

# A communication model for nursing staff working in dementia care: Results of a scoping review

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## A communication model for nursing staff working in dementia care: Results of a scoping review



Annick S. van Manen<sup>a,b,\*</sup>, Sil Aarts<sup>a,b</sup>, Silke F. Metzeltin<sup>a,b</sup>, Hilde Verbeek<sup>a,b</sup>,  
Jan P.H. Hamers<sup>a,b</sup>, Sandra M.G. Zwakhalen<sup>a,b</sup>

<sup>a</sup> Department of Health Services Research, Maastricht University, Care and Public Health Research Institute, Duboisdomein 30, 6221 GT, Maastricht, the Netherlands

<sup>b</sup> Living Lab in Aging and Long-Term Care, Duboisdomein 30, 6221 GT, Maastricht, the Netherlands

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### ABSTRACT

**Background:** Communication between nursing staff and people with dementia can be challenging. According to the literature, communication is seen as a process of social- and/or informational exchange between a sender and a receiver in a context. Factors related to these elements determine the quality of communication. Insight into the factors involved in the communication process between nursing staff and people with dementia is limited and a comprehensive model of communication in dementia care is lacking.

**Objectives:** To identify and visualize factors associated with communication between nursing staff and people with dementia.

**Design:** A scoping review of scientific literature.

**Data Sources:** Scientific articles were retrieved from the bibliographic databases of PubMed, CINAHL and PsycINFO.

**Review Methods:** The reviewing process was directed by the Joanna Briggs guidelines for scoping reviews. Full-text articles describing the communication process between nursing staff and people with dementia were eligible for inclusion. A data extraction form was used to identify factors associated with communication. Following a directed content analysis approach, factors were categorized in one of three categories: nursing staff; people with dementia; or context. Each category was thematically analysed to identify themes and subthemes. Results were visualized into a communication model.

**Results:** The review included 31 articles; in total, 115 factors were extracted. Thematic analysis of nursing staff factors ( $n = 78$ ) showed that communication is associated with *professional characteristics, individual experiences, verbal- and non-verbal communication skills, communication approach and values*. Factors attributed to people with dementia ( $n = 22$ ) concerned *client characteristics, functional status, behaviour, verbal communication skills and values*. Contextual factors ( $n = 15$ ) related to *organization of care, time and situation*. Based on these results, the Contac-d model was constructed.

**Conclusions:** The Contac-d model gives a comprehensive overview of factors involved in the communication process between nursing staff and people with dementia, providing insight in potential starting points for communication improvement, e.g. respect for needs, identity and privacy of people with dementia, a flexible and adapted communication approach and matching language. Additionally, results suggest that an appealing location, longer duration of the interaction, and music in the surrounding may improve communication in certain situations. However, it was not feasible based on current literature to recommend what works to improve communication in which situations. Future studies should study

\* Corresponding author at: Department of Health Services Research, Maastricht University, Care and Public Health Research Institute, Duboisdomein 30, 6221 GT, Maastricht, the Netherlands

E-mail addresses: [a.vanmanen@maastrichtuniversity.nl](mailto:a.vanmanen@maastrichtuniversity.nl) (A.S. van Manen), [s.aarts@maastrichtuniversity.nl](mailto:s.aarts@maastrichtuniversity.nl) (S. Aarts), [s.metzeltin@maastrichtuniversity.nl](mailto:s.metzeltin@maastrichtuniversity.nl) (S.F. Metzeltin), [h.verbeek@maastrichtuniversity.nl](mailto:h.verbeek@maastrichtuniversity.nl) (H. Verbeek), [jph.hamers@maastrichtuniversity.nl](mailto:jph.hamers@maastrichtuniversity.nl) (J.P.H. Hamers), [s.zwakhalen@maastrichtuniversity.nl](mailto:s.zwakhalen@maastrichtuniversity.nl) (S.M.G. Zwakhalen).

factors and their interrelatedness in specific care situations. Authors further believe that more attention should be paid to strengths and capabilities of people with dementia and to non-modifiable factors that influence communication.

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### What is already known about the topic?

- Communication is essential to build relationships and deliver person-centred nursing care for people with dementia.
- The two-way process of communication constitutes a sender, receiver and a given context; characteristics of these three elements determine the quality of communication.
- Currently used theories of communication in dementia research are not specific for people with dementia.

### What this paper adds

- This paper provides a comprehensive overview of factors related to sender, receiver and context that are associated with communication in dementia care, which resulted in the Contac-d model.
- The Contac-d model presents starting points for communication improvement in dementia care, demonstrating potential positive associations of respect, a flexible and adapted communication approach, matching language, appealing location, sufficient time and the use of music in communication situations between nursing staff and people with dementia.
- By mapping the available literature on dementia care communication, this scoping review illuminates a need for well-constructed studies, for example describing interrelatedness of factors or communication strengths of people with dementia.

## 1. Introduction

Communication between a nurse and a care receiver is essential to build relationships, perform nursing care tasks such as bathing, toileting, and eating, and to adapt and respond to the needs of clients (Kitson et al., 2014; Peplau, 1991). In essence, communication is an ongoing interplay between communication partners and this can, especially in the care for people with dementia, be challenging. The neurocognitive decline of people with dementia affects communicative functions, such as word finding, language comprehension and initiating conversations (Alzheimer's Association, 2020; Kempler and Goral, 2008; World Health Organization, 2019). In the late stages of dementia, even a complete loss of language may occur (Jootun and McGhee, 2011; Yorkston et al., 2010). People with dementia may therefore rely on other means of communication, such as non-verbal and behavioural messages (Smith and Buckwalter, 2005). For example, screaming behaviour can be an expression of pain, but it may also indicate dissatisfaction with care (Cohen-Mansfield, 2008; Herman and Williams, 2009). Nursing staff play an important role in the interpretation of these messages, and it has been suggested that successful communication largely depends on nurses' ability to adapt to the capabilities and needs of their clients with dementia (Hansebo and Kihlgren, 2002). In addition, a nurse may employ various communication styles depending on the goal of the interaction, for instance social conversation or relating to a care task. For nurses, effective communication therefore constitutes a balance between adapting to the person and achieving care goals (Hansebo and Kihlgren, 2002; Kitson et al., 2014; Kitwood, 1997). Although nurses in dementia care consider effective communication as the main challenge in their jobs (Marx et al., 2014), communication skills training is not structurally included in nurs-

ing educational programmes (Blackhall et al., 2011; Smythe et al., 2017).

Difficulties with communication may result in suboptimal care for people with dementia (Jootun and McGhee, 2011; Yorkston et al., 2010). For example, unsuccessful communication during mealtimes may result in food refusal, increasing the risk of malnutrition (Hargreaves, 2008). A study on bathing incidents shows that nurses struggle to bath clients with dementia because they do not comprehend the caregiving situation (D'Hondt et al., 2012). Communication-impaired people with dementia show more symptoms of depression, anxiety, restlessness and agitation, complicating their care needs even further (Potkins et al., 2003). In addition, nurses who experience communication problems with people with dementia report higher levels of stress and caregiver burden, compromising their availability to provide care (Savundranayagam et al., 2005; Stans et al., 2013).

