Person-Centered Care and Residents' Mealtime Experience in Long-term Care Homes: A Review of the Literature

by

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Abstract

Older people residing in long-term care facilities are at risk of malnutrition due to inadequate consumption of energy, macronutrients, and micronutrients necessary for maintaining their overall health and functionality. Numerous factors have been theorized to make an impact on food consumption. To ensure residents' medical, nutritional, and psychosocial mealtime needs are fulfilled, the mealtime experience in long-term care homes (LTCs) should be comprehensive and informed by the principles of person-centered care (PCC). Although there has been a move towards implementing person-centered approaches in long-term care homes, the practicality and connection of the notion of "personhood" in routine activities, such as residents' dining experiences remain uncertain. This capstone project reviews and synthesizes current literature on mealtime experience of residents living in LTCs with a focus on person-centered care. A literature review was conducted using databases such as Ageline, PsychINFO, Google Scholar, Cochrane, PubMed and the Simon Fraser University library catalogue. A total of 38 articles that addressed the research questions were identified and incorporated in this review. Based on the existing empirical evidence, it can be inferred that mealtimes hold a crucial role in not only providing essential nutrition, but also serve a critical opportunity for social interaction and emotional bonding for residents with staff and other residents. Several social, physical environmental and organizational factors influence implementation of person- centered care practices that honor the dignity and choice of residents, and strengthen resident and care staff relations. The findings of this review inform care providers of long-term care by identifying issues and strategies to mitigate malnutrition in care homes and implement person-centered mealtime care practices, and ultimately, improve residents' quality of life.

Keywords: dining; mealtime; long-term care; residential care; nursing home; person-centered care

Dedication

To my mom and my husband ~ without their support this journey would not have been possible.

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Lastly, I want to express my appreciation to all the people living with dementia, aging in place or in institutional care, for your perseverance and strong will to overcome the adversity and social stigma attached to the disease. It is my sincere hope and wish to contribute to the 'change' we all want to see.

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List of Acronyms

ADLs	Activities of Daily Living
ARRC	The Action for Reform of Residential Care
CI	Cognitive Impairment
CNAs	Certified Nursing Assistants
FAMM	Five Aspects Meal Model
HSO	Health Standards Organization
IADLs	Instrumental Activities of Daily Living
IES	Illuminating Engineering Society
LTC	Long-term Care
PCC	Person-centered Care
PLWD	Person Living with Dementia
QoL	Quality of Life

Chapter 1.　Introduction

1.1.　Background

Long-term care (LTC) generally involves the provision of ongoing assistance to individuals who are no longer able to independently meet their own care needs. Long-term care encompasses both healthcare services, such as nursing and medical care, and social services, including income-supported housing, assistance with activities of daily living, and the provision of recreational and social programs (Vladeck, 2003). Long-term care in Canada is commonly defined as representing:

"a range of services that addresses the health, social and personal care needs of individuals who, for one reason or another, have never developed or have lost some capacity for self-care. Services may be continuous or intermittent, but it is generally presumed that they will be delivered for the "long-term" that is, indefinitely to individuals who have demonstrated need, usually by some index of functional incapacity" (Havens, 2002).

The average long-term care resident commonly exhibits cognitive impairment, experiences challenges in independent mobility, faces problems related to incontinence, suffer from persistent medical conditions (often multiple), and may have experienced the loss of a spouse or partner. LTC provides three or more prescribed services which may include:

- Regular assistance with daily activities (e.g., mobility, eating, dressing, grooming, bathing and personal hygiene)

- Monitoring of food intake or therapeutic diets.

- Administering and monitoring of medication

- Distribution of medications.

- Maintenance or management of residents' cash and valuables.

- Structured behavior management and intervention.

- Psychosocial and physical rehabilitative therapy.

In Canada, about a quarter million people reside in LTC homes (Statistics Canada, 2022). Based on the findings of Berta and colleagues (2006), it is projected that the proportion of Canadians aged 65 and above will experience a notable rise, increasing from 18.5% of the working-age population in 2001 to 33.6% in 2026 and further to 41.0% in 2040. It is projected that by the year 2051, approximately 30% of the total Canadian population will consist of individuals aged 65 and above. Specifically, it is estimated that the overall population of Canada will expand by 51% from 1991 to 2031. In contrast, the population of individuals aged 65 and above is projected to experience a much more substantial increase of 182% (Havens, 2002). An alternative perspective on the projected increase in demand for long-term care services can be obtained by examining the anticipated growth in the Canadian population. The table shows growth in older population in past five years.

Table 1.   Number of different age groups from 2018-2022 (Statistics Canada, 2022)

Age-Group	2018	2019	2020	2021	2022
65-69 years	2,036,232	2,098,142	2,167,219	2,232,897	2,308,096
70-74 years	1,625,616	1,708,613	1,787,882	1,853,367	1,879,942
75-79 years	1,109,685	1,165,334	1,219,585	1,280,982	1,381,797
80-84 years	766,499	789,039	812,743	842,273	878,761
85-89 years	503,776	513,205	519,941	525,901	530,078
90-94 years	236,509	243,103	250,128	257,006	26,752
95-99 years	67,778	71,993	75,091	76,817	77,694
100 years and over	9,457	10,581	11,815	12,908	13,485

A total of 43.5% of the population resided in communal living arrangements, such as nursing homes or long-term care homes (Statistics Canada, 2022). The table below shows the number of long-term care homes and number of residents in past five years. The year 2020-21 experienced a decline in the quantity of facilities and residents, which can be attributed to the outbreak of the COVID-19 pandemic.

Table 2. **Number of long-term care homes and number of residents from 2018-2022 (CIHI, 2023)**

Year	Number of Facilities	Number of Residents
2017-18	1,331	192,663
2018-19	1,319	191,835
2019-20	1,318	189,662
2020-21	1,179	159,284
2021-22	1,404	179,805

There is an increasing societal demand to ensure that long-term care (LTC) services adequately and sustainably cater to the needs of Canada's population. Long-term care (LTC) homes encompass environments that provide an extensive array of health and personal care services to individuals with intricate requirements necessitating round-the-clock nursing care, personal care, and supplementary therapeutic and support services (Canadian Institute for Health Information, 2021). The National Institute on Ageing (2019) asserts that the Canadian long-term care (LTC) sector is anticipated to experience an increase in demand. However, the provision of reliable and high-quality care that prioritizes person-centered care remains compromised due to the intricate and susceptible nature of the system.

The provision of high-quality long-term care (LTC) entails delivering care that is

• Resident-centered: taking into account their individual goals, needs, and preferences;

• Effective: providing evidence-informed health services to those who need them;

• Ensuring safety: prioritizing the prevention of harm to all individuals involved in the provision of care; and

• Accessible: Receiving healthcare services that are provided in a timely manner and without any form of discrimination or inequity.

As people grow old, various chronic diseases develop, and their strength and muscle power gradually decline. Therefore, in LTC services, quality of life (QoL) becomes the primary goal rather than recovery from illness or improvement of physical functions. QoL means a sense of satisfaction with life and overall or subjective wellbeing, as influenced by health status, relationship with others, self-concept, and environment. To ensure a healthy nutritional intake and overall wellbeing, mealtime is a crucial part of everyday life for people living in long-term care settings (Watkins et al., 2017). Taking place several times a day, mealtimes provide important opportunities for social contact and valuing of personal preferences, culture, and identity (Chaudhury et al., 2017; Genoe et al., 2012). Appropriate intake of food and nutrition, and positive dining experience are usually regarded as indicators of the quality of services provided to the residents. Mealtimes have an impact on the social and psychological aspects of residents' quality of life, and considered as "the highlight of the day," and are typically pointed out as a time to affirm or neglect residents' dignity (Nijs et al., 2006). The day is scheduled around meals in long-term care facilities, letting residents recognize the time of day and aid in dividing it into sections (Berg, 2006). Mealtime is one of the few occasions when residents are encouraged to leave their rooms (Kofod & Birkemose, 2004), which offers a respite from social isolation (Bryon et al., 2008). Older people in long-term care have a lifetime of experience with the traditional sit-down approach of dining, so mealtimes present a natural opportunity for conversation (Hopper et al., 2007). It can be the day's most fulfilling social connection for many people (Gibbs-Ward & Keller, 2005). Residents can forge new connections and exchange memories about their former homes during this period (Evans et al., 2005).

The Health Standards Organization (HSO) sets standards, evaluation tools, and quality-improvement strategies for social and health services that are supported by research. The Standards Council of Canada has recognized HSO as a Standards Development Organization. Through a rigorous public engagement process, HSO collaborates with leading experts and individuals with lived experience from around the world to co-design standards that are person-centered, integrated, and support safe and dependable care. In order to ensure high-quality and safe care, the HSO standard focuses on fostering good governance, resident-centered care, upholding resident-centered care, enabling a meaningful quality of life for residents, ensuring high-quality and safe care, fostering a healthy and competent workforce, and promoting a culture of quality improvement and learning across long-term care (LTC) homes (National Standard of Canada, 2023).

HSO establishes guidelines for mealtimes in LTC, which include the LTC home administrators must facilitate significant dining experiences that cater to the needs and preferences of the residents. Residents' dietary, emotional, and social needs need to be supported during mealtimes. The LTC home managers should make sure that the menu options are up to date and take seasonal variations into account. Staff should work with residents to create menus and select drinks and foods for meals and snacks. Every effort should be made to accommodate residents' specific demands, such as those for culturally acceptable cuisine, and diets are adjusted as necessary. The appropriate temperature needs to be used to serve food and beverages. Residents receiving assistance with eating and drinking should be treated with dignity and respect. A clean, well-lit, and tranquil setting is necessary for a great dining experience. Residents should be able to interact with their peers, stand-in decision-makers, vital care partners, the workforce, and volunteers while dining. Residents must have a chance to have their food and follow their cultural and spiritual customs because meals are not rushed. All reasonable attempts should be taken to respect resident preferences for food and eating, allowing residents to eat how they choose notwithstanding any potential dangers (National Standard of Canada, 2023).

More than half of Canadian long-term care residents are malnourished as a result of multiple interrelated variables that have made mealtimes a persistent challenge in long-term care institutions (Soest et al., 2011; Bowman & Keller, 2005). The increased risk of malnutrition in residents with cognitive impairment in LTC is frequently attributed to actions

during meals such as residents' eating difficulties and staff actions involving feeding help. Lack of appetite, loss of the ability to recognize food, consuming inappropriate ingredients or quantities of food, difficulty moving food from the plate to the mouth, and difficulties swallowing or chewing have all been listed as issues connected with dementia and feeding (Manthorpe & Watson 2003).

A variety of challenges faced by the residents and staff in long-term care during mealtimes are potentially related to social and environmental factors. Residents may not receive the proper support and encouragement to eat and drink, which seems to be a recurring theme (Manthorpe & Watson 2003). Lack of staff and inadequate training might cause malnutrition and uncomfortable mealtimes for residents, as well as for the staff. Due to these challenges, eating becomes a task-oriented activity rather than a meaningful experience for residents to socially interact with each other and the staff members. Additionally, several external factors can be challenging for residents with dementia during mealtimes, including changes in their lifelong eating habits, limited eating assistance, non-supportive utensils and dinnerware, and over stimulating dining areas. These factors can lead tone increased stress and anxiety in the residents, lack of interest or cooperation, unfamiliar care provider receiver interactions during eating assistance, culturally inappropriate food, and forgetfulness about eating or people with dementia not remembering that that they have eaten (Reimer & Keller, 2009).

Although there have been attempts to address the problem of nutritional risk by clinical nutrition interventions, for example, oral nutritional supplementation and fortified foods, the outcomes have been inconsistent (Sloane et al., 2008). The interventions that have had successful and long term results have focused on both individual eating factors as well as interactions between the social, physical, and organizational environments that affect the quality of a mealtime experience (Whear et al., 2014; Keller et al., 2014; Reimer & Keller, 2009).Research has demonstrated that extensive mealtime training for care personnel, supportive and encouraging management, and home-like eating facilities can help residents enjoy their meals (Chaudhury et al., 2013; Hung & Chaudhury, 2011; Gibbs-Ward & Keller, 2005).A fundamental change in dementia care is evident in the recent movement towards multi-dimensional nutritional interventions for residents with cognitive impairments. The hierarchical medical model, which prioritizes task-oriented efficiency, is now evolving into care environments that prioritize the personal needs and preferences of

residents; in practice, this is known as person-centered care (Ducak et al., 2015 &Keller et al., 2015).

Person-centered care is a best practice concept guiding efforts to improve residents' quality of life in long-term care facilities. The care philosophy recognizes that individuals have unique values, personal history, and personality. Kitwood, who advocated for person-centered care, stressed the importance of taking a holistic perspective in relating to and caring with the person with dementia (Kitwood, 1997). He defined personhood as "a standing or a status that is bestowed on one human being, by another in the context of relationship and social being" (Kitwood, 1997). A shift in emphasis toward a more person-centered, relational, or family model of care is required to achieve the goal of making mealtimes feel more like a home instead of an institutional model of care that restricts choice and individuality (Davies et al. et al., 2009). When providing care, person-centered principles consider each resident as an individual with unique histories, preferences, customs, expectations, and needs (Reimer & Keller, 2009; Kitwood, 1997). The conceptual and applied frameworks to support the change process and translation of person-centered mealtime practices into routine care offer guidance for long-term care facilities that plan to create a homelike environment that aids in cultivating family-like bonds among residents and staff (Voelkl et al., 2004). These models emphasize the importance of understanding and interacting with the residents as individuals with unique preferences, cultural background and life history during the mealtimes, rather than task-oriented support and care practice. This approach calls for mealtimes to be less structured and more flexible. Individualization of the mealtime experience can be encouraged by recognizing the particular requirements and preferences of residents and by allowing them more flexibility. However, attempts to develop person-centered mealtime experiences will be less effective without considering the multiple organizational and policy level factors that affect the dining experience, including insufficient staffing, a lack of staff education and understanding, detached management, unsupportive physical settings, and unsupportive organizational policies and culture (Reimer & Keller, 2009).

1.2. Purpose of this project:

There is limited research on the application of a person-centered lens to understand the social and physical facilitators and barriers that have significant impact on mealtimes. Exploring the interplay between the experiences of residents'

mealtimes encompassing social and physical factors, and organizational factors within and beyond care facilities can provide more comprehensive and feasible strategies for enhancing mealtimes (Keller et al., 2015; O'Connor et al., 2007).

The primary purpose of this project was to conduct a review of the theoretical literature on the principles of person-centered care and the social, physical and organizational facilitators and barriers of mealtime in LTC. The secondary purpose was to apply a person-centered conceptual approach to the empirical literature on mealtimes in LTC. This review and synthesis will facilitate pertinent stakeholders of long-term care homes to recognize and address obstacles, and allow care methods that are reflective and mindful of the preferences and needs of residents.

Chapter 2.   Method

This project utilized the following steps in conducting a literature review: (a) identifying the research question; (b) identifying studies pertaining to the research question; (c) screening and selecting studies; (d) charting data, and (e) collating and summarizing the results (Arksey & O'Malley, 2005). Literature reviews are ideal for a quick and broad examination of the range of literature on a given topic. The overall research question for this review was: "what are the characteristics of person-centered care practices to improve the mealtime experience of people living in long-term care homes?" The sub-questions guiding the review were:

a) How is person-centered care defined and conceptualized?

b) What are the social factors influencing mealtimes in long-term care? How are they   related to person-centered care approaches?

c) What are the physical environmental factors influencing mealtimes in long-term care? How are they related to person-centered care approaches?

d) What are the organizational factors influencing person-centered care in mealtimes in long-term care? How are they related to person-centered care approaches?

e) What is the mealtime experience for residents in long term care settings?

To conduct the search for articles in this paper, the search string with Boolean operators were (dining experience OR mealtime experience OR food culture OR dining culture) AND (person-centered care OR resident-centered care) AND (Long-term care OR residential care OR nursing homes). A systematic literature search was conducted in the following databases: Age Line, PubMed, Google Scholar, PsycINFO, Cochrane and SFU library catalogue.

The following inclusion criteria were followed to screen the articles:

• Publication type: peer-reviewed journal article including research studies or discussion papers;

• Publication date range: 1990–2022;

• Language: English;

• Topic of discussion: mealtime experience of persons living with dementia, and person-centered care in the context of long-term care settings.

This review adopted the PRISMA Extension for Scoping Reviews approach to map evidence (Tricco et al., 2018) on: the experience of mealtimes in long-term care home for residents, factors associated with malnutrition affecting this population, the philosophy of personhood, its application through person-centered care practices during mealtimes and the role of physical environment of a dining space on staff care practices and residents' mealtime experiences. The aims of this scoping review were to synthesize the current evidence of person-centered care practice to improve residents' dining experience, and to identify knowledge gaps in providing person-centered care. The synthesis of empirical evidence in this area can inform development of person-centered care interventions for mealtimes in long-term care. These aims were consistent with the nature of scoping review illustrated by Arksey and O'Malley (2005).

The article screening procedure involved: first, the titles and abstracts of the search results were screened according to the inclusion criteria. Second, results were eliminated when they failed meeting the inclusion criteria. Third, the full-text articles of the remaining items were then screened based on the same inclusion criteria. Fourth, consistent with scoping review parameters (Arksey & O'Malley, 2005), additional papers from the reference lists of included articles were hand-searched. Finally, the remaining studies were included for data extraction.
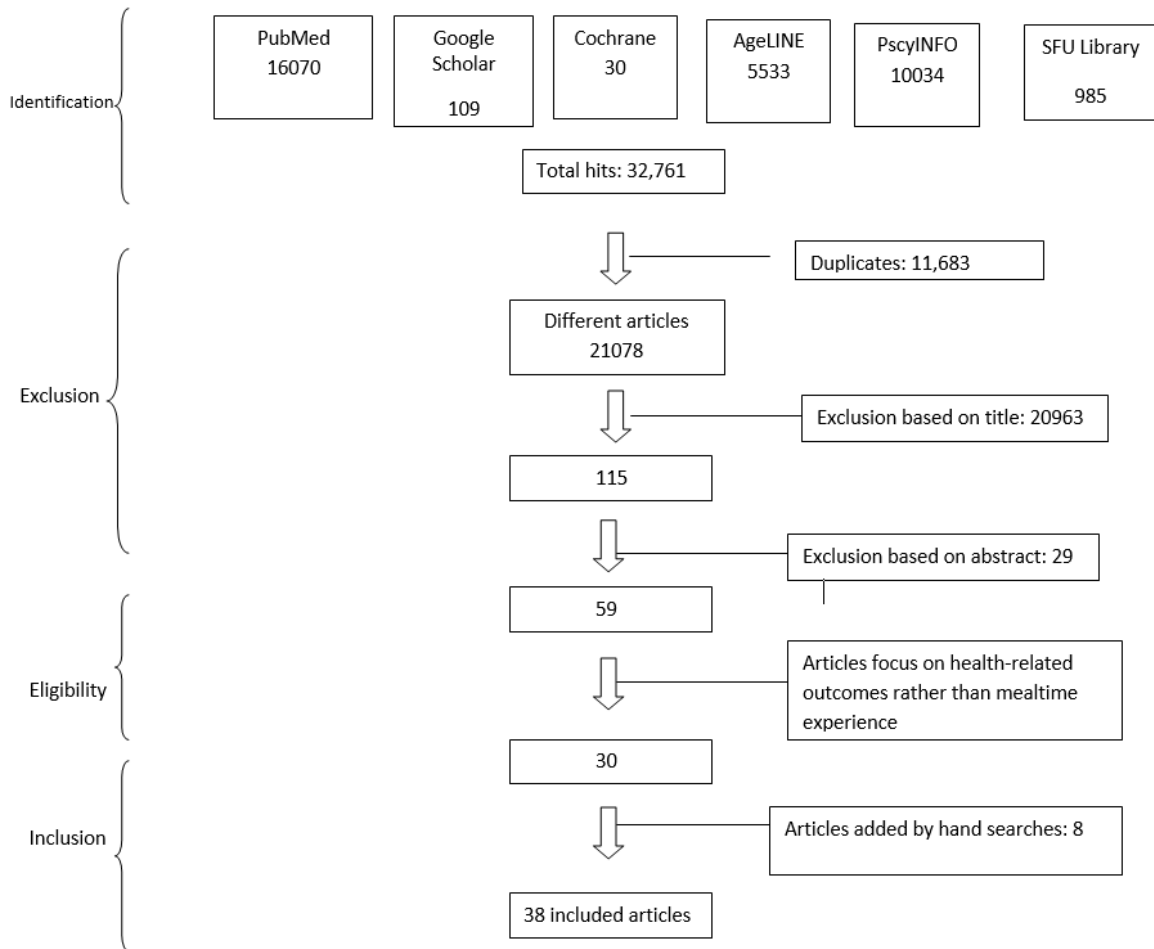
Figure 1. Article screening flowchart following PRISMA tool

The key findings, propositions, and arguments from these items were extracted with respect to mealtime and dementia, as well as the main components of person-centered care discussed in the articles. The extracted data were examined for common themes. The analysis of the extracted data to derive key themes are loosely based on the principles of thematic analysis (Braun & Clarke, 2006), however, no formal qualitative coding was conducted. An example of the summary of findings table for all empirical articles is illustrated below and the summary table for this review has been added as Appendix A.

