

Communication Training for Informal Caregivers of Persons with Dementia in a Rehabilitation Hospital

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Abstract. In 2015, the number of people with dementia in Malta was estimated to be 6,071, equivalent to 1.5 per cent of the population, a number which is predicted to rise to around 10,000 persons in 2030 (2.3% of the Maltese population) and to about 12,955 persons by the year 2050 (3.3% of the Maltese population). Caring for a family member with dementia can be particularly stressful and burdensome, partly due to difficulties encountered during communication. Communication impairment in individuals with early to moderate dementia becomes more prominent as the condition progresses. This exhibits itself as word finding difficulties, decreased verbal fluency, and difficulty in understanding and using complex language forms such as idioms and metaphors. These difficulties lead to communication breakdown, which is one of the key challenges caregivers face when interacting with persons with dementia, resulting in relationship strain between both parties. As this study shows, this affects the caregivers' and persons with dementia's physical and emotional health. Hence, providing caregivers with the necessary information to facilitate communicative interactions is urgently warranted.

Keywords: persons with dementia, communication training, rehabilitation hospital, geriatrics; Malta.

Introduction

Dementia is a neurodegenerative condition, which affects an individual's cognitive abilities (Guendouzi & Muller, 2006). In 2015, the number of people with dementia in Malta was estimated to be 6,071, equivalent to 1.5 per cent of the population, a number which is predicted to rise to around 10,000 persons in 2030 (2.3% of the Maltese population) and to about 12,955 persons by the year 2050 (3.3% of the Maltese population) (Scerri & Scerri, 2012; Parliamentary Secretary for Rights of Persons with Disability and Active Ageing, 2015). This

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implies that there is a high probability that the number of informal and formal caregivers needed to care for persons with dementia (PWD) will also increase (Formosa, 2018, 2019). Caring for a family member with dementia can be particularly stressful and burdensome, partly due to difficulties encountered during communication (Haberstroh et al., 2011; Small & Perry, 2013). Communication impairment in individuals with early to moderate dementia becomes more prominent as the condition progresses. This exhibits itself as word finding difficulties, decreased verbal fluency, and difficulty in understanding and using complex language forms such as idioms and metaphors (Savundranayagam & Orange, 2014). These difficulties lead to communication breakdown, which is one of the key challenges caregivers face when interacting with PWD, resulting in relationship strain between both parties (Savundranayagam & Orange, 2014). This, consequently affects the caregivers' and PWD's physical and emotional health. Hence, providing caregivers with the necessary information to facilitate communicative interactions is urgently warranted (Sun et al., 2010).

Literature review

Various education and training programmes aim to enhance caregivers' communication patterns with PWD (Passalacqua & Harwood, 2012). These educational programmes are devised on models which attempt to increase person-centred communication, beliefs and attitudes among caregivers caring for PWD, while focusing on the caregiver's and PWD's communication needs through adjustments in the environment. These programmes provide caregivers with information about the various behaviour and physical changes occurring with ageing and dementia; how dementia affects the social, physical and cognitive aspects of an individual; how to optimise the communication environment by using simple and familiar language, how to introduce topics of conversation, correct misunderstandings, using verbal and non-verbal cues to support communication; and how to alter surrounding environments to communicate with PWD (Craig & Killick, 2011; Bayles & Tomoeda, 2013). This information helps caregivers become more aware of the difficulties PWD experiences by enabling them to provide improved care. Additionally, discussions and group role-plays seem to aid caregivers' understanding, as it allows them to apply what they have learnt, thus improving their communication within both home and care home environments. These studies reveal that providing caregivers with the adequate education and training, specific to their needs, will help them to cope better with the physical, emotional and social changes related to dementia. This helps the caregivers to develop skills to communicate better with PWD (Miller, 2014).