Previous systematic literature reviews show limited effectiveness of interventions that aimed to improve communication between nursing staff and people with dementia (Eggenberger et al., 2013; Machiels et al., 2017; Vasse et al., 2010). In addition to limited effectiveness, the intervention methods were insufficiently grounded in theory, preventing insight into the mechanisms of change (how a chosen method influences communication) (Levy-Storms, 2008; Machiels et al., 2017). In 2009, a systematic literature review on nurse-client communication showed that adopted theories on communication were not specific to people with dementia (Fleischer et al., 2009). Assuming that communicating with people with dementia is different from communicating with people without dementia, the lack of theory specified for communication with this group is considered a gap between theory and practice. The process of nurse-client communication depends on the purpose of the interaction and is influenced by factors related to the sender (client/nurse), the receiver (client/nurse) and the context wherein communication takes place (Fleischer et al., 2009; Hargie, 2011). For example, known factors of relevance in communication with elderly patients are physical ability and time pressure (Caris-Verhallen et al., 1997). A comprehensive overview of the factors relevant in communication with people with dementia is currently lacking. Such an overview is an essential starting point for the development of communication theory specific to dementia care. Therefore, the aim of the current study is twofold: 1) to identify factors associated with the communication process between nursing staff and people with dementia; and 2) to develop a model that incorporates these factors. This model of evidence-based factors may serve to bridge the gap between currently used theories of communication and nursing practice in dementia care (Ennis et al., 2017). Scoping reviews allow for a visual representation of existing literature and have been shown to be a suitable method for defining conceptual boundaries (Arksey and O'Malley, 2005; Peters et al., 2015).

## 2. Methods

A scoping review was performed, directed by the Joanna Briggs Institute guideline for scoping research (Peters et al., 2015). The bibliographic databases of PubMed, CINAHL, and PsycINFO were searched, as these are the largest international databases in the field of nursing, health and health communication. Papers were

**Table 1**

Search string for PubMed database.

<b>Block 1</b>	"Communication"[MeSH Terms] OR "Communication"[Title/Abstract] OR "Communicate"[Title/Abstract] OR "Communicating"[Title/Abstract] OR "Interact"[Title/Abstract] OR "Interacting"[Title/Abstract] OR "Interactions"[Title/Abstract] OR "Talk"[Title/Abstract] OR "Talking"[Title/Abstract] OR "Conversation"[Title/Abstract] OR "Conversations"[Title/Abstract] OR "Nurse-patient relations"[MeSH Terms]
<b>Block 2</b>	"Nurses"[mesh] OR "Nurses"[title/abstract] OR "Nursing personnel"[Title/Abstract] OR "healthcare professional"[Title/Abstract] OR "Nursing staff"[Title/Abstract] OR "Nurse"[Title/Abstract] OR "Nursing aides"[Title/Abstract] OR "Nursing aid"[Title/Abstract] OR "caregivers"[Mesh] OR "caregivers"[Title/Abstract] OR "carer"[Title/Abstract] OR "Nurse assistant"[Title/Abstract] OR "Licensed Practical Nurses" [MeSH] OR "Licensed Practical Nurses" [Title/Abstract]
<b>Block 3</b>	"Dementia"[MeSH Terms] OR "Dementia/nursing*"[MeSH Terms] OR "Cognitive dysfunction"[MeSH Terms] OR "Cognitive dysfunction"[Title/Abstract] OR "demented"[Title/Abstract] OR "Dementia"[Title/Abstract] OR "Alzheimer"[Title/Abstract] OR "Lewy body"[Title/Abstract]
<b>Search term</b>	"Block 1" AND "Block 2" AND "Block 3"

eligible for inclusion if they were original research articles describing the communicative process between nursing staff and people with dementia. Nursing staff was defined as all professional nursing caregivers, including registered nurses, certified nurse assistants, licensed nurses and nurse assistants (Backhaus et al., 2017). Papers describing family caregivers or non-professional caregivers (volunteers) were excluded from review. Only papers describing communication as both sending (action) and receiving (reaction) were selected and papers had to address communication under normal circumstances, which means that studies describing communication to reduce problem behaviours were excluded from review. Papers were only included if the specific factors influencing communication could be identified. As a result, multi-component intervention studies were excluded if the individual factors associated with communication were not specified. Lastly, papers had to be written in English or Dutch. No restriction regarding study design were formulated and the search was not limited by publication date.

To compose a search string, the databases and reference lists of relevant articles were consulted to identify keywords, Mesh terms and concepts (Eggenberger et al., 2013; Machiels et al., 2017). Hereafter, an information specialist was consulted to ensure that each search string was sufficiently specific and sensitive for our purpose. The construction of search strings was an iterative process, involving all authors until consensus was reached (see Table 1). Ethical approval was not required for this study design (International Committee of Medical Journal Editors, 2020).

### 2.1. Selection process

Two authors (AM+SA) carried out the screening and selection procedure using a screening form to ensure consistent assessment of eligibility between the two authors. To increase screening accuracy, both authors individually assessed 5% of the titles, after which results were compared and discussed. This procedure was repeated once, until authors reached an interrater agreement of >80%. Hereafter, the first author proceeded with the title screening process. In case of doubt, co-authors (SA+SZ) were consulted to reach consensus. This procedure was repeated for abstract screening, where 80% agreement was achieved after reviewing the first 5% of the abstracts. At this stage, reference lists of literature reviews were screened for potentially relevant titles, after which they were excluded from further review. Finally, publications were read in full text to assess eligibility.

### 2.2. Data charting process

As recommended by the Joanna Briggs Institute guideline, the following data were extracted from the articles: authors; country; year of publication; study design; study aims; methods; operationalization of communication; setting; study population (Peters et al., 2015). Additionally, all sections describing factors associated with communication were labelled using MAXQDA soft-

ware. Factors were labelled according to the operationalization of communication provided in the original articles. Two authors (AM+SZ) charted data of 50% of the articles together, after which the first author continued individually, consulting SZ when needed. We did not assess methodological quality of the publications because our aim was to provide a comprehensive overview of factors, including diverse study designs/methods.

### 2.3. Thematic synthesis

Thematic analysis of the labelled factors consisted of two phases. Firstly, authors (AM+SZ) used a directed content analysis approach to allocate the labelled sections to one of three categories: nursing staff; people with dementia; or context. These categories correspond with categories previously identified in the literature (Fleischer et al., 2009; Hargie, 2011). The second phase of the analysis consisted of a conventional content analysis of the factors in each category (AM+SA) to identify themes and subthemes. Results are presented schematically with a narrative summary.

## 3. Results

### 3.1. Literature search

After removal of duplicates, the search of PubMed, CINAHL and PsycINFO databases resulted in 2176 publications. After the title screening, 310 remaining abstracts were screened for eligibility. Hereafter, the reference lists of 14 literature reviews that were among the publications were screened, resulting in an additional 16 potentially eligible publications. We then excluded literature reviews from further review. The screening process is displayed in a PRISMA flow chart (Fig. 1) (Moher et al., 2009). In total, 31 publications describing 24 studies were included in the scoping review.

### 3.2. Data extraction outcomes

Studies mostly originated from North America ( $n = 13$ ) and Europe ( $n = 9$ ). Just two studies originated from other regions, Asia ( $n = 1$ ) and Australia ( $n = 1$ ). Articles were published before 2000 ( $n = 11$ ), between 2000 and 2010 ( $n = 8$ ), or after 2010 ( $n = 12$ ). Four articles used interview or focus group methodology, three articles had experimental designs and one article described a case study. The remaining articles reported outcomes of observational studies with quantitative ( $n = 14$ ), qualitative ( $n = 8$ ) or mixed ( $n = 1$ ) methods. No longitudinal studies were found. The majority of articles ( $n = 27$ ) were conducted in institutional long-term care setting, such as assisted living facilities, nursing homes and residential care homes. Four articles also targeted geriatric hospitals and health-care centres. Nursing staff encompassed a variety of caregivers, including registered nurses, licensed nurses, nursing aides and assistants. In total, 90% of the articles ( $n = 28$ ) provided a definition of communication or explained how communication