Table 3.   Annotated Summary Review Table–Example

Author	List of authors of the study in APA style
Focus of Study	Briefly highlights the main purpose of the study or report
Methods	Indicates the research design and sample information; quantitative, qualitative, interviews, case study, questionnaire, etc.
Key findings	Summary of the main results, outcomes and key points of the study relevant to the research questions and topic of this review
Limitations	Any short comings in the research implementation and study findings identified by the author/s

Chapter 3.   Literature Review

This chapter contains findings from the reviewed articles. These findings are based on overall resident population who live in LTC and also include people with dementia. Findings specifically related to people with dementia is embedded in overall findings. In this chapter I discussed five sections that summarize my findings. First section in focused on theoretical literature in person-centred care and person-centered mealtime care. Section two to five are basically substantive themes derived from the reviewed literature.

3.1.   Theoretical Literature on Person-Centered Care

3.1.1. Person-centered care

Carl Rogers pioneered client-centered psychotherapy in the 1960s, when person-centered care first emerged (Brooker, 2007). Rogers advocated for a shift in the biological paradigm of care, highlighting the abilities and preferences of people with illnesses, rather than focusing on the burden of providing care (Barbosa et al., 2014; Rogers, 1961). Rogers' ideas have had a significant impact on how therapeutic interactions and emotional instability among person living with dementia are interpreted and facilitated (Brooker, 2007; Morton, 1999). Tom Kitwood expanded on this idea of care to address the behavioral and psychosocial requirements of those living with dementia (Barbosa et al., 2014). Person-centered care puts the "whole person" (and not simply the person with dementia) at the center and emphasizes the individual's remaining abilities in connection to their family, preferences, culture, and society (Cheston & Bender, 1999).

Building up and fostering the personhood of residents is the aim of person-centered care, which improves broader quality of life. Personhood is a "a standing or status that is bestowed onto one human being, by others, in the framework of relationship and social being," according to Kitwood (1997). It conveys acceptance, regard, and confidence, and he claimed that social connections are important to forge personhood early in life and to maintain personhood in people living with dementia. Kitwood's conception of personhood did not depend on a person's autonomy, skills, or traits (Kitwood & Bredin, 1992). To clarify what personhood means, Kitwood (1937) referenced the writings of Buber (Kitwood, 1994, Kitwood, 1997). The "I-Thou" and "I-It" forms of connection are two fundamental approaches that Buber identified and contrasted with one

another. Although we no longer frequently use the term "Thou," the act of addressing someone as "Thou" suggests showing them grace, which need not be earned or deserved. For me, relating to someone as "Thou" involves simple actions like calling them by name, making eye contact, and smiling at them. I-it relating, on the other hand, is described as being dispassionate, or instrumental. Person-centered care entails treating someone who has dementia as "Thou," regardless of their capacities and other characteristics.

There have been critiques and partial rejection of Kitwood's conceptualization of personhood. Dewing (2008) critiqued that Kitwood's work on person-centered cultures of care is underdeveloped and he did not fully explore the significance of workplace cultures, particularly in care of older people with mental health needs. A more valid and well-known criticism of Kitwood's notion of person-centered care is that it frames persons with dementia as inferior or subordinate to those without dementia by asserting that personhood is "bestowed" onto them by others (Dewing, 2008). As a result, people with dementia become less active in maintaining their personality, and more passive as a result. Therefore, the part played by the person with dementia in developing a trustworthy, reciprocal relationship, such as between themselves and their carer givers, is underappreciated. This is highly concerning since it suggests that the person's personhood is significantly compromised, or worse still, nonexistent, if caregivers make no attempt to sustain it. As a result of losing their sense of self, the individual becomes objectified or faces the possibility of "social death" (Davis, 2004). Kitwood's study concentrates on the person with dementia, but ignores the interconnections and reciprocities that support the caring relationships (Nolan et al., 2004). Additionally, according to O'Connor et al., (2007), Kitwood's model failed to investigate how the physical setting may enhance or impair the wellbeing of people with dementia.

People living with Alzheimer's disease or other dementias frequently receive care that does not respect their individuality (Kitwood, 1990; Kitwood, 1993; Kitwood, 1997). They might not be encouraged to participate in social exchanges or be given opportunities to use their remaining capacity. Kitwood proposed that severe dementia is not solely brought on by neuropathic changes in the brain; instead, he argued that the depersonalizing effects of dementia have an effect on the brain's health, which exacerbates neurological disability. His phrase "malignant social psychology" was used to describe these depersonalizing interactions. Kitwood made it apparent that these types of interactions are almost never done with malice as forethought and are instead accidentally

handed on as one picks up other people's habits. He referred to them as "malignant" to emphasize their harmful effects and how they frequently spread throughout society obliviously. In addition, they risk being ingrained in the long-term care homes' caregiving culture if they lack training and supervision.

Kitwood's hypothesis that malignant social psychology draws our attention to how society's actions, and those of care aides in particular, have a significant impact on the wellbeing of persons with dementia. The goal is to maintain the resident with dementia as a relational being with a personal identity, not just to manage the disease and concomitant behaviors. According to Kitwood, the condition of dementia causes the inner self of stability and security, held in place by memory and judgment, to be fragile. Supportive social encounters may ensure, refill, and sustain personhood. Since neuropathology develops and impairs human potential, the demand for this "person-work" will increase rather than decrease. The main challenge to providing effective dementia care is to meet this increasing demand for "person-work" (Kitwood, 1997).

The objective of a person-centered care approach is to replace the depersonalizing encounters of malignant social psychology with "positive person-work" in addition to eliminating them. Asking a resident about their preferences and collaborating to give them opportunity to apply their skills are two examples of constructive person-work. Person-centered care is defined by such behaviors that promote personhood. The following traits of person-centered care were outlined by Edvardsson and colleagues (2008): personhood is acknowledged in all aspects of care, care provision and surroundings are personalized, decision-making is shared, behavior is interpreted from the person's point of view, and relationship-building and physical care tasks are given equal priority.

The meaning of providing person-centered care was further articulated by McCormack & McCance (2006). Working with the person's beliefs and values, engagement (connecting with the resident), shared decision-making, having sympathetic presence (offering undivided attention), and meeting physical requirements are the five core care procedures they highlighted in their Framework for Person-Centered Nursing. The phrase "catering for physical needs" was changed to "offering holistic care" in a more recent version of the framework (McCormack & McCance, 2010). This paradigm was created for use across the board in the health care industry, not simply with dementia patients.

Client-centered, patient-centered, resident-centered, family-centered, or relationship-centered care are variations of the fundamental concepts of person-centered care that have developed over time. The definitions of these terms overlap, and in actual usage, they are quite often used interchangeably. Hughes and colleagues (2008) found ten elements that cut across all forms of "centered" care. All of these involve treating people with respect, accepting their viewpoint without passing judgment, being nonjudgmental, realizing interdependence, thinking holistically, utilizing common knowledge, sharing responsibility, being effective communicators, and promoting autonomy. The emphasis is on care recipients, but there is also a focus on the value of care providers. Hughes, et al. (2008) also concluded that the terms used to describe various forms of centeredness depend mostly on context rather than having distinct essences to distinguish them.

Without using the pronoun "Thou," a person can still receive an appropriate assessment and a tailored care plan (Kitwood, 1997). For instance, while a resident's dietary choices and the amount of support needed at meals may be well recorded in a care plan, the use of this information during mealtimes may still be a complex task. Employing the research of Kitwood and others, Brooker (2007) put together the following four-part definition of person-centered care, which is abbreviated as VIPS and can be interpreted as Very Important Person: I - An individualized approach that recognizes uniqueness; V - A value base that proclaims the absolute value of every human life, regardless of age or cognitive ability; P - Perceiving the world from the perspective of the service user; S - Ensuring that the social environment promotes psychological needs.

3.1.2. Relationship-centered Care:

The term "relationship-centered care" or relational care emerged in the 1990s as a distinct approach to care centered on an association of, biological, sociological and psychological factors (Nolan et al., 2003). This new paradigm for the delivery of health care in the twenty-first century emphasizes "the importance of interpersonal interactions as the foundation of any therapeutic or healing activity" (Tresolini et al., 1994,). The approach of relationship-centered care emphasizes the importance of symmetry and synchronicity as fundamental components of the relationship, as noted by Nolan et al., (2003). The approach to care is based on the acknowledgement and appreciation of the involvement of all parties involved, including residents, care personnel, and families. By

integrating the viewpoints of each stakeholder into the caregiving dynamic, the aim is to deliver the best possible care (Nolan et al., 2003). The authors have identified crucial factors that are necessary for establishing and maintaining a positive caring relationship in care facilities (Nolan et al., 2003). They have termed this framework as the 'Senses Framework', which encompasses all aspects of care, including the subjective experiences of the interpersonal relationships between the carer and the recipient. This framework has been previously described by Davies et al., (1999) and Nolan (1997). According to Davies and Nolan (2008), the framework expands upon the principles of person-centered care to encompass the psychological needs of elderly individuals, their families, and carers, with the aim of generating a range of perceptions and encounters. These are:

- a sense of security: to feel safe while delivering and receiving sensitive care

- a sense of continuity: to use 'biography' as a means to connect the past to the present

- a sense of belonging: opportunities to build meaningful relationships and working in teams

- a sense of purpose: opportunities to engage in purposeful activities and have goals to aspire to

- a sense of achievement: to achieve valued goals and feel satisfied in the efforts/process

- a sense of significance: to feel valuable as a person (Nolan et al., 2006) (Davies & Nolan, 2008)

The Senses framework is designed to promote "security, belonging, continuity, purpose, achievement, and significance" for all stakeholders that provide and receive care. The framework advocates 'excellent care' and a sense of contentment during the care process (Nolan et al., 2001). This framework provides a rationale for effective care practices in institutional settings and acute hospital care for older people (Davies et al., 1999; Nolan et al., 2001).

Relational care endeavors to improve the social and emotional welfare of care home residents and their caregivers by means of direct care worker relationships, mentorship, networking, and community outreach (Rockwell, 2012). Relationship-centered care is a strategy that addresses organizational obstacles, such as financial limitations or staffing concerns, by broadening the range of relational links between personnel and residents. This approach leads to more significant engagements and

superior quality interactions, as per Rockwell's (2012) findings. According to Rockwell (2012), relational care employs therapeutic techniques to cultivate and reinforce multidirectional relationships among staff, residents, families, and the wider social network. The strong interconnections between staff and residents facilitate the acquisition of knowledge regarding the residents' backgrounds and interests (Rockwell, 2012). This, in turn, creates opportunities for meaningful engagement, ranging from mentoring and caretaking to social immersion. The establishment of connections between residents and the wider community, which provide socio-emotional support beyond the physical boundaries of a residential facility, is a crucial component of relational care (Rockwell, 2012). According to the author (Rockwell, 2012), the provision of pre-existing social support by family, friends, neighbors, and religious groups to long-term care residents is crucial in fostering a sense of belonging, preserving their individuality, and guaranteeing the fulfillment of their care requirement.

3.2. Person-centered mealtime care

There is scarce research on mealtimes in long-term care facilities that expressly examined the application of a person-centered philosophy of care. There are four major mealtime care practices that are congruent with the VIPS definition of person-centered care proposed by Brooker (2007). These four aspects of person-centered mealtime care are: providing food choices and preferences, supporting residents' independence, promoting the social side of eating, and showing respect (Reimer & Keller, 2009).
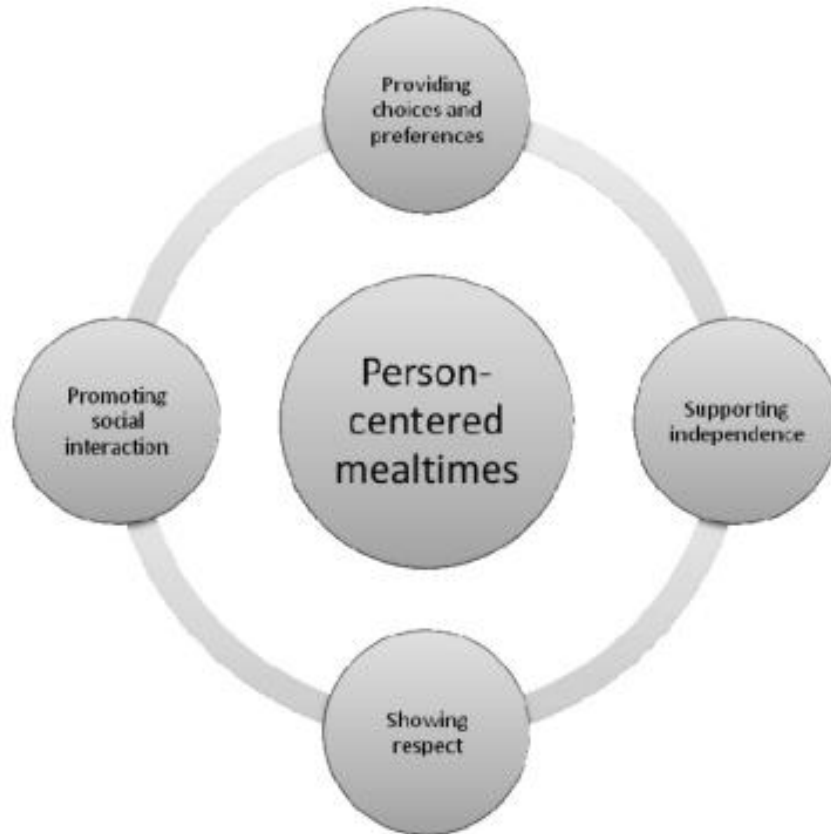
Figure 2.   Four main elements of person-centered mealtime care for nursing home residents (Reimer and Keller, 2009)

3.2.1. Providing food choices and preferences

Food plays a significant role in the lives of people living in long-term care settings. In a person-centered care informed practice, residents' dietary decisions are tied to customs, religion, or personal preference – linking with their biographical history (Evans et al., 2005). In a study that involved interviews with 20 residents on food and food service in a nursing home, it was found that residents enjoyed having variety and choice on the menu, having the option to eat in their bedroom if they so wished, and having the chance to ask for more (Evans et al., 2003). The same research team discovered that people valued the opportunity to put alternative orders, sample new cuisines, return items they didn't like, and bring in food from relatives or other locations (Shultz et al., 2005). In recent years, a number of questionnaires have been created to better comprehend residents' preferences and their satisfaction with culinary services (Evans et al., 2005; Peeters et al., 2008). One way to encourage preferences is to get feedback from residents and family

members through food committees, and menu planning frequently can offer this possibility. However, limitations in cost for labor and food, and demographic diversity make it difficult to take these expressed preferences into account (Ducak & Keller,2009). According to one study, the biggest obstacle to providing residents with appropriate nutrition care was that they occasionally disliked the food that was supplied (Croganet al., 2001). Bryon and coworkers (2008) stated that staff believed important hurdles to patient-oriented care occurred, when residents had to follow restricted diets and the food quality did not reflect home-cooked meals. Sometimes initiatives to enhance resident menus and food services fell short of their objectives.

A Chinese-majority care home in America provided an Asian cuisine by providing daily options such rice, tea, or hot water with a side dish of rice porridge (Wu & Barker, 2008). The menu cycle included four Chinese meals for people who follow a regular diet. Surprisingly, due of the manner the food was prepared or served; residents did not acknowledge the Asian diet options as Chinese. For instance, utilizing tea bags and plastic mugs eliminated the cultural value of Chinese tea, which is typically prepared in a pot and served in tiny handle less teacups. Despite the nursing home's best efforts, residents only experienced food when their families brought it to them. The provision of foods that are both culturally suitable and individually acceptable is a crucial component of person-centered mealtime care. Creative solution, such as, flexibility to allow for family provision of important foods, dining clubs, or other activities can cater to mealtime preferences.

Supportive care should be offered to residents who require significant assistance with eating. It is beneficial for staff to introduce residents with dementia to the meal by describing the meals being served as they might not be able to recognize the foods on their plate. According to Schell and Kayser-Jones (1999), some staff members who assisted with meal preparation neglected to introduce residents to the meal and did not promote their autonomy by providing options. Nursing aides may serve meals based on their assessment of the nutritional value of foods, serving the most nutrient-dense foods first, rather than allowing the resident to choose what to eat at the meal (Pierson, 1999; Chang & Roberts, 2008). A few nursing assistants assumed the primary source of protein was the most nutritious food, hence should be served first, while the oral liquid nutrition supplement was more nutritious for others. By giving residents who are receiving such assistance the option to choose what to eat and in what order is a good way to acknowledge and value their preferences. Additional preferences, such as where to eat,

who to eat with, or which direction to face, such as staring out the window, have been overlooked in the literature, although they present additional opportunities for choice and decision-making during meals. Every opportunity to make meaningful decisions, such as what and how one eats needs to be available when much of the care that is given to older persons in nursing homes is prescribed (Harris & Fraser, 2004) in order to improve satisfaction and quality of life.

3.2.2. Supporting independence

Many older adults in long term care require assistance with meals. This can range from orientation to comprehensive support. Yet, independence, particularly in terms of feeding oneself, is crucial for dignity. Very often, when complete independence is not attainable, staff can assume this position, ignoring the range of assistance that can be provided to encourage appropriate level of independence. According to Osborn and Marshall (1992), maximizing independence is not synonymous with providing the least amount of support possible. In contrast to spoon-feeding, self-feeding aid requires more effort. To encourage self-feeding, staff must conduct a thorough evaluation of residents' ability and determine the most effective strategies to assist them. It is essential for staff to collaborate and communicate on how to assist each person most effectively. This is especially true during transitional phases, when the ability to feed oneself can vary from meal to meal. Staff members differed in their evaluations of residents' self-feeding abilities, despite their belief that maintaining independence was crucial (Pearson et al., 2003). Various care aids provided varying degrees and varieties of care to the same resident.

As in other areas of care, staff behavior at meals may more often promote reliance than independence (Stabell et al., 2004). This is likely due to time constraints and a lack of importance placed on meals. Six residents were systematically monitored for three minutes during twenty mealtimes, and resident and staff actions were assessed. Two-thirds of staff activities, such as promoting requests for assistance or rejecting attempts at self-care, promoted dependence. There are numerous ways in which staff can boost residents' self-feeding abilities, including preparing residents for meals and providing continuing reminders and support. It is important to position residents appropriately for eating and consider the times of day when they are most capable of self-feeding. Inadequate staffing may add to the challenge of residents being improperly positioned and lead to residents being served meals in bed (Kayser-jones & Schell, 1997). In this study,

it was shown that an ill-positioned tray frequently encouraged residents to eat with their fingers, and a significant amount of food fell to the floor instead of being consumed. When eating in bed, residents may not be able to see or reach some foods on their trays. Employees could interpret this as a lack of ability to self-feed, but in reality, the location of the individual's meals had a significant impact on their independence.

Bonnel (1995) described an educational program for care aides designed to promote independent eating in group meal settings. The instruction was based on a metaphor that compared eating to work, in which the proper equipment and supervision make it easier for residents to complete the task. It consisted of a single one-hour meeting in which methods for simplifying the task of eating, utilizing resources and establishing an environment to facilitate self-feeding, and giving monitoring were discussed. It was determined that the setting of training was pertinent; personnel trained in the dining room observed that this specific setting made mealtime issues more tangible.

3.2.3. Promoting social aspects of mealtimes

Mealtimes involve more than the provision and consumption of food. Participants in a study on residents' perspectives on the significance of mealtimes viewed dining with others as a means of establishing and maintaining relationships (Evans et al., 2005). Social engagement may also influence food intake positively. Observing the communication patterns of 32 patients in a geriatric hospital ward in Canada, it was discovered that energy intake was related to the overall number of interactions (Paquet et al., 2008). The duration of the mealtimes had a significant impact on overall energy intake of the residents. Frequent social interactions, including numerous compliments regarding the food and the mealtime experience as well as nonverbal cues, may also encourage residents who tend to leave the table to sit longer and consume more food (Beattie et al., 2004). On the basis of participant observation in retirement communities, a variety of social interactions amongst tablemates have been found. They included positive interactions such as conversation, assistance, sharing, comedy, nonverbal emotions, admiration, and affection, as well as negative interactions such as rejection, ignoring, and exclusion (Curle & Keller, 2009). Residents might be encouraged to engage in positive social interactions by gathering at tables in the dining room. Staff can view seating arrangements as a way to encourage social interaction and boost peoples' comfort levels (Pearson et al., 2003).

