Sub-questions:

Which experiences in the implementation and which application concepts are described by professionals in long-term care facilities?

Focus Austria and Finland: Is a comparison between Austria and Finland possible, and if so, what are the differences?

Which (care) concepts, measures, strategies and methods are described in international literature with a focus on people with dementia and challenging behavior in long-term care facilities?

Hypothesis: The main assumption is that many people with dementia show challenging or aggressive behavior against caregivers. Different (care) measures, concepts, strategies and methods can be taken to reduce or avoid challenging and aggressive behavior by people with dementia in long-term care facilities. People with dementia show less aggressive behavior if they are cared for with special (nursing) measures for people with dementia.

1.3 Research objective

The main aim of this master's thesis is to record and to provide a description of possible (care) concepts, measures, strategies and methods which are practiced on people with dementia and challenging behavior with a focus on aggression in long-term care facilities. An international comparison, specifically between Austria and Finland, of (care) concepts, measures, strategies and methods in long-term care facilities should be done. The empirical aim is to explore the Austrian and Finish experts perspective about the nursing care or therapy concept they and their team apply to people with dementia in their nursing home and especially which (care) measures, strategies and methods they use in practice to reduce or avoid challenging and aggressive behavior of people with dementia through a qualitative study.

Afterwards a concept or a guideline could be further developed from the results and findings of this master's thesis for care and nursing staff who care for people with dementia in long-term care facilities.

1.4 Theoretical background

There is no single definition for the term "dementia" because it is an umbrella term for many mental degeneration symptoms (Gleichweit & Rossa, 2009, p. 2). Alzheimer's disease is definitely the most common form of dementia, affecting between 60-80% of all patients with dementia, followed by vascular dementia, affecting 15-20% and dementia with Lewy bodies (7-20%). Mixed forms of dementia are very common and there are other, very rare forms of dementia (Österreichische Alzheimer Gesellschaft, 2022).

The clinical picture of dementia is very difficult to classify, since the course of dementia is always very individual. Especially with multilevel scales, an exact classification is very difficult, because the manifestations and symptoms of the disease are very individual. However, a rough classification of dementia would be mild, moderate and severe dementia. In mild dementia, the extent of the cognitive impairment is limited to complex daily tasks, leisure activities can no longer be carried out and there is a slight impairment in everyday activities. Symptoms of drive and affect disorders at this stage are aspontaneity, depression, lack of drive, irritability and mood swings. In the second stage, the extent of the cognitive impairment is already higher, and simple activities can no longer be carried out independently while others are no longer carried out fully or appropriately. The symptoms are restlessness, outbursts of anger and aggressive behavior. In the final stage of dementia, independent living is no longer possible and it is characterized by physical neurological symptoms (Gleichweit & Rossa, 2009, pp. 7-9).

Dementia related aggression is one of many neuropsychiatric symptoms in medicine and nursing. The aggressive act is explained biologically and physiologically by means of physiological nervous and hormonal processes (Siever, 2008). It is very demanding for the nursing staff to communicate and to deal with patients manifesting aggressive symptoms. In particular, patients with dementia or Alzheimer's can be unexpectedly violent and aggressive towards their environment. They can get upset and overreacting about seemingly minor things and this can occur in the most varied of forms (Enmarker et al., 2011).

1.5 Methodology

The research method of this master's thesis is based on a qualitative study and subsequent comparison with a current literature review to answer the research questions. The research design includes as a first step a literature search in the databases PSYNDEX, MEDLINE, CINHAL and Pubmed. Then, a qualitative interview guide is created from the reviewed literature using the SPSS procedure of guide development according to Helfferich (2009) (Kruse, 2015, p. 227). This guide is used to conduct the qualitative expert interviews. For this purpose, five experts from Austria and Finland respectively will be selected (health care professionals and/or nursing professionals) who are already working with implemented concepts for people with dementia in long-term care homes. Due to the language barrier of the Finnish experts, it was not possible to conduct interviews with the Finnish experts within the scope of this master's thesis. However, all five Finnish experts agreed to answer the qualitative guideline in writing. The data collection is therefore carried out, on the one hand, by means of five qualitative expert interviews and, on the other hand, by means of five qualitative questionnaires which are identical in content. Both the German and English version of the questionnaire can be found in the appendix of this thesis. The data analysis is carried out according to the method of content structuring qualitative content analysis by Kuckartz (2022). The results will be used exclusively in anonymized form. Subsequently, the results will be interpreted, compared with the results from the literature research and finally practical implementation recommendations will be given.

2 Dementia and challenging behavior

In the following chapter, the theoretical background and important terms are explained in relation to the research question. Due to the topic, the following main terms are explained and discussed: dementia, aggression and people with dementia and challenging behavior. Furthermore, the most important nursing concepts, measures, strategies and methods are presented, which are most frequently described in literature in Austria, Finland and internationally in relation to the research question.

2.1 Dementia

According to the WHO, there is no exact definition of dementia, but the term "dementia" represents an umbrella term for several diseases that affect memory, cognitive abilities and behavior. It also causes people with dementia to be significantly limited in their activities of daily living. Worldwide, approximately 50 million people suffer from dementia, making it one of the leading causes of care needs of the elderly. This not only leads to excessive demands on the people with dementia themselves, but frequently also to excessive demands on their relatives and their caregivers. There is very often a lack of understanding of dementia, which leads to stigma and barriers to diagnosis and care. For the WHO, dementia is a major public health problem, and that is why there has been a global action plan since May 2017, which includes a concept with actions in seven areas: making dementia a public health priority; increasing dementia awareness, inclusion and friendliness; reducing the risk of dementia; improving diagnosis, treatment and care; supporting dementia carers; enhancing health information systems for dementia and fostering research and innovation (World Health Organization, 2022).

2.1.1 Definition

As described above, there is no single definition of dementia, but dementia is an umbrella term for many mental degeneration symptoms. The term dementia is, therefore, defined differently by experts and institutions (Gleichweit & Rossa, 2009, p. 2). Here are a few examples: Dementia is characterized by a progressive loss of previously acquired brain skills. These include memory functions, judgment, orientation and thinking skills. Strictly speaking, dementia is not a disease in its own right, but a syndrome (Gleichweit & Rossa, 2009, p. 2). Dementia is a caused by progressive cortical and/or subcortical atrophy of the brain parenchyma. This results in deficits in cognitive, emotional and social abilities, which lead to an impairment of social and occupational functions (Masuhr & Neumann, 2005, p. 191).

Dementia is the clinical syndrome characterised by acquired losses of cognitive and emotional abilities severe enough to interfere with daily functioning and quality of life. It is not a specific diagnosis but includes more than 55 illnesses, some of which are non-progressive (Gleichweit & Rossa, 2009, p. 2). “A generic term indicating a loss of intellectual functions including memory, significant deterioration in the ability to carry out day-to-day activities, and often changes in social behavior" (Gleichweit & Rossa, 2009, p. 2). “Dementia is defined as an acquired syndrome of decline in memory and at least one other cognitive domain such as language, visuo-spatial, or executive function sufficient to interfere with social or occupational functioning in an alert person" (Gleichweit & Rossa, 2009, p. 2). According to the universally accepted ICD-10 classification, dementia (F00-F03)12 is:

> “ein Syndrom als Folge einer meist chronischen oder fortschreitenden Krankheit des Gehirns mit Störung vieler höherer kortikaler Funktionen, einschließlich Gedächtnis, Denken, Orientierung, Auffassung, Rechnen, Lernfähigkeit, Sprache und Urteilsvermögen. Das Bewusstsein ist nicht getrübt. Die kognitiven Beeinträchtigungen werden gewöhnlich von Veränderungen der emotionalen Kontrolle, des Sozialverhaltens oder der Motivation begleitet, gelegentlich treten diese auch eher auf. Dieses Syndrom kommt bei Alzheimer-Krankheit, bei zerebrovaskulären Störungen und bei anderen Zustandsbildern vor, die primär oder sekundär das Gehirn betreffen.“ (Gleichweit & Rossa, 2009, p. 3)

> "a syndrome resulting from a usually chronic or progressive disease of the brain with disturbance of many higher cortical functions, including memory, thinking, orientation, conception, calculation, learning, language and judgment. Consciousness is not clouded. The cognitive impairments are usually accompanied by changes in emotional control, social behavior or motivation; occasionally these occur sooner. This syndrome occurs in Alzheimer's disease, cerebrovascular disorders, and other conditions that primarily or secondarily affect the brain." (Gleichweit & Rossa, 2009, p. 3)

2.1.2 Forms and stages of dementia

Alzheimer's disease is definitely the most common form of dementia, affecting between 60-80% of all patients with dementia, followed by vascular dementia affecting 15-20% and dementia with Lewy bodies (7-20%). Mixed forms of dementia are very common, and the remaining forms of dementia are extremely rare (Österreichische Alzheimer Gesellschaft, 2022).

Typical features of the three most common types of dementias are. Alzheimer's disease is a degenerative disease of the brain of unknown etiology with characteristic neuropathological and neurochemical features. Symptoms start slowly, also progress slowly over several years, and short-term memory is very often primarily affected (Höfler et al., 2015, pp. 5-6).

In vascular dementia, typical features at onset are impaired executive functions and slowed cognitive performance, and in Lewy body dementia, particular features are fluctuating consciousness, fluctuating cognitive performance, and the appearance of parkinsonian symptoms relatively early in the course (Höfler et al., 2015, pp. 5-6).

Currently, there are about 50 known diseases that can lead to dementia. These include Alzheimer's disease, Parkinson's disease, Creutzfeldt-Jakob disease, epilepsy, multiple sclerosis, vascular diseases of the brain, or brain tumors, to name just a few. The most common form of dementia is Alzheimer's disease. The course of the disease very often begins with disturbances of emotions. Further symptoms of the disease concern the loss of cognitive and mental abilities, such as retentiveness and memory, disorientation, as well as speech and communication disorders. Subsequently, motor impairments also occur, which can lead to movement disorders, incontinence and disturbed food intake. Behavioral and personality changes, such as anxiety and agitation, restlessness, moodiness, disturbed day-night rhythm and even paranoia, also occur very frequently in the course of the disease. Unfortunately, many patients react to these behavioral and personality disorders with hostility, aggression and violence. For people with dementia, dementia means not only the loss of control over their own thinking, but also the loss of control over themselves. Thus, the person's personality changes as does his or her behavior. This leads not only to difficulties in familie but is also a very big problem in care. Hence, the main reason why people with dementia are admitted to homes for inpatient treatment is not the loss of thinking ability but the ever-increasing behavioral disorders. The patients have an increased aggressiveness, which is not only expressed verbally but also in physical attacks against the family or against the nursing staff (Gleichweit & Rossa, 2009, pp. 3-10).

Dementia can be roughly divided into three stages or degrees of severity. This is not only based on clinical symptoms, but also on various measuring instruments, such as the Mini-Mental State Examination Test, which is the most common method of clinical dementia diagnosis worldwide. In this test, a total of 30 questions on the topics of temporal and spatial orientation, memory, attention, concentration, naming, language comprehension and visio-construction are tested. Depending on how many points someone does not achieve, dementia is then classified into the severity levels “mild”, “moderate” and “severe” (Höfler et al., 2015, p. 4).

In the first stage of dementia, the behavioral changes manifest themselves in irritability and mood swings. Predominantly in stage two, patients suffer from behavioral changes and thus exhibit restless and aggressive behavior, which also repeatedly leads to outbursts of anger.

In the third stage of dementia, the behavioral changes manifest themselves with restlessness and crying (Gleichweit & Rossa, 2009, pp. 8-9). Accordingly, the needs and requirements of the care and nursing of people with dementia also change (Höfler et al., 2015, p. 7). The extent of cognitive impairment and disturbance of drive and affect in people with dementia are summarized in Figure 1:

Severity level	**Extent of cognitive impairment**	**Disorders of drive and affect**
mild	• Complex daily tasks or leisure activities cannot be performed (anymore) • Mild impairment in everyday activities	• Spontaneity • Depression • Lack of drive • Irritability • Mood disorders
moderate	• Simple activities can be performed independently • Others are no longer performed completely or adequately	• Agitation • Anger outbursts • Aggressive behavior
severe	• Thought processes can no longer be communicated in a comprehensible manner • Even simple everyday tasks cannot be solved	• Agitation • Screaming • Disturbed day-night rhythm • Nibbling

Figure 1: Extent of cognitive impairment and disturbance of drive and affect in people with dementia (based on Gleichweit & Rossa, 2009, p. 9).

The therapy for patients with dementia should always be an overall treatment plan, which should include pharmacological and non-pharmacological therapeutic measures. This treatment plan should then be implemented in a multidisciplinary manner with the following professional groups: Physicians, certified health care and nursing staff, home help, visiting services, occupational therapy, physiotherapy, psychology and psychotherapy, dietology, music therapy and speech therapy (Höfler et al., 2014, p. 35).

Individual residential and nursing homes in Austria have already set up special care services for people with dementia. Nationwide, 2,193 special care places for people with dementia were available in 70 facilities in 2007, which corresponds to about eight percent of the total of about 900 Austrian residential and nursing homes for the elderly. Thus, Austria still has a very high backlog demand for special facilities for people with dementia. People with dementia require different and sometimes more intensive care and support than people whose need for care is exclusively physical (Höfler et al., 2014, pp. 72-75).

It is therefore particularly important for the staff to respond to the individual needs of people with dementia and to have special knowledge and appropriate training in this regard in addition to the medical and nursing activities. Caring for people with dementia is always an interdisciplinary task. Along with the special knowledge of the interdisciplinary team, the following skills should be present (Höfler et al., 2014, pp. 72-75):

- Communicating with people with dementia
- Dealing with challenging behavior
- Empathy, understanding and sensitivity
- Knowledge of contemporary history (important for biography work)
- Flexibility in the daily work routine
- Cooperation in multiprofessional teams (Höfler et al., 2014, p. 74)

In addition to this, caregivers in particular should have a special understanding of people with dementia, as memory loss can lead to recurring conflicts, which in turn can end in challenging behavior. Various dementia care concepts, such as the psychosocial care model according to Böhm, validation according to Naomi Feil, meeutics according to Cora van der Kooij or the person-centered approach according to Tom Kitwood, are currently used in Austria. However, the current research situation on evidence and dissemination of these special care services is as inconsistent and incomplete as their use since many of these concepts are only in their initial stages. At the moment, experts recommend the use of assessment instruments, a validating and appreciative attitude, reminiscence care, stimulation of individual or multiple senses through touch, basal stimulation or Snozelen, sufficient daily exercise and an appreciative and accepting approach as well as an understanding diagnostics for dealing with challenging behavior in people with dementia in inpatient care for the elderly (Höfler et al., 2014, pp. 72-75).

2.1.3 Epidemiology

In Austria, due to the demographic change, dementia is one of the most common neurological diseases in old age (Höfler et al., 2014, p. 1). Globally, the number of people with dementia is 46.8 million, projected to increase to 131.5 million by 2015, a 181% growth rate from 2015 to 2050 (Radtke, 2022). The numbers of people with dementia living in Europe will almost double by 2050. Assuming no change in prevalence rates in future years, 18,846,286 people with dementia will live with the condition in that year. With a focus on Austria and Finland, both countries follow the broader European trend of the numbers of people with dementia almost doubling by 2050 (Alzheimer Europe, 2019, pp. 11-38).

A key factor in this change appears to be the significant increase in the numbers of people aged over 65 in Austria, the significant increase in the numbers of people aged over 75 in Finland and in particular, the over 85 age range in both countries, which will more than double between 2018 and 2050 (Alzheimer Europe, 2019, pp. 11-38).

According to Höfler et al. (2014) most people want to remain in their familiar surroundings for as long as possible despite needing care in Austria. As a result, about 80 percent of those affected in Austria live in their private environment, and about 15 to 20 percent live in a full inpatient facility. Therefore, many people in long-term care facilities are very old, chronically seriously ill and require a high level of care and support. In the meantime, these people not only have physical limitations; 65 percent also suffer from dementia. This leads to rising care and support costs while resources are becoming scarcer. The consequence of this is a shortage of personnel, cost pressure and the fact that, under the given conditions, it is hardly possible to provide needs-based care for people with dementia at the current state of knowledge (Höfler et al., 2014, p. 56).

2.2 Aggression

The word "aggression" comes from the Latin word "aggredi" and can mean (the first) run-up, as well as seizure or attack (PONS Langenscheidt GmbH, 2022). The definition for "aggression" in the Cambridge Dictionary is "spoken or physical behavior that is threatening or involves harm to someone or something" and "actions or behavior that use threats or force against others" (Cambridge University Press, 2014).

2.2.1 Definition

In medicine and nursing, aggression is one of many neuropsychiatric symptoms. Biologically and physiologically, the aggressive act is explained by means of physiological nervous and hormonal processes. Thus, aggressive behavior is the consequence since conscious control of the cerebrum is subject to the aggression impulse of the limbic system. Therefore, people in aggressive situations often have difficulties weighing facts in a differentiated way. The importance of psychosocial interventions is not disputed (Siever, 2008).

In addition to these difficulties, it is also very challenging to communicate with a person in an aggressive state. As an example, a nurse might reinforce an aggressive patient's impulse to gain access to the door simply by standing in front of a door and being in the patient's. Especially patients with dementia can be unexpectedly violent and aggressive towards their environment. Very often they get upset because of apparent trifles or attack other persons with words or even physically. Such behavioral changes are usually an excessive reaction to situations of excessive demands. Aggression, however, is very stressful for caregivers and nursing staff and can hardly be eliminated. Aggression in people with dementia is manifested in defensive behavior, angry reactions or stubborn refusals. Sometimes the reactions are even more violent. Then people with dementia may become verbally abusive, swear, curse or accuse other people. In some cases, physical violence also occurs. These affected persons bite, hit or throw around objects (Ritter-Rauch & Schmitt-Mannhart, 2020).

In the study by Cohen-Mansfield (2008), entitled "Agitated behavior in persons with dementia: The relationship between type of behavior, its frequency, and its disruptiveness", four different types of aggression are defined. The types are named "physically aggressive behavior," "physically non-aggressive behavior," "verbally aggressive behavior," and "verbally non-aggressive behavior." "Physically non-aggressive behavior" includes inappropriate dress, undressing, inappropriate eating or drinking, abusive behavior, hiding or throwing things, and general agitation. Patients with "physically aggressive behavior" bite, lash out, hit and injure themselves and others, simply drop down, kick, scratch, spit, and throw objects. The type "verbally non-aggressive behavior" characterizes negativism and attention difficulties. "Verbally aggressive behavior" includes swearing, making strange noises, yelling and verbal sexual advances. To assess these types, many studies use a referent-rated questionnaire that examines 29 different agitation states. The conclusion from the results of Cohen-Mansfield's (2008) study is that, in order to understand the effects of agitated behavior, it is important to consider both the type of behavior and its frequency. The general disturbance caused by a particular type of behavior is different from the disturbance when the frequency of the behavior is controlled for (Cohen-Mansfield, 2008).