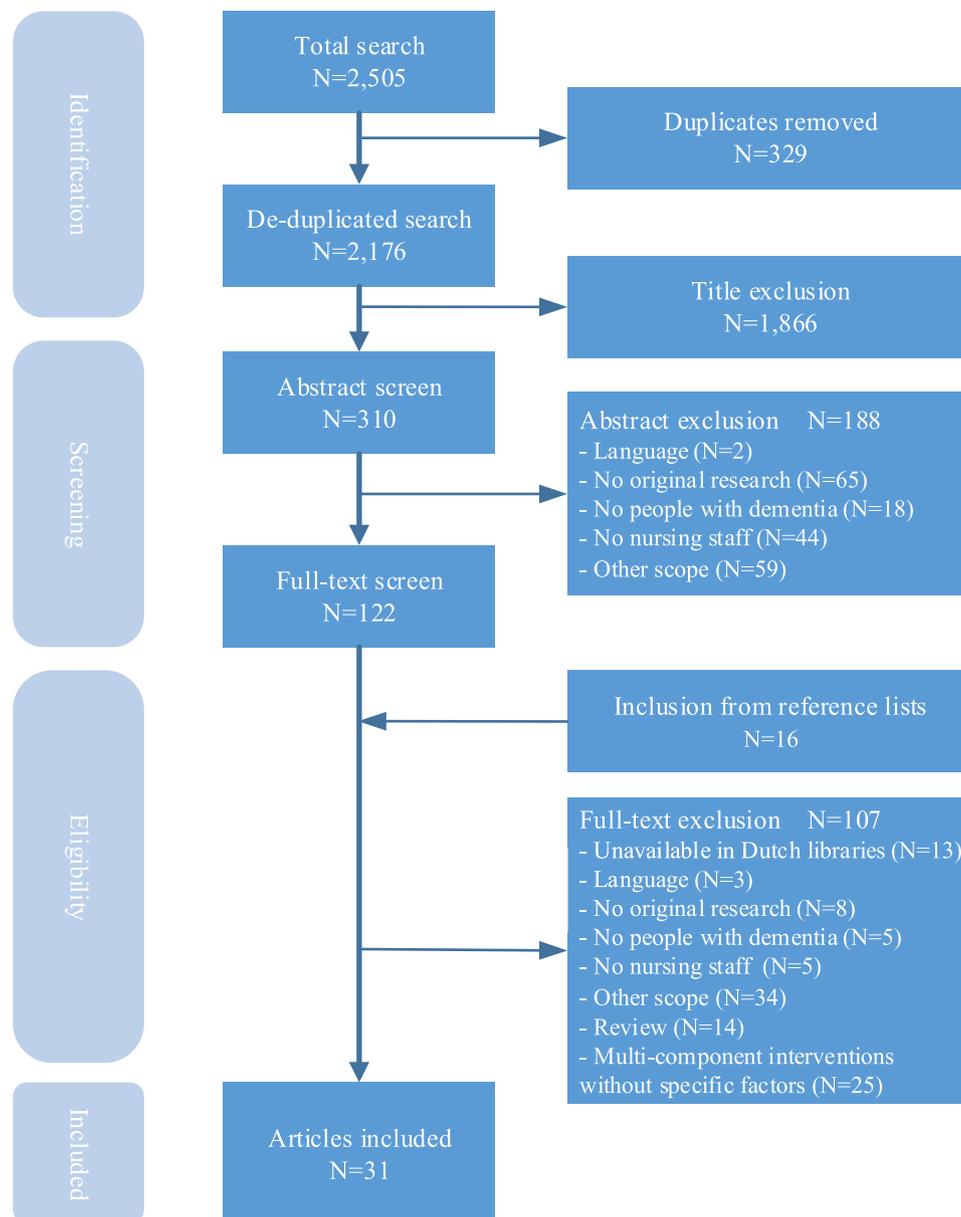


Fig. 1. PRISMA flow chart of the selection process.

was interpreted in the study. The majority of these operationalized communication with behaviours of people with dementia ( $n = 12$ ), such as resistiveness to care and aggression. Others used behaviours of nursing staff ( $n = 6$ ), such as verbal and non-verbal communication strategies, or a combination ( $n = 5$ ). Five articles operationalized communication with the back-and-forth exchange within an interaction, for instance reciprocity and establishing common ground/meaning. Table 2 displays results of the data extraction.

### 3.3. Thematic analysis and interpretation: the Contac-d model

From the 31 included publications, 115 factors were extracted and allocated to one of three predetermined categories derived from the literature: 1. Nursing staff; 2. People with dementia; 3. Context. Thematic analysis of 78 factors attributed to nursing staff resulted in six themes and thirteen subthemes. The 22 factors allocated to people with dementia comprise five themes with eight subthemes. Contextual factors comprise three themes with six sub-

themes, altogether containing 15 factors. Results of the thematic analysis were visualized in the Contac-d model: 'Communication Nursing sTAff and Clients with Dementia' (Fig. 2). The model represents communication as a two-way process, occurring in a context. Each of the identified factors may be present during an interaction, influencing this two-way process. Due to varied interpretations of communication in the articles and the finding that many factors were only identified by a single study, it was not feasible to include causality or interrelations in the current model. Consequently, the model should be interpreted as a frame of reference, informing about potential targets to change or improve the communication process in a given situation. A detailed account of the identified factors and their associations with communication is presented in Table 3.

#### 3.3.1. Factors attributed to nursing staff

Thematic analysis of nursing staff factors revealed six themes: 1) professional characteristics; 2) individual experiences; 3) verbal

**Table 2**  
Results of the data extraction.

Author, year, country	Design	Aim	Setting	Sample	Operationalization of communication	Research methods
Atay et al. (2015) Australia	Observational study, quantitative	Explore associations between nursing staff communication strategies and content-based conversational engagement of PwD	I-LTC	PwD (N = 20)	Content-based conversational engagement of PwD	Audio observations with coding system for verbal strategies of caregivers and conversational engagement of PwD
Beel-Bates et al. (2012) USA	Observational study, quantitative	Quantify nurse-resident interaction during mealtime	I-LTC	Nursing caregivers (N = 14); personal care assistants, nursing care assistants, nursing staff, diversional therapy staff Residents (N = 32) >80% with dementia	Score on the Bernard Feeding Scale for mealtime interaction, reflecting verbal and non-verbal behaviours of nursing caregivers and residents plus contingency scores	Direct observations with survey: <i>Bernard's Feeding Scale</i>
Belzil & Vezina (2015) Canada	Observational study, quantitative	Study associations between nursing staff's physical and verbal behaviours and PwD collaboration and resistiveness to care (RTC)	I-LTC	Nursing caregivers (N = 73); NS PwD (N = 8)	Collaborative behaviours of PwD; collaboration, resistance, or absence of behaviour	Direct + video observations with coding system for RTC and physical and verbal behaviours of nursing staff
Bourbonnais & Ducharme (2015) Canada	Observational study, qualitative	Describe social positioning of nursing staff in relation to PwD screaming behaviour	I-LTC	Nursing caregivers (N = 43); nursing aides, nursing assistants, head nurse PwD (N = 7)	Screaming behaviour of PwD	Direct observation of screaming behaviour
Burgener et al. (1992)* USA	Observational study, quantitative	Identify interactive behaviours of nursing staff and associations with (dys-)functional behaviours of cognitively impaired elders in different care situations	I-LTC	Nursing caregivers (N = 9); registered nurses, licensed practice nurses, nursing aide PwD (N = 58)	Verbal and non-verbal behaviours of caregiver and PwD as indicated by scores on two surveys	Direct observations with two surveys: <i>Health Professional's-Geriatric Patient Behaviour Rating, Interaction Behaviour Measure</i>
Burgener et al. (1993)* USA	Observational study, quantitative	Examine relationships between nursing staff and cognitively impaired elders and associations with the care situation, context and characteristics of nursing staff and elder	I-LTC	Nursing caregivers (N = 58); licensed practical nurses, certified nursing assistants, registered nurses PwD (N = 58)	Verbal and non-verbal behaviours of nursing staff and PwD as indicated by scores on two surveys	Direct observations with surveys: <i>Alzheimer Disease Knowledge Test, Barthel Self-Care Index, Health Professional's-Geriatric Patient Behaviour Rating, Interaction Behaviour Measure</i>
Edberg et al. (1995) Sweden	Observational study, quantitative	Explore initiating and terminating interaction between nursing staff and PwD with vocal disruptive behaviour	I-LTC	Nursing caregivers (N = 58); licensed practical nurses, certified nursing assistants, registered nurses PwD (N = 9)	Verbal emotional quality (soft/hard) of nursing staff and synchrony/receptiveness of verbal exchange between nursing staff and PwD	Audio observations with coding of interaction phase, verbal content, emotional quality, vocal activity of PwD and number of staff involved plus calculation of responsiveness index

(Continued on next page)

Table 2 (Continued).