Cherry and colleagues (2008) suggested a model that provides criteria for classifying individuals with dementia according to their social needs; however, the model has not yet been evaluated. According to the hypothesis, there should be four distinct groupings: residents who are aware of their social environment and social boundaries (High, 2001), residents with less awareness of social boundaries (Harris & Fraser, 2004), residents with greater tendencies for disruptive behavior (Dawson-Hughes, 2008), and residents who respond to stimuli but lack social awareness (Kuikka et al., 2009). Although it is usual for residents to have regular tablemates, the staff who serves them may not the same in every mealtime (Pierson, 1999). The same person assisting a resident to eat on a frequent basis may foster better connection at meals; but, in one research, staff did not like serving the same resident on a regular basis and felt it was unfair because some individuals were more challenging to feed than others (Pearson et al., 2003). In a study incorporating systematic mealtime an observation of six residents, the need for additional staff intervention to foster social engagement was clearly illustrated (Stabell et al., 2004). Just 6.8% of residents demonstrated independent social involvement, such as initiating conversation or sharing meals. In addition, only 5.7% of staff activities were deemed to promote social engagement by demonstrating understanding of and reacting to the social needs of residents.

In the case of those requiring total help, social contact may be strengthened due to the focused time spent face-to-face with personnel. Pearson and colleagues (2003) discovered that residents who required minimal assistance during meals engaged in significantly less conversation with staff than those who received full feeding assistance, although this was dependent on the responsiveness of each resident to engage in conversation. In one study, insufficient space for workers to sit while providing feeding assistance led to minimal or no interaction between staff and residents (Chang & Roberts, 2008). This shows that the physical setting of mealtimes must be supportive to enhance social interaction. In addition, it was discovered that residents who lacked social connection were more likely to eat in bed when understaffed (Kayser-Jones & Schell, 1997).

There has been relatively little research on interactions among tablemates in long-term care. Several aspects were shown to impact tablemate interactions in a senior home observational study: tablemate roles for example dominating or supporting, resident characteristics such as language and health, personnel for example speaking to

individuals or the whole table, and the surroundings (Curle & Keller, 2009). Unless encouraged by the personnel, residents at nursing homes rarely interact with one another. Conducting a general knowledge quiz at lunchtime or pairing a person who tends to be more gregarious with older adults who tend to be more reticent are two simple strategies to increase table engagement (Pearson et al., 2003). It is necessary to establish strategies and approaches to aid staff in facilitating social interactions among residents during meals. Switching from traditional pre-plated foodservice to family-style meals, where food was served from platters at residents' tables, increased engagement and communication during mealtimes, with an even greater benefit when nursing assistant training was provided (Altus et al., 2002). A study on Chinese residents found that when they were taken to a local Chinese restaurant for a dinner, they had a significantly different experience than when they ate at the nursing home (Wu & Barker, 2008). When they gathered around a large table, poured tea for one another, conversed, and shared platters of food, there was greater social contact in the restaurant. Individualization of meals through tray service diminished social possibilities and community development among nursing home residents.

Providing more opportunities for staff to eat with residents or simply sit with a cup of coffee or tea while residents eat is another strategy to enhance social engagement. It was noted that care assistants, whose care was characterized by empathy and compassion, occasionally shared the lunchtime experience by eating with residents (Schell & Kayser-Jones, 1999). Future research could find more effective approaches to enhance staff interactions with and among residents during mealtimes, particularly with cognitively impaired residents. Using video observations, Carpiac-Claver & Levy-Storms (2007) examined how care aides talked with residents during mealtimes. They discovered various forms of affective communication that contributed to the development of rapport and relationships. In addition to discussing topics such as family visits, the interaction included pleasantries, laughter, and singing. Affective communication was also demonstrated by utilizing the resident's name or endearments, inquiring about the resident's comfort, hunger, thirst, or preferences, and providing emotional support or praise. In this study, the nursing assistants tended to employ more demanding instrumental expressions such as ''You drink it, okay? You must complete this" (Claver & Storms, 2007, P# 63) than emotive ones while supporting non-speaking residents with cognitive impairment. Similarly, other research found that nursing assistants had excellent

communication skills with residents who could carry on a conversation, but struggled when attempting to converse with residents who couldn't or wouldn't talk back; their communication was frequently limited to commands to eat or drink (Pelletier, 2004). These direct care workers have limited communication skills with these residents, as this was inadequately covered in their certification training. There appears to be a significant need to properly prepare staff to engage in social interactions with all residents during meals so that they feel valued and connected.

3.2.4. Showing respect

Respect is demonstrated through observing mealtimes from the perspective of the residents. Evans and coworkers (2003) discovered in their survey of 20 residents of nursing homes that they valued respectful, experienced, honest, compassionate, and competent staff. It was vital to them that meals were served on time, that they would receive sufficient assistance, and that they were given sufficient quantities. Residents also valued staff members who listened to their needs and intervened when mistakes had been made (Shultz et al., 2005). Workers should slow down, approach residents with calmness, and greet them with courtesy (Hung, 2008). They must comprehend the residents' circumstances and demonstrate empathy. Schell and Kayser-Jones (1999) found that when nursing assistants were empathic, they addressed the resident prior to assisting with feeding and looked for significance in behavioral patterns. Regrettably, several studies on mealtimes have also recorded instances of disrespect. Sitting down while feeding residents is a simple way to demonstrate respect, however some staff members may be apathetic as to whether they sit or stand while offering assistance (Pearson et al., 2003). It appears that insufficient staffing impacts the level of respect shown and personal attention. In a time-restricted setting, the dining area may have a "sick room" ambiance since residents may be escorted to the dinner without first getting dressed in day clothes, getting their hair styled, or obtaining oral care (Pearson et al., 2003). Twenty nursing assistants from four nursing homes were observed and interviewed by Pelletier (2004) who discovered that they lacked formal training in dealing with challenging eating behaviors and instead learnt solutions on the job from other nursing assistants. Several of these techniques, such as mixing all solid foods together, violated the dignity of the residents and demonstrated a general lack of respect for them. This phenomenon was also further reported in two studies (Chang & Roberts, 2008; Kayser-Jones & Schell,

1997). Residents should be treated with the same level of respect that staff would expect to receive if they were in the residents' place; educating staff could be one step towards creating a more respectful atmosphere.

Reimer and Keller (2009) developed a framework that illustrates examples of how person-centered care can be adapted during mealtime in long-term cares or nursing homes. The four components of person-centered mealtime care can be promoted in a variety of ways, and some of which are listed in Figure 3. There are also prime examples of multifaceted or comprehensive mealtime interventions in the literature. Each of these interventions includes a number of aspects of person-centered care, such as those mentioned above—providing choices and preferences, supporting independence, showing respect, and encouraging social interactions—even though they are not all explicitly mentioned as "person-centered" by the authors.

Providing choices and preferences	Supporting independence	Showing respect	Promoting social interaction
•culturally appropriate foods •variety and choice in the menu •resident food committees •opportunity to ask for seconds •choices of where and with whom to eat •choices about what to be fed and in which order if given full assistance •opportunity for family to bring in favorite foods •eating out with a dining club	•assessment of residents' abilities to self-feed •communication of level of assistance required •set residents up for the meal by good positioning and opening containers or packaging •verbal cuing throughout the meal •adaptive equipment to aide self-feeding •attentiveness to changing needs	•approach residents in a relaxed, courteous manner •serve meals on time and avoid long waits •adequate portions •listen and intervene if mistakes are made •show empathy •sit down and face residents at eye level when feeding •dress residents appropriately for the meal •feed one item at a time rather than mixing foods together	•talk about the food or meal experience •personal conversation •laughter and singing •check in on residents' comfort, hunger, thirst, or other needs •appropriate table mates •family-style meal service •adequate seating for staff to sit with residents •staff join in the meal by eating with residents or having a beverage

Figure 3.   Examples of strategies to promote person-centered mealtime care (Reimer and Keller, 2009)

In the Netherlands, a reasonably large randomized controlled experiment examined family-style dinners (Nijs et al., 2006; Reimer & Keller, 2009). At each nursing home, one ward was randomly assigned to the intervention group and the other to the control group. In total, 94 seniors were served family-style dinners, while 84 continue to

receive pre-plated tray service. Using a new protocol, the intervention entailed a variety of alterations to the mealtime atmosphere. The tables were beautifully set with tablecloths and delicate flower arrangements. Instead of plastic, regular plates, glasses, and cutlery were utilized. The table was set with food in serving dishes, and there were options for two veggies, meat, and potatoes. The protocol for the staff was to sit down and converse with residents during meals, with at least one staff member each table. To reduce interruptions, there were to be no staff changes during mealtimes, and staff always asked residents what they wanted to eat. Medications were administered before to mealtime, and meals did not begin until everyone was seated at the table and a minute of thought or prayer had passed. There were no other activities at meals, and the dining area was closed to visitors and other health care professionals to prevent disruptions.

To create a home-like ambience, dinner carts, prescription carts, and resident file carts were concealed. The dining area was cleaned immediately following the conclusion of the lunch. Data were gathered at baseline and six months following the beginning of the intervention, and comparisons revealed significant changes in calorie and macronutrient intakes as well as Mini Nutritional Assessment scores. Malnutrition dropped from 17% to 4% of inhabitants in the intervention group, but it increased from 11% to 23% in the control group (Nijs et al., 2006). A previous trial with a very identical lunchtime routine was also undertaken in the Netherlands, with measurements recorded at baseline and one year after the intervention began (Mathey et al., 2001). Rather than placing food in serving dishes on the table, the meal was served restaurant-style, course by course, at each individual table. Another distinction was the ratio of one staff member for every two residents. A substantial difference in weight change was noted, with the weight of individuals receiving the intervention increasing significantly compared to those in the control group. The intervention group maintained stable hemoglobin levels, whereas the control group had a substantial decline. In the intervention group, self-perceived functional status was also steady, whereas it dropped dramatically in the control group (Mathey et al., 2001).

Other study interventions have incorporated a staff-education component with modifications to the dining setting or meal service manner. For instance, in a randomized controlled experiment, family-style meals were introduced together with a one-week education component and three months of follow-up support for staff (Mamhidir et al., 2007). The intervention group consisted of 18 residents, while the control group consisted

of 15 residents. The emphasis of the training was on fostering resident integrity; that is, fostering wholeness and purpose as an individual by fostering trust and autonomy and preserving the resident's individuality. The meal service was altered to provide a tranquil, homelike atmosphere. At each table, serving bowls were placed so that residents could serve themselves. The major outcome measure was weight change, and four months after the intervention began, the control group lost more weight than the intervention group. According to staff logs, the new family-style lunch service enhanced resident engagement and made the ambience more pleasant (Mamhidir et al., 2007).

The Bon Appetit! program also sought to enhance mealtime experiences through staff training and environmental modifications (Zgola & Bordilon, 2002). The program is intended to promote participants' dignity, sense of self, and relationships with others. Care is taken to preserve and improve the flavor, aroma, and visual attractiveness of the food. Meals in nursing homes also consider the space, acoustics, and design of the dining room. Self-feeding is encouraged by giving varying degrees of support, depending on the individual's needs. The staff is educated to provide high-quality care, which includes interacting socially with residents, assessing their needs, and feeding them properly. Despite the program's apparent strengths, its evaluation was not rigorous. In a Canadian nursing home, questionnaires were completed by 45 staff members 12 months following the program's implementation to conduct a retrospective evaluation (Zgola & Bordilon, 2002). They reported improvements in the residents' meal service and attitude. Staff members remarked that everyone was more at ease, residents were calmer and friendlier, the dining experience had improved, and the staff desired to continue the program.

Related theoretical work

Gustafsson et al. (2006) affirm that meals consist of considerably more than the food to be consumed. The Five Aspects Meal Model (FAMM) depicted in Figure 3 provides an all-encompassing picture of the meal. The dining environment is embodied by the room, encompassing its physical attributes. The interpersonal connections among the residents are indicated by the meeting component of the FAMM. The meal's fundamental constituents are the food and beverages, which are deemed as the central component. The diners themselves generate the atmosphere, where the aforementioned meal elements can significantly contribute to the overall ambiance. The management control system encompasses the comprehensive planning, diverse regulations, rules, laws, and

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economic aspects. The integration of various components of management control systems and logistics is imperative to ensure that consumers have a sense of assurance regarding the safety and health implications of their food and beverage choices, while also being able to access these products at affordable rates. (Gustafsson et al., 2006). Each of the five components of the model interacts, yet each may be viewed as more or less significant. The approach recognizes that expectations vary depending on the dining scenario, with different meals organized in various ways. For instance, Edwards & Hartwell (2004) classify restaurants and ceremonies as "eating for pleasure," whereas canteens and restaurants are classified as "eating out for work," and "eating out for need" typically occurs in public facilities such as prisons, schools, and hospitals. In order to attain maximum happiness at any of these events, the model suggests that hospitality should consist of an array of tangible and intangible aspects for mealtimes, as well as the service and ambiance around them. Although the FAMM concentrates on commercial meals, its methodology might be adapted to residential care institutions in order to provide each resident with an optimal experience in every circumstance.

The Management Control System

The Atmosphere

Room   **Meeting**   **Product**
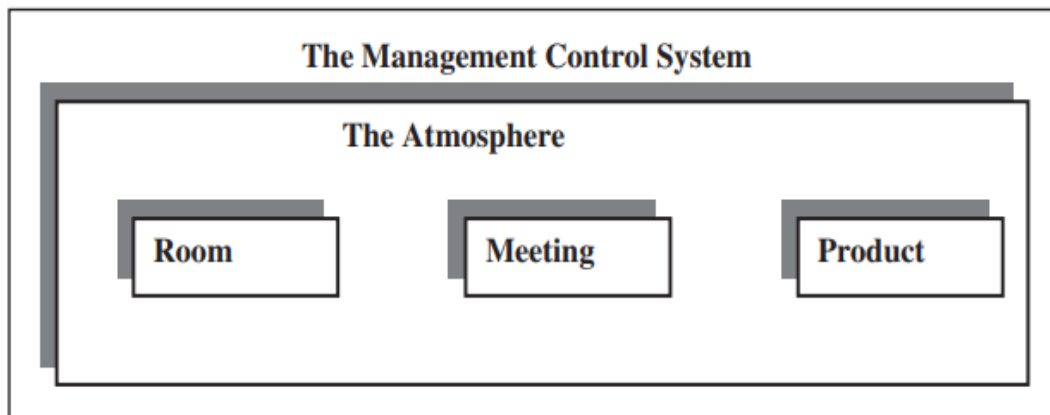
Figure 4.   Five aspect of meal model (Gustafsson et al., 2006)

Gibbs-ward and Keller (2005) introduced a framework related to resident-centered mealtime process. The model indicates that care staff must view mealtime as a variable event (Gibbs-ward and Keller, 2005). Similar to the current paradigm, other researchers have identified variation in residents' lunchtime activities and behaviors and attributed it to external and internal causes (Jones, 1996). Residents are at the core of these differences by responding to their own internal characteristics and external factors at meals. Residents' food choice and preferences, their preferred time to have meals, health status

and culture are considered as internal factors whereas care giving, administrative and governmental activities are the external factors in this framework. Individualized mealtime care has been highlighted as a means of addressing these variations (Jones, 1996). Specialized researchers on the quality of life for institutionalized older individuals have emphasized the significance of tailored care to enhance autonomy. Enhancing the autonomy of residents with dementia necessitates modifications to the preferences and abilities of all resident groups.

The framework proposes that an "ideal" mealtime is one in which every resident's distinct needs, choices, and responses to each activity are acknowledged and incorporated into the mealtime process in order to maximize independence, encourage positive social connections, optimize food consumption, and eventually enhance quality of life (Gibbs-ward & Keller, 2005). According to Lilley and Gaudet-LeBlane, to apply this model in practice dieticians can significantly improve the nutritional health and overall quality of life of residents in long-term care facilities. The experts emphasize that dieticians are one of the major effects on residents' mealtime process and outcomes. Dieticians who work in long-term care facilities must acknowledge that each resident is a unique individual with a variety of internal characteristics that influence mealtime activities and include this insight into their assessment, planning, and monitoring processes. Being present in the dining area during meals and giving the residents specific mealtime care might be efficient approaches. They will aid in building relationships with residents and co-caregivers, such as nursing staff, family members, and health care assistants, and in comprehending each resident's dietary requirements.

A key component of a dietician's leadership position is cultivating relationships with other care providers. Dietitians can develop care plans that integrate all facets of mealtimes and take other care providers' knowledge into account by understanding their roles, care approaches, therapeutic knowledge, and relationships. These relationships also allow dietitians to advocate more effectively with administrators and governments for changes to funding and legal requirements. This aim appears difficult and will require incremental transformation given the time constraints and employment demands that dietitians and all long-term care providers now confront.
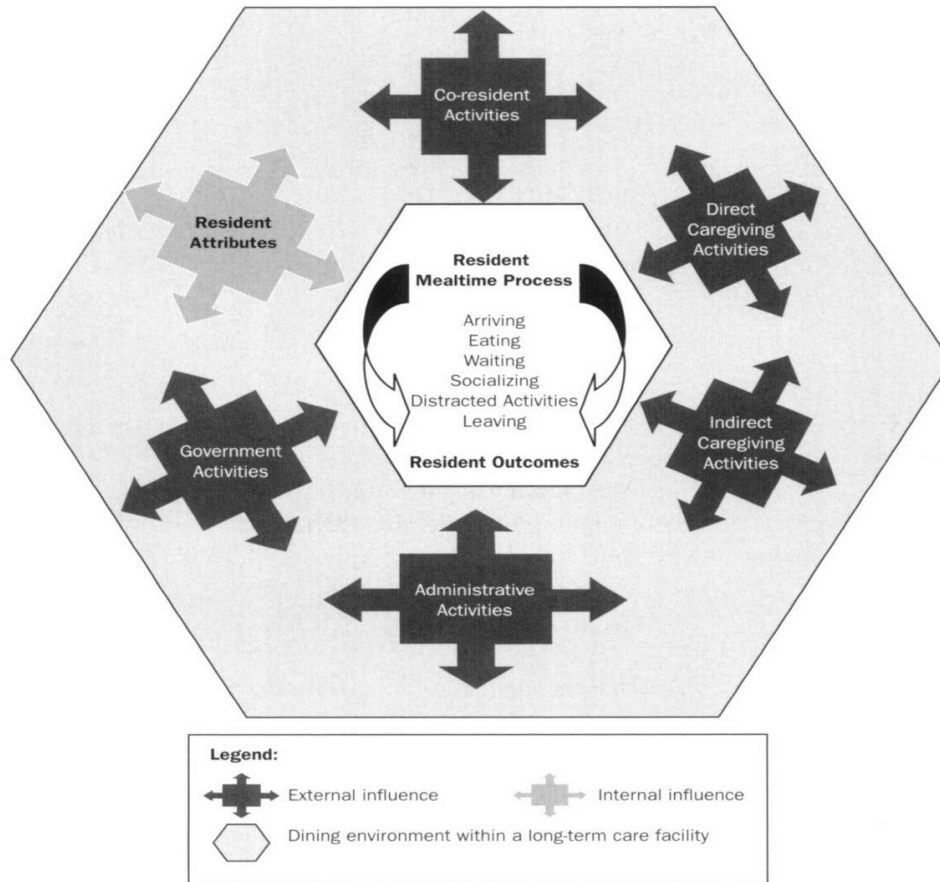
Figure 5. Mealtimes as active process in long term care facilities: a resident-centered model (Gibbs-ward and Keller, 2005)

3.3. Social Factors Influencing Mealtimes

Eating is a cultural and societal act (Bundgaard, 2005), and as such, it encourages interaction and connections among nursing home residents (Carrier et al.,2009; Philpin et al., 2011). To enhance autonomy, foster favorable social interactions, optimize nutritional intake, and ultimately enhance the quality of life, an optimal mealtime entails acknowledging and integrating the unique requirements, preferences, and reactions of each resident into the mealtime process (Gibbs-Ward & Keller, 2005). Many social facilitators and barriers play an important role during mealtime in long-term care facilities. In addition to a loss of appetite caused by a medical condition, the residents' unfamiliarity with the care facility's organizational norms, policies, and procedures may lead to a diminished interest in food (Holmes, 2006). In significant part, residents may be unable to adopt healthy behaviors due to institutional restrictions, such as restricted options and

poorly trained staff that disregard their dietary needs (US Department of Labor, 2003). Many older persons anticipate mealtimes as a social and physically active break from their usually sedentary life in care homes. Unfortunately, the older adults in hospitals, nursing homes, and other residential facilities frequently dine alone, restricting their dining pleasure and social interactions (Paquet et al., 2008). Many have described experiencing socially isolated and depressed, which has caused a reduction in food consumption (Herman et al., 2003).