Making caregivers aware of the communication strategies they use with PWD is important. This increases their awareness on how they can promote successful communication to maintain and improve the relationship between themselves and PWD as the condition progresses (Bourgeois, 2013). A number of studies set out to identify a number of recommended communication strategies and show how helpful these are perceived to be by caregivers at maintaining communication between them and PWD (Wilson et al., 2013; Savundranayagam & Orange, 2014). Results revealed that caregivers prefer to use short simple sentences or either ask one question and/or give one instruction at a time, rather than paraphrasing repeated messages when communicating with their care recipient. Wilson and

colleagues (2013) identified a number of useful themes which helps the caregiver to provide a more communication-friendly environment for PWD. These include patience, focus on PWD, environmental cues, eye contact, negotiation, explanation of actions, use of PWD's name and demonstration of gestures. Other strategies which caregivers find helpful include the reduction in noise levels, consistent and predictable daily routine, quiet and calm environment, verbal reassurance, re-direction of conversation to familiar topics, negotiation, demonstration gestures and handing objects to PWD (*ibid.*). These strategies allow caregivers to perceive PWD's needs, consequently reducing behavioural problems that often trigger off communication breakdown and increase caregiver burden (Savundranayagam & Orange, 2011). Making caregivers aware of communication strategies which prevent communication breakdown, help in maintaining interactions that are more coherent. Two studies which aimed at identifying what 'question type' is the most successful at maintaining communication when talking to PWD yielded similar results even though they engaged PWD of different severities - namely, close-ended questions (Tappen et al., 1997; Small & Perry, 2005). However, it is noteworthy that Tappen and colleagues (1997) found that PWD were also able to respond to open-ended questions with equal ability.

The memory-memory processing model by Squire (2004) explains how memory is a series of subsystems which are affected depending on the type of memory difficulties PWD experience. As mentioned above, PWD are still able to respond adequately to open-ended questions, if information asked could be retrieved from the semantic memory. This instance is possible since according to the memory-processing model (Squire 2004), the semantic memory is accessed from the long-term memory, thus making it more resistant to disease progression, as it has been stored for longer periods, helping an individual use it, to retrieve already known information (Bourgeois, 2002). However, when answers required access to the episodic memory, this often created difficulty for PWD. This could have occurred since episodic memory helps one remember details about specific events, as well as, encode new information, which is most vulnerable to disease progression. The episodic memory is affected from early on in the disease, hence influencing which question types are successful at maintaining communication with PWD (Small & Perry, 2005). Besides knowing which question types to use, being able to use repair structures to maintain communication is also important. Gentry and Fisher (2007) tried to establish this by identifying which repairs were most likely to help a PWD communicate. Results revealed that indirect repairs, like paraphrasing, helped PWD maintain coherent conversation, since there were less topic changes in PWD's speech patterns. On the other hand, when PWD were corrected via direct repairs like corrective feedback or filling in the intended message for the PWD, it tended to decrease the production of coherent speech. This could have occurred since these types of repairs might have prevented PWDs from continuing a conversation, as it was completed by the individual initiating the interaction.

In summary, the literature has demonstrated that caregivers of PWD find tailored education, training and intervention programmes effective in assisting adjustments to the cognitive, physical, emotional, and language changes a person experiences due to dementia. However, limited information was provided on how these programmes created change in the caregivers' talk practices to enable them to maintain communication with PWD. The studies

identifying communication strategies gave little attention at how these strategies are helping PWD to communicate better.

Research design

The present study sought to provide more information on how information sessions may enable informal caregivers to adopt the use of 'talk practices' that maintain communication with PWD; identify how these 'talk practices' allow PWD maintain an interaction; and focus on the verbal aspects of caregiver communication by collecting data via audio recording. The research study consisted of a pre- and post-comparison study utilising Conversation Analysis (CA) to compare and identify the caregivers' talk prior to and after they attended a number of information sessions, which aimed at enhancing their knowledge of dementia.