Author, year, country	Design	Aim	Setting	Sample	Operationalization of communication	Research methods
Eggers et al. (2005) Sweden	Observational study, qualitative	Investigate fragmentation in interactions between nursing staff and PwD	I-LTC	Nursing caregivers (NS); nurses PwD (N = 15)	Occurrence of fragmentation (not recognizing what is happening, objects or themselves) in PwD	Direct observation and field notes
Ekman et al. (1993) * Sweden	Observational study, qualitative	Analyse relationships and promotion of integrity between mono- and bilingual nursing staff and bilingual PwD with Erikson's theory	Geriatric hospitals, nursing homes, health care centres	Nursing caregivers (N = 18); registered nurses, enroled nurses, nursing aides PwD (N = 7)	Obstruction or solution crises of PwD	Video observations with coding system for Erikson's 8 stages of psychosocial development
Ekman et al. (1994) * Sweden	Observational study, qualitative	Illuminate practical problems in the care for PwD that relate to mono- or bilingualism	Geriatric hospitals, nursing homes, health care centres	Nursing caregivers (N = 16); registered nurses, enroled nurses, nursing aides PwD (N = 7)	Degree of functional verbal communication of PwD	Interviews with nursing staff and assessment of PwD communication with bi/mono-lingual nursing staff in standardized situations
Ekman et al. (1995) * Sweden	Observational study, qualitative	Illuminate interactions between mono- and bilingual nursing staff and bilingual PwD with Erikson's theory	Geriatric hospitals, nursing homes, health care centres	Nursing caregivers (N = 2); NS PwD (N = 7)	Obstruction or solution of crises of PwD	Video observations with coding system of Erikson's 8 stages of psychosocial development
Gilmore-Bykovskiy et al. (2015) USA	Observational study, quantitative	Identify and explore sequential associations of nursing staff's person-centred or task-centred actions with PwD behavioural symptoms	I-LTC	Nursing caregivers (N = 16); registered nurses, enroled nurses, nursing aides PwD (N = 12)	Scores on a survey reflecting PwD behavioural agitation	Video observations with coding of nursing staff's person/task centred behaviours and surveys: <i>Apparent Affect Rating Scale, Dementia Mood Picture Test, Pittsburgh Agitation Scale</i>
Gotell et al. (2002) * Sweden	Experimental study, qualitative	Examine effects of background music and nursing staff singing as therapeutic intervention in dementia care	I-LTC	Nursing caregivers (N = 8); certified nursing assistants PwD (N = 9)	Verbal communication between nursing staff and PwD	Video observations
Gotell et al. (2003) * Sweden	Experimental study, qualitative	Illuminate influences of background music and nursing staff singing on non-verbal communication in dementia care	I-LTC	Nursing caregivers (N = 5); licensed practical nurse, mental health nurse PwD (N = 9)	Non-verbal aspects such as posture, movement, and sensory awareness of nursing staff and PwD	Video observations
				Nursing caregivers (N = 5); licensed practical nurse, mental health nurse		

(Continued on next page)

Table 2 (Continued).

Author, year, country	Design	Aim	Setting	Sample	Operationalization of communication	Research methods
Gotell et al. (2009) * Sweden	Experimental study, qualitative	Regard influences of background music and singing on emotional expressions of PwD and nursing staff	I-LTC	PwD (N = 9)	Reciprocal emotional vocal expression	Video observations
Graneheim (2001) Sweden	Case study, qualitative	Illuminate interactions of a woman with severe dementia and behavioural disturbances and nursing staff	I-LTC	Nursing caregivers (N = 5); licensed practical nurse, mental health nurse PwD (N = 1)	Verbal communication and action/reaction between a PwD and nursing staff. Occurrence of behavioural problems of PwD regarded as negative outcome	Direct observations and reflective dialogues
Hammar et al. (2010) * Sweden	Interview study, qualitative	Present nursing staff experiences with/without 'Music Therapeutic Caregiving' in the care for PwD	I-LTC	Nursing caregivers (N = 6); registered nurse, enroled nurses PwD (N = 10)	NS	Group interviews
Hammar et al. (2011) * Sweden	Experimental study, qualitative	Describe non-verbal communication of PwD and nursing staff during care with/without 'Music Therapeutic Caregiving'	I-LTC	Nursing caregivers (N = 6); nurse assistants, nursing aides PwD (N = 10)	Verbal and non-verbal expression and eye contact between nursing staff and PwD	Video observations
McGilton et al. (2012) Canada	Observational study, quantitative	Study relational behaviours of nursing staff across care situations and their associations with PwD mood and affect	I-LTC	Nursing caregivers (N = 6); nurse assistants, nursing aides PwD (N = 38)	Scores on a survey for PwD affect and self-reported mood	Direct observations with surveys: <i>Apparent Affect Rating Scale, Dementia Mood Picture Test, Relational Behaviour Scale</i>
Richter (1993) USA	Focus group study, qualitative	Describe nursing assistants' perceived communication barriers and successes on Alzheimer units	I-LTC	Nursing caregivers (N = 21); nursing assistants	NS	Focus groups
Richter et al. (1995) USA	Focus group study, qualitative	Examine nursing staff's communication strategies used to manage behavioural problems of PwD	I-LTC	Nursing caregivers (N = 22); certified nursing assistants	Verbal and nonverbal behaviours of nursing staff and their effects on fearfulness, agitation and wandering of PwD	Focus groups
Salmon (1993) UK	Observational study, quantitative	Examine nursing staff's interactions with PwD during routine care and formal activity periods and explore associations with attitudes of nursing staff towards elderly and treatment	General hospital, psychogeriatric unit	PwD (NS)	Nursing staff interaction behaviours (positive/neutral/negative)	Direct observations with interaction observation scheme and surveys: <i>Attitudes to elderly patients, philosophy of treatment form</i>
Savundranayagam et al. (2016)* USA	Observational study, quantitative	Examine person-centred communication of nursing staff and reactions of PwD	I-LTC	Nursing caregivers (N = 27); sisters, staff nurses, enroled nurses, nursing assistants PwD (N = 13)	Reactions of PwD (positive/negative)	Audio observations with coding of personhood indicators, (missed) person-centred communication and PwD reactions
				Nursing caregivers (N = 13); NS		

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Table 2 (Continued).