The Cohen-Mansfield Agitation Inventory (CMAI) is an observational questionnaire for nurses that examines 29 agitated behaviors. The Cohen-Mansfield Agitation Inventory data provide information on the frequency and degree of disturbance of various types of agitated behaviors. The questionnaire quantifies the frequency of residents' agitated behaviors on a 7-point scale ranging from never (1) to several times per hour (7) during the past two weeks (Cohen-Mansfield et al., 1989; Cohen-Mansfield, 2008).

Each agitated behavior is then rated on a 5-point scale of frequency of disturbance. The possible response options are "not at all," "a little," "moderately," "a great deal," and "extremely" (Cohen-Mansfield et al., 1989; Cohen-Mansfield, 2008).

In the study by Whall et al. (2013), measurements of aggressive behaviors in people with dementia are conducted. In this study, a subscale of the Cohen-Mansfield Agitation Inventory is used, and the results confirm that it is possible to measure physically aggressive behavior in people with dementia using this measurement tool (Whall et al., 2013). De Mauleon et al. (2021), assess clinically significant agitation and aggression symptoms in people with Alzheimer's disease over a 12-month period using validated measurement tools, including the Cohen-Mansfield Agitation Inventory (CMAI). The results of this study provide useful data both for optimizing future clinical trials and for developing therapies for agitation and aggression in Alzheimer's disease (De Mauleon et al., 2021).

From a nursing perspective, the focus is not on the disease "dementia" itself, but on the resulting and individual need for support. Nursing care is, therefore, based on the consequences of the disease for the patient. A certain strangeness or otherness are characteristics of this work and of the disease itself. This perception is related to the peculiarities referred to as challenging behavior in people with dementia. The following forms can be distinguished: Agitation (excessive, unspecific behavior, repetitive movements), wandering (continuous or frequent walking or running/running away), aggressiveness (physical, verbal or sexual), vocal disturbances (frequently or continuously repeated utterances, shouting, calling, asking questions, whining, murmuring, etc.) and passivity (apathy, social and emotional withdrawal). These special features of people with dementia quickly cause the usual routines to fail and pose a major challenge for caregivers and carers. People with dementia present caregivers with communication, understanding and organizational problems. It is often extremely difficult for caregivers to understand those who are affected and their expressions of life. However, this understanding is the essential prerequisite for individualized care. Specific abnormalities are not "automatically" caused by pathological brain changes, but complex processes in which various influences play a role are suspected. Their interaction triggers a certain individual behavior. Nursing science offers the needs-based behavior model to explain the interrelationships (can be seen in Figure 2). According to this model, the behavior of a person with dementia that others find disturbing, strange, nonsensical or "crazy" can be explained (Rösler, U. & Schwarzwälder, 2015, pp. 6-7).

<table>
<tr><th colspan="2">Need-driven, dementia-compromised, behavior model, NDB-Modell</th></tr>
<tr><td><u>Background factors</u>
Dementia-related functions:
• Circadian Rhythm
• Motor skills
• Memory
• Language ability
Health status
Demographic variables:
• Gender
• Ethnicity
• Marital status
• Education
• Profession
Psychosocial variables
• Personality
• Behavior under stress</td><td><u>Close factors</u>
Physiological needs:
• Hunger/thirst
• Excretion
• Pain
• Discomfort/discomfort
• Sleep disturbances
Psychosocial needs
• Emotions
• Ability-adapted support
Physical environment
• Lighting
• Noise level
• Temperature
Social environment
• Personnel (composition and stability)
• atmosphere
• Presence of other people</td></tr>
<tr><td colspan="2">Challenging Behavior</td></tr>
</table>

Figure 2: Need-driven, dementia-compromised, behavior model, NDB-Modell (based on Rösler, U. & Schwarzwälder, 2015, p. 8).

2.3 People with dementia and aggression

Neuropsychiatric symptoms such as aggression or agitation often occur in the context of dementia and the connection between aggression and dementia has already been confirmed in international literature. Aggression is a serious problem in people with dementia and poses great challenges for caregivers. For nursing staff and healthcare professionals, it is particularly important to respond to the needs of these people and to prevent and reduce challenging or aggressive behavior against caregivers them with various nursing measures. It is very challenging for the nursing staff to communicate and deal with these people. In particular, people with dementia or Alzheimer's disease can be unexpectedly violent and aggressive towards their environment (Enmarker et al., 2011).

They may get upset and overreact over seemingly trivial things. This can occur in a variety of forms. Enmarker et al. (2011) concluded from their findings that a person-centered approach is the optimal way to deal with aggressive and violent behavior by people with dementia in long-term care settings (Enmarker et al., 2011).

The study by Zeller et al. (2012) provides insight into the experiences and management of aggressive behavior among people with dementia in long-term care facilities. The burden of aggressive behavior on caregivers and the effects on the relationship between caregivers and residents with dementia were recorded. Approximately 38% of the caregivers experienced aggression events in the last seven working days prior to data collection. In most cases, the aggression originated from residents suffering from dementia and/or depression and occurred during a caregiving activity involving physical contact. The participants primarily suspected that the triggers were the "failure to understand" and the "excessive demands" of the people with dementia. A "calming conversation" and "taking distance" were most often used to calm the situation. If necessary, the caregivers leave the room and hope that the person with aggression will calm down after some time. It can be assumed that the caregivers insufficiently grasp the emotions underlying the aggressive behavior of the residents in the acute phase of escalation, as well as recognizing possible early warning signs of incipient aggression too late or not at all. In training courses on this topic, nurses should be prepared for the fact that they must expect aggressive behavior from residents. In addition, an in-depth discussion regarding the assessment of possible causes and triggers of aggressive behavior should be promoted, and de-escalating behavior should be trained (Zeller et al., 2012).

2.4 Nursing and care concepts

In international literature on the issue of people with dementia and challenging behavior with a focus on aggression in long-term care facilities, there are no conceptualizations of measures, but individual studies on care and nursing concepts as well as individual interventions for people with dementia-related impairments. The same conclusion is reached by the results report from Austria from 2016 (Pertl et al., 2016, pp. 6-8).

2.4.1 International

According to the current state of research and on the topic "People with dementia and challenging behavior with a focus on aggression in long-term care facilities", there are studies on the following (care) concepts, measures, strategies and methods:

In this context there are some studies on music therapy, which are often used as nursing measure for patients with dementia (Chang et al., 2010; Lin et al., 2011; McDermott et al. 2013; Ridder et al. 2013; Whear et al., 2014; Langhammer et al., 2019; McCreedy et al., 2019; McCreedy et al., 2021; Amano et al., 2022). Also, the methods of de-escalation and distraction (Pulsford et al., 2011; Spencer et al., 2018), the way in which the residents were bathed (Gozalo et al., 2014), using positive images (Chou et al., 2016), using massages or touch (Moyle et al.,2013; Wu et al., 2017), using foot massages (Moyle et al., 2014) and the doll therapy (Santagata et al.,2021) are used. Aquatic exercise also has a positive effect on reducing challenging behavior (Neville et al. 2014). Another therapy option is the group reminiscence therapy. Through this therapy, not only aggressive behavior can be reduced, but also the quality of life of people with dementia increases (Hsu et al., 2019).

The person-centered team approach is also a typical intervention for people with dementia and challenging behavior with a focus on aggression in long-term care facilities (Gillis et al., 2019; Harrison et al., 2019). In the study by Isaac et al. (2021), the intervention consists of a person-centered care plan with tailored activities and the creation of a low-stress, person-centered environment for listening to music. The study by Duxbury et al. (2013) indicates that staff in participating facilities took a person-centered approach to aggression management. Caregivers responded to aggressive incidents predominantly with interpersonal strategies, such as distraction, rather than medication or restraint. Through the results of the study, a recommendation is made for the development of a preventive strategy to avoid aggression and challenging behavior in advance or to be able to reduce it when it occurs (Duxbury et al., 2013). The study by Lee et al. (2021) also recommends person-centered behaviors in contrast to reactive caregiving approaches .

In the study by Zhang et al. (2020), the effects of elderspeak (baby talk) are investigated. Many caregivers use elderspeak as a form of communication for people with dementia in order to provide a pleasant and friendly environment for these people. However, the elderspeak form of communication is more likely to trigger aggressive behavior, such as aggression, agitation, and psychosocial symptoms. The results of the study indicate that adapted communication strategies on people with dementia can reduce aggression, agitation and psychosocial symptoms (Zhang et al., 2020).

The study by Opie et al. (2002) examined the use of multidisciplinary interventions, which were psychosocial strategies, nursing interventions, psychotropic medications and pain management.

The interventions were delivered as a team consisting of a psychiatrist, a psychologist, and nurses. Results indicate that individualized, multidisciplinary interventions can reduce the frequency and severity of challenging behaviors in people with dementia (Opie et al., 2002). The study by Zwijsen et al. (2014) also recommends a multidisciplinary care approach in the care of people with dementia and challenging behavior. The study by Kales et al. (2014) used a panel to develop a specific approach (the DICE Approach) to the care of people with dementia and challenging behavior. This serves as the basis for integrating non-pharmacological and pharmacological approaches and provides an evidence-based, structured approach that is patient- and caregiver-centered. With the "DICE" approach (Describe, Investigate, Create, Evaluate) concerns of people with dementia and caregivers are addressed at every step of the process (Kales et al., 2014). The results of the studies by Fraker et al. (2014) and Wong et al. (2016) show, that occupational therapists should be involved in the treatment of neuropsychiatric dementia symptoms and that non-pharmacological treatments should be delivered in multidisciplinary teams, as non-pharmacological techniques are currently underutilized in standard care to reduce aggressive behaviors in people with dementia. The "DICE" (Describe, Investigate, Create, and Evaluate) approach is also explored in the study and is further recommended for practice (Fraker et al., 2014).

Another approach is structured care protocols to reduce behavioral problems in people with dementia. They serve to identify common causes of the behavior and facilitate the selection of appropriate treatments. However, the findings of Scales et al. (2022) show no greater impact than staff training to that effect (Scales et al. (2022). Another approach is to involve volunteers and/or family members who specifically undertake personalized activities for nursing home residents with dementia and agitated behavior (Van der Ploeg et al., 2014). The studies by Möhler et al. (2018) and Möhler et al. (2020) also recommends personally tailored activities to improve the challenging behavior people with dementia.

The study by Hazelhof et al. (2016) recommends special training for staff or hiring more highly qualified nursing staff. The study by Ostaszkiewicz et al. (2015) shows that not only specially trained staff is important, but also that structural and organizational measures need to be put in place with the aim of supporting staff in delivering high quality care. This also implies the creation of a culture in which staff and people with dementia feel equally safe and valued (Ostaszkiewicz et al., 2015).

Special staff training on behavior management (Hazelhof et al., 2016; O'Donnell et al., 2022), training in handling with challenging behavior (McCabe et al., 2015; Pieper et al., 2016) and hiring more highly skilled nursing staff (Hazelhof et al., 2016; Harrison et al., 2019) are other interventions described in international literature.

The positive effect of a dog-assisted intervention can be an alternative or a complement to pharmacological treatments and is already confirmed in international literature (Nordgren & Engström, 2014). The study by Lai et al. (2019) also recommends the use of animal-assisted therapy for people with dementia and challenging behavior. Another alternative approach is explored in the Watson et al. (2019) study using lavender (Lavandula Angustifolia) and lemon balm (Melissa Officinalis) essential oils to treat agitated behavior in older people with dementia. The results conclude that the use of lavender is more effective in reducing agitated behavior in people with dementia (Watson et al. 2019).

Some nursing concepts and interventions are already used in practice, but the evidence base is not yet sufficient to draw conclusions about their efficacy and safety. Since randomization and blinding of study participants are often not feasible or very difficult to implement, the conduction of studies is also associated with many challenges and is not always feasible. In addition, sometimes a non-transparent conduction and reporting of studies result in limitations for the operationalization and implementation of the investigated nursing concepts and interventions in everyday practice. Nevertheless, the nursing concepts and interventions have been in use for some time. At the moment, there is also a lack of evidence-based data on which concepts or interventions should be used for different severity levels of dementia (mild, moderate, or severe dementia) (Pertl et al., 2016, pp. 6-8).

2.4.2 Europe

The new Alzheimer Europe publication highlights inequalities in access to dementia care and treatment across Europe. In Eastern Europe the topic of dementia is not present and most countries in Eastern Europe also do not have a dementia plan, a dementia strategy or participate in dementia research yet. To this end, the Alzheimer Europe society studied the situation in European countries in 2017 and published it in a report. The report focuses on dementia strategies, dementia research, available care services and their costs and the rights of people with dementia in the different countries. The report finds a wide disparity in access to dementia care and treatment between European countries (Alzheimer Europe, 2017).

This report covers and compares all Member States of the European Union (except Estonia) as well as Albania, Bosnia and Herzegovina, Jersey, Israel, Monaco, Norway, Switzerland and Turkey. Alzheimer Europe's goal is to ensure that dementia is seen as a public health priority, to provide countries with dementia-friendly policies and to ensure the best support and treatment for people with dementia and their caregivers. The following ten different categories were compared across the countries: 1) The availability of care services, 2) The affordability of care services, 3) The reimbursement of medicines, 4) The availability of clinical trials, 5) The involvement of the country in European dementia research initiatives, 6) The recognition of dementia as a priority, 7) The development of dementia-friendly initiatives, 8) The recognition of legal rights, 9) The ratification of International and European human rights treaties, 10) Care and employment rights (Alzheimer Europe, 2017).

The results show that Finland provided the most care services for people with dementia and that these services were affordable. Finland also leads in two other categories: Finland, the Netherlands and England have the most comprehensive and dementia-friendly initiatives and communities and Finland and Norway have ratified most of the international and European human rights conventions. Also of special note were Germany, France and Spain, which scored highest in the clinical trials category because it was possible for people with dementia to participate in all nine Phase III trials currently being conducted in Europe. Thus, Finland leads the ranking with an overall score of 75.2 percent. Austria ranks twelfth with 57.1%, Germany fourth with 69.4%, and Switzerland 14th with 53.95 (Alzheimer Europe, 2017).

In Germany, a concept has already been developed, which was published under the title "Statement of Principles: People with Dementia - Support, Care and Therapy" by the Medical Service of the National Association of Health Insurance Funds (MDS). This report represents an important working base for many care facilities, especially in long-term care, for the design of everyday care for people with dementia. It is an up-to-date, professionally sound reference work for the practical support, care and therapy of people with dementia. Regarding the care of people with dementia in long-term care facilities, the following most common non-drug procedures in the accompaniment, care and treatment of people with dementia are recommended: Reality Orientation Training (ROT), Reminiscence Therapy (REM), Kinesthetics, Occupational Therapy, Physical Activation, Artistic Procedures such as Music Therapy, sensory procedures such as Snoezelen, Aromatherapy, Massage and Touch Care (Basal Stimulation) and Humor in nursing and care (Kimmel et al., 2019).

In Germany, another guideline for practice was already published in 2015 with the title "Recognizing the other world - Successful concepts for the care of people with dementia". This report also presents individual concepts and methods that should be incorporated into a uniform concept to make it easier for people to care for people with dementia. This report shows that it is particularly important to develop a concept, but it should be carefully thought-through, because a mixture of many approaches, which may represent different points of view, benefits neither the caregivers nor the people being cared for. The report also shows that there are still far too few studies on the individual concepts, and, in most cases, there are no results regarding effectiveness. The following concepts are mentioned and presented in this report: validation, biography work, basal stimulation, snoezelen, music therapy, reference care and the cooperation and involvement of relatives (Rösler & Schwarzwälder, 2015).

In Swizerland the organization "Alzheimer Switzerland" is the central contact point on the topic of dementia. The following interventions are recommended by this organization as non-drug therapies: Occupational therapy, logotherapy, art therapy, music therapy and a Montessori-based dementia program. These interventions contribute to the well-being of people with dementia and enable them to maintain their independence for as long as possible. They have a positive effect on their mood and behavior, they are part of holistic care, prevent behavioral disorders and accompany them in addition to drug treatment (Alzheimer Schweiz, n.d.).

A Swiss nursing home has developed its own special concept for the care and support of people with dementia and published it in 2017 as a "Management Manual". This long-term care facility (Burgergut Thun) has specialized in the care and support of people with dementia. In this handbook, two different models are presented, the integrative and segregative model, because not every model is applicable for every person with dementia. In the integrative model, people with dementia are cared for together with people without dementia. In the segregative model, people with dementia are accompanied in a protected setting and in a manageable structure. In this form of care, people with dementia remain among themselves. Both models have their advantages and disadvantages, and this nursing home offers both models in order to be able to respond to each person individually. It is also possible to switch between the two models within the home. This is always decided on an interdisciplinary base and in consultation with the relatives (Burgergut, 2017).

The focus of the concept is on the special spatial design for people with dementia, the daily structure, person-centered communication, an activating basic attitude, biography work, integrative validation, kinaestetics, basal stimulation and a proper handling of challenging behavior.The selection of staff is also important, because in this model, only staff who explicitly choose to care for people with dementia are used. Other important points of this concept are, first of all, the clarification and the correct diagnosis, and subsequently the attitude of the staff, the teamwork and case discussions, the interdisciplinary cooperation and the regular contact and involvement of the relatives (Burgergut, 2017).

2.4.3 Austria

As already described in several chapters of this thesis, the topic of people with dementia is also a very important one in Austria and is growing from year to year. In recent years, more and more experts have dealt with this topic, who also publish their results in various reports. In Austria the following reports on the topic of people with dementia were published in the last 15 years:

- Dementia Handbook (Bundesministerium für Soziales und Konsumentenschutz,2008)
- 1st Austrian Dementia Report (Gleichweit & Rossa, 2009)
- 2nd Austrian Dementia Report 2014 (Höfler et al., 2015)
- Scientific monitoring of the dementia strategy - Results report from 2016 (Pertl et al., 2016)
- Dementia strategy - Living well with dementia (Gesundheit Österreich GmbH, 2019)
- Dementia competence in nursing homes - An orientation guide for managers (Rappold & Pfabigan, 2020)

The Dementia Handbook of 2008 already states that, in addition to a lack of structural measures, there are still too few special dementia care concepts in the inpatient, day-care and extramural areas of care and nursing for people with dementia. Furthermore, it is also stated that Austrian experts from the care and nursing sector are of the opinion that there is no special concept for the care of people with dementia, but that existing dementia care concepts must be individually combined and adapted to the respective person with dementia. Measures such as animal therapy, garden therapy, regular biography work, reality orientation training, etc. are offers that support and promote optimal care and nursing of people with dementia in the inpatient area (Bundesministerium für Soziales und Konsumentenschutz, 2008, pp. 19-21).