Purposive sampling was used to select participants for the study. Twelve caregivers were referred to attend the information sessions. Caregivers eligible to attend these sessions were selected through a geriatrician who was following PWD at a rehabilitation hospital. Participants were informed about the study after they were told about the information sessions. This allowed the researcher to choose suitable participants for this study. Nine caregivers were selected prior to the commencement of the training programme. These were chosen following strict inclusion criteria for caregivers (which included being a caregiver of a person with early to moderate dementia; attending information sessions; never attended Speech and Language Therapy sessions) and for PWD (which included: being a PWD in the early to moderate stage of the condition, attending memory sessions and never having attended SLT sessions). However, only six dyads consisting of a caregiver and PWD gave consent to take part in the study. No dropouts occurred throughout the study and during the period of data collection. The study targeted caregivers of persons with early to moderate dementia. Caregivers attended information sessions simultaneously with PWD, who attended memory sessions at Karen Grech Rehabilitation Hospital. These classes targeted a number of activities such as reminiscence, crafts, carrying out daily tasks such as cooking, planting flowers, doing exercise and going out as a group. These sessions were facilitated by a number of healthcare professionals namely the Physiotherapist, Nurse, Speech and Language Pathologist and Occupational Therapist. The following 12 sessions, lasting one hour each, were delivered over a span of 12 weeks at this rehabilitation hospital.

- Session 1: Nurse: caregivers introduced themselves. Nurse then talked about the care and needs of PWD; use of signs and pictures was suggested to help PWD maintain familiarity of household rooms and objects.
- Session 2: Pharmacist: discussion of medications taken by PWD and their side effects.
- Session 3: Occupational therapist: how to provide a safe and communication friendly environment for PWD; suggested use of different cueing strategies including signing, semantic, phonemic, repetition and visual - to help PWD remember familiar words; minimise use of questions; prepare PWD about future events to decrease agitation; talk to the PWD about meaningful past events to help them feel secure; not raising one's voice to talk to PWD as this may increase their frustration; to provide a daily routine to provide information about what is going to happen.

- Session 4: Geriatrician: question and answer session dealing with the caregivers' concerns; the importance of checking PWD hearing abilities as this may affect communication.
- Session 5: Malta Dementia Society representative: information was provided on the Malta Dementia Society support services and activities;
- Session 6: Multidisciplinary Care Team: cultural outing for caregivers and PWD;
- Session 7: Speech and Language Therapist: how to deal with communication difficulties exhibited by PWD; using one's name to introduce yourself to PWD; offer choices when talking to PWD; to provide information about what will happen throughout the day; not to continuously ask questions as this requires constant access to the declarative memory; using symbols and visuals to deliver messages and aid in comprehension; use simple commands and familiar words when talking to PWD; to repeat instructions to give PWD time to process information heard; do not contradict PWD and adapt to PWD communication level.
- Session 8: Psychiatrist: a discussion on the importance of taking care of the caregivers' and PWD's mental health;
- Session 9 & 10: Speech and Language Therapist: discussion about memory strategies and behaviour management used when caring for PWD; communicate facing PWD; to speak to PWD in a gentle and encouraging tone to promote communication; minimise use of continuous questioning; use photos from the past within their home environment so as to help PWD recognise they are in their own home; swallowing difficulties associated with dementia;
- Session 11: Physiotherapist: how to carry out exercises to keep a PWD active, as well as, prevent falls and proper handling of the PWD;
- Session 12: Multidisciplinary Care Team: closing remarks and lunch.

In addition, transcribed data, collected from conversations obtained from the caregivers and the PWD, prior to and after the information sessions, enabled the researcher use descriptors to define the function of talk practices caregivers used. These included turn taking, topic management, sequence organisation and repairs. To ensure that the intonation markings within the analysed transcripts were correct, the researcher used a computer programme called 'PRAAT', version 4.3.21 (Boersma & Weenink, 2005). This programme gave the researcher the ability to look at a number of features including loudness and intonation within conversation analysed. These features form part of the CA procedure and occur simultaneously with the 'talk practices' identified. Ethical approval was gained from the research committee at Karen Grech Hospital and the University of Plymouth.