3.3.1. Making conversation and sharing during mealtimes

Mealtimes were viewed as contributing to the larger "social fabric" of the nursing home by providing social interaction opportunities (Sydner & Fjellstrom, 2005; Curle & Keller, 2010). Staff acknowledged that a mealtime culture that fostered social interaction was vital for the wellness and health of residents, with one speech pathologist proposing that psychological and social necessities of residents may outpace nutritional needs. (Bennett et al., 2009). Research indicated that 'talking' was the most prevalent verbal engagement between residents at mealtimes (Hopper et al. 2007; Curle & Keller, 2010; Bennett et al., 2009). Mealtimes are a routine communal activity, and therefore, a natural moment for social engagement with peers (Berglandand & Kirkevold 2005; Reed and Roskell 1996). Mealtimes are the most common times of day for residents to engage in social connections (Hopper et al. 2007). Curle and Keller (2010) studied 63 residents over 14 lunch periods to investigate the social contact that happens between tablemates during mealtimes in senior homes. In their study, they discovered that tablemates welcomed one another upon arrival and sometimes exchanged additional pleasantries in an attempt to "create conversation." Subjects include the weather, how a person is doing, what they have been doing since the last time they met, and their future plans. Food was a prominent topic of conversation, with tablemates offering opinions on its appearance, flavor, and warmth (Curle & Keller, 2010). Some complained about the food or made sarcastic comments about it. Tablemates discussed other individuals, including their own tablemates, other residents, workers, guests, relatives, and outsiders. Tablemates praised one another on appearance such as, clothes and hair and talents for example, card playing and discussed what was occurring in the dining room and outside the windows or entrance (Bergland & Kirkevold 2007; Curle & Keller, 2010). On the other side, non-verbal communication was also observed while 'conversing' raised eyebrows, eye contact, a

wink, a smile, or a head nod indicating that the residents acknowledged others in the close proximity and engaged in interactions. The study found that 'making conversation' was a means to build contact that was somewhat limited, yet served to occupy the time during mealtimes (Curle & Keller, 2010; Bergland & Kirkevold 2005).

A grounded theory-based study on the significance and experience of mealtimes indicated that the act of sitting down to eat a meal offered prospects for interacting and communicating with one another (Keller et al., 2010). Mealtimes specifically strengthened physical, psychological, and emotional links with self, partner, and larger social networks. In order to connect with oneself, individuals ate peaceful meals alone to ponder and be with their own thoughts. Families and couples ate together as a means of maintaining unity, and mealtimes were frequently an "excuse to gather together." Dining with members of their social network created opportunities for interaction and facilitated the strengthening of friendships. Although opportunities to interact came at other times, connection was fundamental to the eating experience (Keller et al., 2010). For instance, an excerpt from a work on mealtime experience states, "I believe that doing anything together builds [a connection]." Clearly, eating is essential, as some individuals consume food three or four times a day. (Keller et al., 2010, p# 13). In the same study, individuals with dementia and their family partners described mealtimes as 'intimate' and 'connective' (Keller et al., 2010). Many phrases were used by study participants to characterize the strong connection that happened for some during mealtimes, including "hub", "must", 'hug,' 'warm fuzzy,' and a means of 'weaving us together' (Keller et al., 2010).

A study conducted in a nursing home on the significance of daily meals revealed that, in addition to illnesses and the past life of the residents, shared meals also provided an opportunity to talk on various topics (Bundgaard, 2005). The discussion included not only statements about the past and the present, but also future decisions. It was observed that the conversation at mealtimes revolved around what they had for dinner earlier, who prepared the meal, and the cooking skills. Conversations varied from how the food had been that day and what they desired for the following day to what they desired for Christmas dinner. The meals connected past, present, and future family mealtimes. There was also discussion about how to prepare a particular dish and, on one occasion, how dissatisfying the meal (soup) was the day before. According to the study's (Bundgaard, 2005) transcript, one of the participants stated, "It was too thin" (p# Lily). Another respondent stated, "She did not know how to make it, and the recipe she had was of poor

quality" (p# Alma). The conversation focused not only on the food, but also on the preparation and arrangement of the meals, as well as the individual who prepared them.

Bundgaard (2005) observed that during mealtimes, participants conversed in a casual manner about everyday topics. The conversation included teasing comments, snarling, and corrections. One of the participants mentioned, "We converse and tease each other like siblings" (Bundgaard, 2005, p# Alma). Occasionally, residents were reprimanded by other residents or staff. Starting talking about a resident's participation at a birthday party, defusing potential controversies, and discussing their own day-to-day activities, the staff members promoted friendly conversation. One staff member discussed a handball match she had played in, and the conversation continued to revolve around handball in general. There was lively conversation during and after meals, bringing life to the atmosphere. It was evident from listening to the conversations at the table that the residents generally treated one another with respect and were concerned about each other's challenges. Literature suggests that residents were also familiar with each other's moods and personalities (Duncan-Myers & Huebner, 2000; Mathey, 2001). During the mealtime, residents get an opportunity to spend much time with the staff and are able to hear and see what they were doing, which provided them with a better understanding of the staff's working conditions and resulting in less dissatisfaction with the staff. This understanding helps to shape both resident-resident and resident-staff communication (Pearson et al., 2003).

Social interactions among residents during mealtimes can impact their behavior, such as food consumption (de Castro & Brewer, 1992; Edwards & Hartwell, 2004; Hetherington et al., 2006). When an individual dines with persons he or she knows, social facilitation likely to have a stronger impact on food consumption (Locher et al., 2005; Locher et al., 2008). The process of social facilitation of mealtime may be explained by enhanced meal timeframe; increased relaxation, comfort, and reduced distraction by others (Hetherington et al., 2006).

A study focusing on the social aspect and interaction during mealtime in nursing homes observed 'Sharing: giving or sharing something personal with others' among residents in the dining table (Curle & Kealler, 2010). This differed from 'making conversation' as it was intended to be more personal, demonstrating companionship and an apparent closer social connection. Tablemates exchanged meals and personal

possessions such as, mail, pictures, books and newspapers. Sharing was also demonstrated in discussion by increasedself-disclosure ofof one's day, activities, and health problems. Tablemates discussed their difficulties, how they received assistance, family time, and daily events. Compared to the more superficial 'making talk,' these dialogues were more intricate, deeper, and occasionally entailed emotional displays. This extract from a study (Curle & Keller, 2010, Observer 3, Table 22) demonstrates the sharing of a preference/habit and an article, "Morag reaches for the bag of herbs on the table in front of her. She tells Cecile that she has a great deal. Cecile responds that she, too, has a great deal. Both Morag and Cecile add herbs to their soup. While beginning to eat their soup, they debate the book Cecile brought to the table."

A scoping review examined how governance structures related to mealtime practices influence residents' mealtime experiences in long-term care (Koh et al., 2022) and concluded that potentials for residents to engage in meaningful contacts with others during mealtimes are shaped by the actions of staff, who assist, or do not assist, residents' choices and socialization to some degree (Koh et al., 2022, Shune & Linville, 2019; Trincaet al., 2021). Staff members also perceive a "good meal" based on their own nutritional knowledge, mealtime management training, and personal beliefs and values (Pelletier, 2005; Reimer & Keller, 2009). Hence, staff comprehension of mealtime functions and procedures influences how residents perceive and make sense of mealtimes. Staff members perceived mealtimes differently. In a few facilities, interaction between employees and residents was limited to bringing meals to residents' rooms. (Holmes, 2019). Meal delivery methods and the eating atmosphere also influence how residents perceive and comprehend mealtimes (Keller et al., 2015), including interventions targeting production of food and meal delivery (Abbey, 2015), environmental adjustments, mealtime atmosphere, and food service. (Wafenschmidt et al., 2019; Byles et al., 2009), and enhancing staff ratios and educational access (Bertrand et al., 2011; Simmons et al., 2007). In addition, moldable temporo-mandibular denatures may enhance mealtime experiences for individuals with dysphasia since meaning is reinforced when food is recognizable (Ullrich et al., 2014). Programs that combine environmental improvements with staff education have a stronger influence on mealtime experiences than environmental alterations alone (Perivolaris et al., 2006).

Curle and Keller (2010) noted that tablemates typically had to wait before receiving their first course, allowing them to speak, assist one another, or crack jokes. Yet, once

meals were served, the authors observed that dining room engagement diminished. While some individuals continued to interact, others were more focused on eating. Prior to the first course and between courses, tablemates interacted the most; therefore, several courses increased the opportunity for tablemates to interact. In addition, although there was no time limit on how long residents could take to eat each course, the culture of staff needing to move on to other tasks for example, bringing the next course and clearing tables influenced interactions; tables were too small to accommodate multiple dishes. According to Curle and Keller (2010), spouses, guests, and employees all had an impact on mealtime interactions. When couples sat with other residents, their interactions were frequently reported to be less intimate than when they sat alone. Visitors and relatives separated residents from their tablemates by engaging in private conversation, relocating to a different table, or departing early to visit elsewhere. In these instances, it was observed that other tablemates were negatively affected by the absence of a tablemate and their interaction. In addition, the authors discovered that staff had a significant impact on interactions through their contacts with residents (Curle & Keller, 2010). The literature suggests two-fold interaction: a staff interacting with one resident, ignoring other residents sitting at the same table who might be interested in discussion, but refrained from participating since they are not approached by the staff (Keller et al., 2017, Keller et al., 2015). On the other hand, the staff making a general statement to the entire table, so addressing and engaging all tablemates. Such interactions could serve as a catalyst for additional interaction, often in the form of table chat, after the staff person has left the table (Keller et al., 2017, Keller et al., 2015).

3.3.2. Tablemate characteristics

An exploratory study on interaction during mealtime among nursing home residents specifically in dementia care unit and advanced physical care unit (no dementia) revealed that similarity between tablemates facilitated interaction (Curle & Keller, 2010; Saeed et al., 2019). Literature reveals that those who spoke the same non-dominant language, for instance, sought each other out for interactions, either by being placed at the same table or by relocating after a meal to other tables where comparable people sat. Accents altered interactions, as those who spoke in the same manner were able to understand one another, while those who spoke differently had difficulty understanding their tablemates (Curle & Keller, 2010). As a result of shared origins, tablemates had a

deeper understanding of one another, and eccentricities and humor were better welcomed. Similar interests and personalities also facilitated conversation and sharing. Single residents tended to be placed with individuals of the same gender. All-male tables were, on average, less engaged in social engagement than all-female ones (Curle & Keller, 2010; Saeed et al., 2019).

Conflicts at mealtime occasionally resulted in a clash between tablemates, whose effects persisted throughout the meal (Curle & Keller, 2010). Some residents would start communication with others, while others who opted to reply slightly or not at all would reject them. Individuals who intentionally rejected or disregarded their tablemates were not observed asking for assistance at meals. For instance, they would reach across the table for condiments rather than ask a tablemate to bring it to them. Some residents would lean in and speak to one another as if they were sharing a secret, excluding other tablemates.

Hearing, visual, cognitive, or health issues, as well as physical limitations that affected the process of eating, have the potential to hinder relationships (Curle and Keller, 2010, Pearson et al., 2003, Sidenvall et al., 1996, Cena et al., 2013). The authors observed some residents interacted with others despite these limits, whilst others with these weaknesses had to concentrate on eating, indicating that there is variation in the extent to which these traits affect interaction (Curle & Keller, 2010).

Pearson and colleagues' (2003) work on role of the staff during mealtimes in nursing home revealed that residents did not converse unless a member of staff was present to promote it. The nurses acknowledged this and expressed regret that this was the case. One of the nurses stated, "Yes, but even in the hallways and such, no one bothers to interact unless you initiate conversation. Yes. I mean, I know we shouldn't expect them to just burst out into... because they have conditions that brought them here, but I just...I don't know how to bring people together in settings like this" (Pearson et al., 2003, p# 8). The lack of engagement during mealtimes among nursing home residents is not uncommon (Sidenvall et al.,1996), and there are several potential causes. Sidenvall and colleagues (1996) list pain, nausea, melancholy, and weariness as reasons why residents in a long-term care were quiet at mealtimes. In some circumstances, the act of eating demanded high levels of focus and concentration and it was impossible to carry on a conversation. Individuals who were not physically or mentally challenged and desired to

communicate found it challenging to initiate a discussion with challenged individuals at their table or those with hearing or vision problems. For instance, residents did not want to shout because they knew they would not receive a response even if they did (Pearson et al., 2003).

In a study examining the psychosocial barriers and facilitators of mealtime among older adults in the North West of England, a number of participants discussed age-related changes in physical health, such as decreased mobility and increased chronic medical conditions, and how this might discourage people from eating with others due to embarrassment and self-consciousness about how their chronic diseases would affect their behavior (Saeed et al., 2019) Some participants were discouraged from attending because they were unable to consume substantial portions or at the regular meal times. Participants reported that they or other older adults felt self-conscious about being judged on the basis of their chronic health issues that interfered with their typical eating habits. One of the participants said, "I know someone with Parkinson's who literally had peas flying across the table. And I have a blind cousin who cannot see what he is eating, so he is quite conscientious" (Palacios-Cena et al., 2012, p# 13).

Prior research indicates that some residents have their own mealtime "group." The group has "veto power" over the residents, who must be accepted at the table (Cena et al., 2013). This means that if a new resident's manners or behavior are disliked, the group might request that he or she be relocated. Drooling, vomiting, or removing dentures from the mouth, as well as behavioral abnormalities, are seen adversely and may be grounds for exclusion from the table or even ejection from the dining room. Individuals with dementia-related behavioral issues are segregated into different eating areas from the rest of the residents (Palacios-Cena et al., 2012).

Evans and colleagues (2008) interviewed nursing home residents to explore their mealtime experience. The research demonstrates that some residents preferred eating in their rooms due to choking on food, intestinal gas issues, or a "sensitive stomach" that did not react well to watching others being fed. Residents were able to imagine happier moments when they ate in the room. One of the residents remarked, "That's the only time you can obtain privacy... I simply imagine that I am at home cooking for myself, and I organize my meal, prepare it differently, or alter it. I create a bacon sandwich with two halves of toast every time" (Evans et al., 2008, p# 5). In contrast, other residents preferred

dining family-style, with dishes put out on a tablecloth and diners distributing food to one another, as if they were at a dinner party. In addition, a pleasant ambiance was desired. The residents enjoyed eating with their friends while mocking and laughing with one another.

3.3.3. Receiving and providing support

Research indicates that receiving and providing assistance increases social interaction between staff and residents as well as between residents in long-term care settings (Curle & Keller, 2010, Amella, 2002; Keller et al., 2010; Nezlek et al., 2002; Pierce, 2000). Traditional categories of helpful interactions include physical, tangible, and informational assistance (Pierce, 2000). Physical aid included assisting others to sit or stand, removing obstacles such as walkers, pushing in seats, and passing out-of-reach stuff. The same residents and sometimes the same order participated in these routine interactions. Tangible aid differed from physical support in that it was not routine and frequently arose from accidents or exceptional situations for which resources may be offered to rectify the problem (Nezlek et al., 2002). Assisting to clean up spills, open packages, cut meals, encourage food consumption, and repeat food presentations to the deaf were examples of tangible aid. Occasionally, this assistance was asked such as adjusting a napkin or spontaneously offered for example adjusting a chair and helping make meal selections (Amella, 2002; Keller et al., 2010). Informational support included ideas or guidance, such as who to contact for assistance with health difficulties, what foods to consume for optimal health, and where to find canes or walkers (Pierce, 2000).

During mealtimes, dyad members exchanged support, defined as assistance in response to an identified or voiced need, based on the need for support and the willingness and capacity to provide it (Keller et al., 2010). Whether emotional, psychological, or physical, receiving and providing assistance strengthened relationships between dining companions. In the context of dementia, the condition led to a change in the amounts and types of support required and supplied. Physical support for meals occurred when one dyad member benefited from or relied on the other such in helping to pass food. Psychological assistance is directly related to psychological participation and include assisting the other with problem-solving, providing information or guidance, mentoring, or assisting with decision-making. In addition, assistance with menu selection was provided as a sort of psychological support during meals. Residents characterized

emotional support as joking, laughing, confiding, and simply being with people. A significant portion of dining with others is emotional. In many instances, eating with others dissipated negative emotions and acted as an emotional support, maybe due to its structured, communal aspect. One of the residents stated, "This is where the food really helps a lot. I mean maybe I can have a crappy morning or something for whatever reason, then enjoy lunch" (Keller et al.,2010, p# 21). The emotional contact surrounding a meal imparted a certain 'flavor' to this period, which altered the relationships between eating companions (Keller et al., 2010).

Gratitude was shown vocally and non-verbally by smiling, thanking, and shaking hands that frequently occurred after others gave physical assistance or support (Curle & Keller, 2010; Nijs et al., 2006). Affection was also detected, but less frequently than admiration and mostly amongst spouses or those who appeared to be close confidants. Affection differed from admiration in that it was manifested physically by actions such as touching or connecting arms, holding hands, dancing, and hugging or patting others (Curle & Keller, 2010).

3.3.4. Staff facilitated interaction during mealtime

Studies showed that residents who required assistance with meals appeared to have more interactions with the staff -- regardless of study settings or style of service (Barnes et al., 2012; Bowers et al., 2000). Those residents who did not require assistance were typically left to their own. Nonetheless, people who dined in the 'family-style' settings appeared to speak and interact with one another significantly more. During the meal, they seemed to have built strong ties and supported one another. Several of the apparently more capable individuals tended to engage in 'typical' table activities, such as pouring a drink for the person sitting next to them and stacking dishes after a meal. Conversations naturally occurred around the supplied food, with residents expressing how much and what they want. Others pushed poor eaters to consume some food, while residents expressed concern to the staff that one of them was ill or not eating enough. A study revealed that in settings where pre-plated meals were served, people appeared more distant and disinterested (Manthorpe & Watson, 2003). There was minimal or no communication between residents, although there was some communication between residents and personnel in family-style dinning settings. For instance, the majority of residents answered to staff questions, showing that they were able to speak but chose not

to. In contrast, family-style dining appears to foster a sense of camaraderie in the home, making mealtimes feel like significant social occasions (Manthorpe & Watson, 2003).

Interaction among staff and residents who required merely assistance with set-up rarely engaged in extensive conversation (Pearson et al., 2003, Nijs et al., 2006) The staff typically returned to check on the residents' well-being and limited communication to ensuring they were eating. Pearson and colleagues (2003) remarked that these individuals, who had a few challenges, were typically pleased to eat in silence. Staff members who were seated and providing full assistance had more opportunities to initiate dialogue with residents. There were numerous instances of nurses urging residents to eat by engaging in conversation with them. There were also instances of staff members ignoring the resident they were with, talking over them, or leaving the room while they were speaking. The staff noted that the level of interaction mostly depended on the responsiveness of the residents. Yet, there were instances of various amounts of engagement between certain residents and staff, indicating that there was no single explanation for the amount of talk.

There were instances where staff encouragement of resident interactions proved successful (Hubbard et al., 2003; Pearson et al., 2003). A general knowledge quiz at lunchtime or the strategic placing of a talkative person with less talkative residents was viewed as conversation starters. One nurse responded, "No, they don't [talk] at lunchtime, but I notice, when I do an early evening, which is your half-past 1 to 7 of an afternoon at teatime they seem to talk more, because you start a conversation off between them, and then they're right and they'll start talking to each other. But they've   only just started...you've got a few more people in that are willing to make that conversation, where, before, they'd just all sit there like, you know, a stuffed toy, more or less. No one's game to say the first word because they're not used to that person. It seems that, when given the opportunity, residents were willing and able to interact with one another." (Pearson et al., 2003, p# 8) As evidenced by multiple findings in the study, the benefits of this interaction may be substantial. In order to highlight the benefits of connection at mealtimes, Hubbard and colleagues (2003) discovered that when more people were present at a meal, they consumed more food. Social factors were attributed to this rise in meal size. Consequently, in a nursing home setting, promoting interaction between residents during mealtimes could enhance food intake and, ultimately, help lower the

prevalence of dietary deficiencies in this population (Hopper et al., 2007; Hubbard et al., 2003; Pearson et al., 2003)

According to research, providing more person-centered mealtimes in long term care improves resident quality of life by creating a more personalized and homelike environment (Barnes et al., 2013). The World Health Organization defines quality of life with reference to four domains: (a) physical health; (b) social relationships; (c) psychological health; and (d) the environment (World Health Organization, 2019; Casper et al., 2021). This involves satisfying the residents' physical, emotional, and social requirements (Chaudhury et al., 2013). The provision of a person-centered mealtime experience considers the circumstances and preferences of an individual, providing a comprehensive approach to care. Mealtimes can offer residents with a sense of identity, especially when residents have the opportunity to participate and are given options, as should be the case with a person-centered approach (Bolesma et al., 2014). The success of a person-centered dining experience is essentially determined by how many options residents have, not just with regard to the food served, but also where they sit and with whom. Social aspect of mealtime is one of the integral parts of person-centered care. Mealtime is an important event for residents in long term care for social interaction. Residents get an opportunity to talk about the food and their everyday life with their tablemates and staff. They can discuss on what they like and what they don't, their choices and preferences as well as their past experience of dinner at home that provides the opportunity to know the residents as a "person". In addition, mealtimes allow residents to get into a conversation and build relationship among residents. They might be encouraged to engage in positive social interactions by grouping them appropriately at tables in the dining room. Staff observed seating arrangements as a way to encourage social interaction and boost people' comfort (Pearson et al., 2003). Diligently setting up seating arrangements so that the residents can socially interact with each other is a part of person-centered care although not mentioned explicitly as such in the literature. Also, knowing the residents' choices and preferences where in the dining area they prefer to seat and what menu they like to be served first are also example of person-centered care. To sum, providing an opportunity to facilitate conversation among residents, letting them know each other better and offering a ground to build relationship aid to promote social aspect of mealtime and incorporate person-centered care.