Dementia care concepts that are frequently or increasingly applied in Austria include the psychobiographical care model according to Böhm, validation according to Naomi Feil, meeutics, basal stimulation or the person-centered approach according to Kitwood. The following are listed as non-cognitive methods: milieu therapeutic measures, biography work, music or art therapy and animal-assisted therapy. These have a positive effect on the condition, mood and behavior of people with dementia (even in cases of severe dementia) (Bundesministerium für Soziales und Konsumentenschutz, 2008, pp. 19-21).

According to the Austrian Dementia Report of 2009, it would be desirable for Austria to develop one or more coordinated guidelines for people with dementia, which would cover the needs of all persons/groups involved (physicians, nurses, other professionals, patients, relatives). Current examples of successful implementation of such guidelines are those of the National Collaborating Centre for Mental Health in the United Kingdom and the University of Witten/Herdecke in Germany (Gleichweit & Rossa, 2009, p. 38). Further deficiencies with regard to the care of people with dementia are also noted with an existing data base by too little research work and a lack of education and training needs could be identified (Gleichweit & Rossa, 2009, pp. 216-217).

In addition to the Austrian Dementia Report of 2014 (Höfler et al., 2015), a scientific monitoring of the dementia strategy (Pertl et al., 2016) was conducted and published in Austria, and in 2015 a national dementia strategy will be developed on behalf of the Ministry of Health and Social Affairs (Gesundheit Österreich GmbH, 2019). The aim of the scientific support of Pertl et al. (2016) is to research evidence on diverse topics and questions that arise in the context of dementia strategy development and to prepare it clearly in a report. The research topics were defined together with the experts involved in the development of the dementia strategy. The report deals with the questions which care concepts for people with dementia exist internationally, which care concepts for the care and support of people with dementia and their relatives exist internationally in different settings, which can be used to derive new and innovative models for Austria and which outcome quality criteria and measurement instruments for cognitive impairment in people with dementia are used internationally (Pertl et al., 2016, p. 1).

The care and nursing concepts for people with dementia-related impairments are based on the following different theoretical models: the Medical Model, the Rehabilitation Model, the Ecological Model, the Psychosocial Model, the Communication Model and the Behavioral Model (Pertl et al., 2016, pp. 6-7):

The **Medical Model** focuses on the medical aspects of the disease and attempts to cure the disease through different strategies. It focuses on physical care and the use of medications and non-drug interventions to control dementia symptoms and behavioral problems, as there is no cure for dementia to date.

The **Rehabilitation Model** is based on the assumption that through specialized training, cognitive and functional performance will improve as thedementia progresses.

The **Ecological Model** focuses on experience and behavior. Positive effects on the behavior and experience of people with dementia should be achieved through an adapted design of the environment, elimination of stressors and targeted stimulation.

In the **Psychosocial Model** the focus is on the social relationship as well as the social interaction of the persons. This model also gave rise to Tom Kitwood's person-centered approach.

In the **Communication Model,** people with dementia are encouraged and their well-being is increased through targeted verbal and nonverbal communication.

In the **Behavior Model,** an important example is the need-driven behavior model in dementia - Need-Driven-Dementia Compromised Behavior-Model (NDB model, can be seen in Figure 2 p. 15). The goal of this model is to identify and positively influence the causes of behavior (Pertl et al., 2016, pp. 6-7).

The following 24 care concepts as well as individual interventions for people with dementia-related impairments are described and recommended in this report (Pertl et al., 2016, p. 2 and pp. 8 - 26):

- **Psychobiographical Care Model according to Erwin Böhm**
  The goal of this model is to reactivate people with dementia-related impairments in destructiveness and withdrawal, promote independence, increase self-esteem, improve quality of care and increase caregiver job satisfaction.
- **Person-Centered Care/ person-centered Approach according to Tom Kitwood**
  In person-centered care and in the person-centered approach according to Tom Kitwood the focus is on maintaining and strengthening personhood. The goal is to meet the specific needs of people with dementia (love, comfort, safety, inclusion, employment, identity).

- **Reality Orientation Training (ROT)**

  In this concept, the focus is on orientation assistance, living space design and a daily structuring. With the help of Reality Orientation Training, memory performance is also promoted, an improvement in temporal, local and personal orientation is encouraged, and a preservation of identity, independence and well-being is supported. This gives people with dementia a sense of security and promotes social skills.

- **Validation according to Naomi Feil**

  The goals of Validation according to Naomi Feil are to restore self-esteem, reduce stress, justify the life lived, resolve unspoken conflicts of the past, reduce chemical and physical coercion (medication), improve verbal and nonverbal communication, prevent withdrawal into vegetation, improve mobility and physical well-being.

- **Integrative Validation according to Nicole Richard**

  Integrative Validation according to Nicole Richard is the intention to create rapport and trust between the person with dementia impairment and caregivers through the emotionally oriented form of communication and interaction, activating existing resources, providing a sense of security and belonging, promoting the well-being of the person with dementia and motivating the caregiver.

- **Experience-Oriented Care: Meeutic Approach, Meeutic Concept**

  This concept focuses on promoting communication skills, initiating learning processes of caregivers, enabling contact and encounters between the caregiver and the affected person and the experience of the affected person and the caregiver.

- **Self-Preservation Therapy (SET) according to Barbara Romero**

  This concept focuses on the following goals: maintaining the personal self (the inner image a person has of him/herself), adapting to the consequences of illness to avoid premature loss of resources (including performance, social skills, emotional stability), avoiding stress, and maintaining life satisfaction and self-confidence.

- **Milieu Therapy (also Sociotherapy, Milieu Design, Therapeutic Milieu)**

  This therapy focuses on the creation of a suitable environment to enable a dignified life adapted to the personal life history. Other focal points of the therapy are the compensation of sensory, emotional, cognitive, psychological restrictions and the preservation or recovery of competencies relevant to everyday life.

- **DEMIAN-Concept (people with dementia in individually significant everyday situations)**

  This concept includes the promotion of skills (experiencing and expressing emotions) of people with dementia, the promotion to connect through values and meanings and the preservation of the self (maintaining autonomy).

- **Model of Supportive Process Care, Nursing Science Concept by Monika Krohwinkel, AEDL/ABEDL Structuring Model**

  This model is based on the care models and care theories by Nancy Roper, Dorothea Orem, Martha Rogers and Abraham Maslow and builds on the concept of Liliane Juchli (ADL: activities of daily living). The focus is not only on promoting the well-being, independence and autonomy of the person in need of care, but also on the individual life history, life situation and the support and ability of the person in need of care.

- **Sensory Stimulation: Snoezelen**

  The term "Snoezelen" is an artificially created word, which is composed of two Dutch words: "snuffelen" (sniffing = doing what you want) and "doezelen" (dozing = relaxing). Snoezelen is intended to give people with dementia primary stimuli in a pleasant atmosphere, thereby creating opportunities for experience. These should lead to relaxation and security through sensory stimulation in a pleasant environment. This should strengthen the trust and interaction between the person with dementia and the caregiver, reduce aggressive and auto-aggressive behaviors, prevent sensory deprivation and strengthen the well-being.

- **Basal Stimulation**

  Basal Stimulation is based on a concept developed by Andreas Fröhlich for the early intervention of severely and multiply disabled children and has been adapted for the care sector. This concept is based on the assumption that people need clear awareness of their body and their environment. However, this ability is diminished by dementia, as those who are affected suffer from a lack of stimulation. Basal Stimulation is not a technique, but rather a nursing pedagogical support concept that focuses on promoting body perception and awareness of the environment through targeted stimulation of the senses in various ways.

- **Therapeutic Table Visitation Service**

  Therapeutic Table Visitation Service is a method for brief activation of the very elderly and people with dementia. It is based on the assumption that it is not the duration of the therapeutic activation that is decisive for success but the intensity of the execution (hand and eye contact), the individuality of the attention (selected materials and targeted address), the systematic approach (each person in the room, in turn) and the consistency of execution (daily if possible). The goals of this method are the promotion of communication skills and life activity, the reduction of regression, aggression and restlessness and the increase of quality of life and well-being.

- **Ten-Minute Activation**

  This method was developed especially for people with dementia by Ute Schmidt-Hackenberg and is a form of memory work that evokes memories via familiar objects from people's everyday lives. It is used to achieve physical and mental activation and to stimulate the senses.

- **Reminiscence Therapy (REM)**

  Reminiscence therapy was developed especially for people with dementia and depression and is a special form of reminiscence work. The goals of this therapy are to work through intrapsychic conflicts from the past, to strengthen social roles and self-esteem, to work through unresolved conflicts, to activate long-term memory and thereby to maintain cognitive activities.

- **Memory Care/Biography Work**

  The term Memory Care/Biography Work was chosen to distinguish it from REM and memory work and refers to inpatient care for the elderly. This method both represents an activation offer andshould be part of the everyday nursing and care interaction between caregivers and people with dementia. The base for this is that the biography of a person is seen as an essential part of his or her own integrity and as such is respected in care. This method is intended to achieve a strengthening of self-esteem, a stimulation of exchange and strengthening of communicative skills, the possibility of passing on knowledge and experience as well as the maintenance of identity and the promotion of social integration.

- **Cognitive Interventions (Cognitive Training, Cognitive Stimulation, Cognitive Rehabilitation)**

  Cognitive Interventions are individual interventions that can be part of a comprehensive approach to care. The goals are to delay mental decline, maintain/improve cognitive function and social behaviors, improve/maintain daily living skills, improve quality of life, and improve communication skills.

- **Sensory Stimulation: aroma care, aromatherapy**

  Traditionally, essential essences have been used in both nursing and health promotion. Aromatherapy care is also used as a single element in the context of a multisensory approach to dementia. Aromatherapy is applied to reduce stress, promote sleep, prevent or alleviate agitation, and activate self-healing abilities.

- **Sensory Stimulation: music in care**

  This is understood as a targeted use of music within the therapeutic relationship. With the support of music therapy, an attempt is made to enable communication, even if the person can only express himself inadequately linguistically. Depending on the type of music, music therapy is also used to activate or promote alertness or calm the person with dementia, promote mental and physical well-being and achieve emotional stabilization.
- **Sensory Stimulation Through Touch (therapeutic touch; massage)**

  For people with dementia, touch and massage are used to stimulate body perception and body awareness. These interventions are often a single measure in an overarching care concept. The goals of this sensory stimulation through touch are to reduce depression and stress symptoms, increase quality of life, increase body awareness and reduce anxiety.
- **Relaxation Techniques: Progressive muscle relaxation**

  This method is a common relaxation method, which is also particularly suitable for people with dementia, because it is easy to learn under professional guidance. It can also be done independently (or supported by relatives or caregivers). This method serves on the one hand to reduce stress and on the other hand to relax.
- **Physical Activity, movement interventions**

  This concept involves individual interventions that can be part of a comprehensive approach to care. The goals are prevention/reduction of mobility and coordination deficits, strength, endurance and balance deficits, gait insecurity and risk of falling during everyday activities, increasing immobility and stimulation or improvement of cognitive brain functions.
- **Animals in long-term care facilities, nursing homes**

  Animals in long-term care facilities are used to promote well-being and quality of life. They also have a positive effect on the cognitive, social, emotional and health status in general.
- **Humor in nursing and care**

  The basis for humor in nursing is various humor theories that describe how people use humor. With the use of humor in nursing, one would like to achieve the following goals: Promoting a relaxed and cheerful serenity as a mood in life, alleviating pain, promoting communication and reducing the distance between people, promoting physical recovery processes and resolving tense and anxiety-filled situations (Pertl et al., 2016, p. 2 and pp. 8 - 26).

The Austrian Dementia Report of 2014 (Höfler et al., 2015) discusses the possibility of therapy by other health care professionals for people with dementia. However, access to non-medicinal measures, for example psychosocial interventions, is very unevenly developed in Austria, although the need for support services for people with dementia is very high. Up to the time of this report, however, there is no data available on this issue. Ergotherapy, dietology, speech therapy or logotherapy, orthoptics, physiotherapy and music therapy are listed as possible therapies (Höfler et al., 2015, pp. 46-53).

For occupational therapy and orthoptics, there is already international literature confirming a positive effect in people with dementia. However, there are no confirmed data for interventions from dietetics or logotherapy in people with dementia, neither in Austria, nor in international literature. Since there are no current figures on logotherapy interventions for people with dementia in Austria, this area of "logotherapy and dementia" represents a research desideratum that urgently needs to be investigated in projects and studies in order to optimize logotherapy processes and to be able to present them in a comprehensible way. For physiotherapy, there are already positive results from the international literature, but it would be desirable to prove the benefit of these interventions for affected persons in Austria by means of high-quality, controlled randomized studies (Höfler et al., 2015, pp. 46-53). Regarding music therapy, there are already some studies in international literature. Regarding the effectiveness of music therapy in the field of dementia, there are already results of systematic research studies in addition to clinical experiences which prove positive effects regarding agitation, behavioral disorders, mood and quality of life (McDermott et al. 2013, Ridder et al. 2013). However, there is still a need for research in this area, as high-quality studies on long-term effects are currently still lacking (Höfler et al., 2015, pp. 46-53).

In Austrian institutional care, people with dementia are most often cared for in nursing homes, and an Austrian prevalence study shows that 63.5 percent of all people admitted to nursing homes have dementia (Höfler et al., 2015, pp. 80-81). In Austria, however, there are currently no up-to-date surveys on how many people with dementia live in which forms of care in Austria (Höfler et al., 2015, p. 107). There are also no current data on the number of prescribed "non-drug" therapies and interventions in Austria. However, collecting this data would be essential for future care planning (Höfler et al., 2015, p. 46).

For many nursing concepts or interventions already applied in practice, the evidence base is currently insufficient to make statements about their efficacy and safety. One of the reasons for this is that conducting studies to investigate their efficacy and safety is associated with methodological challenges due to the complexity of the nursing concepts and interventions. Many nursing concepts and interventions are already used in practice, but limitations to the operationalization and implementation of the studied nursing concepts and interventions in everyday practice arise from a sometimes opaque conduct and reporting of the studies. It is also not yet explored whether significant differences exist in terms of the underlying approaches, frequency of implementation, duration and intensity of application or the required level of training of practitioners. It is also not yet clear from the studies whether care concepts or interventions need to be adapted to the severity of dementia (mild, moderate or severe dementia) (Pertl et al., 2016, p. 7). The report shows that there are currently no data available for Austria on implemented care concepts in long-term care facilities for people with dementia (Pertl et al., 2016, p. 80).

In 2018, a care needs and development plan was developed and prepared in Austria for the province of Carinthia with a planning target for the year 2030. In this report, the current care situation is presented, dementia care is specifically addressed and recommendations for action are given at the end. For this purpose, a survey was conducted in 2016 in all inpatient long-term care facilities with a response rate of 96.2%. Therefore, the results show an almost complete picture of inpatient care, in which more than half of the residents exhibited dementia-related behaviors. In most facilities (91.0%), people with dementia-related behaviors receive integrative care only, and only seven nursing homes also provide segregative care. For evidence-based care of people with dementia, reference is made to the elaborated concepts of Pertl et al. (2016). The results also show that in segregative facilities the challenges and special needs of people with dementia can be addressed better, and in integrative facilities, the awareness of the specific needs of people with dementia in individual cases is insufficient. Segregative facilities offer more free space for people with moderate or severe dementia and thus have the possibility to use structural and design measures which leads to less use of freedom-restricting measures. From a certain degree of severity of dementia on, segregation is thus recommended if individual handling of people is also possible in the process. The Austrian dementia strategy aims to improve the living situation of people with dementia and, at the same time, that of caregivers. Care for people with dementia should be adapted care that is oriented to everyday life as far as possible and offers the greatest possible degree of emotional security. In long-term inpatient care, a segregative form of care is best suited to the needs of residents with dementia (Entwicklungs- und Planungsinstitut für Gesundheit, 2018, pp. 58-66).

The general recommendation is that people with mild to moderate dementia should receive integrative care, either in their own living structure or in general nursing home units. Moderate to severe forms of dementia should be cared for in special dementia departments of nursing homes, that is, segregatively and very severe to severe forms of dementia should be specifically cared for and managed in a dementia-specific nursing home (Entwicklungs- und Planungsinstitut für Gesundheit, 2018, pp. 58-66).

2.4.4 Finland

The situation with dementia is quite similar in Finland. That is why in Finland the "National Memory Programme 2012-2020 - CREATING A "MEMORY- FRIENDLY" FINLAND" exists. Finland's primary goal is to reduce the cost of care, but also to improve the quality of care for people with dementia. The aim of this plan is to be able to make an early diagnosis. Early treatment and rehabilitation of memory disorders can help to improve patients' functioning and quality of life and contain rising costs. The annual number is about 14,500 diagnosed people with a dementing disease (the Global Dementia Observatory, n.d.). A set of recommendations for good diagnostic practice and effective treatment has been issued in Finland. These can serve as a base for introducing more effective practices in the future. This could result in significant savings from the introduction of these coordinated home care and rehabilitation services, but these possibilities have not yet been fully explored. The objective of the National Memory Programme is to build solidarity to create a “memory-friendly” Finland on the basis of four pillars:

1. Promoting brain health
2. Fostering a more open attitude towards brain health, treatment of dementing disease and rehabilitation
3. Ensuring a good quality of life for people with mild, moderate or severe dementia and their families through timely support, treatment, rehabilitation and services
4. Increasing research and education (Finnish Ministry of Social Affairs and Health, 2013, pp. 7-9).

In Finland, the focus of care for people with dementia is not on long-term care facilities, but that people can be cared for at home for as long as possible. Cognitive problems and dementia are the most common reason patients need 4-hour care. Medication is also a major focus. Timely drug treatment can effectively delay the point at which dementia patients need 24-hour care. The need for care can also be delayed by maintaining the patients functioning and caring for the well-being of the patients’ families (Finnish Ministry of Social Affairs and Health, 2013, pp. 13-14).

In literature, Finnish best practice recommendations for the treatment of progressive memory diseases can also be found for Finland by Suhonen et al. (2008): In this report, behavioral symptoms of people with dementia are also addressed. Special knowledge is needed for the diagnosis and treatment of behavioral symptoms. Especially professionals dealing with memory problems should be familiar with the behavioral symptoms associated with memory diseases. These behavioral symptoms in people with memory problems are defined as symptoms related to the person's mental state or behavior that are not directly related to impaired cognitive abilities. These behavioral symptoms include, for example, depression, anxiety and agitation, sleep-wake cycle disturbances, challenging behavior and psychotic symptoms such as paranoia, delusions, and hallucinations. These behavioral symptoms are most common in moderate dementia but can occur at any stage of the disease (Suhonen et al., 2008, pp. 13-14).