Author, year, country	Design	Aim	Setting	Sample	Operationalization of communication	Research methods
Somboontanont et al. (2004) USA	Observational study, quantitative	Identify behavioural antecedents of physical assaults against nursing staff by PwD	I-LTC	PwD (N = 18)  Nursing caregivers (NS); nursing assistants	Attempted or occurrence of hitting behaviour of PwD (note: PwD kicking, spitting, biting and throwing are not interpreted in this review due to low incidence)	Video observation with coding of assaultive behaviour and surveys: <i>Caregiver Bathing Behaviour Inventory, Physical Environment Observation Inventory</i>
Strandroos & Antelius (2017) Sweden	Observational study, qualitative	Investigate communication between PwD and nursing staff with diverse linguistic and cultural backgrounds	I-LTC	PwD (N = 19)  Nursing caregivers (NS); NS	Shared common ground, the creation of meaning and a sense of self for nursing staff and PwD	Direct and video observations, field notes and interviews
Tappen et al. (1997) USA	Observational study, mixed methods	Determine empirical evidence for recommended strategies for communication with PwD	I-LTC	PwD (N = 23); veterans	Relevant responses of PwD, emotional expressions or expression of concern and maintaining a theme for ≥ 2 exchanges	Interviews with coding scheme for recommended strategies, relevance of PwD response and word count
Wang et al. (2013) Taiwan	Interview study, qualitative	Identify perceived difficulties of nursing staff in communicating with PwD	Assisted living facilities, nursing homes, residential care homes	Nursing caregivers (NS); nurses Nursing caregivers (N = 15); bachelor nurses, associate degree nurses, vocational nurses	NS	Interviews
Ward et al. (2008) UK	Observational study, qualitative	Identify interaction patterns in the care for PwD	I-LTC	PwD (N = 17)  Nursing caregivers (N = 32); NS Non-care staff (N = 6)	PwD self-expression and its occurrence in the dementia care setting and with nursing staff	Video and diary observations, semi-structured interviews with coding of interaction type (task, social, combined) and a survey: <i>Quality of Interactions Schedule</i>
Williams & Herman (2009) USA	Observational study, quantitative	Examine effects of nursing staff's use of elderspeak on cooperation and RTC of PwD	I-LTC	PwD (N = 20)  Nursing caregivers (N = 52); nursing staff, 78% certified nursing assistants	Occurrence of PwD RTC	Video observations with coding of PwD behaviour and survey: <i>Resistiveness to Care Scale</i>
Williams et al. (2011) USA	Observational study, quantitative	Evaluate impact of emotional tone of nursing staff on RTC of PwD	I-LTC	PwD (N = 16)  Nursing caregivers (NS); nursing staff, 78% certified nursing assistants	Occurrence of PwD RTC	Video observations with surveys: <i>Resistiveness to Care Scale</i>
Wilson et al. (2013) Canada	Observational study, quantitative	Examine nursing staff's communication strategies with PwD during tooth brushing	I-LTC	People with moderate and severe AD (N = 13)  Nursing caregivers (N = 15); personal support workers, registered nurse	Nursing staff social and task-focused verbal and non-verbal communication strategies and rate of speech	<i>Emotional Tone Rating Scale</i> Video observations with coding of task completion and survey: <i>Multidimensional Observational Coding Scheme</i>

\* =same sample as other publications from same author; AD=Alzheimer disease; I-LTC=Institutionalized long-term care facility; NS=not specified; PwD=People/Person with dementia; RTC=Resistiveness to care.

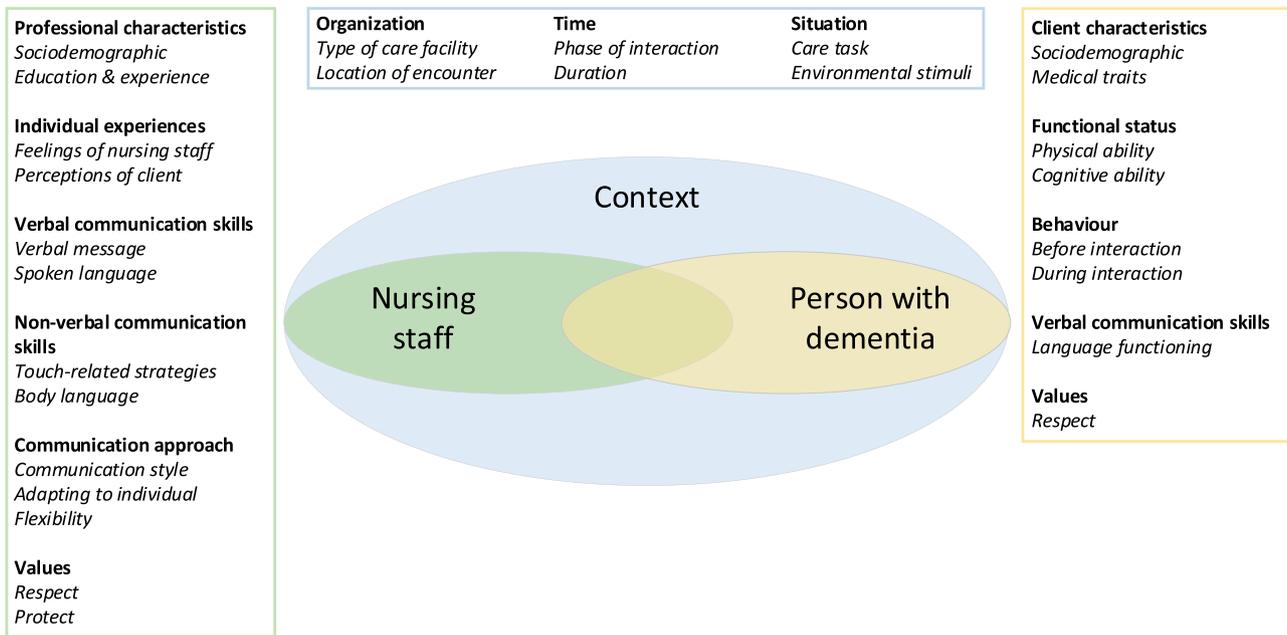


Fig. 2. The Contac-d Model: factors associated with communication between nursing staff and people with dementia.

communication skills; 4) non-verbal communication skills; 5) communication approach; and 6) values.

**Professional characteristics:** Individual attributes of nursing staff are clustered in this theme, consisting of two subthemes; *sociodemographic* and *education/experience*. Education/experience, specifically qualification, years of education, knowledge and dementia experience, influences communication positively, although the quality of communication of nursing staff with  $\geq 10$  years' work experience was lower (Beel-Bates et al., 2012; Burgener and Shimer, 1993; Salmon, 1993). In these studies, *sociodemographic* factors of age, sex and hours worked per week did not affect communication significantly.

**Individual experiences:** This theme contains two subthemes: *feelings* and *perceptions*. Nursing staff note that people with dementia are sensitive to their *feelings* and moods and will adopt these, influencing communication. They therefore recommend positive self-presentation to enhance communication with residents (Ward et al., 2008). Nursing staff consider feelings of workload pressure a barrier to communication, preventing sustained interactions with clients (Ward et al., 2008). Furthermore, observations show nursing staff communicate less positively with clients they consider to be resistant, indicating a role for their *perceptions* in communication (McGilton et al., 2012).

**Verbal communication skills:** This theme contains the majority of factors and concerns spoken language ("what you say"), including verbal skills, strategies and language. We differentiated two subthemes; *verbal message* and *spoken language*. Multiple studies describe associations between *verbal messages* of nursing staff with communication outcomes, showing mostly inconsistent results (Atay et al., 2015; Belzil and Vezina, 2015; Burgener et al., 1992; Richter et al., 1995; Somboontanont et al., 2004). Some messages enhance communication, such as self-disclosure, active listening, giving time and procedural information. Additionally, multiple aspects of communication are positively influenced by song (Gotell et al., 2002; Gotell et al., 2003; Gotell et al., 2009; Hammar et al., 2011; Hammar et al., 2010). Nursing staff indicate that short cues, verbal reassurance and broad openings are beneficial to communication (Richter et al., 1995; Tappen et al., 1997). By contrast, communication is harmed by, for example, confronta-

tional messages, verbal insensitivity to resident feelings, and lack of a clear topic (Atay et al., 2015; Somboontanont et al., 2004). Four articles stress the importance of a shared *spoken language*. Although communication is possible without language, a shared language or dialect improves the communication process by facilitating mutual understanding (Ekman et al., 1995; Ekman et al., 1993; Ekman et al., 1994; Strandroos and Antelius, 2017).