Results and discussion

The caregivers' 'talk practices' presented below involve those practices which were identified as being used by both caregivers of persons with early stage dementia (ESD) and moderate stage dementia (MSD). 'Talk practices' used to maintain communication by both caregivers of ESD and MSD prior to and after the information sessions are summarised in Table 1.

Table 1: Talk practices used by both caregivers of ESD (early stage dementia) and MSD (moderate stage dementia) prior to and after the information sessions

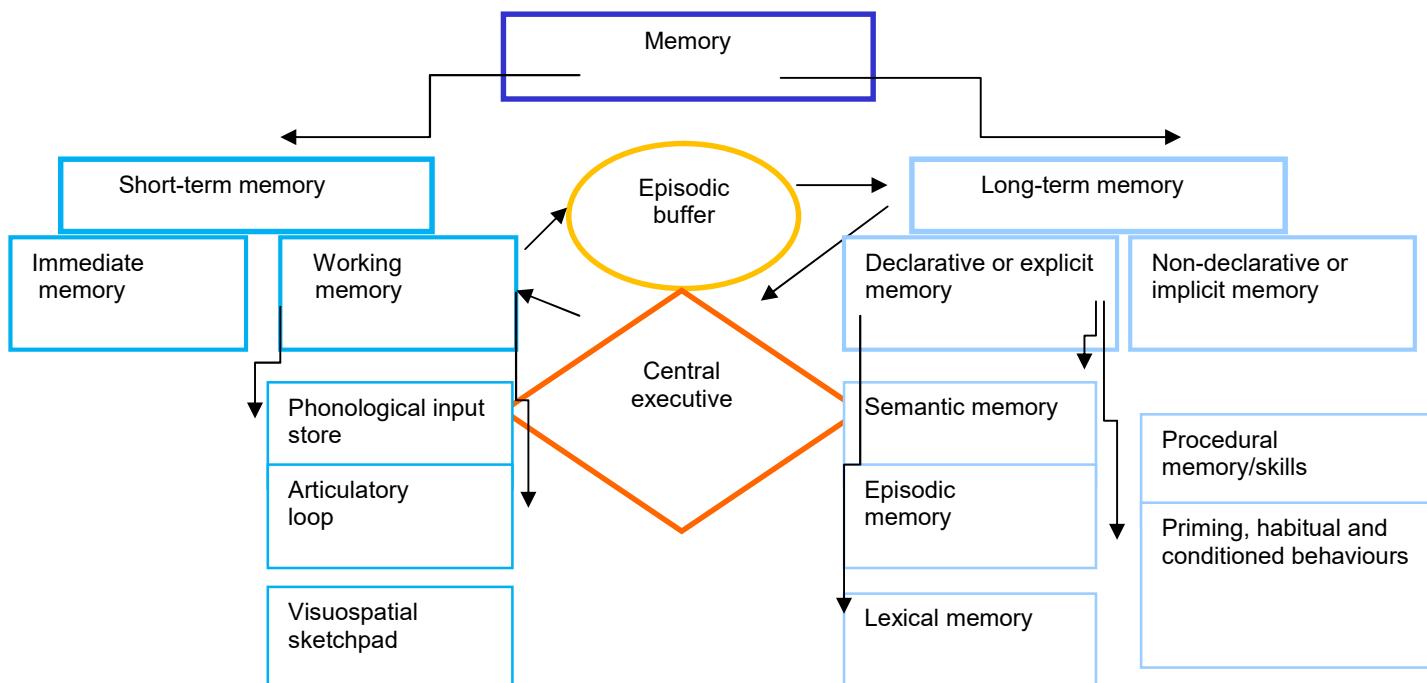
Talk practices identified prior to the information sessions	Talk practices identified after the information sessions
<ul style="list-style-type: none"> ▪ Information-Seeking Questions (I-SQ) as part of an Adjacency Pair (a unit of conversation that contains an exchange of one turn each by two speakers) followed by pauses and overlap to indicate positive feedback. (feedback overlap) ▪ Other-Repair (OR) followed by a decrease in intonation. 	<ul style="list-style-type: none"> ▪ Topic Shift (TS) in conjunction with an Information-Seeking Question (I-SQ) followed by pauses. ▪ Announcements (A) as part of Adjacency Pair. ▪ Invitations as part of an Adjacency Pair. ▪ Complaints as part of an Adjacency Pair.