3.4. Physical Environmental Factors Influencing Mealtimes

The physical environment is recognized as an important aid in the care of older adults, specifically those with Alzheimer's disease and other forms of dementia (Chaudhury et al., 2017; Day et al., 2000). Administrators and planners of long-term care assisted living, and other settings now consider the design as more than merely aesthetic. Design serves as a therapeutic resource for promoting the health and performance of older adults and people living with dementia (Chaudhury, et al., 2016; Day et al., 2000). Often, design guides provide "hypotheses" regarding how the spatial arrangement and furnishing of the physical environment may support the well-being of individuals with dementia. For example, to reduce the sensory overload that plagues people with dementia, layout recommendations advocate alterations such as the allocation of quiet rooms with soft shades, the removal of unneeded clutter, and the elimination of paging systems (Day et al., 2000). The sub-themes in this section described such physical environmental factors that influence mealtimes in long-term care.

3.4.1. Facilitating functionality and providing optimal sensory stimulation

The dining setting is essential to the feeding process of the residents (Durnbaugh et al., 1996). The environmental factors include the light sources in the dining area, the availability of assistive technologies such as adaptive bowls, plates, and utensils, and no-spill cups, the comfort of the chairs or wheelchairs in which residents sit during meals, and the fit between the resident and the chair in terms of maximizing positioning to facilitate eating (Slaughter et al., 2011). Chang and colleagues (2011) observed that in the dining rooms of long-term cares that are crowded and full of environmental distractions such as loud background noises, conversations among staff, and very vocal or noisy diners, residents, particularly those with dementia, tend to be impatient, agitated, and have difficulty eating. Similarly, other studies have revealed that institutional mealtime situations are frequently loud, disruptive, and noisy, with distractions or interruptions and plates frequently set out of reach of residents (Ort & Phillips, 1992).

However, in a study concentrating on the assessment and management of feeding difficulties in older adults, the author found that minor modifications to the dining setting can facilitate self-feeding behaviors (Amella,1998). According to the findings of

researchers, it is crucial that the lighting adequately contrasts and illuminates food and utensils (Hall, 1994; McDaniel et al., 2001). The Illuminating Engineering Society (IES) committee on lighting for the elderly and low vision individuals suggests a minimum of 50 foot-candles of ambient light for dining during active hours (Illuminating Engineering Society of North America, 1998). McDaniel and colleagues (2001) noted that designing a long-term care facility with an even distribution of light can be difficult, so the authors suggested combining pendant indirect lighting and cove lighting to provide even illumination and the distribution of high levels of ambient light without promoting glare. Liu and colleagues (2015) conducted a literature review on optimizing the eating performance of older adults with dementia residing in long-term care facilities. The review included eleven studies, one of which examined the effect of enhanced lighting and table setting contrast on the eating performance of residents (Brush et al., 2002). The study revealed a decline in the number of residents requiring assistance, an increase in the number of residents initiating or engaging in conversations with staff, and an improvement in residents' ability to locate and use napkins and follow simple mealtime instructions. The study's findings indicate that environment or routine modifications, such as improved lighting, table setting contrast, and family-style meal delivery, with or without staff training in mealtime support, were beneficial in enhancing certain aspects of eating performance. Environment and routine improvements can be simply implemented by LTC personnel to improve residents' eating comfort.

Poor lighting exacerbates visual impairments and is particularly problematic for residents, as food items may appear to mix together, rendering it hard to differentiate and place food on utensils (Brush et al., 2002). A pilot study was conducted to assess the effect of better lighting and table setting contrast on residents' oral intake and behaviors during meals in both assisted living and long-term care homes serving individuals with dementia. After improving the illumination and contrast of the table settings, the authors discovered improvements in oral intake and functional abilities at both sites. In addition to the visual enhancement of tableware, increased calorie intakes at meals were also noted when lighting was enhanced (Koss & Gilmore, 1998; Brush, 2002). Further research reveals the good impacts of improved illumination and color contrast between plates and table settings on dietary intake, agitation, and functional autonomy (Brush et al., 2002; Koss & Gilmore, 1998). Dunne and colleagues (2004) discovered that using high-contrast tableware, such as red plates, cups, and cutlery, as compared to low-contrast tableware,

such as white plates, cups, and stainless-steel cutlery, led to a significant increase in the food and fluid intake of people with severe dementia for example blue tableware with a high contrast generated comparable results, however low contrast pastel red and blue tableware did not.

The environmental viewpoint also encompasses the cultural context, such as how food is served (Clay, 2001), as well as the cultural compatibility of the food options offered (Altus et al., 2002; Marbury et al., 2007).

Bursh and colleagues (2002) examined the eating patterns of residential older adults and found that dining facilities that were crowded, loud, poorly lit, and smelled of unpleasant odor did not encourage healthy eating habits. Similarly, eliminating food preparation overcrowding in the dining area can lessen mealtime difficulties (Amella, 2004). The author suggested eliminating external distractions, such as turning off the television or moving it to another room. Brawley (1998) observed that noise and glare have a considerable impact on residents' mealtime comfort. The author noted that the typical setting of a group eating room can be a source of noise, movement, and glare, which may create agitation in residents living with dementia. Agitation may result in behavioral changes that inhibit meal consumption. Experts suggest removing harsh and institutional sounds from the dining area and replacing them with elements that make residents feel at home. Researchers revealed that alarms, intercoms, ringing phones, staff interactions that did not involve residents, loud televisions, and other equipment were common noise generators (Bharathan et al., 2007; Garre-Olmo et al., 2012; Joosse, 2011). High noise levels correlate with less social contact, increased agitation and hostility, disruptive conduct, and increased roaming (Chaudhury et al., 2017). Eliminating conflicting external stimuli by locking doors and turning off televisions, radios, and intercoms reduces sensory overload and anxiety (Butterfield, 2000).

In addition, Liu and colleagues (2020) highlighted in their analysis from the perspective of nursing aids that the dining room atmosphere itself was identified as a barrier for residents due to overstimulation and many distractions. One of the nurse aides explained, "Disruptive residents will begin to yell, then they will disturb a resident who is eating. Sometimes the dining room can be quite chaotic, and I believe it might be over stimulating at times. There are a lot of individuals to observe. Some individuals are quite loud and like banging on their plates" (Liu et al., 2020, p# 16). Goddaer and Abraham

(1994) stated that mealtimes should be tranquil, undisturbed, and perhaps accompanied by music. Numerous studies have showed that music has a calming effect on residents with dementia-related agitation and anxiety. Goddaer and Abraham (1994) utilized music in the dining room to soothe agitated individuals. A similar study discovered that playing music at mealtimes resulted in residents eating more slowly and spending more time at the table, as well as less reports of restlessness and agitation (Ragneskog et al., 1996). In a separate trial, when calming music was played during meals in the dining area, residents' agitation scores reduced dramatically (Ho et al., 2011). One study, conducted by Richeson and Neill (2004), revealed that 9% more food was consumed when music was played in the dining area. In a separate trial, researchers who played familiar music in the dining rooms observed a 20% increase in meal consumption (Thomas & Smith, 2009). Intriguingly, the authors identified the musical preferences of the residents by asking family members, and they claimed that giving familiar music rather than soothing music added to the significance of their findings. Furthermore, dining room music has been used to increase food intake (Ragneskog et al., 1996), and it is believed to increase concentration and decrease agitated behavior (Moore 2005; Watson & Green 2006). However, findings have been inconsistent, and no studies have determined which type of music is most effective in increasing food intake. In their studies aimed at enhancing the residents' eating experiences, researchers incorporate peaceful or calming music to lessen aggressive behavior (Moore 2005; Watson & Green 2006). Thomas and Smith (2009) investigated whether, by lowering agitation, music played during meals would enhance calorie consumption among 12 nursing home residents with moderate dementia. The study found that music relieves stress, helps residents remain calm and relaxed, reduces agitated behavior, increases dining room dwell time, and blocks undesirable sound.

In contrast, smaller dining rooms with a more homelike aesthetic also contribute to decrease anxiety and agitation, increase social engagement, and enhanced food and fluid intake (Desai et al., 2007; Nijs et al., 2006; Reed et al., 2005; Roberts, 2011; Schwarz, et al., 2004). Numerous pre- and post-renovation investigations have revealed similar outcomes. Perivolaris and colleagues (2006) found that the addition of three smaller dining spaces, each with seats for 25–30 residents and a homelike design, dramatically increased the calorie intake of residents. Recent modifications to the eating area, which included the installation of a kitchenette with a microwave, refrigerator, and coffee maker,

promoted greater resident independence and autonomy, social engagement, weight gain, and efficient staff teamwork (Chaudhury, et al., 2016).

3.4.2. Building familiarity and a sense of home and promoting safety and security

Several academics have hypothesized that the dining room environment significantly influences the mealtime experience (Rapp, 2008; Roberts 2011). In numerous long-term care facilities, dining areas are packed, noisy, and frequently filled with wheelchairs and walkers during meals. The lighting and temperature may not be optimal for the comfort of the residents. Instead of engaging residents in meaningful dialogue, staff personnel may chat amongst themselves. Thus, the chaotic atmosphere of a busy dining room may agitate persons with dementia, leading to improper or suboptimal mealtime behaviors and lower meal intake (McDaniel et al., 2001). In addition, institutional dining rooms that include nursing and foodservice equipment lack a homelike environment. This may prevent persons with dementia from recognizing when supper has arrived. In a similar manner, failure to offer consistent seating arrangements and tablemates during meals may promote confusion (Cleary et al., 2008). As vision fades, individuals who have difficulties distinguishing between food items on their plate may consume less calories (Dunne et al., 2004). Consequently, several studies have explored the impact of modifying the dining environment on meal consumption and nutritional status in older persons residing in various residential settings, with and without dementia. Some studies examined interventions such as amending lighting and noise thresholds, changing dining room decoration to resemble a home dining room, extracting institutional appliances from the dining area, using food aromas in the dining room to induce desire to eat, increasing visual contrast with different-colored dishes and tablecloths, and assigning seating to increase familiarity in the dining environment.

One of the research projects examined the effect of dietary consumption on the dining room environment of a geriatric long-term care facility. Researchers replaced the institutional tables and chairs with home-style dining area furnishings. In lieu of typical tray service, they served meals family-style in a dining room designed to resemble a home dining room. The duration of the trial was 32 weeks, comprised of 8 weeks of baseline observation, 16 weeks of intervention, and another 8 weeks of observation. Throughout the 16-week intervention period, researchers noticed a 25% increase in caloric, protein,

and calcium intake, and a 43% increase in vitamin D intake. This was one of the first studies to demonstrate that altering the dining setting might affect meal consumption. Two research analyzed changes in body weight as a result of alterations to the dining room setting. The first intervention consisted of enhancing the dining room environment and foodservice procedures, as well as reorganizing nursing staff assignments (Mathey et al., 2001), whereas the second intervention consisted of providing dining room environment training to staff and transitioning to family-style meals (Mamhidir et al., 2007). The research groups observed a mean weight gain of 3.35 kg and 0.53 kg. When low-contrast plates were utilized, there were no significant variations in meal consumption, leading the authors to infer that high-contrast dishes can increase meal intake. There is a substantial corpus of study on age-related decreases in taste and scent (Murphy, 2008). Regrettably, many older persons suffer from olfactory loss, which can be caused by ageing, certain diseases, or the side effects of drugs, and can severely impact meal intake and nutritional status (Schiffman & Graham, 2002). Although some study has focused on boosting the flavor and aroma of food, few researchers have examined the impact of aroma-enhancement interventions on the elderly population residing in long-term cares. In one study, residents were exposed to enhanced ambient aroma to stimulate hunger and improve nutritional intake. Researchers assessed the effect of the smell of baked bread as a stimulus aroma on meal consumption (Cleary et al., 2008). The authors discovered that meal consumption increased by 7% when a bread machine and bread aroma were present in the dining area. The frequency of self-feeding rose in some subjects when the smell was present, but reduced during the control phase (Cleary et al., 2008). While many facilities may utilize routine dining room seating assignments to increase resident familiarity with the meal experience, there is little evidence to suggest that this approach improves nutritional status. During the intervention stages of one such trial, the amount of time nursing home residents spent waiting for dinner delivery decreased significantly by 65 percent. In addition, researchers observed a trend towards higher meal consumption (Cleary et al., 2008). The authors note that the most significant impact is the reduction in wait time, and they hypothesize that when people with dementia experience less idle waiting time, they are less likely to leave the table or become upset. This may then result in increased meal consumption. Sadly, no additional research on the utilization of standard seating arrangements could be discovered. The portion quantity of meals served to residents is another factor to consider. According to numerous residents of long-term care homes, meal portions are excessively enormous and simply overwhelm individuals when

the meal is offered (Cluskey & Dunton, 1999). Consequently, Cluskey and Dunton (1999) examined whether the provision of smaller portions was associated with greater meal consumption. Nevertheless, contrary to their premise, the scientists discovered that when food quantities were reduced, meal consumption fell; appetite did not increase when portion sizes were decreased.

The environment of dining areas is vital providing a sense of safety and security since a substantial number of residents use wheelchairs, walkers, and other mobility equipment, thus it is essential that the pathway to the dining room and the dining room itself allow residents and employees to move freely and safely. Medicine carts, food carts, dish carts, waste baskets, and linen hampers can easily clutter the dining area and make table-to-table movement hazardous (Hung, 2013). Zgola and Bordillon (2001) proposed that, it is important that residents should be transferred to ordinary chairs to improve table posture and social interaction. Although small round tables are deemed safe to maneuver around (Marsden, 2005), square tables with bull nose edges may better separate dining residents' personal space (Briller et al., 2001). Moreover, table legs and height should be addressed in terms of their capacity to prevent wheelchairs and chair arms from being pushed underneath the table (Briller et al., 2001).

Adaptive built environments of care settings have been demonstrated to have substantial impact on the facilitation of person-centered care, notably in promoting and reinforcing positive experiences for example enhanced autonomy and independence for residents and minimizing negative behaviors such as social isolation, withdrawals and spatial disorientation among older adults residing in long-term care homes (Chaudhury et al., 2018; Geboy, 2009; Hung & Chaudhury, 2011; Gurung & Chaudhury, 2023). It is believed that the dining room's constructed environment contributes significantly to the residents' mealtime experiences, which are influenced by their personal preferences, habits, and life history (Chaudhury et al., 2013; Geboy, 2009). In addition to nutrient consumption, mealtimes are frequently associated with social, cultural, and psychological factors that might promote and meet the specific preferences and needs of older residents in care facilities (Chaudhury et al., 2013). Thus, the incorporation of person-centered care practices in nursing homes is viewed as contingent upon the incorporation of suitable built environment elements in dining areas (Gurung & Chaudhury, 2023)

Current empirical research on the importance of the built environment for mealtimes indicates that dining amenities, such as a cozy, intimate, and domestic ambiance, provide opportunities for increased social interactions, individualized attention, and a feeling of connectedness. These factors can lead to optimal mealtime experiences for both residents and staff in long-term care (LTC) settings (Chaudhury et al., 2013; Hung & Chaudhury, 2011; Van Hoof et al., 2010; Gurung & Chaudhury, 2023). Appropriate lighting, contrasting color, sensory cues, and accessibility contribute to increased functioning, orientation, and feelings of safety and security during mealtimes (Chaudhury et al., 2013; Nolan & Mathews, 2004). Moreover, significantly reducing institutional features with family-style dining service, unique and homely decoration, and smaller and more intimate dining rooms provided optimal sensory stimulation, familiarity, privacy, and a greater level of interpersonal interactions, all of which improved the quality of care and quality of life of residents in long-term care homes and promote personhood (Chaudhury et al., 2013; Roberts, 2011).

3.5. Organizational Factors Influencing Mealtimes

The long-term care sector has recognized the need for review and modification of nursing facilities in order to embrace the autonomy and independence of older adults, resulting to a shift in culture campaign (Koren, 2010). The values and beliefs of organizations that undertake culture transformation are "personhood, knowing the person, maximum choice and autonomy, comfort, nurturing connections, and a supportive physical and organizational environment" (Crandall et al., 2007). The goal of person-centered care process is to enhance the residents' well-being and quality of life (Tellis-Nayak, 2007).

Advocates and researchers in long-term care address numerous workplace-related concerns in such settings (Tellis-Nayak, 2007). Typically, LTC organizations employ a biological model of care and priorities physical care duties and medication administration over organizational transformation (Canadian Healthcare Association, 2009). Instead of addressing problems at the organizational level, LTC organizations expend their resources to comply with systemic and regulatory norms (Institute of Medicine, 2001; Ontario Ministry of Health and Long-Term Care, 2009). Communication issues, incoherent supervision of quality care, and untimely responses to resident necessities are frequently cited by LTC staff as management issues that result in errors,

poor health outcomes, and resident disappointment (Rhode Island Quality Partners, 2002; Coleman, 2003; Grant, 2008; Canadian Healthcare Association, 2009).

Staff burnout is a common consequence of excess workload and job-related stress in long term care that exacerbates emotional fatigue, feelings of low personal achievement, and substantial staff turnover (Evers et al., 2002). Time-critical, labor-intensive tasks lead to job stress among primary care practitioners such as nurses and care aides, as well as job dissatisfaction and a decline in organizational commitment (Ingersoll et al., 2002; Morgan et al., 2002).

According to Shaller's (2007) model, there are seven significant variables that are crucial in surmounting work-related obstacles and accomplishing person-centered care at the organizational level in the healthcare industry. The essential components for successful healthcare delivery encompass various factors such as the involvement of upper management, a unified strategic outlook, engagement of personnel and family members at various tiers, a favorable work environment for all caregivers, a methodical system for measurement and feedback, a suitable physical infrastructure, and a supportive information technology framework (Shaller, 2007). Although the indicators are derived from healthcare and hospital settings, this framework can be extended to long-term care facilities and can serve as a roadmap for prioritizing person-centered organizational practices that promote the satisfaction and overall well-being of residents.

Implementing a more person-centered approach promotes long-term care organizations to abandon ancient institutional bureaucracy, dictatorial policymaking, unsatisfied staff, industrial interiors, and restrictive environmental design. Tellis-Nayak (2007) highlights the responsibility of administrators and directors of long-term care in facilitating team cohesion and motivating direct care providers to progress in the workplace and provide quality care in pursuit of culture change and organizational transformation. In addition, some empirical studies examine the structural components in long-term care that enhance or reinforce the social system for staff and carers; appropriate and uniform staffing and self-managed team work improve the quality of care, motivate staff, and boost job satisfaction and commitment (Barry et al., 2005; Castle, 2000; Castle & Engberg, 2005; Riggs & Rantz, 2001; Yeatts et al., 2004).

Alzheimer's Association (2019) reports that certified nursing assistants (CNAs) are responsible for assisting residents with dementia during meal times in long-term care facilities across the United States. Studies indicate that providing adequate mealtime assistance to individuals in need can substantially augment the burden on caregivers (Edward & David, 2015; Simmons et al., 2008; Volkert et al., 2015). The issue of concern for nursing home administrators and executives pertains to the likelihood of CNAs experiencing burnout and recurring turnover, which can lead to a decline in the quality of care and an increase in regulatory shortcomings. This has been highlighted in various studies (Donohue & Castle, 2006; Lerner et al., 2014; Molero et al., 2018). Therefore, it is imperative for administrators to have a comprehensive understanding of the factors that contribute to caregivers' strain among CNAs.

This section will review the organizational factors influencing person-centered care in mealtimes in long-term care.

3.5.1. Task-oriented culture

A task-oriented attitude is a significant concern at mealtimes since it fails to support the particular needs of residents and disregards the psychosocial factors of mealtime caregiving (Kayser-Jones, 2000). Due to staff's demands for control and efficiency, nursing staff tend to focus on the task of feeding rather than the residents during mealtimes (Amella,1999; Gibbs-Ward & Keller, 2005; Moore, 1999; Pearson et al., 2003; Schell & Kayser-Jones, 1999; Sydner & Fjellstrom, 2005). Studies also found that nursing aids forced residents to consume more food (Chang & Lin, 2005; Pierson, 1999; Schell & Kaye-Jones). Hill (2002) hypothesized that the fact of nursing home care being centered on duties instead of residents may be a buffering strategy for nursing aids, as it may be challenging for them to emotionally connect in each person. Pelletier (2005) found in a study that there were in fact two types of staff: (a) "technical feeders," who believed that providing sufficient calories was the primary objective; they attempted to finish feeding in a timely fashion and did not interact with residents; and (b) "social feeders," who believed that feeding was an opportunity to interact with residents. Moreover, institutional practices may contribute to residents' depersonalization. Evans and Crogan (2001) noted that the routine usage of bibs on residents and the placement of a medication cart during mealtimes not only remind residents of their constraints, but also reinforce the institutionalization process in the environment.