**Non-verbal abilities:** This theme concerns non-spoken language ("what you don't say") and consists of two subthemes: *body language* and *touch-related strategies*. Nursing staff can improve communication with their *body language*, particularly eye contact, whereas rushed actions and actions without verbal prompt harm the communication process (Richter et al., 1995; Somboontanont et al., 2004; Strandroos and Antelius, 2017). Nursing staff report that reading the clients' body language facilitates communication even if the client speaks a different language (Strandroos and Antelius, 2017). Results for *touch-related strategies* are inconclusive: touch influences communication both positively and negatively during hygienic care, resulting in collaboration and client resistance, whereas physical instructions and expressive physical touch, specifically of the hand and shoulder, facilitated communication (Belzil and Vezina, 2015; Richter et al., 1995; Somboontanont et al., 2004; Strandroos and Antelius, 2017).

**Approach:** Approach concerns a combination of verbal and non-verbal skills ("how you say it") and consists of three subthemes: *communication style*, *adapting to individual* and *flexibility*. Person-centred communication, a style characterized by recognition, negotiation, facilitation and validation, and styles characterized by consideration and relational behaviours predict positive resident reactions and are therefore beneficial to communication (Edberg et al., 1995; McGilton et al., 2012; Savundranayagam et al., 2016). Styles characterized by infantilizing speech and controlling emotional tone (elderspeak) or by controlling a task without including the resident influence communication negatively (Gilmore-Bykovskyi, 2015; Ward et al., 2008; Williams et al., 2009; Williams and Herman, 2011). A kind approach, *adapted to the individual* and their personal history and characterized by attentive interest promotes communication with people with dementia (Eggers et al., 2005; Richter et al., 1993; Richter et al., 1995;

**Table 3**

Themes, subthemes and factors in communication between nursing staff and people with dementia presented per category.

Category	Theme	Subtheme	Factor	Association <sup>1</sup>	Source	
<b>Nursing staff</b>	Professional characteristics	Socio-demographic	Age	O	Burgener (1993)	
			Sex	O	Beel-Bates (2012)	
		Education & experience	Hours worked per week	O	Burgener (1993)	
			Qualification	+/o	Beel-Bates (2012); Burgener (1993); Salmon (1993)	
			Experience with dementia	+/-/o	Beel-Bates (2012); Burgener (1993)	
			Years of education	+/-/o	Burgener (1993)	
			Knowledge of dementia	+/o	Burgener (1993)	
			Positive mood/feelings	+	Ward (2008)	
		Individual experiences	Nursing staff feelings	Perceived workload pressure	-	Ward (2008)
				Perceived resistiveness	-/o	McGilton (2012)
	Verbal communication skills	Verbal message	Verbal message	Singing	+	Gotell (2002); Gotell (2003); Gotell (2009); Hammar (2010); Hammar (2011)
				Calling PwD by name	+/-	Atay (2015); Somboontanont (2004)
				Praise/encouragement	+/o	Atay (2015); Burgener (1992); Richter (1995); Somboontanont (2004)
				Procedural communication	+/o	Burgener (1992); Richter (1995); Somboontanont (2004)
				Recognizing & maintaining topic	+/o	Atay (2015); Tappen (1997)
				Sharing of self/equality	+	Atay (2015); Tappen (1997)
				Humour	+/o	Atay (2015); Burgener (1992)
				Negative instruction	-/o	Belzil (2015)
				Negative statement	-/o	Belzil (2015)
				Neutral statement	+/-/o	Belzil (2015)
				Positive instruction	+/-/o	Belzil (2015)
				Positive statement	o	Belzil (2015)
				Simple instruction	-/o	Somboontanont (2004)
				Complex instruction	o	Somboontanont (2004)
				Insensitivity to PwD feelings	-/o	Somboontanont (2004)
				Confrontational	-	Somboontanont (2004)
				Not speaking	-/o	Somboontanont (2004)
				Use knowledge of client	+	Atay (2015)
				Verbal reassurance	+	Richter (1995)
				Use broad openings	+	Tappen (1997)
				Less compensating for disability	+	Burgener (1992)
				Attending to comfort	+/o	Burgener (1992)
				Personal attending	+/o	Burgener (1992)
				Relaxed behaviour	+/o	Burgener (1992)
				Social/flexible behaviour	+/o	Burgener (1992)
				Distraction	+/o	Belzil (2015)
				Active listening	+	Atay (2015)
				Verbal acknowledgement	-	Atay (2015)
				Short cues	+	Richter (1995)
				Giving time	+	Atay (2015)
				Suggest answer content	+/o	Atay (2015)
				Rephrase/reduce question	+/o	Atay (2015)
				Additional explanation	o	Atay (2015)
				Type of question (open/closed/mixed)	o	Tappen (1997)
				Multiple questions	o	Atay (2015)
				Unclear topic	o	Atay (2015)
				Use visual reference	o	Atay (2015)
Spoken language	Spoken language	Speaking same language/dialect	+	Ekman (1993); Ekman (1994); Ekman (1995); Strandroos (2017)		
		Expressive physical touch	+/o	Belzil (2015); Richter (1995)		
Non-verbal communication skills	Touch-related strategies	Touch-related strategies	Not touching	+/-	Somboontanont (2014)	
			Not using restraints	-/o	Somboontanont (2014)	
			Touch	+/-/o	Somboontanont (2014)	
			Instrumental physical touch	+/-/o	Belzil (2015)	

(Continued on next page)

Table 3 (Continued).

Category	Theme	Subtheme	Factor	Association <sup>1</sup>	Source			
<b>Person with dementia</b>	Communication approach	Body language	Physical instructions	+	Strandroos (2017)			
			Smiling	+/o	Burgener (1992); Richter (1995)			
			Eye contact	+	Richter (1995)			
		Communication style	Adapting to individual	Reading body language / facial expression	+	Strandroos (2017)		
				Hurried action (no prompt)	-/o	Somboontanont (2014)		
				Controlling care task	-	Gilmore- Bykovski (2015); Ward (2008)		
			Values	Respect	Elderspeak	-/o	Williams (2009); Williams (2011)	
					Normal style or silence	-	Williams (2009)	
					Patient centred-communication	+	Savundranayagam (2016)	
				Client characteristics	Protect Socio-demographic	Considerate communication	+	Edberg (1995)
						Relational behaviour	+	McGilton (2012)
						Knowing PwD history	+	Richter (1993); Richter (1995)
					Medical traits	Attentive interest	+	Eggers (2005)
						Calm/kind approach	+	Strandroos (2017)
						Individualized approach	+	Richter (1995)
	Functional status	Flexibility	Knowing each other	+	Strandroos (2017)			
			Mutual interpretation of situation	+	Eggers (2005) Wang (2013)			
			Trial & error approach	+	Richter (1993)			
		Behaviour	Respect	Respecting privacy	+	Graneheim (2001)		
				Regarding autonomy	+	Graneheim (2001)		
				Value individual	+	Eggers (2005)		
			Protect Socio-demographic	Preserving identity	+	Graneheim (2001)		
				Reciprocal social position (no power position)	+	Bourbonnais (2015)		
				Need to protect client security	-	Graneheim (2001)		
	Verbal communication skills	Medical traits	Age	-/o	Burgener (1993); Williams (2009)			
			Years of education	+/o	Burgener (1993)			
			Length of stay on a unit	+/o	Burgener (1993)			
		Physical ability	Cognitive ability	Comorbidity	-/o	Burgener (1993)		
				No medication	+	Richter (1993)		
				ADL dependency	-	Burgener (1993); Williams (2009)		
		Behaviour	Before interaction	Cognitive impairment	-	Strandroos (2017); Williams (2009); Wilson (2013)		
				Extent of dementia	+/-/o	Burgener (1993)		
				Pre-existing neutral/cooperative behaviour	-/o	Williams (2009)		
During interaction	Pre-existing resistiveness		-	Belzil (2015)				
	Personal attending		+	Burgener (1992)				
	Calm/functional behaviour		+	Burgener (1992)				
Values	Language functioning	Failing compliance with a task	+	Ward (2008)				
		Agitation	-	Richter (1993)				
		Reliance on mother language	-	Strandroos (2017)				
	Respect	Language functioning	-/o	Belzil (2015); Strandroos (2017); Wang (2013); Williams (2009)				
		Autonomy	+	Graneheim (2001)				
		Identity	+	Graneheim (2001)				
<b>Context</b>	Organization of care	Type of care facility	Privacy	+	Graneheim (2001)			
			Emotional needs	-	Bourbonnais (2015)			
			Dissatisfaction	-	Bourbonnais (2015)			
		Location of encounter	Unmet needs	-	Bourbonnais (2015)			
			Nursing home facility	+/-/o	Beel-Bates (2012); Ward (2008); Burgener (1992)			
			Public unit	+/o	Burgener (1993)			
	Time	Phase of interaction	Order in care homes	-	Ward (2008)			
			Appealing physical environment	+	Strandroos (2017); Ward (2008)			
			Meal in bedroom vs. dining room	+	Beel-Bates (2012)			
		Duration	Phase of interaction (beginning/end)	-/o	Edberg (1995); Savundranayagam (2014); Wilson (2013)			
			Duration of feeding	+	Beel-Bates (2012)			
			Time for interaction	+	Strandroos (2017)			