These results are explained via the ‘memory-processing model’ (Baddeley, 2002; Squire, 2004) referred to earlier. The author chose this memory-processing model as shown in figure 1, on the basis that it illustrates which memory processes are involved in processing language (Schrauf & Müller, 2014). It also helps to identify which memory types, the talk practices were allowing PWD to access, in order to retrieve information, so as to maintain communication with their caregivers.

I-SQ (Information-Seeking Question) as part of an Adjacency pair, followed by a pause and overlap to indicate positive feedback (feedback overlap)

In the excerpts analysed, when a speaker asked an I-SQ, the listener was often required to answer back thus making up an Adjacency Pair. This sequence of talk gave more structure and organisation to the conversations occurring between the caregivers and PWD (Guendouzi & Muller, 2006). Small and Perry (2005) note that questions are components which normally make up a conversational exchange. There are three types of questions, these include: closed questions which require a yes/no answer; open questions, which require lengthier answers related to the who, what, when, where, why and how; and choice questions, which offer an option, for example ‘What would you like, juice or water?’ These question types involve the use of short and long-term memory processes (Small & Perry, 2005) whose function are described in Figure 17.1. Within this study, caregivers often used open-ended I-SQ prior to and after the information sessions. This type of questioning demands more processing since it entails providing new lexical, syntactic and semantic information by PWD (Small & Perry, 2005). Accessing this information requires the episodic and/or semantic memory systems, which are both affected from early on in dementia (Savundranayagam & Orange, 2014). As identified within the research the use of open-ended questions can often lead to breakdown in communication since difficulties accessing these memory systems influences PWD ability to respond successfully (Small et al, 2003; Schrauf & Müller, 2014).

Figure 1: Memory processes involved when accessing information to use language



Short-term memory: stores recent events.

Immediate memory: very limited storage capacity.

Working memory: information buffering centre where information is held in conscious awareness reviewed and manipulated.

Phonological input store: auditory information held for a short time.

Articulatory loop: serves as a sub-vocal (processing sounds into thought) rehearsal faculty.

Visuospatial sketchpad: where the visual and spatial information is kept active.

Long-term memory: stores less recent events.

Declarative (explicit) memory: stores world knowledge that can be consciously reviewed in three types of memory subsystems: semantic, episodic and lexical.

Non-declarative (implicit) memory: knowledge not available for conscious review.

Procedural memory/skills: e.g. learning how to ride a bicycle. An automatic process which once acquired is difficult to unlearn unless other abilities such as muscle function, balance or vision, which help execute this function are impaired. Priming, habitual and conditioned behaviour: behaviour which is learned through repetition and practice.

Episodic buffer: intermediary processor between the working memory and long-term memory.

Central executive: helps in focusing attention, accessing and retrieving information in the long term storage, helps in encoding information thus aiding in making decisions and plans.

Source: Schrauf & Muller (2014 : 4-5)

Findings within the current study shows that when I-SQ questions were followed by pauses and overlap to provide positive feedback, they enabled the caregiver and PWD to engage in a series of turns that allowed both to maintain communication. The questions posed often required PWD to access information from the semantic memory. The present results seem to be consistent with other research, and thus, potentially validating this result. Studies showed that when open-ended questions require PWD to draw only on the semantic