3.5.2. Equipped to address the needs of residents

Douglus and colleagues (2020) explored organizational and health care policy factors that impact the ability of CNAs to assist nursing home residents with dementia during meals. According to the CNAs who participated in the study, the organization must better equip them to satisfy the needs of the residents, as this is a crucial aspect in determining the success of mealtimes. Inadequate dining room equipment and/or menu selections impede the provision of mealtime support to residents with dementia. CNAs reported that having the proper equipment and supplies in the dining room made it easier for them to feed people with dementia. CNAs also recognized clothes protectors, specialized silverware, and customized equipment such as divided plates. One of the CNAs mentioned that "personal equipment that certain [residents] need to make it easier for them to eat. Yeah, all that plays a big part" (Douglus et al., 2020). In contrast, the lack of essential dining supplies impeded their capacity to offer mealtime assistance. One CNA remarked, "We need to have everything we need at one time." "And not bring it up piece by piece," added another CAN.

The significance of the facility's food menu on CNAs' abilities to assist residents at mealtimes was also explored. Researchers observed, based on the verbal responses of participants and a review of nonverbal behavior that CNAs believed the diversity and flavor of menu items either helped or hampered their ability to accomplish their work obligations. One of the CNAs remarked, "You don't get the variety. You don't get the ambiance of the restaurant. You don't get the service. It's okay, here's your drink. If you don't want it, let me get you some soup. Let me get you a sandwich. It's what they've got on hand, it's not what you want." (Douglus et al., 2020, p# 15) In addition to preventing weight loss, feeding residents with their preferred foods would likely improve their intake, hence maybe reducing their need for assistance. A participant commented, "You're giving them what you know how to cook, but you're not getting insight on what they like to eat. If they're eating stuff that they like, I guarantee you, the weight will pick back up" (Douglus et al., 2020, p# 6).

Another study explored the organizational factors that potentially affect food quality and food service in the nursing home from residents' perceptive and the finding regarding the food served was consistent with the former study discussed above. Good meal was characterized as food that tastes well, is freshly cooked or made from scratch, and is

prepared with care. One of the participants of the study mentioned that "That's the time I remember most when I enjoyed food not because I cooked it, but because it tasted like something that was close to home" (Shultz et al., 2008). Negative qualities of food included concern or dislike about the preparation or presentation. One of the residents remarked, "They just open them up [canned mixed vegetables] and throw them on, no seasoning or nothing, just carrots and peas and cornrows … that gets awful monotonous and same with the pasta, and it don't seem like to me that they put a lot of effort into preparing the meals to make them taste good" (Shultz et al., 2008, p# 9).

3.5.3. Inadequate staffing and their training and communication skills

Another critical concern in long-term care facilities that has a big impact on how staff cares for residents during mealtimes is the lack of staffing to assist residents. In a qualitative study authors discovered that insufficient staff members made meals a rushed and miserable experience for residents; residents were served too rapidly and with an overwhelming amount of food every bite (Kayser-Jones & Schell,1997). A staffing statistic indicated that a resident needed an average of 38 minutes of help each meal, however on average only 9 minutes were provided (Simmons et al., 2001). According to experts, at least one nursing staff member is required for every two or three residents who are completely dependent in eating, and one staff member is required for every two to four residents who are partially dependent. (Harrington et al., 2000). The organizational context also effects the way nursing aides work during mealtime. Roberts and Durnbaugh (2002) observed that staff members were not assigned to the same residents and that they did not appear to be familiar with the residents or their eating habits. Additional organizational hurdles to mealtime included an infeasible staff burden, insufficient assistance from nursing supervisors, and limited educational opportunities for continuous learning needs (Crogan & Schultz, 2000)

CNAs mentioned how staffing levels can substantially affect the quality of mealtime support provided to residents. Their concerns on the shortage of staff at mealtimes were expressed in the following statement: "Even when there's two of us, we've got one on the hall and one in the dining room at all times, and we've been reprimanded for that and its impossible. It takes you an hour plus to feed just two people. Sometimes, it's an hour plus just to feed one. They're [the residents] still sitting there and everybody else is finished and they still haven't had their food" (Douglus et al., 2020, p# 11).

Residents reported a lack of personal attention when there was limited or no assistance to assist residents with meals, monitor their intake, or return them to their rooms shortly after eating. According to residents Inadequate staffing, also caused issues with cooking food for a sufficient amount of time, cleaning up between meals, and resolving equipment issues so as not to disrupt dining service (Shultz et al., 2008).

The training of the CNA is another significant individual aspect that can aid or limit the staff skills in delivering mealtime assistance to nursing home residents with dementia that includes both formal and informal training. Douglas and colleagues (2020) conducted another qualitative study to explore the individual and interpersonal barriers and facilitators CNAs experience when providing mealtime assistance to residents with dementia. Participants of this study identified caregiving for children or relatives who were elderly in the past prepared participants for their CNA training and employment, allowing them to assist people with dementia during meals. Several respondents in this study highlighted a need for formalized dementia care training. Dementia caregivers are vulnerable to increased levels of stress, burnout, and emotional weariness, which negatively affects the care recipients and the quality of care provided (Duffy et al., 2005). In a study evaluating the effects of training on aged care paraprofessionals, it was determined that inadequate training was an "unmet need" and that addressing this issue might reduce stress and burnout among these workers and improve the quality of their care (Stevens-Roseman & Leung, 2004).Numerous studies of nursing assistants and other health care professionals have, not surprisingly, emphasized the significance of appropriate staff training and the need for dementia-specific training to address knowledge gaps and improve care (Blumberg et al., 2018; Chang & Roberts, 2008a; Cook et al., 2012; Furker & Nilsson, 2009; Leson et al., 2014). Positively, training programs have demonstrated promise for enhancing knowledge and caring abilities. In a study conducted by Chang and colleagues, hands-on training increased staffs' knowledge of dementia and the application of appropriate feeding techniques (Chang et al., 2006). Furthermore, a study by Pimentel and colleagues (2020) demonstrates how effective feedback can improve both the quality of training and the responsiveness of frontline staff to changes in the long-term care setting. In a recent systematic review of training methods for dementia care, the authors concluded that training is most likely to be beneficial when learners actively participate and "hands-on" approaches are employed (Surr et al., 2017).

There have been numerous intervention programs to assist formal dementia caregivers with developing their communication abilities. Due to the fact that residents in long-term care frequently lose the ability to communicate effectively and demonstrate disruptive behaviors as a result of unfulfilled demands (Algase et al., 1996), it is crucial that caregivers be educated in communication skills that allow them to provide the appropriate care. A training was arranged by Stevens-Roseman and Leung (2004) trained caregivers of a dementia care center in communication skills for active listening, managing older persons with memory loss and pain, and assisting residents in expressing non-verbal signs. Likewise, a program known as FOCUSED (F: functional, O: Orient to topic, C: Continuity of topic--concrete topics, U: Unstick any communication blocks, S: Structure with yes/no and choice questions, E: Exchange conversation--encourage interaction , D: Direct, short, simple sentences) trained LTC caregivers in verbal and non-verbal communication styles, such as using touch and eye contact as non-verbal cues, repeating nouns and not pronouns, and simply repeating the topic of the conversation throughout the discussion (Ripich et al., 1995). Bourgeois and colleagues (2003) provided a one-on-one communication skills training in a dementia care facility that taught caregivers techniques such as "addressing the resident by name," "giving short and clear directions," and "talking about the person's day or life". Whereas ineffective techniques that "disabled communication" included ignoring or interrupting, speaking on behalf of the person, using complex or technical language, and "talking out of earshot", authors identified the use of yes/no questions or reduced background noise during conversations as means of effective communication. (McCallion et al., 1999; Allan & Killick, 2008). Kolanowski (2015) found that frequent written communication and documentation of resident behaviors and moods in addition to verbal and non-verbal communication, were shown to enhance information exchange and person-centered care.

 Caregiver training in communication skills boosts awareness of communication strategies, minimizes staff turnover, and enhances interactive abilities (McCallion et al., 1999; Steven-Rose & Leung, 2004). In focus groups, direct care staff underlined the significance of adopting visual means of learning as opposed to Internet-based or other kinds of written knowledge. Critically, training helped the staff recognize that 'complex' actions frequently indicate unmet needs (Algase et al., 1996).

Person-centered care can also be improved by educating caregivers to create strong ties not just with residents, but also with their families and loved ones, thereby

fostering collaboration and supporting partnerships (Viau-Guay et al., 2013). Gladstone & Wexler (2000) found this link to be helpful in a study examining the staff attributes that family members in long-term care find valuable. Families appreciate the attention and care given by staff to residents and family members, as well as the sharing of information and possibilities for collaborative problem solving and family participation in the care of residents (Galdstone & Wexler, 2000). To facilitate family cooperation and participation in caregiving, staff may consider taking time to interact with family members, address questions thoroughly, validate family concerns, and decisions, notify households of ongoing care concerns and resolutions, enquire how they would like to be involved in care, recognize and respect the sustained family support obtained, start engaging families in problem-solving, and pay attention to family concerns (Galdstone & Wexler, 2000).

Administrators and managers typically serve as sources of expertise and problem-solving channels in long-term cares. Organizational rules and procedures reflect and specify resident preferences and values, leaving little room for flexibility and resident choice (Corazzini & Anderson, 2014). Although "direct-care employees are frequently placed in settings requiring extremely sophisticated interpersonal and communication skills," the aforementioned findings underscore the necessity for intensive staff training, especially when caring for people with dementia. Staff training in "adaptive leadership" strategies might be beneficial for addressing adaptive issues, for example, uncertain problems with no present solutions that cannot be managed using solely technical competence (Heifetz et al., 2009; Thygeson et al., 2010). To build a person-centered solution, for instance, to accommodate a resident's choice of bath times, direct care staff should be able to generate timely, tailored solutions notwithstanding staffing mix, shift changes, and staff availability (Corazzini & Anderson, 2014). This is a perfect example of the adaptive issues commonly experienced in long-term care facilities, for which there is no answer in the organization's extensive policies and procedures. It is necessary for LTC administrators and directors to rethink the technical identification and provision of care in LTC and to encourage direct care staff to collaborate with residents and families to overcome adaptive barriers and ultimately facilitate person-centered care.

3.6. Meaning of Mealtime to Residents

The primary occupation in long-term care and the activity around which the daily routines are organized, is "mealtime" (Hsiu-Hsin et al., 2008). Residents experience a

sense of safety, consistency, and control over their everyday activities during mealtimes. Food is a significant part of society and is closely related to aspects of daily life that are social, economic, and religious. Food can mean many different things depending on the social and cultural context (Helman, 2007). Food connects nursing home residents to their personal memories and serves their physical and psychological aspects (Philpin et al., 2011). The role of food as a coping mechanism by older adults has been demonstrated empirically; the capacity to eat offers possibilities to adjust to changes of life in LTC (Evans et al., 2005). The freedom of choosing where and with whom to eat is a priority for older persons (Cohn & Sugar,1991). Some residents lack autonomy if they lose the ability to choose their meal or determine with whom to eat. Autonomy refers to the capacity to make decisions when referring to food. Food can be seen as a symbol of societal acceptance. The practice of sharing meals, room, and company with others at the nursing home contributes to social inclusion for the residents and fosters a sense of belonging (Pearson et al., 2003; Bundgaard, 2005). Food can also serve as a means of individuality and identity. Family, past background, and food culture all play significant roles in shaping one's identity. Considering tastes, aromas, preferences, and eating patterns, each resident creates a nutritional biography (Hoffmann, 2008). Nonetheless, all elements of the eating experience tend to be predetermined and structured in a nursing home setting. It is critical to comprehend how residents feel about and value mealtime. The perspectives of residents on their dining experiences are discussed in this section.

3.6.1. Mealtime culture

With people expressing common meanings and experiences of food and considering mealtimes as providing a feeling of social normality and a chance for social contact, the socio-cultural relevance of mealtimes emerged as a distinct theme in the literature. Residents viewed mealtimes as the center of the day, around which all other activities were organized (Bennett et al., 2014; Palacios-Cena et al., 2012). The timing of daily rituals and how the day of residents is structured are influenced by mealtimes (Philpin et at., 2011; Carrier et a., 2009). According to Bourdel-Marchasson (2010) and Hoffmann (2008), nursing homes serve their dinners too early, causing the time between dinner and breakfast to be 10–13.75 hours. In a study to explore the significance of the mealtime experience among residents of nursing homes in Spain one of the residents said, "I don't need a clock; when we are summoned for breakfast, it is nine in the morning; lunch is

about one; and in the evening, when the sound of carts in the kitchen is heard, it is eight in the evening" (Palacios-Cena et al., 2012, p# 7). The timing of meals provides a frame of reference for planning daily activities for the residents. According to a resident, "Cleaning comes before breakfast, after breakfast come therapy, wound dressing and medical checkups, and after dinner come recreation, games, and crafts . . ." (Palacios-Cena et al., 2012, p# 13). Authors of the same study noted that having control over some aspects of their lives while living in the residence comes from being allowed to choose what, when, how, and where to eat. The researchers also mentioned that some residents view eating as a symbol of societal normalcy. They felt integrated as evidenced by the resident's comment that "Being able to feed ourselves, without help, means we are normal." They were able to feed themselves while sharing with others and abiding by nursing home rules. The resident added, "We don't need to be supervised in case we cause trouble or need help . . ." (Palacios-Cena et al., 2012, p# 7).

Mealtimes were considered as a significant contributing factor to the border "social fabric" of the care home (Kofod, 2004). Residents who talked about missing their "home" or "spouse's" cooking and who expressed their satisfaction of preparing a "cooked dinner" or "good meal," which included roast meat, potatoes, veggies, and gravy, confirmed the socio-cultural relevance of mealtimes (Adams et al., 2013; Philpin et al., 2014). It seemed that the transition in responsibility for meal provision extends further than the pleasure of the meal itself to the satisfaction gained from its preparation and the role of the cook as provider or host as one of the residents mentioned, "I feel less of a woman... I'd been cooking for 70 years…it was my job… and now what is my role?" (Keller et al., 2010, p# 14). According to the literature, meal preparation was a significant component of many residents' daily lives before to entering a care facility, especially for female residents.

The provision of culturally-rooted traditional or familiar food in care homes was perceived positively by residents (Adams et al., 2013; Philpin et al., 2014). The traditional meal seemed to establish a noteworthy correlation with the communal recollections of familial dining experiences prior to admission into care, strengthening the residents' sense of self, and the cultural significance attached to familial meals. As one resident stated: "There is no greater wealth for somebody than being able to eat and feed his family" (Palacios-Cena et al., 2012, p# 11). In addition to contributing social cohesion, traditional food and customs also contributes to residents' quality of life (Evans et al., 2005).

3.6.2. Meals shaped a homely place

One of the primary themes highlighted in the literature was that meals contributed to the creation of a homely place. Food preparation, cleanup, and the meals themselves occupied a significant amount of time and space. Residents and staff appeared to find the dining area to be a pleasant place to spend time, as the meals fostered socialization and conversation. One part of enjoying a homelike environment is having a pleasant place to go, be, and do activities. In research that intended to determine the significance of everyday meals, kitchens with dining tables were cited as such a setting by residents (Bundgaard, 2005). One of the residents described it as follows: "I call it our living room; it is a nice room. I don't know if we have the best one, it might be, they say so…" (Bundgaard, 2005, p# Alma). The space created the feeling of a home rather than an organization. The resident commented about the kitchen/dining room, "This is our home, yes, in the nursing home I lived in before it (the dining room) was the main thoroughfare" (Bundgaard, 2005, p# Alma). The authors mentioned that it was where the residents gathered after meals to continue conversation or simply observe and listen to activities. It was also a hub of activity and a hub for a working community, with residents performing a variety of tasks to keep the facility operating. As an alternative to remaining idle, Bundgaard (2005) discovered that some residents preferred to be engaged in everyday chores. Participation in the activities surrounding meals occupied a great deal of time and made the day pass quickly and happily. It established daily routines and a measure of stability and organization. Frequently, the residents remained at the table after it was cleared to play card games or converse about the past, such as the restaurants they had visited, or the future, such as what would be happening outside the residence.

3.6.3. Choosing food

The theme of "Choosing Meals" addressed residents' perspectives on menu choices to fit their preferences, as well as the alternatives they required for selecting items not on the established menu. Many studies found that residents discussed the issue of inadequate variety at length. Evans and colleagues (2003) examined the viewpoints of nursing home residents regarding the quality of meals and found that those who were satisfied with the meals nevertheless emphasized the need of variety. One of the residents remarked, "You never get tired of the food, all of a sudden, they will be serving one type and then they serve something else. It is fun to open the cover on the dish" (Evans et al.,

2003, p# 9). The need for choice underlay the majority of resident comments in this category, such as the option to choose alternatives to the meal's pre-selected entrée if the resident did not enjoy the selection: "When we do get something we don't like, we ask them to go down and check what the alternative is. . . . If that doesn't suit us, they are willing to make us a sandwich or go way out to come up with something" (Evans et al., 2003, p# 5)). Changing menus was also a tactic for fostering choice, and many residents understood the staff's efforts to satisfy everyone. The resident continued, "They keep changing menus–how you get menus to suit 200 people of every shape and description is very hard to do" (Evans et al., 2003, p# 5). Some individuals could enjoy their eating experience more if they tried new cuisine. The authors discovered that picking new foods to periodically alter the menu was particularly well-received: "We were invited to ...a food fair so that they could improve on what they were feeding the patients here. It was delightful how you could go over to that fair and find three new salads and four new soups!" (Evans et al., 2003, p# 3). In contrast, it was occasionally crucial for residents to be able to make decisions outside of the system. One example would be the decision to consume food made elsewhere. The enjoyment of traditional cuisine was essential to recalling happier times. Here, family members stepped in, bringing traditional foods from home on a daily basis or even offering special foods such as bread, handmade jam, German cake, custard, special salads, and hot rolls to fulfil residents' appetites and emotional needs.

Since person-centered is all about considering a resident as an individual and providing care considering their personal preferences and choices, knowing how the residents feel about their mealtime is vital. Person-centered care can best be provided when residents as an individual can be understood better. Care providers can offer individualized care that supports better quality of life of residents by considering a person's history, past, present, and future objectives, connections, needs, and choices (Bown et al., 2015). Therefore, the meaning of mealtime for residents will educate the care providers more how to incorporate person-centered care in their practices.

Chapter 4.   Discussion

This literature review has examined the published evidence on residents' mealtime experience in long-term care homes. The review has focused on what is person-centered mealtime care, the factors that facilitate or hinder residents' mealtime experience and how person-centered care can provide quality dining experience. It has identified five thematic categories of person-centered care and residents' mealtime experience across the studies: person-centered care, social factors influencing mealtimes, physical environmental factors influencing mealtimes, organizational factors influencing mealtimes and meaning of mealtimes to the residents. Overall, this review explains how the above-mentioned factors shape residents' mealtime experience, although the evidence is limited in the area of mealtimes and physical environment and organizational issues.

The findings of this review will be useful for healthcare professionals, administrators of care homes, researchers, and policymakers to optimize mealtime care for residents in long-term care homes. First, the findings point to what is person-centered mealtime care and how it is conceptualized. It is worthwhile to note that, by and large, the empirical studies reviewed were not theoretically grounded in person-centered care. Person-centered mealtime care means providing food choices and preferences, supporting independence, promoting the social aspects of mealtimes and showing respect. This review has demonstrated that a person-centered mealtime is well understood, although there have been relatively few well-designed studies in this particular area indicating the positive outcomes of this care. In addition, comparing to health or nutritional outcomes of food intake in LTC, there is limited research on residents' satisfaction and social interaction during mealtimes. More research is needed to explore whether the components of person-centered mealtime care promote social interaction, and resident satisfaction of mealtimes.

Second, the findings suggest social interaction as an important part of residents' mealtime experience. In the existing literature, mealtimes were viewed as contributing to the larger "social fabric" of the nursing home by providing social interaction opportunities (Sydner & Fjellstrom, 2005; Curle & Keller, 2010). Also, findings confirm that mealtimes are the most common times of day for residents to engage in social connections. There is strong evidence that social interactions among residents during mealtimes can impact

food consumption positively (de Castro & Brewer, 1992; Edwards & Hartwell, 2004; Hetherington et al., 2006), which can be reduce malnutrition in care homes. An interesting finding is that the potential for residents to engage in meaningful contacts with others during mealtimes is influenced by the actions of staff -- who assist or do not assist, residents' choices and socialization to some degree (Koh et al., 2022, Shune & Linville, 2019; Trinca et al., 2021). The findings point to some barriers, for example, hearing, visual, cognitive impairment, or health issues, as well as physical limitations that affected the process of eating and have the potential to hinder social engagement (Curle and Keller, 2010, Pearson et al., 2003, Sidenvall et al., 1996, Palacios-Cena et al., 2012).