(Continued on next page)

Table 3 (Continued).

Category	Theme	Subtheme	Factor	Association <sup>1</sup>	Source
	Situation	Care task	Care situation	+/-	Burgener (1992); Burgener (1993); McGilton (2012); Williams (2009)
			Formal care activity	+/-	Burgener (1992); Burgener (1993); Salmon (1993)
			2+ nurses present	-/o	Edberg (1995); Somboontanont (2004)
		Environmental stimuli	Music	+	Gotell (2002); Gotell (2003); Gotell (2009)
			Environmental adjustments (soft music, quiet environment, decreased stimuli)	+	Richter (1995)
			Background noise	o	Somboontanont (2004)
			Temperature	o	Somboontanont (2004)

Notes: <sup>1</sup> [+] sources report a positive association with communication; [-] sources report a negative association with communication; [o] sources report a non-significant association with communication; [/] sources report multiple associations with communication.

Strandroos and Antelius, 2017). Nursing staff recommend a trial-and-error approach and emphasize *flexibility* is required to cope with the frequent behavioural changes of people with dementia (Richter et al., 1993; Richter et al., 1995; Wang et al., 2013).

*Values:* In this theme concerning principles or interpersonal morals, we recognized two subthemes: *respect* and *protect*. Qualitative observations show that communication benefitted from messages characterized by *respect* for client privacy, autonomy and the individual. Lack of respect resulted in deterioration of communication (Eggers et al., 2005; Graneheim et al., 2001). Furthermore, the responsibility of nursing staff to protect their clients' *security* sometimes conflicts with optimal communication (Graneheim et al., 2001).

### 3.3.2. Factors attributed to people with dementia

Thematic analysis reveals five themes attributed to people with dementia: 1) client characteristics; 2) functional status; 3) behaviour; 4) verbal communication skills; 5) values.

*Client characteristics:* This theme concerns individual attributes of people with dementia and contains two subthemes: *sociodemographic* and *medical traits*. Nursing staff communicate more positively to clients with more years of educational or longer duration of stay, while increased age is associated with negative caregiver communication (i.e. less feedback and touch) (Burgener and Shimer, 1993). Age does not relate to elderspeak in another study (Williams et al., 2009). Comorbidity, or the number of additional *medical* diagnosis of a person with dementia, negatively influences communication and nursing staff indicate that communication is easier when clients are not medicated (Burgener and Shimer, 1993; Richter et al., 1993).

*Functional status:* This theme deals with the ability of people with dementia to perform daily activities; two subthemes concern: *physical ability* and *cognitive ability*. Two studies describe a deterioration of communication in interactions with more *physically* dependent people with dementia (Burgener and Shimer, 1993; Williams et al., 2009). Similarly, greater *cognitive* impairment relates to decreased caregiver responsiveness and behaviours, such as giving feedback, elderspeak, banter and social touch, thereby negatively influencing communication (Burgener and Shimer, 1993; Williams et al., 2009; Wilson et al., 2013).

*Behaviour:* This theme concerns observable behaviours of people with dementia and contains two subthemes: *before interaction* and *during interaction*. Pre-existing resistance of people with dementia has a negative influence on communication, associating with elderspeak and negative outcomes of verbal messages of nursing staff (Belzil and Vezina, 2015; Williams et al., 2009). *During interactions*, task non-compliance elicits verbal input of care-

givers (Ward et al., 2008). Calmness and involvement of clients in the interaction relates to positive communication of nursing staff (Burgener et al., 1992). Nursing staff consider agitation of people with dementia a negative influence on communication (Richter et al., 1993).

*Verbal communication skills:* This theme relates to verbal performance of people with dementia. Three studies show communication deteriorates with declining verbal performance of people with dementia. Clients with severe language impairments are more likely to resist care, resulting in a negative communication outcome (Belzil and Vezina, 2015). In interviews, nursing staff indicate that it is challenging to attain common ground and estimate the needs/emotional state of clients with impaired verbal expression (Strandroos and Antelius, 2017; Wang et al., 2013). No association between language impairment and elderspeak use was established (Williams et al., 2009).

*Values:* This theme relates to principles that motivate people with dementia. Papers described factors relating to *respect*. Observations show improved communication when an exchange confirms a sense of autonomy, identity or privacy in people with dementia, illustrating the relevance of these values for the quality of communication (Graneheim et al., 2001). Need fulfilment is recognized as a driving force behind communication in two studies where positive or negative communication resulted from staff fulfilling or violating, respectively, client needs (Bourbonnais and Ducharme, 2015; Graneheim et al., 2001).

### 3.3.3. Factors attributed to context

Thematic analysis of factors in this category results in three themes: 1) organization of care; 2) time and; 3) situation.

*Organization of care:* The majority of studies (87%) were conducted in institutionalized care facilities and factors describing the physical setting were divided into two subthemes; *type of care facility* and *location of encounter*. Studies show that nursing staff communicate differently between nursing home facilities (Beel-Bates et al., 2012; Burgener et al., 1992; Burgener and Shimer, 1993). Observations in eight facilities show that the daily organization of care, focused on efficient task completion, has negative consequences on the quality of conversation between nursing staff and residents with dementia (Ward et al., 2008). In one study, staff communicated better during meals in the bedroom compared to the communal area, indicating a role of *location of encounter* in these interactions (Beel-Bates et al., 2012). Two studies suggest that location influences the social availability and situational understanding of a person with dementia (Strandroos and Antelius, 2017; Ward et al., 2008).

**Time:** Factors describing time consisted of two subthemes: *phase of interaction* and *duration*. Studies described fluctuating quality of nursing staff communication as interactions progress, with less person-centred communication at the beginning and end of an interaction and an overall slowing of speech rate (Edberg et al., 1995; Savundranayagam, 2014; Wilson et al., 2013). The quality of communication of people with dementia did not change during an encounter (Edberg et al., 1995). With greater *duration*, nursing staff communication improves and a qualitative study suggests this is due to increased mutual understanding (Beel-Bates et al., 2012; Strandroos and Antelius, 2017).

**Situation:** This theme concerns situational characteristics of communication and contains two subthemes: *care task* and *environmental stimuli*. Studies show that nursing staff and people with dementia communicate differently during formal care situations compared to non-care related social encounters (Burgener et al., 1992; Burgener and Shimer, 1993; Salmon, 1993). Additionally, nursing staff accommodate their communication according to different *care tasks*, illustrating that communication depends on the purpose of the interaction (Burgener et al., 1992; Burgener and Shimer, 1993; McGilton et al., 2012; Williams et al., 2009). Aspects of communication are negatively influenced by the presence of multiple caregivers (Edberg et al., 1995). Four studies describe positive influences of *environmental stimuli* (i.e. adjusted background, with soft music and decreased stimuli) on communication (Gotell et al., 2002; Gotell et al., 2003; Gotell et al., 2009; Richter et al., 1995).