memory they can still be successful at preventing communication breakdown (Small & Perry, 2005). Tappen and colleagues (1997) suggested that communication is maintained since open-ended questions allow caregivers to choose topics of discussion as well as access information, salient to PWD, thus encouraging interaction. Caregivers' use of family photographs to elicit conversation could have allowed them to speak about topics which were more salient and meaningful for PWD. This, in turn, could have enabled the PWD to maintain conversation with their caregiver. After asking an open-ended I-SQ question to initiate a conversation, the caregivers often used a pause. Bourgeois (2002) reported that PWD may require more time to process auditory information, therefore caregivers' use of pauses possibly gave the PWD more time to understand the question and access the information required to respond. This observation correlates with results of other research (e.g. Small et al., 2003) where caregivers used pauses as they found them useful whilst communicating with persons with early and moderate dementia.

In the excerpts analysed, once the PWD responded appropriately to open-ended I-SQ, caregivers often used feedback overlap, one of the three types of overlap characterised within the Maltese language (Paggio & Vella, 2013). This 'talk practice' provides feedback as to whether responses given in an interaction are acceptable or not by the use of words such as 'orrajt/owkey' (okay), 'sewwa/tajjeb' (right/good), 'mhm/m/eħe' (yes). The results of this study shows that caregivers often used it as positive reinforcement, to acknowledge and accept the PWD's response. Additionally, it also promotes speaker change (*ibid.*), enabling the PWD to feel encouraged and successful at being able to interact successfully, thus allowing them to further engage in conversation. After caregivers used this 'talk practice', PWD often contributed further to the conversation via a complaint, Clarification-Seeking Questions (C-SQ) or I-SQ, depending on the nature of the conversation. These responses could have enabled PWD to store recent information heard in the conversation in their working memory. This might have facilitated retrieval of this information if required.

OR (Other-Repair) followed by a decrease in intonation

Other Repair (OR) occurs when a speaker repairs a listener's response due the occurrence of trouble initiating behaviour (TIB) - thus, allowing a conversation to progress (ten Have, 2007). Data revealed that the use of OR by caregivers occurred prior to and after information sessions when PWD showed difficulties in accessing information from the declarative memory. PWD exhibited this difficulty either by paraphrasing information just heard; by giving incorrect semantic information; by acknowledging that they cannot remember information; or by requesting for repetition of information just heard via O-CRI (Open-Class Repair Initiator). PWD's use of these 'talk practices' enabled the caregiver to adopt the use of OR, which allowed PWD often carry out an SR (self-repair). According to Perkins and colleagues (1998) when a speaker is able to carry out repair on the conversational partner's turn it eases cognitive deficits which limit the PWD ability to respond appropriately. Therefore, the use of OR by the caregivers might have enabled PWD to store the information just heard within their articulatory loop in their working memory, enabling them to SR. One needs to interpret this finding with caution as research identifies this type of direct repair (OR) as both inhibiting and promoting communication between the caregiver and the PWD.

It is probable that this difference in findings could have been due to the various dementia severities exhibited by PWD participating within these studies (Gentry & Fisher, 2007). 'Talk practices' that are successful with persons with early to moderate stage dementia might not be as successful with those in the late stages of the condition. This is because as dementia progresses, the cognitive decline associated with the condition increases. This makes the difficulties the PWD experiences in understanding and responding to language more prominent (Savundranayagam & Orange, 2014), thus influencing which 'talk practices' remain successful at maintaining communication. During this study, one participant caregiver was using OR which was followed by a decrease in intonation. This feature is an aspect of prosody. Prosody is a language characteristic that involves changes in intonation, rhythm and loudness. It is a means of conveying emotional information through spoken words (Juslin & Laukka, 2003). In Maltese, varying intonation helps in conveying this emotional information. Caregivers' use of decreased intonation conveyed an expression of encouragement, which the PWD seemed to have perceived, possibly giving them a greater boost to maintain a conversation.