Primary recommendations are for the administration of Alzheimer's medications to significantly reduce and alleviate the prevalence of behavioral symptoms. Current psychotropic drugs can also be used for this purpose with caution and as needed. However, treatment of challenging behavioral symptoms should be reserved for memory clinics and psychogeriatric units that know how to predict behavioral symptoms and have the skills and resources to respond to crises. It is also mentioned that nonpharmaceutical treatments can also alleviate behavioral symptoms, but no examples or recommendations for nonpharmaceutical treatments are provided. However, it is recommended that institutional nursing should have specific expertise in dealing with people with behavioral symptoms. It is implied that both staff training and attitude are important. All departments that treat people with dementia need to be proficient in the nonpharmacologic treatment of behavioral symptoms and be able to care for and treat people with behavioral symptoms (Suhonen et al., 2008, pp. 13-14).

In Finland, the focus of care for people with dementia is on prevention and outpatient care, not long-term care facilities. The focus is also on early diagnosis and an early start of drug treatments in people with dementia. This should increase the length of stay-at-home care, but with a reinforcement of home-based assistance with the goal of focusing on home care rather than traditional institutional care (Suhonen et al., 2008, p. 21). In international literature, there is the abstract of the study by Saarnio et al. (2011). The study examined challenging behavior in older people with dementia in institutional care in Finland. The results show that caregivers most often responded with compassion to people with dementia and challenging behavior. The measure "indifference" was rarely used, but both chemical and physical restraints were used very frequently (Saarnio et al., 2011).

The report by Pertl et al. (2016) summarizes and presents the results of the EU project RightTimePlaceCare (Improving health service for European citizens with dementia: Best Practice Strategies' Development for Transition from Formal Professional Home Care to Institutional Long-Term Nursing Care Facilities, European Commission 2019). Within this EU project, internationally implemented care concepts are described that serve the care and support of people with dementia impairments and their relatives. The results show that Finland needs to further develop the care system, especially in the area of institutional care. In the following categories, Finland is not yet able to provide care for all people with dementia but only for a small proportion of those with the disease: "Residential home/sheltered home/assisted living", "Group dwelling/small scaled living/dementia patients´ house unit", "Nursing home with dementia care units" and "Nursing home specialized in dementia care" (Pertl et al., 2016, pp. 27 - 51).

2.4.5 Nursing models according to N. Feil, T. Kitwood and E. Böhm

The concepts of Naomi Feil, Tom Kitwood and Erwin Böhm are among the most common applications for people with dementia, not only in international literature but also in international practice.

Validation according to Naomi Feil

Validation according to Naomi Feil is based on various principles of psychology and was developed between 1963 and 1980. Validation is a conversational technique with the help of verbal and non-verbal forms of communication and practical techniques which enables access to the world of experience of people with dementia. The communication takes place primarily on the relational level and less on the content level. The goals of Validation are to restore self-esteem, reduce stress, justify the life lived, resolve unspoken past conflicts, reduce chemical and physical medication (psychotropic drugs), improve verbal and nonverbal communication, prevent withdrawal into vegetation and improve mobility and physical well-being (Pertl et al., 2016, p. 12).

Naomi Feil advanced Erikson's theory of life stages and tasks (eight developmental stages with specific developmental tasks or crises in the human life cycle) by adding the life stage “old age”. In this “stage beyond integrity” the life task is “coming to terms with the past”. The “stage beyond integrity” or “stages of disorientation” is split into four sub-forms describing a withdrawal from reality: stage of inadequate/unhappy orientation, stage of time confusion, stage of “repetitive movements” and stage of vegetation (Pertl et al., 2016, p. 12).

For each stage, physical as well as psychological characteristics are assigned, and corresponding techniques are cited. Examples would be: bringing about memories, asking for extremes and opposites, speaking in a soothing voice, addressing emotions, caring touch, music, and basal stimulation. However, these stage classifications and designations also led to much criticism (Pertl et al., 2016, p. 12).

Person-Centered Care according to Tom Kitwood

The concept of Person-Centered Care is neither new nor revolutionary. Its origins go back to the work of Carl Rogers more than 50 years ago (Rogers 1961). This approach to person-centered care places the individual at the center. Individuals are supported, facilitated and empowered to contribute to their care through shared decision-making, equal communication and mutual respect. Therefore, person-centered care is an approach that is considered humanistic, dignified, and morally ethical. According to Kitwood (1997), personhood is a position or status bestowed upon a person by others. Through this recognition, respect and trust, a person's personhood is enhanced as well as his or her well-being. If the opposite is the case, the personality will decrease, leading to "poor well-being". Thus, it is wrong to claim that people with dementia should be in a constant state of well-being because this is not a state that can be maintained for any person, whether they are well or poorly. Despite this finding, Kitwood (1997) found that people with dementia who were mostly ill were more likely to exhibit feelings of undermined personality. Those people with dementia who were more often ill often lived in care environments that did not support the concept of personality (Kitwood 1997). The theories of malignant social psychology and positive person work support health care professionals in implementing person-centered practices. Kitwood's theories of person-centered care are often a preferred starting point for practicing clinicians. This is because they provide an overview of clinical practice and define advocated practices. Kitwood's work remains relevant 15 years after publication, indicating that practice is unsatisfactory for many people with dementia. Moreover, it forms the foundation of any theory about person-centered care for people with dementia. The essential message of Kitwood's work is that all people are equal, regardless of their cognitive abilities (Mitchell & Agnelli, 2015).

In international literature, there are studies that confirm positive results by using the person-centered approach according to Tom Kitwood as care and nursing concepts of people with dementia. In general, person-centered care has a positive impact on the quality of life of people with dementia (Edvardsson et al., 2013).

It also has a positive effect on the body and independence of people with dementia. They can eat and drink, perform household tasks and their own personal hygiene independently (Sjögren et al., 2012 & Edvardsson et al., 2013). People with dementia who live in long-term care facilities with person-centered care also have a higher quality of life (Sjögren et al., 2012). Studies by Rokstad et al. (2013), Kontos et al. (2010) & Sloane et al. (2004) describe positive effects of person-centered care on neuropsychiatric symptoms. Through different interventions, such as the "towel bath" intervention, person-centered showering (Sloane et al., 2004) or the drama-based intervention (Kontos et al., 2010), it is possible that the goal of reducing aggression, agitation and discomfort of people with dementia can be achieved.

Psychobiographical Nursing Model according to Erwin Böhm

The Psychobiographical Care Model according to Erwin Böhm belongs to the category of biography and person-oriented models, as do the models of Naomi Feil and Tom Kitwood. These models are based on a reactivation model for connecting buried abilities of people with dementia-related impairments. Through an understanding and hermeneutic approach, the psychosocial needs of people with dementia should be identified in order to achieve needs-based care. The emotional and relational work between caregivers and the person with dementia plays an important role. The goals of this model are to reactivate people with dementia when they have destructive urges and withdraw, to promote independence, to increase self-esteem, to improve the quality of care and to increase job satisfaction among caregivers and nursing staff. The basic prerequisite in this model is to work with the biography of the people with dementia, as they fall back into the imprinting phase of the first 25-30 years with the onset of mental decline. By knowing the psychobiographical background of the people with dementia, the behavioral patterns can also be explained. A distinction is made between seven levels of accessibility in people with dementia impairment, each of which requires a specific intervention. The implementation of the concept places high demands on caregivers, such as the ability to reflect and social skills. Support from professional management is also necessary (Pertl et al., 2016, p. 9).

3 Methodology

In scientific research, there are three different approaches, the qualitative and the quantitative research approach as well as the "Mixed-Methods-Research" (Kuckartz & Rädiker, 2022, pp. 18-19). For this master's thesis a qualitative approach was used, which is explained in the following chapter. First of all, there is a description about the literature research, subsequently the empirical method and the data collection is described as well as the data analysis which was undertaken with the qualitative analysis of content by Kuckartz (2022).

3.1 Literature research

For the literature research it was determined which databases were used, keywords were defined and links and limitations were set. The literature search was conducted in the databases PSYNDEX, MEDLINE, and CINHAL via EBSCOhost and in PubMed. The keywords, which emerged from the research question, were: dementia, alzheimer, aggressive behavior, violent behavior, challenging behavior, aggression, long-term care facilities, nursing home, long time care, care concept, nursing concept, basic concept, concept, needs, unmet needs behavior, care measure, care strategie, care method, management, Finland, Austria. These keywords were entered and linked using "Boolean operators" of "AND" and "OR". In addition, truncations were used for some keywords which let the database automatically find all variations of the given word. The following restrictions were added to the literature search: "find all my search terms", "apply related words", "January 2012 – April 2022", "References available", "abstract available" and "human". Based on the literature research, as shown in Figure 3, a total of 251 studies were identified. 55 duplicate studies were immediately screened out, 196 studies were screened and 66 studies were critically appraised. Finally, 51 studies were included in this paper.

The following inclusion and exclusion criteria were defined: No restrictions were placed on the study population other than having dementia. The studies had to investigate an intervention or approach to reduce or avoid challenging or aggressive behavior in people with dementia. Studies focusing on the administration of medication for challenging or aggressive behavior were excluded. Studies not investigating an intervention for or against aggressive behavior were not included. The study could not investigate aggressive behavior in combination with other mental health conditions. Studies with no or negative results were excluded. In general, papers had to be written in English, German or Finnish, the time period was restricted to the last ten years and the setting was defined and restricted as long-term care facilities.

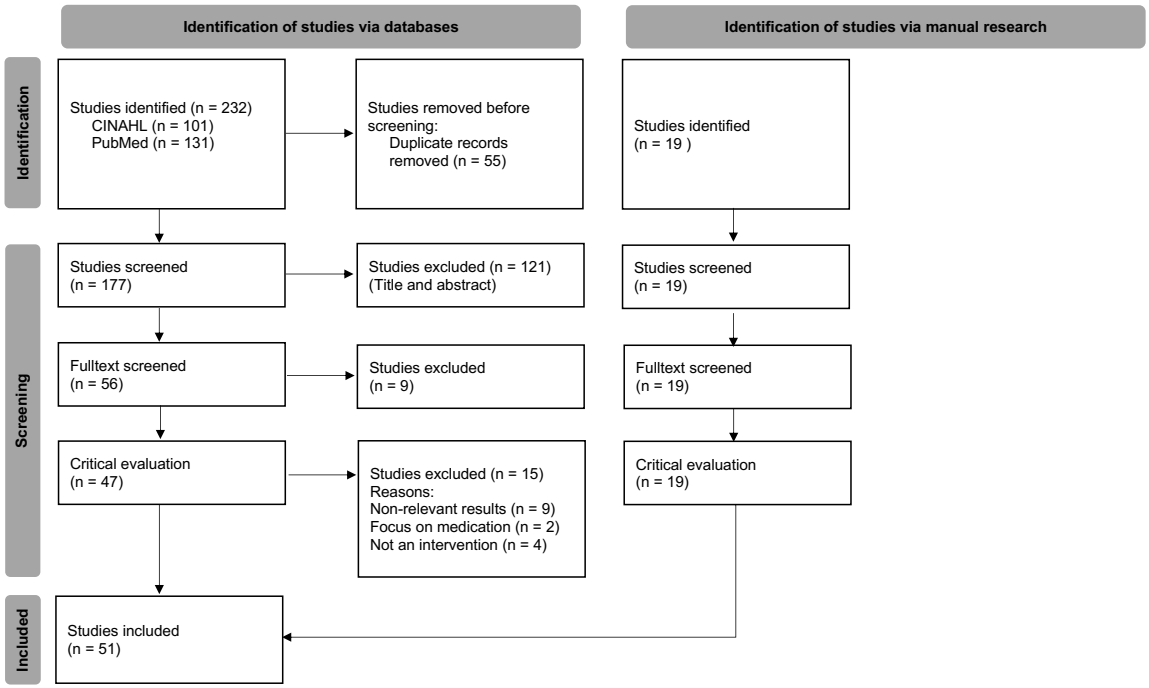

Figure 3: Process diagram of the literature search, based on the PRISMA statement (based on Page et al., 2021, p. 5).

3.2 Research question and sub-questions

In international literature, there are still too few findings on the topic of people with dementia and challenging behavior with a focus on aggression in long-term care facilities. Therefore, the main aim of this master's thesis is to collect and describe possible (care) concepts, measures, strategies and methods practiced for people with dementia and challenging behavior with a focus on aggression in long-term care facilities. For this purpose, interviews with experts from Austria and Finland will be conducted. This master's thesis aims to answer the following research question: "Which care or nursing measures can be taken to reduce or avoid challenging and aggressive behavior by people with dementia in long-term care facilities?" This then leads to the following three sub-questions: "Which experiences in the implementation and which application concepts are described by professionals in long-term care facilities?"; "Focus Austria and Finland: Is a comparison between Austria and Finland possible, and if so, what are the differences?"; "Which (care) concepts, measures, strategies and methods are described in international literature with a focus on people with dementia and challenging behavior in long-term care facilities?" Therefore, the following hypotheses are listed: The main assumption is that many people with dementia show challenging or aggressive behavior against caregivers. Different (care) measures, concepts, strategies, and methods can be taken to reduce or avoid challenging and aggressive behavior by people with dementia in long-term care facilities.

People with dementia have a less aggressive behavior if they are cared for with special (nursing) measures for people with dementia.

3.3 Empirical method

To answer the research question of this master's thesis, a qualitative study was used to determine different care and nursing measures for people with dementia and challenging behavior with a focus on aggression in long-term care facilities. In empirical social and human research, a distinction is made between three methodological approaches: qualitative, quantitative and mixed-method research.

Quantitative research, as in the natural sciences, consists of a structured research process, the results of which are numerical values and can thus be statistically evaluated. For example, standardized questionnaires, psychological test procedures and measurements can be used (Döring & Bortz, 2016, p. 15). In qualitative research according to the humanities, there are no numerical values as a result of unstructured methods of data collection. Texts and images are subjected to data analysis, such as the use of field observations or narrative interviews (Döring & Bortz, 2016, p. 16). The mixed-method approach combines these two scientific research approaches, in which both qualitative and quantitative means are used (Döring & Bortz, 2016, p. 17). The empirical research of this master's thesis corresponds to the qualitative research method. A qualitative social and human research is purposeful when open questions with answers as detailed as possible are desired by a small group. The focus here is on an object survey and the aim is to achieve the most comprehensive analysis possible from a small unit of inquiry (Döring & Bortz, 2016, p. 184). The empirical social research is also distinguished in data collection, different techniques such as observation, interview, questionnaire method, and document analysis are used (Döring & Bortz, 2016, p. 17).

Döring & Bortz (2016) understand a scientific interview as the purposeful, systematic and rule-guided generation and recording of verbal utterances of an interviewee. These are questioned about selected aspects of their knowledge, experience and behavior in oral form. Interviews can be conducted in person, by telephone or online (Döring & Bortz, 2016, p. 356). In terms of structure, interviews are divided into fully structured, semi-structured and unstructured interview forms (Döring & Bortz, 2016, p. 359). In a fully structured interview, standardized questions are used which are asked as closed questions (Döring & Bortz, 2016, p. 359).

In contrast, in the semi-structured interview, open-ended questions are used, and the interviewees are free to express their opinions and do not have to adhere to specific answer patterns (Hopf, 1995, p. 177). In the unstructured or non-standardized interview no specific questions are used, and the person is asked to narrate freely on a specific topic (Lamnek & Krell, 2010, p. 310). Furthermore, interviews are differentiated in terms of their authority requirement (hard, neutral, soft), method of interviewing (telephone, written, or direct), quantity of respondents (individual interview, group interview), quantity of interviewers and function or aim (for example: investigative - mediating) (Bortz & Döring, 2005, p. 238).

In this master's thesis, a semi-structured guided interview is used. The interviewer is neutral, and the interview takes place directly, online and in writing. A one-on-one interview is conducted by an interviewer in an information-providing capacity.

3.4 Research instrument

The guided interview is the most commonly used form in oral interviewing. Through the use of a guide, a framework for data collection and data analysis is established (Bortz & Döring, 2005, p. 315). A guided interview is a semi-structured interview that requires a guide when conducting the interview. The design of the guide borrows from previous research and allows the results of the interviews to be more easily compared. The guide consists of a maximum of ten open-ended main questions with respective sub-questions on varying main topics (Berger-Grabner, 2016, pp. 141-142). The guided interview leaves enough room for new questions and main topics to be included spontaneously (Bortz & Döring, 2005, p. 315). Frequently, in the spirit of the guided interview, expert interviews are used. Experts are individuals who have extensive knowledge or specialized experience in a particular area (Berger-Grabner, 2016, pp. 141-142).

The expert interview is suitable for this master's thesis, because it provides a framework for the survey while also allowing for a possibility for the integration of new topics or questions. This is a semi-structured expert interview based on an interview guideline. The eight main questions were deductively derived from the literature research and supplemented with an additional question that ensures the openness of the survey for further aspects.

The theory-based development of the questionnaire for the guideline interviews is carried out according to the SPSS procedure (collect-check-sort-subsume) of guideline development according to Helfferich (2009, quoted according to Kruse, 2015, p. 227).

The following four steps are taken in these four phases according to Helfferich (2009, quoted according to Kruse, 2015, p. 227), which can be intermingled at any time in practice. In the first phase "S", as many questions as possible are collected in a brainstorming session. In the second phase "P", the questions are checked for their suitability. Subsequently, all unsuitable questions are sorted out. In the third phase "S", the remaining questions are sorted and in the fourth phase "S", the checked questions are subsumed (Helfferich, 2009, quoted according to Kruse, 2015, p. 227).

The questionnaire was developed in German and subsequently translated into English. Furthermore, question seven of the questionnaire was adapted country-specifically (the questionnaires can be viewed in the appendix 2 and 3).

3.5 Research sample

If all objects or persons of a population are examined, a "full survey" is conducted. If only a part of a population is examined, it is called a sample survey (Bortz & Döring, 2005, p. 397). In qualitative studies, small, non-random sample surveys are sufficient (Döring & Bortz, 2016, p. 297).

For this master's thesis, five experts from Austria and Finland each were selected. The definition of expert in this thesis is: a health and/or care professional who already works with implemented concepts for people with dementia in long-term care facilities. The Austrian experts were selected by the author together with Ms. Hagendorfer-Jauk, and for Finland by Ms. Irmeli Matilainen. The exact professional background of the experts in Finland is not known by the author as they were not selected by her, except that they are registered nurses (Q1 – Q5). The professional background of the experts in Austria is listed in Table 1:

Experts from Austria	**Professional background**
E1	House management in a nursing home ("House for seniors"), Project Management for seniors
E2	Nursing professional in the position of Home and nursing care manager
E3	Clinical psychologist
E4	Manager of a long-term care facility
E5	Clinical psychologist and gerontopsychologist

Table 1: Abbreviations and professional background of the interviewed experts from Austria.