#### 4. Discussion

The current scoping review provides a comprehensive overview of factors underlying communication between nursing staff and people with dementia, summarizing them in the Contac-d model. The Contac-d model reflects communication as a two-way process in which factors related to nursing staff, people with dementia and context are involved and factors that may facilitate or harm the process (such as available time respectively location of the interaction) are highlighted. It is important to note that the relevance of these factors varies per situation and also depends on the purpose of the interaction. For instance, it is expected that in certain situations, nursing staff may want to use a task-focused approach to deliver necessary care, for instance when handing out medications. The Contac-d model represents the scientific literature on dementia care communication and is therefore limited by the heterogeneous interpretations of the concept and the different situations wherein communication has been investigated. Consequently, it is difficult to make statements about good communication between nursing staff and people with dementia.

The Contac-d model provides starting points to change or improve the communication process between nursing staff and people with dementia. Communication can be viewed as a reciprocal process of social and informational exchange involving a sender and receiver in a certain context (Hargie, 2011) and a common approach to improving this process dictates that nursing staff need to adapt continuously to signals from the clients (Ennis et al., 2017; Ryan et al., 1995). For instance, when a person with dementia loses the ability to communicate verbally, the communication process is disturbed. Nursing staff may then compensate by using a different skill set (e.g. experience from other non-verbal clients with dementia and non-verbal communication strategies). Interventions to improve communication should therefore aim to improve the ability of nursing staff to compensate for disturbances in the communication process. To date, interventions aiming to improve communication between nursing staff and people with dementia often lack argumentation for the factors they target, but usually include a verbal skill training (Machiels et al., 2017). The

Contac-d model highlights promising starting points in addition to verbal skills training, for example respect for the needs, identity and privacy of people with dementia, a flexible and adapted approach and matching language. This review also suggests that location, duration of the interaction, and music in the environment may influence the quality of communication. Modification of these factors may lead to improved communication and studies are needed to investigate the effects of these factors on the quality of communication in different situations.

Results of this review show an uneven distribution of factors between the three categories; the majority of factors extracted from the literature focused on nursing staff. Most of these factors can be modified (i.e. verbal skills), illustrating they are perceived as active contributors that are able to influence the communication process. This is underscored by a study observing that nurses are responsible for successful interactions with people with dementia (Hansebo and Kihlgren, 2002). However, some factors cannot be influenced by staff, for example the physical and cognitive ability of people with dementia. In these instances, nursing staff should adapt their communication behaviour in such a way that it matches with the abilities of an individual person (Ryan et al., 1995). Following Kitwood's notion of person-centred care, a person with dementia should be regarded in light of their abilities rather than symptoms or disease (Kitwood, 1997). Hence, repositioning people with dementia as active communication partners, able to contribute despite their cognitive or physical impairments could be beneficial (Kitson et al., 2014). Their abilities may be used by nursing staff to find meaning and successfully create a communication balance (Hughes et al., 2009). Furthermore, this review highlights a limited number of contextual factors, including type of care facility, location and care task that are not easily modifiable by nursing staff themselves, but are closely related to the organization of care (Chant et al., 2002; Forsgren et al., 2016; Williams et al., 2016). Herein lies a role for the management of nursing care homes, addressing these factors to facilitate nursing staff to improve the communication process (Williams et al., 2016). Careful assessment of these non-modifiable factors is necessary when designing communication interventions, since they may have a negative impact on the intended intervention effects (Bleijenberg et al., 2018).

The current findings partly support previous studies describing communication with older clients without dementia (Caris-Verhallen et al., 1997; Fleischer et al., 2009). Our review underscores the relevance of nursing staff education, verbal abilities, approach and respect in communication, as well as cognitive and physical abilities of clients (Caris-Verhallen et al., 1997). Additionally, this review brought forward factors that were not previously described in the general older population, including, for example, nursing staff responsibility to ensure client safety and needs and behaviours of people with dementia. This implies that these are factors that are of particular relevance to communication in dementia care. Likewise, whereas contextual factors such as, for example, care task, time and organization were also identified in communication with the general older population (Caris-Verhallen et al., 1997; Fleischer et al., 2009), this study highlighted environmental stimuli as an additional factor associated with dementia care communication. These newly identified factors provide support for the conceptual premise that communication between nursing staff and people with dementia can be differentiated from communication with the general population of older adults, emphasizing the need to study what does and does not work in this population.

To maintain a broad scope, this scoping review included a wide range of studies with various research designs. Therefore, when interpreting the Contac-d model, several considerations need to be taken into account. Firstly, the current review adopted the operationalizations of communication provided in the original

articles. However, these varied widely and variables identified as factors in one article were considered outcome variables in others. This reflects the lack of consensus in the scientific literature regarding a definition of the concept of communication (Fleischer et al., 2009). Secondly, the Contac-d model was based on the available research on communication between nursing staff and people with dementia and, consequently, provides limited insight into the interrelatedness of the identified factors. Most factors were inconsistently associated with communication and no longitudinal studies were identified in this review, limiting the understanding of causality even further. Factors derived from qualitative studies described personal experiences and may not be applicable in other settings. Moreover, most studies focused on communication in residential care settings and therefore, findings might not be as relevant in other settings. Finally, although scoping reviews do not require critical appraisal of the evidence (Peters et al., 2015), we are aware that some articles included in this review may not meet current quality standards. For example, studies with small sample sizes, quantitative studies that only use *p*-values to reflect statistical effects (Aarts et al., 2012) and studies that do not incorporate confounding variables in their analysis. Nevertheless, this scoping review captures the heterogeneous nature of communication literature and adds to our understanding of communication between nursing staff and people with dementia (Munn et al., 2018; Pham et al., 2014).

To our knowledge, this is the first review to conceptualize a wide range of empirical evidence of communication between nursing staff and people with dementia. The reviewing process is considered a strength, as two authors ensured reliable selection, data extraction and analysis of the results. Additionally, an information specialist was consulted to validate the search string and reference lists of relevant literature reviews were screened to ensure the inclusion of unidentified titles.

This scoping review highlights a pressing need for research to assess which factors in communication are relevant in which care situations and how these interact with each other. As many of the included papers describe interview or focus group studies, other study designs should also be considered to objectively assess factors and their interrelations. These studies will contribute to an understanding of good communication practice in dementia care, as well as recommendations to improve communication in specific care situations. By providing a frame of reference of potential targets to change the communication process, the Contac-d model may be used to generate hypotheses regarding validity and interrelations of factors in various communication situations. Ultimately, this should contribute to the formulation of a middle-range theory of dementia care communication. Such theory is required to bridge the gap between theory and nursing practice (Liehr and Smith, 1999) and to guide nurses in their practice, enabling them to adapt and optimize communication with clients with dementia.

## 5. Conclusion and implications

This scoping review presents the Contac-d model of communication between nursing staff and people with dementia, reflecting communication as a two-way process influenced by factors relating to nursing staff, people with dementia, and the context. Results provide an overview of potential starting points to improve communication and demonstrates that respect, a flexible and adapted communication approach, matching language, music, an appealing location, and sufficient time are factors associated with better communication in certain communication situations. Moreover, results indicate a need for further studies to explain interrelatedness of factors in the Contac-d model in various communication situations and validate the model. In conclusion, it needs to be recognized that besides training nursing staff to communicate well, for

instance sending the right messages and adapting appropriately to clients, there are factors beyond their abilities that determine the communication process that should be considered when improving communication.

## Declaration of Competing Interest

None

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