TS (topic shift) in conjunction with an I-SQ followed by a pause

Topic Shift (TS) occurs when the speaker starts talking about a new subject over a series of turns (Perkins, Whitworth, & Lesser, 1998). From the data within this study, TS usually occurred in conjunction with an I-SQ within the same turn construction unit (TCU). The caregiver used this 'talk practice', when the PWD encountered difficulties in maintaining a conversation related to a previous topic. This could have occurred due to PWD's difficulties in accessing information from the declarative memory or when the caregivers found difficulties in maintaining topic due to the PWD's cognitive difficulties. Garcia and Joannette (1997) reported that due to cognitive difficulties, PWD are unable to discuss a topic for long, thus resulting in the caregiver often shifting topic to maintain a conversation. In the excerpts analysed within this study, when caregivers shifted topic, it allowed PWD to keep engaged in the conversation as well as maintain conversation coherence. Indeed, research reported that TS enhances conversation coherence, increasing the reliability of the researcher's finding that TS is a talk practice which maintains communication with PWD (*ibid.*). Often, topics talked about were familiar to PWD. These topics were probably selected because the speakers found that they enabled PWD to maintain conversation. This indicates that the topics chosen might have enabled PWD to maintain information previously given within the phonological input store in their working memory. This enabled them to access information more easily when required. Caregivers used I-SQ when introducing and providing information about a topic. Depending on the nature of the conversation, this often gave PWD an opportunity to engage in further conversation, by using C-SQ, responding appropriately, as well as initiating O-CRI or O-IR (Other-Initiated Repair). C-SQs often enabled PWD to repeat back information just heard to the caregiver. This observation might indicate that access to the repeated information was occurring via the articulatory loop within their working memory, thus enabling them to confirm whether responses were adequate. Often, caregivers acknowledged these responses as correct by accepting PWD's responses through use of Announcements (A) or further engaging in conversation through an I-SQ.

A (announcements) as part of an Adjacency Pair

Announcements (A) are a type of offer whereby the speaker provides more information related to events that are about to occur (Guendouzi & Müller, 2006). Announcements are accompanied by a response, thus making up an Adjacency Pair. This allows the listener with an opportunity to contribute to the conversation. In this study, caregivers made use of 'A' in the following instances: when PWD contributed well in previous responses; when they asked questions about information just heard; to introduce a topic which was related to a familiar event; as a way to provide additional information, to enable the PWD to contribute adequately in their next response. In the excerpts analysed, this strategy gave PWD an opportunity to take floor in a conversation, thus encouraging further conversation. It has been shown that when PWD are encouraged to communicate, it decreases their frustration due to difficulties they experience when communicating (Savundranayagam & Orange, 2011).

Invitations and complaints as part of an adjacency pair

Invitations within a conversation are accompanied by a refusal or an acceptance whilst complaints usually accompany an apology or justification. These two combinations make up an Adjacency Pair. Invitations enabled the caregiver speak about an event that was going to occur in the immediate future. This also enabled the caregiver to provide the PWD with choices. In some examples, PWD responded to the use of this 'talk practice' adequately without requiring any form of repair or repetition. It is possible, that by offering choices PWD were able to understand the concepts presented to them and choose among the options presented. This requires less access to information within the declarative memory that is often impaired in PWD (Smith et al., 2011). The use of Complaints allowed caregivers to contribute further to the PWD's response. Caregivers did this either because the response of PWD had some incorrect information or as a way to encourage them to correct an error. It was noted, that the use of a Complaint by the caregiver often enabled PWD to provide a justification to their response, thus encouraging them to continue conversing with their caregiver. The use of a justification could have enabled PWD to access information from the declarative memory. The use of a justification, in response to a Complaint as part of Adjacency Pair was a finding not identified within other research. Therefore, since it is an innovative finding, further research is required for it to be considered valid and reliable. This outcome, possibly resulted due to the opportunity provided to the caregiver to use this 'talk practice'.

How attending the information sessions instilled caregivers to increase their repertoire of talk practices

Results showed that most caregivers increased their repertoire of talk practices post-information sessions. This increase in talk practice repertoire resulted due to the various communication tips which were suggested during the information sessions, resulting in an enhanced quality of interaction between caregivers and the PWD. Table 2 identifies the communication tips proposed in the information sessions.