Third, although limited, the findings suggest that enhancing the mealtime experience of residents in care homes is linked to a variety of physical environmental features of the dining area -- such as small dining spaces that have homelike ambiance, appropriate lighting and color contrast, minimized noise, presence of appropriate music, orientation cues, and furniture grouping to promote social engagement. The reviewed studies have revealed that institutional mealtime situations are frequently loud, disruptive, and noisy, with distractions or interruptions and plates frequently set out of reach of residents (Slaughter et al., 2011; Chang, et al., 2011 and Ort & Phillips, 1992). The findings also revealed that minor modifications such as enhanced lighting and table setting contrast can facilitate self-feeding behaviors and increase food consumption (Bursh et al, 2002; Chaudhury, et al., 2016; Chaudhury, et al., 2013, Clay, 2001; Day et al., 2000). Overall, significantly reducing institutional features with family-style dining service, unique and homely decoration, and smaller and intimate dining rooms provided optimal sensory stimulation, familiarity, privacy, and a greater level of interpersonal interactions, all of which improved the quality of care and quality of life of residents in long-term cares and promote personhood (Chaudhury et al., 2013; Roberts, 2011).

Fourth, this review pointed several organizational factors influencing mealtime experience. Although sufficient staff and continuous monitoring during mealtimes to enhance mealtime care are critical for a person-centered mealtime environment, research identified staff education and staff shortages as limitations in mealtime care. This review suggests that the reality of care practices and interactions being centered on tasks, may be a coping strategy for care aides, as it may be difficult for them to emotionally engage with the residents. Caregiver training to boost awareness of effective communication

strategies, minimize staff turnover, and enhance interactive abilities (McCallion et al., 1999; Steven-Rose & Leung, 2004) are identified as responsive strategies.

The final theme reveals mealtimes as the center of the day for the residents, around which all other activities are organized (Bennett et al., 2014; Palacios-Cena et al., 2012). Residents and staff appeared to find the dining area to be a pleasant place to spend time, as the meals fostered socialization and conversation.

Although the overall findings are based on mealtime experience of all the residents living in LTC, there are also few evidences explicitly reflect the mealtime experience of only people living with dementia. Social interaction has been a persistent challenge for most of PLWD due to memory challenges (Wu et al., 2020). Literature showed it was quite difficult for them to build new connection (Cleary et al., 2008; Furaker & Nilsson, 2009; Faraday et al., 2021). On the other hand physical environmental modifications for example creating small dining clusters to avoid crowding and over-stimulation, or dividing a large room by half-walls or furniture, making the dining room a familiar place to eat by providing warm and attractive decor, homelike furniture, and adequate lighting and finding ways to eliminate distractions, including glare, noise, and traffic flow contributed to increased orientation, functioning and promoted safety and security among PLWD during mealtimes (Bursh et al., 2002; Hung, 2008; Chaudhury et al., 2013, Chaudhury et al., 2017; Gurung & Chaudhury,2023; Day, 2020). Noise reduction and small dining arrangement proved effective to facilitate self-eating behaviors. For most of the residents with dementia mealtimes shape their entire day and help them with time orientation (Reimer & Keller 2010; Keller et al., 2010, Bennett et al., 2015) Also, evidence showed that smell of familiar food and the whole process of food preparation help them to feel safe and secure as well as promote familiarity (Chang & Roberts, 2008; Manthorpe & Watson, 2003). However, up until there are not enough studies to draw a conclusion on mealtime experience of PLWD. More empirical work is needed to understand and act upon to provide person-centered mealtime care. Researchers acknowledged that understanding communicative efforts other than the verbal ones is critical to capturing the experience of these individuals, especially as they are at greatest risk of not being heard and marginalized in the process.

The strength of evidence for these thematic categories was varied. The category social factors influencing mealtime experience was supported by 28 studies, the most of all categories. However, the quality of evidence was mixed. For example, in the exploratory study by Curle and Keller (2010) observations were only conducted at lunch time and it is possible that tablemates' interactions vary with the time of the day. Also, limited vantage points during observation in that study affected whether observers could see or hear interactions. In contrast, the exploratory study by Evans and colleagues (2003) conducted face to face interviews with residents, which are more reliable in understanding residents' mealtime experience.

The theme of physical environmental factors was supported by 15 studies. Due to the inherent interdependence between physical environmental features and the social and interactional context, it is challenging to regulate extraneous variables and isolate the independent impact of the environment. Brush et al. (2002) conducted a study to examine the effect of improved lighting and table setting contrast on residents' oral intake and behaviors during meals in both assisted living and long-term care environments serving people with dementia encountered a modification in staffing policies during their research, which inevitably impacted their results. In studies that have altered both environmental characteristics and staffing and foodservice, such as the study conducted by Desai et al. (2007), it becomes challenging to determine the specific environmental factor that had the greatest or least influence on residents' outcomes.

The other three themes -- person-centered mealtime care, organizational factors influencing mealtime experience and meaning of mealtimes to residents are supported by 8, 5 and 7 studies respectively. Some of these had significant shortcomings in their research design and reporting. For example, the qualitative studies by Schell & Kayser-Jones (1999) and Sydner & Fjellstrom (2005) provided only brief or minimal illustrations from interviews to show the basis of their conclusion, whereas Reimer and Keller (2009) and Curle and Keller (2010) used ample direct quotes and interview extracts to support their themes.

Regarding the overall limitation of the reviewed literature, first, there are very few studies focusing on organizational factors and residents' perspective on mealtime experience as well as the inter-relation among the factors influencing mealtimes is missing in the current evidence. Second, there are very limited number of studies focusing on the

PLWD. Third, the majority of intervention studies have small sample sizes, lacks comparison groups or employ non-equivalent groups, and the majority of qualitative studies only examined a single mealtime (e.g., lunch or dinner). Fourth, the majority of study participants were homogeneous, such as Caucasian and female, constraining the generalizability of the findings. Lastly, the relationship between preferences for culture and ethnic customs and mealtime experience has been overlooked in existing studies.

Future studies are necessary to explore the organizational factors and residents' perspective on mealtime experience. In addition, future research should inter-connect the factors influencing mealtime experience of residents living in LTC. It is highly recommended to focus on diverse ethnicities of the residents in care homes. Most reviewed studies did not explicitly imply person-centered care model. More research should be conducted to specifically explore how social, physical environmental and organizational factors can contribute to person-centered mealtime care practices. Last but not the least a lot of work is needed purely based on mealtime experience of PLWD as their perspective on mealtime might vary from others but highly significant to provide optimal mealtime care to them.

The existing circumstances in long-term care (LTC) facilities fail to uphold the dignity and promised quality of life for their residents. Numerous facilities within our province exhibit antiquated infrastructure, suboptimal spatial arrangement, and an excessive burden of occupancy. The configuration of older facilities, in conjunction with insufficient equipment, maintenance, and overcrowding. In addition to attending to the physical well-being of seniors, staff members are facing a growing demand to provide care for individuals with diverse needs. These needs encompass a range of conditions, including dementia, debilitating illnesses, mental health disorders, challenging behaviors, substance abuse, severe psychiatric illnesses, and experiencing significant cognitive impairment. The COVID-19 pandemic has exposed the insufficiency of mental health assistance for individuals residing with dementia-related responsive behaviors or psychiatric disorders, as well as for the caregivers responsible for their well-being. Insufficient access to consulting seniors' mental health teams and clinical educators is a prevalent issue in numerous facilities across British Columbia, particularly in rural regions. This lack of access hinders the provision of comprehensive assessment, care planning, and educational support pertaining to the mental health and substance use challenges experienced by residents and therefore failed to deliver person-centered and quality care.

The Action for Reform of Residential Care (ARRC) is a collective team of people who possess a combination of expertise, professional backgrounds, and lived experiences. Their primary objective is to collaborate with the Province of British Columbia in order to implement comprehensive reforms within the long-term care (LTC) sector, with the aim of enhancing the quality of care provided to residents (MacCourt et al., 2020). Considering the current situation of LTC, ARRC suggests to facilitate the development of a high-quality long-term care (LTC) system in British Columbia that maximizes the quality of life for each resident, it is imperative to adopt a paradigm shift within an ethical framework. This paradigm shift should acknowledge and confront the systemic and structural factors that hinder the progress of the province in this regard (MacCourt et al., 2020).

Merely implementing incremental modifications to the existing long-term care framework falls short of being sufficient. In the absence of a paradigm shift that can supplant the prevailing institutional/custodial model, genuine enhancements in resident care and quality of life will remain elusive. In order to fulfill our societal responsibility towards the welfare of individuals residing in long-term care (LTC) facilities in British Columbia, it is imperative to establish a moral imperative that is guided by an ethical framework. This framework should prioritize the needs of both the residents and the caregivers involved in their care (MacCourt et al., 2020). This paradigm shift will foster a cultural and environmental framework that upholds and promotes human rights, facilitating the enhancement of residents' quality of life and enabling them to thrive and achieve their utmost potential. The transition necessitates the prompt adoption of a care model rooted in principles and values, accompanied by robust leadership, suitable staffing and care organization, compulsory ongoing education for staff, bolstered by enhanced standards that are enforceable and effectively monitored. These measures aim to promote the well-being, safety, and quality of life for residents in long-term care facilities. The following recommendations endorse the paradigm shift and are essential for the reformation of the long-term care system, with the aim of guaranteeing the quality of life for residents within an environment that fosters a meaningful existence rather than mere survival (MacCourt et al., 2020).

ARRC recommends that:

- the provincial government mandates, implements, and funds a person-centered, relational care model in all LTC facilities and that each facility is staffed and organized to implement unit based primary care and team approaches.

- training be made available to all facilities' Directors of Care to prepare them to lead the implementation of person-centered care.

- the provincial government provide infrastructure funding to enable facilities to adapt or modernize their physical environments to better meet residents' needs, such as needs for outdoor spaces, single rooms, ceiling lifts etc.

Currently, many care models and frameworks, including the Eden Alternative and Pioneer Network, aim to help organizations and staff adopt the person-centered philosophy of care through a process of culture transformation (MacCourt et al., 2020). In addition to a planned dementia village, there are areas of excellence in BC where person-centered care has been established that can be shared and improved upon (MacCourt et al., 2020). For the purpose of promoting person and family-centered care, the Registered Nurses' Association of Ontario has created evidence-based best practice guidelines for caregivers, educators, and policymakers (Registered Nurses Association of Canada, 2015).

According to ARRC (2020) common values among the majority of person-centered care models relate to each person receiving care having the right to be:

- treated with respect and dignity, regardless of their cognitive and communication abilities, physical capabilities, and social relationships.

- empowered and supported to be in control of their own life.

- completely supported to live the life they choose, including partaking in things that are significant, give life purpose, bring joy, and may involve some risk.

- seen as a person first and foremost with qualities and skills.

Furthermore, person-centered care is an integral component of HSO's philosophy and approach. According to HSO the LTC home leaders should enable meaningful mealtime experiences that meet residents' needs and preferences. They should ensure that food and beverage selections are current and include seasonal variation. Teams must

engage residents in planning menus and choosing food and beverages for meals and snacks. Specific requests from residents, such as requests for culturally appropriate foods, should be met whenever possible, and diets need to be modified as necessary. Residents who require assistance with eating and drinking must be supported in a respectful and dignified manner. According to HSO, a pleasant mealtime experience includes a clean, bright, and calm space. Dining is an activity that allows residents to socialize with their peers, substitute decision makers, essential care partners, the workforce, and volunteers. Meals should not be rushed. Residents should get sufficient time to enjoy their food and observe their cultural and spiritual practices (National Standard of Canada, 2023).

Person-centered mealtime care is about meeting the unique dining needs of the residents. Positive dining experiences for residents are a reflection of care that is aligned with person-centered care principles, with an emphasis on enhancing abilities and fostering socialization. Making sure residents are socially engaged, being mindful about seating arrangements and tablemates, making appropriate environmental changes to support individual residents' routines, preferences, and needs, and having compassionate, empathic, trained, and sufficient staff to support residents during mealtime are essential, yet underutilized resources to provide quality person-centered care.

Conclusion

In addition to meeting the dietary needs, mealtime is critical in understanding and supporting the social and psychological health of older adults in long-term care homes, as it is a significant social event of the day and one of the few activities that provide the opportunity for social interaction among residents. Staff attitudes and approach, relations between staff and residents, and relations among residents are crucial to 'thriving' in nursing homes (Bergland & Kirkevold, 2005); hence, it is essential to make an effort to improve attitudes and cultivate relationships during mealtimes. This study reviewed and synthesized evidence on how person-centered mealtime care can be conceptualized, identified the social, environmental and organizational facilitators and barriers that can either facilitate and limit social engagement during mealtime, and linked them with person-centered care. The findings of this review will assist care providers to gain an understanding of how PCC can be implemented to improve the mealtime experience of residents' and overall quality of life. Specifically, findings from the social and

environmental factors will inform the care providers that mealtime is an important opportunity to engage residents' socially and how re-designing the dining area can enhance this possibility. The organizational factors allow the care providers to identify the current shortcomings of staff shortage and lack of PCC knowledge on what they can work to provide optimum service to the residents. The recent shift in cultural diversity in long-term care homes calls for future research with diverse population groups in care homes. Furthermore, more research should utilize longitudinal research design to measure the impact of PCC-based mealtimes on staff job satisfaction and resident satisfaction with mealtimes. Also, future research should pay attention to reliable methodological standards to strengthen the evidence; larger sample size, objective and subjective data collection, research with control and comparison groups, pre-test and post-test evaluation would be useful factors. Finally, there is little evidence in this area in the context of assisted living and independent living. Therefore, to understand residents' mealtime experience in all type of care facilities, future studies should be conducted in the above-mentioned settings as well.

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Appendix A. Annotated Summary Review Table

Author	Settings	Focus	Method	Key findings	Gaps
Abbot et al., 2013	Long-term care	This systematic review was to determine the effectiveness of mealtime interventions such as changes to food service, food improvement, dining environment alteration, staff training and feeding assistance. for the elderly living in residential care	Systemic review	This review found some evidence that simple intervention around various aspects of mealtime practices and the mealtime environment can result in favorable nutritional outcomes. The two main nutritional outcomes assessed were changes to resident body weight/weight status and resident food/caloric intake	The categories authors used may have not fully accounted for all components of the intervention. Further, the limited number of randomized controlled trials, the availability of data, and the wide variation in intervention type meant that the study was restricted to a few small meta-analyses within only three of the intervention types. In general, most of the studies were either too small in number or too short in time to be powered to detect any change in nutritional outcome.
Abbey et al., 2015	Residential aged care	The purpose of this study was to examine the current strategies of menu planning in a range of RACHs in Australia, and whether this facilitated appropriate levels of choice for residents receiving texture	Survey &observational case study	Menus from RACHs indicated a low level of choice of meals for residents on both general and texture modified diets, and significantly less choice for the latter group. The homes in the study relied heavily on tray meal delivery systems (59%) that are known to reduce flexibility, resulting in residents having to pre-order for these to be set up correctly.	The written information on menus collected in this study was poor in detail and therefore, it was not easy to determine if residents had a choice as to meal make up, for example the type of sandwich, or just received a mixed sandwich.

		modified and general diets.			
Adams et al., 2013	Nursing home	The purpose of this research was to assess skilled nursing facility residents' previous home dining practices as well as their current preferences for dining style.	Mixed Method	Culture change cannot necessarily be defined as fine dining or homelike dining. Residents in SNF want homelike meals but not family style service. Culture change should continue to focus on a dining experience where the resident is allowed to make true choices of when, where, and how to eat, and the facility and staff should organize around the residents' preferences	Sample size, lack of ethnic diversity, and utilization of a new instrument
Altus et al., 2002	Dementia care unit in long-term care	The purpose of this study was to examine if changing the mode of meal delivery to "family-style," where residents were presented with serving bowls and empty plates, would increase resident communication and participation in mealtime tasks.	Experimental study	This study suggests family-style meals may result in modest increases in mealtime participation and communication of residents with dementia, but staff training in prompting and praising may be necessary to see large changes in these behaviors. Communication and participation doubled when family-style meal delivery was introduced and dropped back to baseline levels when it was withdrawn. Because the levels of communication and participation during family-style meals were still low, the nursing assistant was provided with instruction on prompting and praising appropriate mealtime behaviors. After instruction was provided and family-style meals were reintroduced, resident participation rose to 65% of	Small number of participants and just one meal was observed.

				tasks and appropriate communication increased to 18% of observations.	
Amella, 2002	Nursing home	This study was conducted to determine if resistance or willingness to accept assistance at meals by persons with dementia could be predicted by various personal interaction and contextual factors.	Experimental	Significant differences (p < .05) were found in level of functioning as measured by the Global Deterioration Scale, the proportion of food consumed and amount of time taken to assist with the meal. Resistors showed significantly different interaction behaviors in 8 of the 10 on the Interaction Behavior Measure-Modified when correlated with food consumed.	Majority of participants were male and do not belong to a variety of ethnic group.
Barbosa et al., 2015	Residential aged care facilities	The purpose of this systematic review was to assess the impact of PCC approaches on stress, burnout, and job satisfaction of staff caring for people with dementia in residential aged care facilities	Systematic review	Findings point to a potentially important benefit of such approaches for staff, as most studies (n = 5) reported significant positive changes in the outcome domains. Each of the 2 RCTs that assessed emotion-oriented approaches were successful in reducing direct contact workers' stress, burnout, and job dissatisfaction. However, emotion-oriented approaches comprise multiple components (validation and reminiscence), making it difficult to understand which one was the most effective	The review was limited to experimental and quasi-experimental studies, published in English and involving direct contact workers. and ended up including only 7 studies. Differences in the type of design, outcomes, number of participants, and duration of intervention hindered study comparisons and generalizations
Barnes et al., 2013	Residential care home	The aim of this study was to capture and describe individual residents' mealtime experience in seven dining settings in four residential care homes in Manchester.	Qualitative	The findings showed that, within settings offering family-style dining, the residents had the opportunity to communicate and interact more as discussions were focused around the serving of the food. This serving style enabled them to support and help each other during the meal.	The observations were announced in advance. This meant that the staff and residents were aware that researchers were present on that day, observing the mealtime. As a result, the staff and the residents may not have presented their 'usual' behavior, and the kitchen staff were

				Sometimes, regardless of the environmental factors, the mealtime experience is determined by the individuals, their state of physical and mental health, mood on the day or personality.	aware that the mealtime was observed, which may have resulted in better quality meals.
Bennett et al.,	Residential aged care in Australia	The aim of the current study was to compare documented, reported and observed mealtime management to explore factors influencing optimal mealtime care	Mixed method	By comparing data across multiple sources this study revealed inconsistency in mealtime management in two RACFs, limitations in addressing residents' holistic mealtime needs and lack of compliance with the principles of PCC. The findings reiterate the complexity of achieving optimal mealtime management for residents in RACFs. Triangulation of data sources enabled a multi-faceted analysis of current mealtime management identifying inconsistency in mealtime management across staff and residents. Discrepancies were found between what was documented in residents' files, what was observed and what staff reported residents needed.	
Beth et al., 2004	Nursing home	The purpose of this environmental design intervention was to provide residents continuous access to information about common mealtime questions with the intent of decreasing	Quantitative	The simple, low-cost intervention of placing a large clock and a large print sign that identified mealtimes in the dining area decreased residents' repetitive statements and questions regarding food and mealtimes. During the intervention phases, residents often were observed reading the sign aloud and pointing	

		agitation around mealtimes and facilitating more pleasant patient-staff and patient-patient interactions.		out the sign and clock to other residents.	
Bundgaard (2005)	Residential care in Denmark.	This study focused on the meaning of mealtime for residents from an occupational level.	Qualitative	The findings demonstrate that meals in living units are not just about the food with its symbolic and nutritional functions, but are also about eating as a social and cultural event as described in theory and empirical studies. This study suggests that meals in living units can be seen as an occupation that gives meaning to life for the eldest in the community.	Only one unit in the residential care was observed limits the number and diversity of findings as well as the consistency of the meanings identified. The health issues of the participants interrupted the interviews. They were only able to answer questions in a few sentences.
Bursh et al., 2002	Assisted living and long-term care	The purpose of this study was to examine the effect of improved lighting and table setting contrast on residents' oral intake and behaviors during meals in both assisted living and long-term care environments serving people with dementia.	Quantitative	After enhancing the lighting and table setting contrast, there were improvements in both oral intake and functional abilities at both facilities.	Small population size and limited study area.
Bursh et al., 2002	Assisted living and long-term care	The purpose of this study was to examine the effect of improved lighting and table setting contrast on residents' oral intake and behaviors during meals in both assisted	Quantitative	After enhancing the lighting and table setting contrast, there were improvements in both oral intake and functional abilities at both facilities.	Small population size and limited study area.

		living and long-term care environments serving people with dementia.			
Cena et al., 2013	Nursing home in Spain	The aim of the study was to explore the significance of the mealtime experience among residents of nursing homes.	Qualitative	The findings showed how "eating" is the main occupation at the residency, the activity around which the daily routines are organized.25 Mealtimes provide the residents with a feeling of security, continuity and control over their daily activities.	
Chaudhury et al., 2013	Long term care	Role of physical environment supporting person-centered dining in long term care	Scoping review	This review confirms that improving the dining experience of residents with dementia is associated with a range of dining room design characteristics, such as small dining rooms, homelike atmosphere, appropriate lighting and color contrast, minimized noise, music, orientation cues, and furniture grouping to foster social interactions.	Fewer articles looked at the strategies to improve social interactions and relationships
Curle & Keller (2010)	Retirement facility	This exploratory study identified the types of social interactions that occur amongst tablemates in retirement homes, and what factors influence these mealtime interactions	Qualitative thematic analysis	A variety of social interactions occurred amongst tablemates including: making conversation, providing assistance, sharing, humoring, showing appreciation and affection, and rebuffing/ ignoring/excluding. Interactions were influenced by tablemate roles, resident characteristics, and the social and physical environment, including staff. Social interactions or lack thereof are important for relationship development and mealtime environment.	Observations were only conducted at lunch and it is possible that tablemate interactions vary with time of day. Limited observation vantage points affected whether observers could see or hear interactions, and likely influenced how some tables interacted.