3.6 Data collection

Ten expert interviews were selected for this master's thesis. Five experts in Austria and five experts in Finland were to be interviewed orally on the topic of "People with dementia and challenging behavior with a focus on aggression in long-term care facilities". The interviews were to take place either face-to-face or online via Microsoft Teams. However, due to the language barrier, the Finnish experts were not willing to be interviewed online. Therefore, the questionnaire was sent to the experts in Finland by email, answered by them in writing and sent back again to the author of the master's thesis. Thus, the data collection was carried out as follows: In Austria, three interviews took place in person and two interviews took place via Microsoft Teams. The interviews were conducted in German, as the interviewer and the experts from Austria have German as their native language. Only one Finnish expert returned the questionnaire in English. Due to the language barrier, the English questionnaire was also translated into Finnish by four Finnish experts using the online translator DeepL, and also returned in Finnish. For the analysis, the online translator DeepL was again used to translate the answers into English. The interviews took place between the 2nd and 6th of May 2022. The experts signed an Informed Consent before the interview and agreed to the recording of the interview by cell phone. The questionnaires were sent out in April and were returned within four weeks.

3.7 Data analysis

The data processing of the interviews was done by means of transcription. In a transcription, the spoken language, for example interviews or discussions, is converted into written form. This process is necessary for the evaluation of oral interviews. A differentiation is made between various transcription rules. The most frequently used form is the transcription into normal written language. Here the dialect is corrected, a smoothing of the style takes place, as well as sentence construction errors are cleaned up. This transcription technique is used especially when the content of the interview is the main focus (Mayring, 2002, p. 89). Transcription techniques are differentiated with respect to the consideration of certain text features (Kuckartz, 2007, p. 40). For example, the following criteria can be included in transcription: "speech tones and stresses, volume, stretches, pauses in speech and their length, overlaps between the utterances of different speakers, dialect colorations, gestures, facial expressions and preverbal utterances such as laughing, coughing, moaning, incompletely pronounced words, incomprehensible utterances" (Kuckartz, 2007, p. 41).

The transcription of this master's thesis was done according to the following rules (Kuckartz, 2007, p. 43): The transcript was done verbatim. This means it is not summary or spoken language. The spoken language was transferred to written German and the dialect was smoothed out. All information that could be traced back to individuals has been anonymized. Names of persons and institutions were replaced with "anonymous". Longer pauses were not marked by dots: (...) because pauses would have no relevance for the evaluation and the results. Paragraphs of the interviewee were noted by an "E:" for expert (E1 - E5) and the interviewer by an "I:" (Kuckartz, 2007, p. 43).

The data analysis is carried out according to the method of content structuring qualitative content analysis by Kuckartz (Kuckartz & Rädiker, 2022). Qualitative content analysis emerged from the critical examination of quantitative content analysis (Döring & Bortz, 2016, p. 541). Content analysis is used to evaluate recorded materials. It interprets symbolic-communicative interactions (Lamnek & Krell, 2010, p. 435).

The content structuring qualitative content analysis uses categories which are formed either inductively or deductively. In most cases, a multi-stage procedure of category formation and coding is used. In the first coding phase, coding is done rather roughly along the main categories. In most cases, the main categories come from the guideline questionnaire of the data collection. The number of these categories is therefore rather small with a maximum of 20 main categories. Only in the next coding phase, the categories are further developed on the material. Then the data material is coded again with the newly developed categories. Finally, the coded data is analyzed, and the results are prepared for the research report. The process model of content structuring content analysis can be applied not only to guided, problem-centered, and focused interviews, but to many types of data (Kuckartz & Rädiker, 2022, pp. 129-130). Figure 4 graphically illustrates the sequence of the seven phases of a content structuring content analysis:

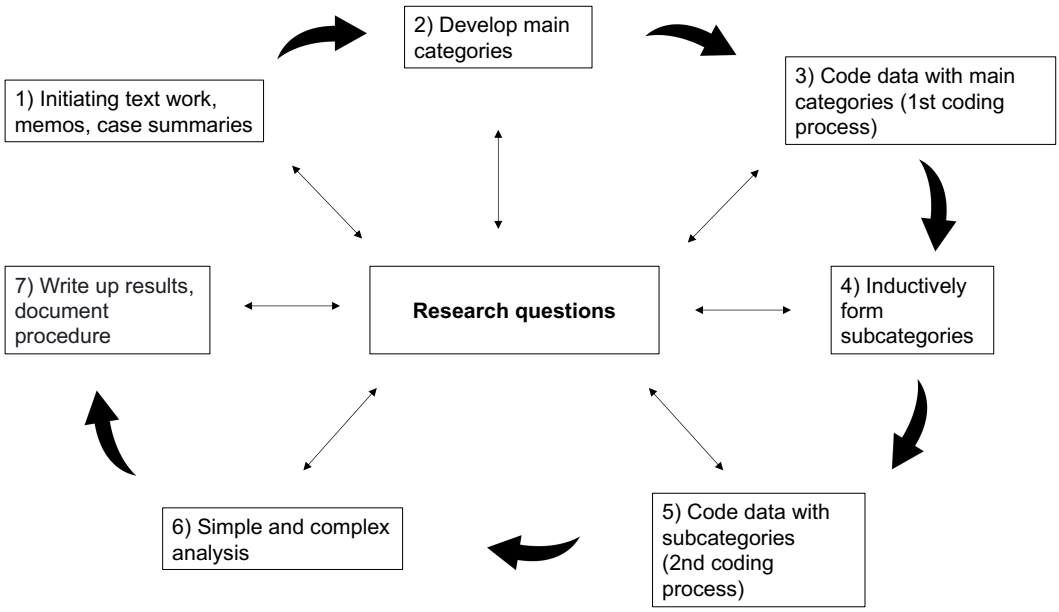

Figure 4: Procedure of the content structuring qualitative content analysis in seven phases by Kuckartz (Kuckartz & Rädiker, 2022, p.132).

In the first phase of the evaluation, the material is read carefully, and important text passages are marked, which introduce the analysis. In this phase, remarks and comments, special features and evaluation ideas are also noted in the form of memos. Finally, short case summaries are written in the first phase (Kuckartz & Rädiker, 2022, pp. 132-133).

In the second phase, the main categories are developed. The content structuring qualitative content analysis uses categories and subcategories to create a content structure for the data. The main categories are often derived directly from the research questions. Whether the categories and subcategories have been formed directly on the material or deductively from a theoretical frame of reference, a dry run through at least some of the data should take place. This allows them to be checked for definition and concrete applicability. The trial run also simultaneously initiates phase three (Kuckartz & Rädiker, 2022, pp. 133-134).

In the third phase (this is also the first coding phase), the data is coded according to the main categories. In this coding phase, each line of text is assigned to a main category. Text lines that are not relevant to the research question remain uncoded. Text segments can also contain several topics and thus coding with several categories on the same text segment or sentence is possible (Kuckartz & Rädiker, 2022, pp. 134-135).

The following criteria should be considered in a good category system: the categories are closely related to the research questions, the categories are exhaustive, the categories are separable and, depending on the application, also disjunctive (mutually exclusive), the categories are well formulated, the categories, taken together, form a gestalt, the subcategories are dimensions, expressions, or subaspects of their supercategory, the categories are understandable and comprehensible (Kuckartz & Rädiker, 2022, pp. 63-65). In addition to the general criteria for a good category system mentioned above, the following quality criteria should be considered: The category system should be formed in close connection to the questions and goals of the project, should not be too fine-grained and not too extensive, should contain descriptions of the categories that are as precise as possible, should be formulated with a perspective on the later report of results (in which, for example, categories are chosen that are suitable as structuring points for the later research report) and should have been tested on a subset of the material (Kuckartz & Rädiker, 2022, p. 135). For qualitative content analysis, which is a rule-guided method, it is very important that category definitions are formulated simultaneously with the construction of the category system. In this category definition, the respective category is described, and it is also explained how it is to be understood in the study (Kuckartz & Rädiker, 2022, p.65). The following subdivision (figure 5) was used in this study: Name of the category; Content description of the category (definition of the category); Examples of the use of the category; Frequency (= n) (Kuckartz & Rädiker, 2022, p.66).

Name of the category	Definition	Examples of the use of the category	n (Finland)	n (Austria)

Figure 5: Scheme of category representation

In this master's thesis, the interview is strongly pre-structured by the guideline. In this case, the main categories have been derived directly from the research questions and the guideline questionnaire (Kuckartz & Rädiker, 2022, p. 137).

In the fourth phase, inductive subcategories are formed. This means that all text passages of a main category are collected. Subsequently, these text passages are ordered, relevant dimensions are identified and new subcategories are formulated (Kuckartz & Rädiker, 2022, p. 138).

In the fifth phase, a second coding process is conducted. A pragmatic approach to the number of subcategories is recommended. With a small sample, many subcategories are not useful. Therefore, it makes sense to go through phases four and five several times (Kuckartz & Rädiker, 2022, p. 142). The sixth and penultimate phase includes simple and complex analyses, and the presentation of results is prepared. The focus is on the themes and subthemes of the evaluation process. In this master's thesis, the analysis was done according to the "category-based analysis along the main categories". Additionally, the form "visualizations" was chosen for analysis (Kuckartz & Rädiker, 2022, pp. 147-148) in the form of tabular overviews. .

In the seventh and last phase in content structuring qualitative content analysis, the results are written down and the procedure is documented. That is, the results obtained, the findings and the answers to the research questions investigated are written down in a report. In doing so, the preparatory work in the previous phases is referred to and visualizations already created are supplemented for illustration and serve to explain connections, patterns, similarities and differences found. Phases six and seven may well take place in parallel and several times in succession (Kuckartz & Rädiker, 2022, pp. 154-156).

In this master's thesis, the following procedure was followed for the evaluation: The interviews with the Austrian experts were conducted in German and transcribed in German. The questionnaires of the Finnish experts were sent to the author of this thesis in writing in Finnish. In order to standardize the analysis, the answers of the Finnish experts were translated into German. Thus, all the collected material could be evaluated in a uniform way. The twelve main categories were formed deductively, only the subcategories of the category "care measures for people with dementia" emerged inductively, that means directly from the material. After the third pass of the material (that means in the third phase), the categories were assigned and the subcategories were added. In the fourth pass of the material, the categories were reviewed and the subcategories were assigned. In the last pass of the material, the results were written down, examples of category application were collected and assigned, and the procedure of evaluation was documented. The results are presented after the main categories using the category-based analysis along each main category (Kuckartz & Rädiker, 2022, p. 148). Then the results were assigned to the research questions and the presentation of results was made in English.

4 Results

The following chapters present the research findings of the study. The categories were formed deductively and inductively, based on the guideline questionnaire and the interview material, respectively, to answer the research questions. The focus is on the categories “care measures for people with dementia”, “nursing or care measures”, “structural/organizational measures” and “concepts”. From the results of the previously mentioned categories, the research question, “Which care or nursing measures can be taken to reduce or avoid challenging and aggressive behavior by people with dementia in long-term care facilities?", is answered. The first sub-question, “Which experiences in the implementation and which application concepts are described by professionals in long-term care facilities?”, is answered using the results from the third category and two sub-categories, “experiences in implementing”, “facilitating factors” and “hindering factors”. The results of all categories will be used to answer the second sub-question, “Focus Austria and Finland: Is a comparison between Austria and Finland possible, and if so, what are the differences?”. The third sub-question, “Which (care) concepts, measures, strategies and methods are described in international literature with a focus on people with dementia and challenging behavior in long-term care facilities?”, has already been dealt with in chapter 2.4.1 International. The interpretation of these results is given in the discussion section. The adjacent table lists the category system graphically (Table 2). Through the use of anchor samples, individual text passages from the transcript are presented with an interview code.

Name of the category	Sub-category	Definition
Importance of care for people with dementia		The significance and relevance of caring for people with dementia in practice. What is the percentage of those affected in practice.
Care measures for people with dementia	Nursing or care measures	This category collects all content related to nursing concepts, care concepts and therapy concepts.
	Structural/ organizational measures	
	Concepts	
Experiences in implementing	Facilitating factors	This category collects all content on the topic of experiences in the implementation of measures and concepts in practice.
	Hindering factors	
Handling of challenging behavior		This category collects all content on the topic of dealing with challenging behavior.
Day-to-day work with challenging behavior		This category collects all content on the topic of challenging behavior in everyday work.
Challenges for the institution		This category collects all content on the topic of challenges for the institution.
Measures for challenging behavior		Measures to reduce aggression in dementia are assigned to this category.
Measure: conversation		This category collects all content on the topic of having conversations and using conversation as a measure.
Measure: physical restraints		This category collects all content on the topic of physical restraints.
Measure: sedating medications		This category collects all content related to sedating medications and the use of (sedating) medications.
Government guides	Austria	This category collects all content on the topic of government guidance documents and previously published concepts.
	Finland	
Conflict management		This category collects all measures, concepts and contents on the topic of dealing with conflicts and conflict management.

Table 2: Tabular representation of the categories.

4.1 Results of the research question

The consequently listed categories serve to answer the research question: “Which care or nursing measures can be taken to reduce or avoid challenging and aggressive behavior by people with dementia in long-term care facilities?” The results of the evaluation show that there are many different care interventions, methods, approaches, and concepts for people with dementia and challenging behavior in long-term care facilities. The results are illustrated and explained here. The interpretation takes place in the discussion section.

Name of the category	Sub-category	Definition	Examples of the use of the category	n (Finland)	n (Austria)
Care measures for people with dementia	Nursing or care measures • *Nursing interventions and care approaches that are used to avoid or reduce aggression.*	This category collects all content related to nursing concepts, care concepts and therapy concepts.	*Q5: „Leider haben wir kein Konzept.“ Translation: „Unfortunately, we do not have a concept.”* *E1: „Genau, also bei uns ist es so, wir haben im ANONYM, wir haben das Hausgemeinschaftskonzept.“ (Interview E1, paragraph 6) Translation: „Exactly, so with us it is like this, we have in the "anonymous", we have the house community concept.”*	Q1, Q4: apply measures or concepts Q2, Q3, Q5: do not apply measures or concepts	E1-E5: apply measures or concepts
	Structural/ organizational measures • *The organisation and structuring of the environment that are used to avoid or reduce aggression.*				
	Application concepts • *Application concepts with different interventions, approaches, measures, strategies and methods.*				

			E2: „Wir haben schon unterschiedliche Konzepte angeschaut, aber am Ende ist ein eigens entwickeltes Konzept mit Ansätzen aus anderen übriggeblieben. Also wir haben uns das selbst entwickelt.“ (Interview E2, paragraph 8) Translation: We have already looked at different concepts, but in the end we were left with a concept we developed ourselves with approaches from others. So we have developed this ourselves.”		

Table 3: Category "care measures for people with dementia".

Results Finland: In Finland three out of five experts (Q2, Q3 and Q5) state that no special care measures are used in their institutions for people with dementia. Two of them (Q1 and Q4) state that they use validation, logopedics and joint interactions with other residents, such as music and creative activities (like painting). Structural or application concepts were not mentioned.

Results Austria: In Austria many different measures, care concepts and therapy concepts are applied in practice. The following were surveyed in this study:

Nursing measures: Biography work; Person-centered Care, Person-centered Attitude, Person-centered Approach, Person-centered Approach according to Tom Kitwood; Care Concept by Maria Riedl; Validation, Validation according to Naomi Feil, Integrative Validation according to Nicole Richard; Nursing Theory according to Monika Krohwinkel; the Dementia Balance Model (self-awareness model by Barbara Klee-Reiter); Self-awareness (the attitude of the staff), Self-reflection; De-escalation; Case discussions.

Structural/organizational measures: Concepts and measures for the distribution and separation of people with dementia: The organisation of premises and spatial resources, the spatial separation, the organisation of different care according to the stage of dementia (adapted to mild, moderate and severe dementia):

- House community concept: These are small living units with their own kitchen for ten to twelve residents. On the one hand, these living units are connected with a circular corridor which supports and enables the "urge to walk" of people with dementia, and on the other hand, they also have their own kitchen. Long corridors can promote disorientation which is why circular corridors were built in this house community concept.
- Housekeeping concept: In the care, emphasis is placed on independence, and autonomy is promoted. People can make their own decisions and live independently. This concept is for people with no dementia or mild dementia.
- Residential group concept.
- Concept of freedom of movement. For people with moderate to severe dementia. The focus is on a large freedom of movement.
- Concept of tranquility, the oasis. For people with a severe form of dementia. In this concept, people get a lot of rest but still have a community and they are not alone in the room. The concept of the care oasis is a form of community care in which the architecture is in a way that staff can always make eye contact with all residents, no matter where they are.

The concept of living space design - living space concept: The living space is adapted for the people with dementia. The furnishing (the style of furnishing) is always adapted for the respective generation (for example with old furniture).

The colour concept: The colours of the living spaces are also adapted for the people with dementia. Contrasts are created so that not everything is white and a person with dementia can orientate themselves better.

Further training: Concepts for special additional further training to become dementia experts, dementia advisors, dementia companions. The focus in the trainings is on self-reflection, training in validation, de-escalation, specific expert knowledge about the disease dementia and dealing with challenging behavior in people with dementia.

Interdisciplinarity and interprofessional cooperation: concept and cooperation with professionals (a psychologist in the core team, a neurologist in the core team, a psychiatrist in the core team).

Concept of mobile and digital documentation via IPad or IPhone for all staff: This concept allows for location-independent documentation.

Application concepts: The following application concepts were mentioned:

- The lifeworld concept of Karla Kämmer. This focuses on normality and a daily structure. The people help to shape their own everyday life and can contribute individually (for example in cooking).
- A newly developed concept for a long-term care facility: a dementia competence centre. This care facility is exclusively for people with dementia. The concept is built on the following three pillars: medical care (with a specialist, psychiatrist directly in the house), special care for people with dementia (the nursing science concept by Monika Krohwinkel in combination with an internal training module, which is specifically built on its own overall concept) and relatives, who are involved on a regular basis.

- A newly developed concept for a long-term care facility, within an already existing care home: Originally, the concept of Maria Riedl was adopted. Then other different concepts were applied, but in the end a specially developed concept, with aspects from other approaches, was developed. This concept does not yet have a name and has not yet been written down.