Table 2: 'Session number and suggested communication tips

Session number	Communication tips to maintain conversation suggested in information sessions
1	Using signs and symbols to help PWD maintain familiarity of the rooms and objects within the house.
9	To use photos from the past within the home, to help PWD recognise that they are in their own home.
7	Using symbols and visuals to deliver messages and aid in comprehension.
3	Use semantic cueing to help PWD remember familiar words.
3,5,7	Minimise use of questions as this requires access to the declarative memory which is impaired in PWD.
3,7	Prepare PWD about future events to decrease agitation.
3,5	Talk to PWD about meaningful past events to help them feel secure.
3	Not raising one's voice to talk to PWD as this may increase frustration in the presence of word finding difficulties.
7	To speak to PWD in a gentle and encouraging tone to encourage communication.
3,7	To provide a daily routine to provide information about what is going to happen.
4	The importance of checking PWD's hearing abilities as this may affect communication.
5	When PWD talks about their past, keep talking on same topic to maintain conversation.
7	Using one's name to introduce yourself to PWD.
7	Offer choices when talking to PWD.
3,7	Use simple commands and familiar words and events when talking to PWD.
7	To repeat instructions to give PWD time to process information heard.
7	Do not contradict PWD and adapt to PWD's communication level.
9	Communicate facing PWD.
7	To give PWD time to respond.

Conclusion: Limitations and strengths of research project

The following are some shortcomings of this study. Sample sizes used within this research were small, therefore it is not possible to generalise the results obtained to a larger population of caregivers within this client group. Another limitation was that if any of the caregivers did not attend a session due to illness or other personal reasons, they missed information since there was no repetition of sessions. This could have limited the caregivers' learning experience. No follow up sessions took place to identify whether the caregivers were able to maintain the talk practices identified. Research demonstrated that ageing causes change in language such as voice tremor, fluency, speaking rate, loudness and pitch, as well as a decline in understanding complex utterances and naming (Yorkston, Bourgeois & Baylor, 2010). Since all participants in this study were elderly persons with dementia, these changes in language could have instilled change in the way their caregivers were communicating with them. This could have enabled them engage in some of the 'talk practices' identified to maintain better communication with PWD. Participant co-morbidities may increase caregiver burden possibly increasing relationship strain between the caregiver and PWD. This can affect the way communication between the two is carried out

(Passalaqcua & Harwood, 2012). In this study too few participants were present to identify whether caregivers with multiple co-morbidities engaged in more or less talk practices.

Participants often expressed concern about how to maintain a conversation during recording. This may have reduced spontaneity of data recorded since it was necessary to suggest ideas on conversation topics to trigger off a conversation. Since participants chose topics which were both salient to the caregiver and the PWD it might have helped in researching conversations which approximated to natural ones. Indeed, it is possible that since snippets were taken from the conversations recorded, it did not enable the researcher to pick up all the 'talk practices' which the caregivers were potentially using. This could have been another reason why results showed that one particular caregiver only used two 'talk practices'. Having PWD participate in memory sessions whilst caregivers were attending the information sessions, could have helped the PWD maintain the baseline cognitive and linguistic abilities identified at the start of the sessions. This could have facilitated the caregivers' ability in increasing their repertoire of talk practices after the information sessions. The caregivers' education level and literacy abilities might also have been other factors that could have aided the caregivers' in acquiring knowledge from the information sessions to be able to communicate better with the PWD. This research project has the potential to enable Speech and Language Pathologists provide caregivers of persons with early to moderate stage dementia with more specific 'talk practices' on how to maintain communication whilst interacting with PWD. This can be achieved by carrying out workshop sessions, involving role-play to demonstrate the use of these 'talk practices'. Enabling caregivers to implement these 'talk practices' can help in reducing challenging behaviours PWD exhibit resulting from communication breakdown, possibly reducing caregiver stress and burden.

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