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Day et al., 2000	Nursing home	This article reviews and analyzes findings from empirical research on the therapeutic impacts of design in dementia care settings	Literature review	From the research reviewed, four primary types of studies on design and dementia emerge. Studies are grouped according to their major focus (people/behavior vs. the physical environment) and their conceptualization of the physical environment (global or discrete). Environmental barriers were associated with reduced visual and auditory distractions and increased focus in attention among resident. Heightened contrast and increased light were associated with increased food eaten and reduced agitation among residents	
Desai et al., 2007	Nursing home	This study was conducted to compare energy intakes in seniors with cognitive impairment residing in long-term care and receiving meals by bulk (cafeteria style with waitress service) vs traditional tray delivery systems and determine subject characteristics that identify responsiveness to type of foodservice provided.	Experimental	High-risk, cognitively impaired individuals with low BMI benefited the most from the changed foodservice and physical environment, whereas individuals with higher BMIs did not show substantive changes in intake. Bulk foodservice and a home-like dining environment optimize energy intake in individuals at high risk for malnutrition, particularly those with low BMIs and cognitive impairment.	
Douglas et al., 2015	Long-term care	The purpose of this review is to evaluate the research on	Narrative review	Agitation scores decreased significantly when music was played in the dining room. Food and fluid	

		environment-based interventions to improve nutritional status among older adults with dementia, to describe potential for practical applications, and to identify gaps in the existing literature where on further research is warranted.		intake improved significantly when high-contrast dishes were used. Family-style meals improved interactions between residents at the dining room table; meal times became more pleasant	
Douglas et al., 2015	Long-term care	The purpose of this review is to evaluate the research on environment-based interventions to improve nutritional status among older adults with dementia, to describe potential for practical applications, and to identify gaps in the existing literature whereon further research is warranted.	Narrative review	Agitation scores decreased significantly when music was played in the dining room. Food and fluid intake improved significantly when high-contrast dishes were used. Family-style meals improved interactions between residents at the dining room table; meal times became more pleasant	
Ducak et al., 2015	Long-term care	The authors investigated how a long-term care (LTC) community transformed its culture of dining from traditional, institutional meals to resident-	Case study and Qualitative method	This study revealed the key ingredients for a 'recipe for success' needed to make dining changes in LTC when a home is developing a social model of care, changes in the physical environment, organizational environment, and social environment are needed to support resident-centered and relational mealtimes.	There were time and budgetary restrictions limiting further tracking of outcomes associated with the progression from institutional to relational care in all of Christie Gardens' neighborhoods. For example, staff trust was not measured.

		centered meals and relational dining.			
Dunn and Moore, 2014	Nursing home	This study aims to explore the potential tensions and conflicts that may arise between institutional-level measures designed to build instrumental trust and more informal relational aspects of good care provision, specifically with regard to carers' perceptions of resident dining, given the importance of the social aspects of dining in maintaining residents' nutritional health.	Qualitative study	Contradictions in the delivery of care' describe contradictions in participants" accounts about whether nursing care homes are the best environment for the delivery of care, and focuses on how participants positioned themselves and older people. Potential barriers to meeting residents' nutritional needs were dealing with residents' complaints about food, and the impact of staff shortages and task oriented and routine-driven working practices. Institutionalization and disempowerment describe how residents may be disempowered through institutionalization, legislation and medical model ideology.	The study findings are limited by the specific demographics of the small sample size and their geographical location.
Evans et al., 2005	Nursing home in the USA	This exploratory qualitative study examined dietary preferences acquired during the course of a lifetime, and the meaning of mealtimes to 20 nursing home residents, and attempted to connect that meaning with their social world.	Qualitative	Resident food preferences were chiefly connected with childhood and family while relationships with friends were secondary sources, indicating the importance of the family unit in formation of personal preferences involving nutrition	
Evans et al., 2008	Nursing home	The purposes of this article are to examine residents' perspectives	Qualitative	The importance of staff emerged strongly in this study in all five themes. Even the theme, "Choosing	

		about quality dining in nursing homes and to describe implications for practice.		Surroundings," required the assistance of staff for serving residents' trays in their own rooms or gathering them together in the dining room. Residents wanted a pleasant milieu with music and companionship at meals. In our study, residents occasionally contrived circumstances similar to those at home through choice of eating location or availability of snacks in their rooms in an effort to decrease their feelings of loss and increase their control.	
Frankowski et al., 2011	Assisted living	Social context of dining room	Qualitative Study Design	Mealtime is a ritualized and temporal experience for residents. The optimal course of action for their health is recommended, but they are also free to make decisions without regard to the recommended medical diets. The dining room is essential since it is sometimes the only place in an assisted living where residents socialize.	Lacks conceptual/theoretical framework. Did not mention the importance of physical environment on social interaction.
Hung & Chaudhury (2011)	Long-term care	This paper explores the concept of personhood in dining	Qualitative	The study highlights a set of practice approaches that are incongruent with the needs of residents with dementia	

		experiences of residents with dementia living in long-term care facilities. It aims to increase and broaden Kitwood's conceptual understanding on personhood and explore its applications in the context of mealtimes		and how they might undermine personhood during the dining experience of residents with dementia. The themes speak to the importance of moving away from the task-based care approaches to allow paying more careful attention to the psychosocial needs of residents.	
Hung & Chaudhury (2011)	Long-term care	This paper explores the concept of personhood in dining experiences of residents with dementia living in long-term care facilities. It aims to increase and broaden Kitwood's conceptual understanding on personhood and explore its applications in the context of mealtimes	Qualitative	The study highlights a set of practice approaches that are incongruent with the needs of residents with dementia and how they might undermine personhood during the dining experience of residents with dementia. The themes speak to the importance of moving away from the task-based care approaches to allow paying more careful attention to the psychosocial needs of residents.	

Kayser-Jones & Schell, 1997	Nursing home	This study focuses on effect of staffing on quality of care during mealtimes	Qualitative method	The findings disclosed that the quality of care at mealtime, while adequate for some residents, was on the whole poor, especially for the cognitively impaired, for dysphagic residents, and for residents without attentive families. As mentioned previously, some residents lost a great deal of weight. The topic of weight loss is not within the scope of this article but weight loss is one measure of the poor quality of care. Multiple factors such as the lack of ethnic food, poor oral health, impaired cognitive and functional status, and the lack of individualized care influence nutritional intake	
Keller et al., 2006	Long term care	Identified nutrition risk factors during mealtime that can influence weight change.	Mixed method	The prevalence of eating and mealtime behaviors or issues and their association with nutrition risk demonstrates the potential importance of meal rounds as an intervention for prevention of weight loss and undernutrition.	
Keller et al., 2016	Long term Care	The first objective of this study was to describe the development of the Mealtime Scan (MTS), a standardized measure to assess the varied factors that influence ambiance at mealtimes in LTC. The second objective was to describe the inter-	Quantitative and qualitative study design	In this study, the mealtimes were rated more positively for the physical environment, but less so for the social and person-centered care aspects of the mealtime experience. The summative physical environment rating considered these aspects collected with the environmental meter as well as orientation cues, television/radio use, and level of background noise to identify a pleasant/supportive and	Only 2 assessors, 10 dining rooms, and 30 meals were used.

		rater reliability of the scan using two trained assessors in several dining rooms and over several meals.		unpleasant/unsupportive environment.	
Kofod, 2012	Care homes in Denmark	How meals are used to build community among the institutionalized elderly in Denmark	Qualitative Study Design (interviews and observation)	A number of concerns, such as staff discussions of work-related matters, social hierarchy among older residents, a lack of basic social skills, and resident protests against institutional policies, prevent meal participants from feeling a sense of community.	Lacks conceptual/theoretical framework. Based on only one researcher's observation.
Koh et al., 2022	Residential aged care facilities (RACF) in Australia	This scoping review aims to explore how evidence about RACF mealtime experiences relates to policy and best practice guidelines	Scoping review	This study verified that RACFs lack specific policy and regulatory structures to direct mealtime practice. In Australian policy, no regulatory structure exists to direct how facilities enact mealtimes or food service despite the centrality of eating in residential life. Domination structures set by organizations, including staff workload, time and resource pressures often legitimize task-oriented and mechanistic mealtime structures.	As this study was limited to the Australian policy and governance context, it is not known if recommendations from this study can be generalized to the international context as this review identified that structures, policy and terminology that reflect aged care practices vary globally. The literature included in this review was strongly grounded in Western countries, and the structures that guide meaning-making, and are legitimized and sanctioned in these contexts may not translate to broader global contexts.
Koss & Gilmore, 1998	Dementia unit of Long-term care	Residents' amount of food intake, amount of help needed eating, agitation	Quasi-experiment	Heightened contrast and increased light were associated with increased food eaten and reduced agitation among residents.	Only 13 participants were included in the study.
Liu et al., 2012	Long-term care	To evaluate the effects of interventions on mealtime difficulties in	Literature review	Nutritional supplements were indicated with moderate evidence to increase food intake, weight and	Limitations of body of research included lack of randomization and/or control group, small sample

				BMI. Training/education programs had moderate evidence in increasing eating time and decreasing feeding difficulty. There was insufficient evidence in relaxing or soothing music to decrease agitation. Though music was previously demonstrated as a possibly effective method to decrease agitation, current evidence showed it insufficient in reducing agitated behaviors during mealtimes in dementia.	size without power analysis, lack of theory-based interventions and blinding, inadequate statistical analysis and plausible confounding bias. '
older adults with dementia					
Liu et al., 2012	Long-term care	To evaluate the effects of interventions on mealtime difficulties in older adults with dementia	Literature review	Nutritional supplements were indicated with moderate evidence to increase food intake, weight and BMI. Training/education programs had moderate evidence in increasing eating time and decreasing feeding difficulty. There was insufficient evidence in relaxing or soothing music to decrease agitation. Though music was previously demonstrated as a possibly effective method to decrease agitation, current evidence showed it insufficient in reducing agitated behaviors during mealtimes in dementia.	Limitations of body of research included lack of randomization and/or control group, small sample size without power analysis, lack of theory-based interventions and blinding, inadequate statistical analysis and plausible confounding bias.
Liu et al., 2020	Nursing home	Nursing assistants' perspective on Facilitators and barriers to optimizing eating performance among cognitively impaired older adults	Qualitative Study Design (three study sites, 6 focus groups)	Identify barriers and facilitators on resident level, caregiver level, environmental level and policy level. The majority of barriers and facilitators were at the caregiver level. Environmental-level barriers and facilitators mostly related to the physical and sociocultural environment and facility practices.	Generalizability of findings may be limited since the study participants were homogenous from one geographic location and mostly female, white, and non-Hispanic and highly educated on average com-pared to the general nursing assistant population.

| Mahadevan et al., 2013 | Assisted living | This article critically evaluated the food voice of elderly residents in an assisted-living environment. The study considered not only the social domain of eating, but also the experience of the residents during mealtimes and the perceived factors that may contribute to their overall sense of well-being. | Qualitative study design | The findings reflected the various components that made 'the meal' a significant and enjoyable event for them and contributed to an overall sense of well-being. Along with the quality of the food served, factors such as good presentation and visual appeal, adequate portion sizes, balance, variety, color and appropriate combinations of texture and temperature of the foods were all highlighted as factors that positively impacted their mealtime experience. Most residents also considered aspects of the physical environment, such as the location, design, layout and table settings of the dining room, as important to their overall mealtime experience. | The sample size was relatively small and limited to an upscale suburban sample meaning findings could simply be a reflection of the location where the data were collected. |
| Manthorpe& Watson, 2003 | Long-term care | The present paper considers feeding and eating in the context of enhancing support of life for people with dementia. Drawing on a range of literature, it highlights themes that are well developed and aims to identify areas of little knowledge and potential investigation | Literature review | This paper suggests that the research into food and eating among people with dementia has been dominated by a problem-based approach towards feeding and the difficulties of carrying out this activity. The experience and perspective of the person with dementia are considered, but to a limited extent. Those who work with people with dementia, either informal care settings or at home, appear to rely on family and household skills, and more is known of nurses' attitudes | Small number of literatures was available when the review was conducted. |

				and actions than of carers' activities in this area.	
Manthorpe& Watson, 2003	Long-term care	The present paper considers feeding and eating in the context of enhancing support of life for people with dementia. Drawing on a range of literature, it highlights themes that are well developed and aims to identify areas of little knowledge and potential investigation.	Literature review	This paper suggests that the research into food and eating among people with dementia has been dominated by a problem-based approach towards feeding and the difficulties of carrying out this activity. The experience and perspective of the person with dementia are considered, but to a limited extent. Those who work with people with dementia, either informal care settings or at home, appear to rely on family and household skills, and more is known of nurses' attitudes and actions than of carers' activities in this area.	Small number of literatures was available when the review was conducted.
McDaniel et al., 2015	Alzheimer's unit	This study was conducted to evaluate noise and lighting conditions at mealtimes and to assess the food intake of ambulatory dementia residents.	Case study	The noise level in the AU dining room was significantly higher than in the EC, and may contribute to sensory overload and anxiety among the residents.	Small sample size
McDaniel et al., 2015	Alzheimer's unit	This study was conducted to evaluate noise and lighting condition sat mealtimes and to assess the food intake of ambulatory dementia residents.	Case study	The noise level in the AU dining room was significantly higher than in the EC, and may contribute to sensory overload and anxiety among the residents.	Small sample size
McMugh et al., 2014	Long-term care	The aim of the study was to investigate the	Qualitative	It was acknowledged that many functional deficits can impact	

		significance of mealtimes for older adults living independently in the community, as well as the opinions of healthcare professionals working with this population		mealtimes, but true support of these individuals involves helping them to use their existing skills and capabilities, rather than doing tasks for them.	
Morrison et al., 2022	32 long-term care (LTC) homes across four Canadian provinces (Alberta, Manitoba, New Brunswick, Ontario)	This investigation aims to explore the independent effects of various psychosocial factors (social engagement, expression of responsive behaviors and depression) on energy intake among LTC residents across Canada.	Qualitative and Quantitative	Psychosocial factors are an important consideration for the mealtime experience and food intake of residents in long-term care (LTC). Of the three psychosocial factors investigated, social engagement was the most relevant predictor of energy intake, though it was not directly associated after accounting for eating challenges. The quality of mealtime interactions of individuals with low social engagement was significantly poorer than those who demonstrated a higher level of social engagement.	Some variables were staff reported rather than residents' self-report
Nijs et al., 2006	Nursing home	To assess the effect of family style mealtimes on quality of life, physical performance, and body weight of nursing home residents	Cluster randomized care	Overall, family style mealtimes prevent a decline in the quality of life, physical performance, and body weight of nursing home residents. The difference in changes in quality of life between both groups was significant.	
Nijs et al., 2006	Nursing home	To assess the effect of family style mealtimes on quality of life, physical performance, and body weight of	Cluster randomized care	Overall, family style mealtimes prevent a decline in the quality of life, physical performance, and body weight of nursing home residents. The difference in changes in quality	

				of life between both groups was significant.	
Pearson et al., 2003	Nursing home	This study explores the role of nursing staff during the mealtime.	Qualitative	Three broad themes describing the cultural practices of nursing home staff during mealtimes are identified as follows: maintaining personal identity, assisting individuals to eat, and maintaining interaction. Alongside residents' general outward acquiescence to the service, nurses did not see problems and deficiencies with the service observed by the researchers or reported by the residents. Recommendations to improve mealtime service in nursing homes have been put forward in an effort to enlighten staff.	Limited in terms of its size (only 10 participants) and participants
Phillips et al.,1997	SCU & nursing home	Residents' functional status, weight, ADL function, cognitive performance, behavior problems	Cross-sectional survey	Overall environmental quality, including cleanliness, home likeness, lighting, stimulation help to provide a more fulfilling mealtime experience to the residents.	
Philpin et al., 2014	Residential care homes in south Wales, UK	This study explored the ways in which care home residents' experiences and understandings of mealtimes were constructed through their particular social and spatial environment and also by their culturally specific personal	Qualitative	The geographic and spatial context of the care homes was shown to be influential in shaping residents' mealtime experiences, especially in relation to their opportunities for conversation and companionship. In this study, it was highlighted that both types of environments, unit-based and communal, appeared to offer different opportunities and challenges for residents' socialization. The unit-based accommodation did provide	Limited in terms of its size of participants. Two residential care homes located in the same local authority were studied and additional research involving a larger number of homes over a wider area, including the independent sector, is needed.

		memories, identities and histories		additional opportunities for residents to exercise more choice.	
Reimer & Keller (2009)	Nursing home	The purpose of this study was to examine how mealtime care practices can be made more person-centered.	Literature review	This review has illustrated that there is good understanding of what a person-centered mealtime looks like, although there have been relatively few strongly designed controlled trials in this area demonstrating the benefits of this care. In addition to health or nutritional outcomes, resident satisfaction and rigorous methods of measuring social interaction are lacking; potentially developing these forms of outcome assessment will demonstrate non-nutritional benefits of these interventions. It is evident that knowledge translation interventions to increase implementation of person-centered mealtime care practices by front-line staff are needed. Staff education is a noted limitation in mealtime care identified in this review.	
Thomas & Smith, 2009	Nursing home	This study examined whether music played during meals, by reducing agitation, would result in increased caloric consumption among residents with middle dementia.	Quantitative	Overall, residents consumed 20% more calories when familiar background music was played compared to an eating environment without music. Further analysis of the nutrient content found that increased calories were primarily consumed through carbohydrates, perhaps because of more time spent at the table, which improved the likelihood that more food would be eaten.	Limitations include small sample size, non-randomization of subject selection, lack of a control group, and the threat of history to internal validity of not controlling other food items consumed during the day including the consumption, or lack of consumption, of breakfast, dinner, and snacks.

Thomas & Smith, 2009	Nursing home	This study examined whether music played during meals, by reducing agitation, would result in increased caloric consumption among residents with middle dementia.	Quantitative	Overall, residents consumed 20% more calories when familiar background music was played compared to an eating environment without music. Further analysis of the nutrient content found that increased calories were primarily consumed through carbohydrates, perhaps because of more time spent at the table, which improved the likelihood that more food would be eaten.	Limitations include small sample size, non-randomization of subject selection, lack of a control group, and the threat of history to internal validity of not controlling other food items consumed during the day including the consumption, or lack of consumption, of breakfast, dinner, and snacks.
Vucea et al., 2014	Long term care	The purpose of this review was to map the literature on mealtime interventions that have been developed, implemented, and or evaluated to improve mealtime experiences in LTC	Scoping review	This scoping review has revealed that there are a diverse number of potentially beneficial mealtime interventions in the current literature. Although promising results have been presented, a multicomponent mealtime intervention combining many different aspects across the Making the Most of Mealtimes (M3) concept is needed. Inclusion of strategies focused on environmental changes, food service, staff education and training, and social ambiance, could enhance resident-centered care beyond single strategies or activities. Outcomes need to be diverse including quality of life for older adults and satisfaction of staff. Process and structure outcomes also need to be measured.	The multifactorial causes of poor food intake are not yet fully explored.
Watkins et al., 2016	Care homes	This review aimed to better understand factors that may	Qualitative	this research suggests that care provision, resident agency, mealtime culture and meal quality and	

| | | contribute to malnutrition by examining the attitudes, perceptions and experiences of mealtimes among care home residents and staff. | | enjoyment are all important, interacting factors structuring residents' experiences of mealtimes. A key theme emerging from the current review was that of resident agency and the importance of individual choice, such as when to eat, what to eat, where to eat and with whom. | |