Name of the category	Definition	Examples of the use of the category	n (Finland)	n (Austria)
Handling of challenging behavior	This category collects all content on the topic of dealing with challenging behavior.	*Q4: "Die Begegnung mit Menschen mit Demenz ist eine große Herausforderung in einem stressigen und unterbesetzten Umfeld. Es bleibt nicht genug Zeit, um innezuhalten und wirklich zuzuhören. In spezialisierten Pflegeeinrichtungen für Menschen mit Demenz kann besser auf schwierige Verhaltensweisen eingegangen werden als in anderen Einrichtungen. Das Personal in Gedächtnisstationen verfügt auch über das Wissen, die Fähigkeiten und das Interesse am Umgang mit Menschen mit Demenz."* *Translation: „Meeting people with dementia is a big challenge in a stressful and understaffed environment. There is not enough time to pause and really listen. Specialized care facilities for people with dementia are better able to address difficult behaviors than other facilities. Staff in memory care units also have the knowledge, skills and interest in dealing with people with dementia."* *E1: „Ja, grundsätzlich wird eigentlich schon mal geschaut, dass man schaut, dass man deeskalierende Maßnahmen setzt oder halt eben schon präventiv, weil man kennt ja schon die Person vor allem solche herausfordernden Verhalten sind einerseits entweder an die Phase der Demenz geknüpft oder oft eben auch beim Einzug, ja diese, diese Umstellung, das ist doch ein massiver Einschnitt im Leben." (Interview E1, paragraph 16)*	Q1 – Q5	E1-E5

		Translation: „Yes, in principle it is actually already looked that one looks that one sets de-escalating measures or just already preventively, because one already knows the person above all such challenging behaviors are on the one hand either linked to the phase of the dementia or often evenly also with the move, yes this, this conversion, that is nevertheless a massive cut in the life.“ *E3: „Für mich wäre es das Erste einmal, die Umgebung für den Betroffenen bedürfnisgerecht zu gestalten. Dadurch nimmt man schon ganz viel herausforderndes Verhalten weg.“ (Interview 3, paragraph 38)* *Translation: „For me, the first thing would be to make the environment suitable for the person concerned. This already takes away a lot of challenging behavior.“* *E5: „Also wir haben erstens aufgehört, das als herausforderndes Verhalten zu bezeichnen, bei uns ist es selbstschützendes Verhalten.“ (Interview 5, paragraph 22)* *Translation: „So first of all we stopped calling it challenging behavior, with us it's self-protective behavior.“*		

Table 4: Category “handling of challenging behavior”.

Results Finland: The experts from Finland describe dealing with people and dementia as very challenging because they are confused and aggressive. The difficult behaviors can lead to inaccurate and non-specific care. For some staff, dealing with people and challenging behavior is also very unfamiliar and frightening. Staff are not able to respond to the needs as they feel helpless when dealing with challenging behavior. There is not enough time to listen properly to people with challenging behavior. People with dementia and challenging behavior can be unpredictable, however, certain behaviors are recurrent and you can adjust to the person.

Results Austria: Measures to avoid aggression in dementia: Separation and distribution of people with dementia; Encouragement of people with dementia in their own world and leaving them there; Individual care; Daily evaluation of the people and their actual condition with daily case discussions; Strengthening the existing resources of people with dementia; Identifying different measures for care; Setting targeted measures and interventions; Setting targeted responses for appropriate behavior; Apply validation; Contact and regular exchange with relatives; Creating the "homely feeling" - the feeling of well-being; Provide contrasts for orientation; Offering variety by means of meaningful and interest-guided activities; Taking (care) actions when it is appropriate for the person with dementia; Allow the person to determine distance and closeness.

Factors and prerequisites for reducing aggression in dementia: A positive basic attitude towards people with dementia; Explore attitude and attitude about oneself (self-reflection); Taking a medical history before an inpatient admission; Differential diagnoses and wrong therapy (delirium and depression; sedation); Learning to tolerate people's activities (self-reflection).

When challenging behavior occurs in people with dementia, the following measures have been named and described by the experts. In a long-term care facility in Austria challenging behavior is no longer called challenging, but it is called self-protective behavior. Possible measures are de-escalating measures, preventive measures, cooperation with relatives, close cooperation with neurologists and psychiatrists, regular monitoring and the control of medication and an additional person for de-escalation in the team who is only responsible for this (assistant person). In the acute situation the measures "mirroring", saying "stop" and leaving the situation were mentioned. If challenging behavior occurs, a one-to-one care would be necessary. Since this is not possible in practice with the existing staffing ratio, one institution calls for support in the form of volunteers and community service workers. Other important aspects mentioned in dealing with people with dementia and challenging behavior are the staff (their attitude towards the person with dementia, their training) and case discussions. In these case discussions, the interdisciplinary team tries to find out the cause so that aggression will no longer occur in order to then also adapt the care of the person with dementia accordingly. Then theories are formed and one measure is selected in the team to deal with this aggression and to prevent it in the future.

4.2 Results of the first sub-question

The adjacent categories listed are used to answer the research question: “Which experiences in the implementation and which application concepts are described by professionals in long-term care facilities?” The results of the evaluation show that there are different experiences in the implementation of the different application concepts. The results are presented and explained here. Interpretation is provided in the discussion section.

Name of the category	Sub-category	Definition	Examples of the use of the category	n (Finland)	n (Austria)
Experiences in implementing	facilitating factors	This category collects all content on the topic of experiences in the implementation of measures and concepts in practice.	*Q1:“Es erleichtert die Zusammenarbeit mit einem Patienten mit Demenz. Die Validierung hilft, Konflikte zu vermeiden.“ Translation: „It makes it easier to work with a patient with dementia. Validation helps to avoid conflicts.“* *E1: „Also wo man immer an die Grenzen stößt, das ist, ist die Gemischtheit, also die Integration. Wir denken eben ganz oft an dieses „Drei-Welten-Konzep“t. Da wird man ja die Personen sozusagen trennen.“ (Interview E1, paragraph 12) Translation: „So where you always come up against the limits is the mixedness, that is, the integration. We often think of this three worlds concept. In this case, the people are separated, so to speak.*	Q1, Q4: have experience in implementation Q2, Q3, Q5: have no experience in implementation	E1-E5: have experience in implementation
	hindering factors				

			E2: „Im Prinzip gibt es kein bestehendes Konzept, was bei mittelschwerer Demenz umgesetzt werden könnte. Also wo ich sage, ich konzentriere mich wirklich auf das eine Konzept auf Bestehende/ Bekannte.“ (Interview E2, paragraph 22) Translation: “In principle, there is no existing concept what could be implemented in moderate dementia. So where I say I really focus on the one concept on existing/known.”		

Table 5: Category “experiences in implementing”.

Results Finland: Two experts stated that they had gained experience in the implementation of concepts so far and that these were both positive as the concepts facilitated the cooperation with people with dementia and conflicts could be prevented as a result. As conducive aspects for the implementation of these concepts in practice, appropriate training (additional training in the care of people with dementia) and sufficient time for the care of people with dementia were mentioned. Another point mentioned was the mood of the person being cared for, which can make implementation easier but also more difficult. In the same context, lack of time, which prevents the implementation of the measures and lack of training were mentioned as hindering factors.

Results Austria: In Austria the experts describe different experiences in implementation. On the one hand there are very many within the institution itself but also outside the institution. The following experiences were mentioned:

Two of the concepts were newly developed for the applying institution as there was and is no existing concept. A common feature of these two concepts is the division of people with dementia according to the three stages of dementia. Because of this there is always criticism that separation is discriminatory. Many other institutions, on the other hand, would like to implement both the one and the other concept.

The following were named as facilitating factors in the implementation of the concepts: the relief of the staff and the resulting low staff turnover, the staff developed the concept together and continue to develop it together, the cooperation of the staff in the implementation of the concept, the networking with other institutions, own special training for and with staff and the architecture of the newly built house for the institution.

The following were mentioned as hindering factors: the staffing ratio is far too low, it is not always possible to divide the care according to dementia stages (only an integrated form), there is a lack of support and funding from politics, there is no funding available, there are generally too few home places for people with dementia, the structures in Austria would have to be adapted (inclusion of relatives, the transition from care in one's own home together with mobile care, to the nursing home). There is a lack of structural support, higher qualified training and better additional training in this special field, the attitude of the home management towards people with dementia in long-term care facilities, the criticism of the new concept itself, the restructuring of the institution from an integrated form to a separated form, already existing team structures, wrong dementia diagnoses, the handling of non-existing regulated processes (for example, that there are no fixed meal times) and the existing rigid structures and systems in Austria.

4.3 Results of the second sub-question

The second sub-question focuses on Austria and Finland: “Is a comparison between Austria and Finland possible, and if so, what are the differences?” In order to be able to make a comparison between Austria and Finland, and to be able to show differences, the following categories were added to the previous ones. The results show several differences between Austria and Finland and the care of people with dementia in long-term care facilities. The results are illustrated and explained here. The interpretation takes place in the discussion section.

Name of the category	Definition	Examples of the use of the category	n (Finland)	n (Austria)
importance of "caring for people with dementia"	The significance and relevance of caring for people with dementia in practice. What is the percentage of those affected in practice.	*Q5: „Der Anteil der Menschen mit Demenz ist hoch und spielt eine sehr wichtige Rolle.“* *Translation: „The proportion of people with dementia is high and plays a very important role.“* *E1: „Also es ist ein großes Thema, es wird immer ein größeres Thema, es sind sehr viele Personen, wir haben viele Personen mit Demenz, … und diagnostiziert sind, sagen wir so 30 - 40 %. Wir haben einmal eine Studie gemacht im Haus und da sind wir dann daraufgekommen, dass es eigentlich ungefähr 70 % Menschen mit Demenz in den Häusern sind.“ (Interview E1, paragraph 2)* *Translation: „So it's a big issue, it's becoming a bigger issue, there are a lot of people, we have a lot of people with dementia, ... and diagnosed are, let's say 30 - 40%. We did a study once in the house and then we came to the conclusion that there are actually about 70% people with dementia in the houses."* *E2: „Es ist das einzige Thema bald, was wir in unserem Alltag im Pflegeheim haben.“ (Interview E2, paragraph 4)* *Translation: „It is the only issue soon, that we have in our daily life in the nursing home.”*	5 (Q1-Q5) very important	5 (E1-E5) very important

Table 6: Category “importance of caring for people with dementia".

Results Finland: All experts confirm the significance and relevance of caring for people with dementia in practice. The number of people with dementia is high and the care of these people is becoming increasingly important.

Results Austria: Similarly, in Austria all experts confirm the significance and relevance of caring for people with dementia in practice. The number of people with dementia is high and the care of these people is becoming increasingly important.

Name of the category	Definition	Examples of the use of the category	n (Finland)	n (Austria)
Day-to-day work with challenging behavior	This category collects all content on the topic of challenging behavior in everyday work.	*Q3: „Der Umgang mit einem Bewohner mit einer Demenz kann die Arbeit erschweren, das Personal wird müde und unsicher.“ Translation: „Dealing with a resident with dementia can make work more difficult, staff become tired and unsure of themselves.”* *E3: „Wir haben, was Demenz betrifft, von demenzgerechtem Wohnen noch nicht so viel. Da müssen wir noch daran arbeiten, da ist gerade eine Sensibilisierungsphase.“ (Interview 3, paragraph 6) Translation: „As far as dementia is concerned, we don't yet have much in the way of dementia-friendly housing. We still have to work on that, there is just a sensitization phase.“* *E3: „Da muss ich mich dem Thema zuwenden, wir müssen uns dahingehend auf den Weg machen, weil es wird nicht verschwinden, es wird mehr werden. Und im Sinne von Wertschätzung der Bewohner oder auch dem Personal gegenüber, die sind ja auch belastet.“ (Interview 3, paragraph 24) Translation: „That's where I have to address the issue, we have to get on the road to that, because it's not going to disappear, it's going to become more. And in terms of appreciation of the residents or also the staff, they are also burdened."*	Q1, Q3, Q4, Q5: have to do with challenging behavior by day-to-day work Q2: no answer	E1-E5

Table 7: Category “Day-to-day work with challenging behavior”.

Results Finland: The following information was given by the experts in Finland: Everyday work with people and dementia is physically and mentally very demanding and more resources are needed, such as time, patience for these people and special expertise. There are more challenges in implementing good care (in hygiene, in nutrition).

Results Austria: When challenging behavior occurs in everyday work, care takes a backseat because it is more about accompanying the people with dementia. The focus is on the person, and the staff support them. Many people with dementia linger in the corridors, and this leads to conflicts among the residents repeatedly in everyday life. If the institution has not yet found or developed a concept for this everyday work, it will be very difficult to provide good care and support for people with dementia in the future. This is in the sense of valuing the residents as well as the staff because they are even more burdened by this. In general, the staff is burdened in their daily work, on some days more, on others less. Aggression in everyday work occurs when people's needs are not taken into account.

Name of the category	Definition	Examples of the use of the category	n (Finland)	n (Austria)
Challenges for the institution	This category collects all content on the topic of challenges for the institution.	*Q4: „Für Menschen mit Demenz sollte es eine eigene Abteilung geben. Menschen mit schwierigen Verhaltensweisen beanspruchen viel Zeit des Pflegepersonals. Was dazu führen kann, dass die Bedürfnisse der anderen Bewohner nicht ausreichend berücksichtigt werden.“* *Translation: „There should be a separate department for people with dementia. People with difficult behaviors take up a lot of the nursing staff's time. Which can lead to the needs of the other residents not being sufficiently taken into account.“* *E4: „Ich glaube, da muss man im Schulungsprogramm immer mitwachsen mit den Herausforderungen, die sich auch ändern.“ (Interview E4, paragraph 10)* *Translation: „I believe that the training program must always grow in line with the challenges, which also change.“*	Q1, Q4, Q5: different challenges Q2, Q3: no answer	E1-E5: different challenges

Table 8: Category “challenges of the institution”.

Results Finland: The following were named as challenges for the institution: there are no suitable premises available (not very cosy), there is no offer of activities, there are too few available places in the institution, too few staff and there is no separation of people with and without dementia.

Results Austria: The challenges in Austria are: the insufficient staffing ratio, too few places in the home, criticism of the concept (separating, selecting is equated with discriminating), the attitude of the management of the home, the attitude of the team and the staff, because they also have to have the same attitude, and a training programme that is permanently adapted to the new challenges.

Name of the category	Definition	Examples of the use of the category	n (Finland)	n (Austria)
Measures for challenging behavior	Measures to reduce aggression in dementia are assigned to this category.	*Q5: „Es wird versucht eine ruhige und entspannte Begegnung zu schaffen, indem man Ihnen immer sagt, wenn eine Tätigkeit ausgeführt wird, damit sie wissen, was geschieht. Es wird versucht den Menschen mit Demenz ein Gefühl der Sicherheit zu vermitteln. Wenn etwas im Moment nicht funktioniert, wird es beim nächsten Besuch nachgeholt.“* *Translation: „An attempt is made to create a calm and relaxed encounter by always telling you when an activity is being performed so they know what is happening. An attempt is made to give the people with dementia a sense of security. If something is not working at the moment, it will be made up for at the next visit.”* *E2: „Unser zusätzlicher Schwerpunkt zu den ganzen Verhaltensregeln und zur Reflexion und dem Aushalten, ist das wir im mittelschweren Demenzbereich, dass es zum Beispiel so ein zusatzgefordertes Personal, also mehr Personal, dass jeden Tag eine, bei uns zertifizierte Demenzbegleiterin, sie spezialisiert sich den ganzen Tag darauf, zu Deeskalieren und Validieren.“ (Interview E2, paragraph 45)* *Translation: „Our additional focus to the whole behavioral rules and to the reflection and the endurance, is that we in the moderate dementia area, that there is for example such an additional required staff, so more staff, that every day one, with us certified dementia companion, she specializes the whole day on it, to de-escalate and validate.“*	Q1-Q5	E1-E5

Table 9: Category “measures for challenging behavior”.

Results Finland: The following measures are mentioned for challenging behavior: consider patient autonomy as much as possible, special consideration of preferred foods when eating, special consideration of previous hobbies, playing favourite music, involvement of relatives, taking sufficient time for care, paying attention to keeping medication up to date together and with supervision from a geriatrician, calm interactions, a relaxed environment, listening, administration of medication, sedatives and memory medication.

Results Austria: The following measures are mentioned for challenging behavior: de-escalation, preventive measures, the use of one-to-one care, review and adaptation of medication in combination with a neurologist, additional staff in the form of a dementia companion (who specialises in de-escalation and validation throughout the day), the involvement of relatives, review of the diagnosis and special attention to the needs of people with dementia.

Name of the category	Definition	Examples of the use of the category	n (Finland)	n (Austria)
Measure: conversation	This category collects all content on the topic of having conversations and using conversation as a measure.	*Q5: „Meistens durch Diskussionen, um mit Situationen umzugehen.“ Translation: „Mostly through discussions to deal with situations”.* *E3: „ Also, wenn, sozusagen, das von der kognitiven Funktion her noch funktioniert, dann hilft es schon. Natürlich und dann schau ich zuerst, was ist das für eine Situation und dann versuche ich herauszufinden, was ist das Bedürfnis dahinter.“ (Interview E3, paragraph 40) Translation: „So, if, so to speak, that still works from the cognitive function, then it already helps. Of course, and then I first look at what kind of situation it is and then I try to find out what the need is behind it.“*	Q1-Q5	E1-E5

Table 10 Category “measure: conversation”.

Results Finland: In this context, the answers are very different: Some use it frequently and deem it very important. Others use discussion or conversation to redirect aggression. Some do not use discussion as a measure at all, whilesome use discussion as a method of talking around situations.

Results Austria: The Austrian experts do not agree either:

- E1: No, conversation only helps preventively.
- E2: It is pointless to use conversation for moderate to severe dementia.
- E3: If the cognitive function still works, then it helps.
- E4: Rather not, I would say.
- E5: In aggressive behavior, no.

Name of the category	Definition	Examples of the use of the category	n (Finland)	n (Austria)
Measure: physical restraints	This category collects all content on the topic of physical restraints.	*Q1: „Die Anbindehaltung am Bett wird selten genutzt.“* *Translation: „Tethering at the bedside is rarely used.”* *E4: „Das gibt es natürlich nicht, ist in unserem Setting verboten und würde auch komplett gegen unser Konzept gehen. Das Einzige, was wir haben, wir haben unsere Zimmer alle mit Notfallbeschläge ausgestattet, … Das ist ein sogenannter Panikbeschlag, das dient einfach der Privatsphäre des Bewohners und nicht das wir jemanden einsperren können.“ (Interview E4, paragraph 38)* *Translation: „Of course, that doesn't exist, is forbidden in our setting and would also go completely against our concept. The only thing we have, we have equipped all our rooms with emergency fittings, ... This is a so-called panic fitting, this is simply for the privacy of the resident and not that we can lock someone up.“*	Q1: rarely Q2, Q4: yes Q3, Q5: no	E1-E5: no

Table 11: Category “measure: physical restraints”.

Results Finland: In Finland, the applications are as follows: Tethering to the bed is rarely used, physical orders are ordered and supervised by the doctor, only for their own safety and when there is a risk of falling, and two experts (Q3, Q5) state that there are no physical measures in their case.

Results Austria: There are no physical restraints in Austria. For self-protection, however, the following measures are mentioned: for self-protection due to the risk of falling, a bed guard, mats in front of the bed, GPS watches, plastic tables for the wheelchairs, there is a code system for some doors, a camera system that targets biometric data when a resident leaves the house, the lift systems only work when two buttons are pressed and the room doors are equipped with a panic fitting.

Name of the category	Definition	Examples of the use of the category	n (Finland)	n (Austria)
Measure: sedating medications	This category collects all content related to sedating medications and the use of (sedating) medications.	*Q1: „Um aggressivem Verhalten entgegenzuwirken, werden sehr häufig Medikamente eingesetzt.“ Translation: „Medication is very often used to counter aggressive behavior.”* *E2: „Wir sind in der glücklichen Lage nachweisen zu können, dass bei uns der Einsatz von Medikamenten wirklich nur so weit gemacht wird, als was es dem Bewohner selbst guttut. Aber nicht um ihn zu sedieren, sondern um seine Symptome zu lindern oder zu verbessern.“ (Interview E2, paragraph 49) Translation: „We are in the fortunate position to be able to prove that the use of medications is really only made as far as it is good for the resident himself. But not to sedate him, but to alleviate or improve his symptoms.“* *E5: „Wir sedieren gar nicht. Wir sind einfach draufgekommen, dass diese Medikamente, die verschrieben werden, die werden ja nicht eingesetzt zum Sedieren, sedierend werden die dann, wenn die Dosis nicht stimmt.“ (Interview 5, paragraph 30) Translation: “We do not sedate at all. We simply found out that these medications that are prescribed are not used for sedation, they become sedating if the dose is not correct.”*	Q1-Q5: yes	E1-E5

Table 12: Category “measure: sedating medications”.

Results Finland: All experts confirm the administration of sedative medication. The answers come up very often and often (Q1, Q3, Q4, Q5). The medication is ordered by the doctor and medication is monitored and documented.

Results Austria: In Austria sedative medications are rarely or never used in long-term care facilities. The focus is on alleviating or improving symptoms, not sedating. This is always done in consultation with a neurologist or psychologist. One expert states that it is only used in acute cases when there is a danger to self or others.

Name of the category	Sub-category	Definition	Examples of the use of the category	n (Finland)	n (Austria)
Government guides	Austria	This category collects all content on the topic of government guidance documents and previously published concepts.	*Q1: „Es wird geschätzt, dass nur wenige Pflegekräfte und Mitarbeiter an vorderster Front diese Grundsätze und Ziele kennen. Sie werden sehr wenig angewendet.“ Translation: „It is appreciated that few nurses and frontline staff are aware of these principles and goals. They are applied very little.“* *E5: „Ich kenne ihn, weil ich generell zum Thema Demenz einfach viel recherchiere, viel lese. Hilfreich finde ich ihn nicht, weil diejenigen die ihn geschrieben haben, haben einfach noch nie in einem Pflegeheim gearbeitet und ich würde Sie gerne einladen, einmal zu uns zu kommen.“ (Interview E5, paragraph 38) Translation: “I know him because I just generally research a lot on the subject of dementia, read a lot. I don't find it helpful because those who wrote it have simply never worked in a nursing home and I would like to invite you to come and visit us.”*	Q1: not known Q2-Q5: known	E1, E2, E5: known E3, E4: not known
	Finland				

Table 13: Category “government guides”.

Results Finland: Four out of five experts in Finland know the guide: The principles of the guide are the most important (Q2), the principles are known (Q4), the principles are known and tried to be implemented (Q5). One expert is of the opinion that only a few employees know the guide and that it is not used in practice (Q1).

Results Austria: In Austria, two out of five experts do not know the guide. There is no institution that works in accordance with it, and two experts are of the opinion that it is not applicable in practice in the same form. There are too few resources available for this.

Name of the category	Definition	Examples of the use of the category	n (Finland)	n (Austria)
Conflict management	This category collects all measures, concepts and contents on the topic of dealing with conflicts and conflict management.	*Q1: „Die Dinge werden in den Kaffee- oder Mittagspausen der Krankenschwestern und manchmal bei Stationsbesprechungen besprochen. Es gibt keine Methode des Konfliktmanagements.“ Translation: „Things are discussed during nurses' coffee or lunch breaks and sometimes at ward meetings. There is no method of conflict management.“* *E2: „Unsere Mitarbeiter lernen alle täglich, Konflikte zu bewältigen. Wir haben ganz eine hohe Fehlerkorrektur im Haus.“ (Interview E2, paragraph 59) Translation: „Our employees all learn to manage conflict on a daily basis. We have quite a high error correction in house.“*	Q1: no Q2-5: yes	E1-E5

Table 14: Category “conflict management”.

Results Finland: The results in Finland are very different. It is stated that conflicts are discussed at ward meetings and in daily reports. Furthermore, conflicts are solved through discussion. There is the possibility of an individual meeting if neededas well as the possibility of consulting a counsellor or contacting the professional health care.

Results Austria: In Austria, the following procedures are mentioned in relation to conflict management: There are morning service meetings, case supervisions, (case examples in the) case discussions, regular supervisions and regular reflections. Conflict management is also worked through in case meetings. There is also the offer of a "Dementia" exchange forum. This monthly meeting gives the staff the opportunity to exchange ideas with each other, the time is counted as working time and the content is supported by the competence management. Challenging behavior can be discussed in the team at any time, and a solution is sought together. There is an open error culture in the team and solution-oriented action is taken. Staff can also turn to the psychological service to address conflicts.

5 Discussion

In this chapter, the results of the expert interviews and the questionnaires are related to the research questions. Then, they are compared with the current state of research. Furthermore, limitations of the study and outlook for the future are discussed and analyzed. The categories "care measures for people with dementia" and "handling of challenging behavior" are used to answer the following research question: “Which care or nursing measures can be taken to reduce or avoid challenging and aggressive behavior by people with dementia in long-term care facilities?" The categories "experiences in implementing" and the sub-category "application concepts" answer the first sub-question: “Which experiences in the implementation and which application concepts are described by professionals in long-term care facilities?” The second sub-question is answered using all the categories: "Focus Austria and Finland: Is a comparison between Austria and Finland possible, and if so, what are the differences?" Then the results are interpreted.

5.1 Summary of results

Research question: “Which care or nursing measures can be taken to reduce or avoid challenging and aggressive behavior by people with dementia in long-term care facilities?"

The results of the categories "care measures for people with dementia" and "dealing with challenging behavior" show that a variety of different measures, strategies, methods and (care) concepts can be taken to reduce and prevent challenging and aggressive behavior of people with dementia in long-term care facilities. The results show that many different measures and concepts are used in the facilities. Different care concepts are adapted for the respective institution and, if necessary, combined with other approaches and methods. The most frequent mentions were the person-centered approach according to Tom Kitwood, validation (according to Naomi Feil), biography work, self-awareness (the attitude of the staff), self-reflection, de-escalation and case discussions. Four out of five experts from Austria stated that in their respective institutions already existing concepts and measures were adapted to their institution. In Finland, three experts stated that there are no special measures or concepts for people with dementia in their institutions. The results in Austria also show that other factors are important in dealing with challenging behavior. On the one hand, structural and organisational measures, such as concepts and measures for the distribution and separation of people with dementia, and on the other hand, newly developed application concepts. Two of these application concepts were newly developed for the respective institution but they have not yet been given a name and have not yet been published as such.

In summary, it can be said that a variety of different measures, strategies, methods and (care) concepts are used in the institutions and that attempts are being made to develop a uniform concept for people with dementia.

Sub-question 1: “Which experiences in the implementation and which application concepts are described by professionals in long-term care facilities?”

As was already evident from the results of the previous research question, three Finnish experts state that they do not have an application concept, and two of the experts state that they use validation, speech therapy and joint interactions with other residents, such as music and creative activities. The Austrian experts state that they use and apply Karla Kämmer's lifeworld concept, Tom Kitwood's person-centered approach concept and the other two newly developed concepts specific for their respective institutions. The results show that application concepts for people with dementia and challenging behavior basically have a positive effect, as the concepts facilitate the cooperation with people with dementia,thus avoiding conflicts. Nevertheless, in practice, both in Austria and in Finland, there is a lack of a unified concept for people with dementia, which could also be written down and adopted in other long-term care facilities. As conducive aspects for the implementation of the concepts in practice, appropriate education and training, sufficient time for the care of people with dementia, the relief of the staff and the resulting low staff turnover, the cooperation of the staff in the implementation of the concept and the networking with other facilities were mentioned. Obstacles to the implementation of concepts were mentioned as lack of time, lack of qualified training, insufficient staffing ratio, lack of political support, lack of funding, lack of sufficient care places in long-term care facilities, criticism of the newly developed concept, restructuring of the facility to the concept, already existing team structures and existing rigid structures and systems of the state.

Sub-question 2: “Focus Austria and Finland: Is a comparison between Austria and Finland possible, and if so, what are the differences?”

The results show that a comparison of the two countries is rather difficult. Primarily, it should be noted that the focus in Finland is not on long-term care facilities in the care of people with dementia but on ensuring that people can be cared for at home for as long as possible (Finnish Ministry of Social Affairs and Health, 2013, pp. 13-14).

Finland further emphasises early diagnosis and early initiation of drug treatment with the administration of Alzheimer's medications for people with dementia. This is intended to increase the length of people staying at home, while strengthening home care with the aim of focusing on home care rather than traditional institutional care (Suhonen et al., 2008, p. 21). Accordingly, care in this area is not yet comparable to Austria. In principle, the majority of people in need of care in Austria are also not cared for in inpatient facilities, but in outpatient care. According to Höfler et al. (2015), 80 percent of people in need of care live in their private environment and about 15 to 20 percent live in a fully inpatient facility (Höfler et al., 2015, p. 56). Nevertheless, according to Höfler et al. (2015, pp.80-81) 63.5 per cent of all persons admitted to nursing homes suffer from dementia. In Austria, however, there are currently no up-to-date surveys on how many people with dementia live in which forms of care in Austria (Höfler et al., 2015, p. 107). The results of this study show that the use of sedating drugs is described more often in Finland than in Austria. All Austrian experts stated that sedating medication is rarely or never used in long-term care facilities. The focus is on alleviating or improving symptoms, not sedation. Another difference is also evident in the use of concepts and measures for people with dementia. In Finland individual interventions of possible (care) concepts, measures, strategies and methods that can be used for people with dementia and challenging behavior with a focus on aggression in long-term care facilities are still rather rarely used. Three out of five Finnish experts state that they neither have nor apply any in their institutions.

5.2 Discussion of the results in relation to the literature

Sub-question 3: “Which (care) concepts, measures, strategies and methods are described in international literature with a focus on people with dementia and challenging behavior in long-term care facilities?”

On the topic of "People with dementia and challenging behavior with a focus on aggression in long-term care facilities" there are studies on individual interventions, care concepts, strategies and methods. These studies concludes that de-escalation is one of the most important methods for dealing with challenging behavior. This is also the conclusion of the studies by Pulsford et al. (2011) and Spencer et al. (2018) which describe the methods of de-escalation and distraction.

The person-centered approach is another typical intervention for people with dementia and challenging behavior and is confirmed in the studies by Gillis et al. (2019) and Harrison et al. (2019).

In the study by Isaac et al. (2021), the intervention consists of a person-centered care plan with tailored activities and the creation of a low-stress, person-centered environment for listening to music. The study by Duxbury et al. (2013) shows that staff in the participating facilities took a person-centered approach to anger management. These findings are also consistent with the findings of the present paper.

The study by Opie et al. (2002) examined the use of multidisciplinary interventions, that is psychosocial strategies, nursing interventions, psychotropic medication and pain management. The interventions were delivered by a team consisting of a psychiatrist, a psychologist and nurses. The results suggest that individualised, multidisciplinary interventions can reduce the frequency and severity of challenging behaviors in people with dementia (Opie et al., 2002). These findings are in line with the approach of the present paper to develop a specific and holistic concept for people with dementia for long-term care facilities. The study by Zwijsen et al. (2014) also recommends a multidisciplinary approach to care for people with dementia and challenging behavior. In this study, the high staff shortage is mentioned as an impeding factor in the implementation of concepts, and volunteers and community service workers are mentioned as a solution. This approach of using volunteers and/or family members to provide personalised activities specifically for nursing home residents with dementia and agitated behavior is confirmed in the study by Van der Ploeg et al. (2014). The studies by Möhler et al. (2018) and Möhler et al. (2020) also recommend personalised activities to improve challenging behavior in people with dementia.

Another important aspect is highly qualified and specially adapted staff training. This is also the conclusion of the study by Hazelhof et al. (2016), which recommends special training for staff or the recruitment of more highly qualified care staff. The study by Ostaszkiewicz et al. (2015) shows that not only specially trained staff are important, but that structural and organisational measures must also be taken to support staff in delivering high-quality care. This includes creating a culture where staff and people with dementia feel equally safe and valued (Ostaszkiewicz et al., 2015). Specific staff training on behavior management (Hazelhof et al., 2016; O'Donnell et al., 2022), training on managing challenging behavior (McCabe et al., 2015; Pieper et al., 2016) and the recruitment of more highly qualified care staff (Hazelhof et al., 2016; Harrison et al., 2019) are not only further measures described in the international literature but are also described by the experts in this study as one of the most important prerequisites.

Music therapy is cited as a single intervention for challenging behavior in people with dementia in this study, which is frequently endorsed in literature (Chang et al., 2010; Lin et al., 2011; McDermott et al. 2013; Ridder et al. 2013; Whear et al., 2014; Langhammer et al., 2019; McCreedy et al., 2019; McCreedy et al., 2021; Amano et al., 2022).

A conceptualisation of interventions on people with dementia and challenging behavior with a focus on aggression in long-term care settings could not be found in international literature. This is also the conclusion of the results report from Austria from 2016 (Pertl et al., 2016, pp. 6-8). In this study, two institutions were identified that have independently developed concepts of measures and have already implemented them in their respective institutions.

The hypotheses of this study that many people with dementia show challenging or aggressive behavior towards carers and that different (care) measures, concepts, strategies and methods can be taken to reduce or avoid challenging and aggressive behavior of people with dementia in long-term care facilities, are clearly confirmed in the results. People with dementia show less aggressive behavior when they are cared for with special (care) measures for people with dementia. An even better result could be achieved if a conceptualisation of the measures for application for institutions with people with dementia were created and made available.

5.3 Limitations of the study

The aim of this study was to collect and describe possible (care) concepts, measures, strategies and methods that are used for people with dementia and challenging behavior with a focus on aggression in long-term care facilities. Subsequently, an international comparison of (care) concepts, measures, strategies and methods in long-term care facilities, especially between Austria and Finland, was to be carried out.

A limitation of the present paper results from the limited systematic literature search in the databases PSYNDEX, MEDLINE, CINHAL and Pubmed, as this took place in a defined period of time, and the databases were chosen by the author herself. Therefore, further and more informative literature on this topic may not have been reviewed and thus not included in the work. In some studies, the sample sizes were also too small to be able to deliver meaningful results. Apart from these, comparisons between articles were difficult to make because different designs and populations in different settings were used.

In the empirical part of the present paper, on the one hand, there are weaknesses in the sample, in the data collection and in the data analysis. The sample is limited to five experts from each country and the selection of experts was made by the author and the supervisors. In addition, the data was collected in a mixed way. The Austrian data was obtained by means of expert interviews, while the Finnish experts were only willing to answer the guiding questionnaire in writing. Due to the existing language barrier and repeated translations, information might have been lost. It should also be noted that the second question of the interview guide in Finland was supplemented with examples in the translation, which could have influenced the answers. In the case of the Austrian experts, one interview was not conducted at the level of the care staff but with a person from the management level which could possibly have brought in a different perspective. The evaluation of the data turned out to be very difficult due to the different survey types in order to be able to make a comparison between the two countries. This could have also led to bias and distortion of the results. Another weakness of the thesis is the coding of the interviews, as these were only conducted by the author. If several people coded the category definitions, they would be more precise resulting in a more reliable assignment. Nevertheless, the results of this paper can be recommended, as the results are confirmed in individual studies in international literature.

5.4 Outlook

In addressing the topic, some questions have arisen that would allow for further research. This thesis shows individual interventions of possible (care) concepts, measures, strategies and methods that can be used for people with dementia and challenging behavior with a focus on aggression in long-term care facilities. However, in order to be able to draw conclusions about the effectiveness of the measures listed, a standardisation of the interventions (for example through a guideline, training) and the use of standardised, validated and if possible uniform measuring instruments are necessary in any case. Also, no statements can be made regarding the interventions or measures as to how often they should take place. This would require randomized controlled studies with longer follow-up measurements on study populations that are as large as possible.

In summary, the topic of people with dementia is continuously increasing and care for them will become more and more important. For this purpose, it would be of great importance to develop a coordinated application concept with guidelines that include the needs of all persons involved (nurses, physicians, all health care professions, relatives and also the people with dementia).

Recommendations for practice would be to optimise the rigid structures in long-term care facilities, to focus care on people with dementia, to compile guidelines for dealing with people with dementia, to create or write down functioning application concepts and intensive cooperation among the health care professions in combination with the relatives.

This thesis shows the necessity that some rigid structures in long-term care facilities should be revised in order to enable future generations to age gracefully with dementia, with the best possible care.

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Appendices

Appendix 1. Informed Consent German Version

Einwilligungserklärung
zur Erhebung und Verarbeitung personenbezogener Daten
für eine Masterarbeit

A. Gegenstand des Forschungsprojekts und Grundlage der Einwilligungserklärung

1. Beschreibung des Forschungsprojekts

Grundlage dieser Einwilligungserklärung ist die Erstellung einer Masterarbeit zum Thema "People with dementia and challenging behavior with a focus on aggression in long-term care facilities" durch Bernadette Pratl im Rahmen des Studiums Gesundheitsmanagement an der Fachhochschule Kärnten — gemeinnützige Privatstiftung.

2. Studierende*r und Datenschutzverantwortliche*r

Bernadette Pratl

bernadetteelisabeth.pratl@edu.fh-kaernten.ac.at

3. Interviewdatum/Erhebungszeitraum

April bis Mai 2022

4. Art der personenbezogenen Daten des*der Studienteilnehmer*in

X Tonaufnahmen (Originalaufnahmen und Transkript)

○ Bildaufnahmen (zur Dokumentation)
○ Besondere Kategorien personenbezogener Daten:
○ Sonstiges:

B. Einwilligungserklärung und Information über die Erhebung personenbezogener Daten

1. Einwilligungserklärung

Hiermit erkläre ich mich einverstanden, dass die im Rahmen des unter A. beschriebenen Forschungsprojekts erhobenen personenbezogenen Daten meiner Person von Bernadette Pratl verarbeitet werden dürfen.

Meine Einwilligung ist freiwillig. Ich konnte sie ablehnen, ohne dass mir dadurch irgendwelche Nachteile entstehen.

Meine Einwilligung kann ich gegenüber Bernadette Pratl jederzeit widerrufen. Dies berührt jedoch nicht die Rechtmäßigkeit der aufgrund der Einwilligung bis zum Widerruf erfolgten Verarbeitung.

Die relevanten Definitionen der verwendeten datenschutzrechtlichen Begriffe, die in der Anlage enthalten sind, habe ich verstanden.

2. Zweck und Art der Datenverarbeitung

Ziel ist es, mögliche Maßnahmen, die in österreichischen und finnischen Langzeitpflegeeinrichtungen praktiziert werden zu erfassen und zu evaluieren, um ein Konzept für den Umgang mit aggressivem Verhalten bei Menschen mit Demenz zu entwickeln (Maßnahmenkatalog oder Praxisanleitung/SOP).

Zu diesem Zweck werden Interviews mit einem Aufnahmegerät aufgezeichnet und sodann von Bernadette Pratl in Schriftform gebracht. Für die weitere wissenschaftliche Auswertung der Interviewtexte werden alle Angaben, die zu einer Identifizierung meiner Person führen könnten, verändert oder aus dem Text entfernt. In wissenschaftlichen Veröffentlichungen werden Interviews nur in Ausschnitten zitiert und ausschließlich anonymisierte bzw. pseudonymisierte Daten verwendet. So ist gegenüber Dritten sichergestellt, dass meine Angaben im Interview nicht zu einer Identifizierung meiner Person führen können.

Meine personenbezogenen Kontaktdaten werden von Interviewdaten getrennt und für Dritte unzugänglich gespeichert.

Nach Beendigung des Forschungsprojekts werden meine Kontaktdaten gelöscht.

Eine Verarbeitung meiner personenbezogenen Daten zum Zweck einer automatisierten Entscheidungsfindung (einschließlich Profiling) gem. Art. 22 Abs. 1 und Abs. 4 DSGVO findet nicht statt.

3. Rechtsgrundlage

Bernadette Pratl verarbeitet die von mir erhobenen personenbezogenen Daten auf Basis dieser Einwilligung gemäß Art. 6 Abs. 1 lit a DSGVO. Sofern besondere Kategorien personenbezogener Daten betroffen sind, werden die erhobenen personenbezogenen Daten auf Basis dieser Einwilligung gemäß Art. 9 Abs. 2 lit a DSGVO erhoben.

4. Empfänger*innen oder Kategorien von Empfänger*innen

Meine personenbezogenen Daten werden

X an niemanden weitergegeben

○ an folgende Empfänger*innen oder Kategorien von Empfänger*innen werden meine personenbezogenen Daten übermittelt bzw. können übermittelt werden:

5. Verarbeitung und Dauer der Speicherung meiner personenbezogenen Daten

Die erhobenen personenbezogenen Daten werden ab Veröffentlichung der Masterarbeit nach Punkt 1 zum Nachweis der Einhaltung guter wissenschaftlicher Praxis mindestens 10 Jahre, maximal jedoch 30 Jahre zur Geltendmachung, Ausübung und Verteidigung von Rechtsansprüchen von Bernadette Pratl aufbewahrt.

6. Meine Rechte

Ich habe hinsichtlich meiner personenbezogenen Daten im Rahmen des gesetzlich vorgesehenen Umfangs ein Recht auf Auskunft, auf Berichtigung, auf Löschung, auf Einschränkung der Verarbeitung sowie auf Widerspruch gegen die Verarbeitung.

Gegen rechtswidrige Datenverarbeitungen habe ich das Recht auf Beschwerde, welche bei der Österreichischen Datenschutzbehörde, Barichgasse 40-42, 1030 Wien, Telefon: +43 1 52 152-0, E-Mail: dsb@dsb.gv.at als zuständige Aufsichtsbehörde einzubringen ist.

_____ _____

Ort, Datum Unterschrift

_____

Name in Druckschrift

Anlage

Begriffsbestimmungen

- **„Personenbezogene Daten"** sind gemäß Art. 4 Z 1 DSGVO alle Informationen, die sich auf eine identifizierte oder identifizierbare natürliche Person (im Folgenden „betroffene Person") beziehen. Identifizierbar ist eine natürliche Person, wenn sie direkt oder indirekt, insbesondere durch Zuordnung einer Kennung wie einem Namen, einer Kennnummer, zu Standortdaten, zu einer Online-Kennung oder zu einem oder mehreren besonderen Merkmalen identifiziert werden kann, die Ausdruck der physischen, physiologischen, genetischen, psychischen, wirtschaftlichen, kulturellen oder sozialen Identität dieser natürlichen Person sind.
  Die kann z.B. die Angabe sein, wo eine Person versichert ist, wohnt oder wie viel sie verdient. Auf die Nennung des Namens kommt es dabei nicht an. Es genügt, dass man herausfinden kann, um welche Person es sich handelt.

- **„Besondere Kategorien"** personenbezogener Daten sind gemäß Art. 9 Abs. 1 DSGVO Daten, aus denen die rassische und ethnische Herkunft, politische Meinungen, religiöse oder weltanschauliche Überzeugungen oder die Gewerkschaftszugehörigkeit hervorgehen, sowie die Verarbeitung von genetischen Daten, biometrischen Daten zur eindeutigen Identifizierung einer natürlichen Person, Gesundheitsdaten oder Daten zum Sexualleben oder der sexuellen Orientierung eine natürlichen Person.

- **„Gesundheitsdaten"** sind gemäß Art. 4 Z 15 DSGVO personenbezogene Daten, die sich auf die körperliche oder geistige Gesundheit einer natürlichen Person, einschließlich der Erbringung von Gesundheitsdienstleistungen, beziehen und aus denen Informationen über den Gesundheitszustand hervorgehen.

- **„Verarbeitung"** ist gemäß Art. 4 Z 2 DSGVO jeder mit oder ohne Hilfe automatisierter Verfahren ausgeführte Vorgang oder jede solche Vorgangsreihe im Zusammenhang mit personenbezogenen Daten wie das Erheben, das Erfassen, die Organisation, das Ordnen, die Speicherung, die Anpassung oder Veränderung, das Auslesen, das Abfragen, die Verwendung, die Offenlegung durch Übermittlung, Verbreitung oder eine andere Form der Bereitstellung, den Abgleich oder die Verknüpfung, die Einschränkung, das Löschen oder die Vernichtung.

- **„Einwilligung"** der betroffenen Person ist jede freiwillig für den bestimmten Fall, in informierter Weise und unmissverständlich abgegebene Willensbekundung in Form einer Erklärung oder einer sonstigen eindeutigen bestätigenden Handlung, mit der die betroffene Person zu verstehen gibt, dass sie mit der Verarbeitung der sie betreffenden personenbezogenen Daten einverstanden ist.

- **„Anonymisierung"** ist die Verarbeitung, der personenbezogene Daten oder personenbeziehbare Daten entfernt, ersetzt oder aggregiert, sodass Daten nicht mehr oder nur mit unverhältnismäßig großem Aufwand bestimmten Personen zugeordnet werden können.

- **„Pseudonymisierung"** ist die Verarbeitung personenbezogener Daten in einer Weise, dass die personenbezogenen Daten ohne Hinzuziehung zusätzlicher Informationen nicht mehr einer spezifischen betroffenen Person zugeordnet werden können, sofern diese zusätzlichen Informationen gesondert aufbewahrt werden und technischen und organisatorischen Maßnahmen unterliegen, die gewährleisten, dass die personenbezogenen Daten nicht einer identifizierten oder identifizierbaren natürlichen Person zugewiesen werden.

Appendix 2. Questionnaire in German

Interviewleitfragen:

1) Wie bedeutsam ist das Thema „Betreuung von Menschen mit Demenz“ in Ihrem Arbeitsalltag im Pflegeheim? *(Anmerkung für mich bzw. vielleicht auch für Finnland: Institutionelle Sichtweise/ aus der Sicht der Heimleitung; Zu welchem Prozentsatz sind die Bewohner*innen betroffen?)*

2) Welche(s) Pflege-Betreuungs- oder Therapie-Konzept wenden Sie und Ihr Team bei Menschen mit Demenz in Ihrem Pflegeheim an?

3) Welche Erfahrungen in der Umsetzung dieser Konzepte konnten Sie bisher sammeln?

4) Was sind förderliche und hinderliche Faktoren in der Umsetzung dieser Konzepte in der Praxis?

5) Wie würden Sie den Umgang mit Menschen mit Demenz speziell bei herausforderndem Verhalten (Verhalten aufgrund unerfüllter Bedürfnisse/ „unmet needs behavior“) in Ihrer Einrichtung beschreiben?

a) Wie gestaltet sich dadurch der Arbeitsalltag für die Mitarbeitenden?

b) Vor welchen Herausforderungen steht die Institution gesamt?

6) Welche (Pflege)Maßnahmen/Strategien/Methoden wenden Sie in der Praxis an, um herausforderndes und aggressives Verhalten von Menschen mit Demenz zu reduzieren oder zu vermeiden?

a) Inwieweit wenden Sie und Ihr Team das Gespräch bei Menschen mit Demenz als eine effektive Maßnahme in Ihrem Pflegeheim an, um Aggression zu bewältigen? (Ryser et al., 2015, S.165).

b) Inwieweit werden in Ihrem Team körperliche Zwangsmaßnahmen eingesetzt, wenn Menschen mit Demenz aggressives oder gewalttätiges Verhalten zeigen? Wenn ja, welche und wie oft? (Ryser et al., 2015, S.165).

c) Inwieweit werden in Ihrem Team sedierende Medikamente eingesetzt, wenn Menschen mit Demenz aggressives oder gewalttätiges Verhalten zeigen? Wenn ja, in welchen Situationen und wie oft? (Ryser et al., 2015, S.165).

7) Es gibt in Österreich einen Leitfaden aus dem Jahr 2020 des Bundesministeriums für Soziales, Gesundheit, Pflege und Konsumentenschutz: „Demenzkompetenz im Pflegeheim - Eine Orientierungshilfe für Führungskräfte“? in welchem verschiedene Strategien unter folgenden sieben Kategorien näher ausgeführt sind: Care – Individualisierte Betreuung und Versorgung; Ausreichendes und adäquat geschultes Personal; Partnerschaftlichkeit; Umfassendes multiprofessionelles Assessment; Demenzgerechte Umgebungsgestaltung und Ausstattung; Steuerungsmechanismus „Dementia Governance“ und Erarbeitungsprozess.

Inwieweit sind Ihnen diese Konzepte bekannt bzw. werden in Ihrer Einrichtung angewendet?

Alternativ Finnland:

Es gibt in Finnland ein Rahmenprogramm für die Jahre 2012-2020: „National Memory Programme 2012-2020 - CREATING A ”MEMORY- FRIENDLY” FINLAND” in welchem Demenzstrategien, welche das Ziel haben folgende vier Säulen zu schaffen, näher ausgeführt sind:

1. Förderung der Gesundheit des Gehirns

2. Förderung einer offeneren Haltung gegenüber der Gesundheit des Gehirns, der Behandlung von Demenzerkrankungen und Rehabilitation

3. Gewährleistung einer guten Lebensqualität für Menschen mit leichter, mittelschwerer oder schwerer Demenz und ihre Familien durch rechtzeitige Unterstützung, Behandlung, Rehabilitation und Dienstleistungen

4. Steigerung von Forschung und Bildung

Inwieweit sind Ihnen diese Grundlagen und Ziele bekannt bzw. werden in Ihrer Einrichtung angewendet?

8) Wie gehen Sie mit Konflikten im Team, mit Konflikten mit Bewohner*innen um und gibt es ein Konfliktmanagement?

9) Gibt es noch etwas, dass Sie zu diesem Thema erwähnen möchten, ist etwas für Sie Bedeutsames bisher offengeblieben?

Literatur:

Finnish Ministry of Social Affairs and Health (2013). National Memory Programme 2012-2020. Creating a "memory-friendly" Finland. Helsinki: Finnish Ministry of Social Affairs and Health.

Rappold, E. & Pfabigan, D. (2020). Demenzkompetenz im Pflegeheim. Eine Orientierungshilfe für Führungskräfte. Wien: Gesundheit Österreich GmbH.

Ryser, A. E., Duxbury, J. & Hahn, S. (2015). Inhaltsvalidierung des Fragebogens «The Management of Aggression in People with Dementia Attitude Questionnaire German Version» (MAPDAQ-G). *Pflege*, 28(3), 157 – 168. DOI 10.1024/1012-5302/a000423

Appendix 3. Questionnaire in English

Questionnaire survey on the topic “People with dementia and challenging behavior with a focus on aggression in long-term care facilities”

Dear colleagues, dear participants,

My name is Bernadette Pratl. I study Health Management at CUAS, and I am currently writing my master’s thesis on the topic “People with dementia and challenging behavior with a focus on aggression in long-term care facilities”. In this context I am inviting dementia care experts to participate in my research project. I would be very pleased if you took the time to be part of this research by completing the attached questionnaire. Challenging and aggressive behavior by people with dementia poses a major challenge to carers, as special care is required for people with dementia. The aim is to record and evaluate possible measures which are practiced in Austrian and Finnish long-term care facilities in order to develop a concept for dealing with aggressive behavior in people with dementia (catalog of measures or practical instructions/SOP). This questionnaire includes only open-ended questions. It will take approximately 30 minutes to complete. It is important for the success of my study that you complete the questionnaire survey in its entirety and do not omit any of the questions.

A brief information about data protection:

In accordance with the EU General Data Protection Regulation (GDPR), the data you provide will only be processed anonymously and used for publication in my scientific work.

Your participation is voluntary and anonymous.

If you have any questions about the survey or data protection, please do not hesitate to contact me.

Thank you for taking your time in assisting me with this research. Under no circumstances are you obliged to answer any of the questions, however, doing so will greatly assist me in completing my research and enhancing the understanding of this research focus. The data collected will remain confidential and used solely for academic purposes.

Sincerely,

Bernadette Pratl

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Carinthia University of Applied Sciences and Jyväskylä University of Applied Sciences

School of Health Sciences and Social Work - Health Management

Supervisors:

Supervisor Finland: Ms Irmeli Matilainen

Supervisor Austria: Ms Hagendorfer-Jauk

Questionnaire:

1. How significant is the topic of "caring for people with dementia" in your everyday work at the nursing home? (Institutional perspective/perspective of the home's management; what is the percentage of residents affected?)

2. Which nursing care or therapy concept(s) do you and your team apply to people with dementia in your nursing home?

3. What experiences have you gained in implementing these concepts?

4. What are facilitating and hindering factors in the implementation of these concepts in practice?

5. How would you describe the handling of people with dementia, specifically regarding challenging behavior (unmet needs behavior), in your facility?

a. How does this affect employees' day-to-day work?

b. What challenges does the institution have as a whole?

6. Which (care) measures/strategies/methods do you use in practice to reduce or avoid challenging and aggressive behavior of people with dementia?

a. To what extent do you and your team use conversation with people with dementia as an effective measure to manage aggression in your nursing home? (Ryser et al., 2015, p.165).

b. To what extent are physical restraints used by your team when people with dementia show aggressive or violent behavior? If they are used, which ones and how often? (Ryser et al., 2015, p.165).

c. To what extent does your team use sedating medications when people with dementia show aggressive or violent behavior? If they are used, in which situations and how often? (Ryser et al., 2015, p.165).

7. There is a framework program in Finland for the years 2012-2020: "National Memory Programme 2012-2020 - CREATING A "MEMORY- FRIENDLY" FINLAND" in which dementia strategies, which aim to create the following four pillars, are detailed:

1. Promoting brain health

2. Fostering a more open attitude towards brain health, treatment of dementing disease and rehabilitation

3. Ensuring a good quality of life for people with mild, moderate or severe dementia and their families through timely support, treatment, rehabilitation and services

4. Increasing research and education.

To what extent are you aware of these principles and goals? Are they applied at your facility?

8. How do you deal with conflicts in the team, with conflicts with the residents, and do you use some form of conflict management?

9. Is there anything else you would like to mention on this topic? Is there anything important to you that has remained unresolved so far?

References

Finnish Ministry of Social Affairs and Health (2013). National Memory Programme 2012-2020. Creating a "memory-friendly" Finland. Helsinki: Finnish Ministry of Social Affairs and Health.

Ryser, A. E., Duxbury, J. & Hahn, S. (2015). Inhaltsvalidierung des Fragebogens «The Management of Aggression in People with Dementia Attitude Questionnaire German Version» (MAPDAQ-G). *Pflege*, 28(3), 157 – 168. DOI 10.1024/1012-5302/a000423

Appendix 4. Literature search strategy

Databases: PSYNDEX, MEDLINE, and CINHAL via EBSCOhost

Time period: January 2021 until April 2022

Search ID	Search Terms	Limitations	Results
S0	dementia OR alzheimer AND aggressive behavior OR violent behavior OR challenging behavior OR aggression AND long-term care facilities OR nursing home OR long time care	Published date: 20120101-20220431; references available; abstract available; human; apply related words; find all my search terms	55
S1	S0 AND care measures OR care strategies OR care methods OR management	S0	37
S2	S0 measures OR strategies OR methods OR management	S0	43
S3	S0 AND nursing measures OR nursing strategies OR nursing methods OR nursing management	S0	40
S4	S0 AND care concepts OR nursing concepts OR basic concepts	S0	2
S5	S0 AND concepts	S0	2
S6	S0 AND needs OR unmet needs behavior	S0	19

Database: PubMed

Time period: January 2021 until April 2022

Search ID	Search Terms	Limitations	Results
#1	Dementia OR alzheimer AND aggressive behavior OR violent behavior OR challenging behavior OR aggression AND long-term care facilities OR nursing home OR long time care		1,243
#8	Dementia OR alzheimer AND aggressive behavior OR violent behavior OR challenging behavior OR aggression AND long-term care facilities OR nursing home OR long time care	Abstract, Clinical Trial, Meta-Analysis, Randomized Controlled Trial, Review, Systematic Review, from 2012/1/1 - 2022/4/30	173
#9	Dementia OR alzheimer AND aggressive behavior OR violent behavior OR challenging behavior OR aggression AND long-term care facilities OR nursing home OR long time care	Abstract, Full text, Clinical Trial, Meta-Analysis, Randomized Controlled Trial, Review, Systematic Review, from 2012/1/1 - 2022/4/30	170
#10	Dementia OR alzheimer AND aggressive behavior OR violent behavior OR challenging behavior OR aggression AND long-term care facilities OR nursing home OR long time care AND care measures OR care strategies OR care methods OR management	Abstract, Full text, Clinical Trial, Meta-Analysis, Randomized Controlled Trial, Review, Systematic Review, from 2012/1/1 - 2022/4/30	146
#11	#10	#10 + Humans	131
#12	#11	#11 + Exclude preprints	131
#14	#11	#11 + from 2012/1/1 - 2023/3/1	131
#15	Dementia OR alzheimer AND aggressive behavior OR violent behavior OR challenging behavior OR aggression AND long-term care facilities OR nursing home OR long time care AND care concepts OR nursing concepts OR basic concepts	Abstract, Full text, Clinical Trial, Meta-Analysis, Randomized Controlled Trial, Review, Systematic Review, Humans, Exclude preprints, from 2012/1/1 - 2022/4/30.	7