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Implementation of supported conversation for communication between nursing staff and in-hospital patients with aphasia

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Background: Patients admitted with aphasia due to stroke may find it difficult to access information and participate in decision-making concerning their own treatment, care, and rehabilitation. An increased understanding of the importance of communicative access has prompted speech-language therapists to direct intervention at contextual factors, including communication partner training.

Aims: An implementation project is described in which supported conversation for adults with aphasia (SCATM) was adapted for use at a large hospital stroke unit. The project aims were (1) to develop a procedural guideline for interdisciplinary staff to communicate with in-patients with aphasia, (2) to develop an interdisciplinary training course and educate all staff members, and (3) to make available a set of shared communication tools. The present study reports the outcome of the training programme for nursing staff.

Methods & Procedures: A stepwise adaptation and implementation procedure is described which led to the development of the guideline, tools, and training programme. A mixed-methods design was used to measure changes pre- and post-training for nursing staff, including assessment of quantitative and qualitative outcomes. All nurses and nursing assistants received a questionnaire before and after their participation in an SCA workshop, and seven members from the nursing staff also participated in individual semi-structured interviews about their experiences with the SCA method.

Outcomes & Results: Questionnaires from 31 nursing staff members showed that they rated their understanding of aphasia higher after the workshop and they perceived communication to be less frustrating for the patient. Changes were also noted in the types of strategies they used. In the interviews, the nurses described feeling more confident about their ability to communicate with patients, more certain about establishing understanding with patients, and more willing to initiate conversations about complex topics. Difficulties with using tools and techniques were attributed to shortage of time, picture tools being too complex, and patient symptoms.

Conclusions: Implementation was considered successful based on the nursing staff's evaluations. Contributing factors may have been staff's involvement in adaptation, leadership support, and a working culture on the stroke unit characterised by readiness to adapt to guidelines. To ensure that the majority of staff members will actually apply tools and techniques, continued monitoring of the implementation process will be necessary as well as education of new staff and re-evaluation of procedures.

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Keywords: stroke; communication partner training; implementation; nursing staff; hospital environment

Research from a social perspective has helped increase our understanding that social exclusion is one of the serious long-term consequences of aphasia (Parr, 2007; Worrall et al., 2011). A negative process of social exclusion may originate when a patient is admitted to the hospital with a stroke causing aphasia. Because of the language disorder, the patient with aphasia may be unable to share information with staff or fully participate in decision-making concerning his or her treatment, care, and rehabilitation (O'Halloran, Worrall, & Hickson, 2012).

From a medical point of view, communication problems between patients with aphasia and health professionals are a serious concern since they may be a source of error in diagnosis and treatment (Bartlett, Blais, Tamblyn, Clermont, & MacGibbon, 2008). Problems with understanding therapeutic goals and instructions may be a possible cause of reduced progress in rehabilitation among patients with aphasia compared to non-aphasic stroke patients receiving the same amount of therapy (Gialanella, Bertolinelli, Lissi, & Prometti, 2011). From ethical and legal perspectives, obtaining informed consent to medical procedures or research participation may be compromised in the case of patients with aphasia (Penn, Frankel, Watermeyer, & Muller, 2009). From a global disability perspective, reduced access to information and decision-making for people with complex communication needs is in conflict with international disability conventions (Collier, Blackstone, & Taylor, 2012). For example, Article 25 (d) of the United Nation Convention on the Rights of Persons with Disabilities states that ratifying countries and states shall: "Require health professionals to provide care of the same quality to persons with disabilities as to others, including on the basis of free and informed consent" (United Nations, 2007, p. 18).

Recent studies have examined environmental factors which may facilitate or impede communication between hospital staff and patients with aphasia or other communication disorders (O'Halloran, Grohn, Path, & Worrall, 2012; O'Halloran, Worrall, & Hickson, 2011; O'Halloran, Worrall et al., 2012). Staff's ability to adapt to the communicative needs of their patients seems to be an important facilitating factor. Although health professionals are educated in the symptoms of aphasia, they may not have received specific training in how to communicate with patients with aphasia (Burns, Baylor, Morris, McNalley, & Yorkston, 2012; Finke, Light, & Kitko, 2008). As a result, health care professionals may invent their own strategies and resort to their own experience (or lack of experience): A nurse might ask a patient to squeeze her hand for *yes*, the occupational therapist might encourage the same patient to use *thumbs up* for *yes*, and an inexperienced staff member might use no support at all and take the patient's paraphasic production of *no* at face value. A shared set of principles and strategies used by staff might be more easily recognised by the patient and reinforce the use of communication support by less experienced staff members.

A growing group of studies has evaluated training of communication partners to improve their ability to support people with aphasia in participating in conversation. A recent systematic review of communication partner training in relation to aphasia concluded that this type of intervention may be effective in changing the communicative behaviour of the communication partner, and may improve the communicative activity and participation of the person with aphasia when he or she is interacting with a trained partner (Simmons-Mackie, Raymer, Armstrong, Holland, & Cherney, 2010). The review included 31 studies and most studies involved family members or volunteers as

Table 1. Studies of communication partner training targeting health professionals.

Study	Setting	Health professionals targeted in study	SLT-intervention
Legg et al. (2005)	Experimental	Sixth year medical students	SCA method
Welsh and Szabo (2011)	Educational	Nursing assistants	SCA-based
Burns et al. (2012)	Educational	Fourth year medical students	Strategies and techniques
Genereux et al. (2004)	“Real life”: long-term care	Mixed health professionals	Communication plans
Simmons-Mackie et al. (2007)	“Real life”: acute, rehabilitation, and long-term care	Mixed health professionals	SCA-based
Sorin-Peters et al. (2010)	“Real life”: long-term care	Mixed health professionals	SCA-based

Note: SLT = Speech-language therapist; SCA = Supported conversation for adults with aphasia (Kagan, 1998).

conversation partners. Only two studies involved training of health professionals (Legg, Young, & Bryer, 2005; Simmons-Mackie et al., 2007). A literature search carried out for the purpose of the present project identified four additional studies (Burns et al., 2012; Genereux et al., 2004; Sorin-Peters, McGilton, & Rochon, 2010; Welsh & Szabo, 2011). The studies, which are listed in Table 1, differed in the type of setting in which communication partner training was carried out and the health care profession which was targeted. In most of the studies, the method of communication partner training was based on supported conversation for adults with aphasia (SCA™) (Kagan, 1998; Kagan, Black, Duchan, Simmons-Mackie, & Square, 2001), and the intervention was shown to effect positive changes in the communication skills of the participating health professionals.

In the study by Simmons-Mackie et al. (2007), the authors aimed to improve communicative access and participation for persons with aphasia with intervention at a “system” level of health care. Intervention targeted teams in three different health care units: an acute care facility, a rehabilitation facility, and a long-term care facility. The goal was to increase team members’ knowledge of and skills in providing communication support and to facilitate the implementation of communicative access goals specific to each facility. Implementation in the acute facility was found to be less successful than in the other units. The authors attributed this to lack of leadership in the acute facility and to contextual factors relating to acute care, such as high turnover of patients in a short time period.

The current project was based on the implementation study by Simmons-Mackie and her co-workers (2007) and attempted to benefit from insights gained in that study. The purpose of the project was to train interdisciplinary staff in the SCA method. The goal was to improve their ability to support patients with aphasia in participating in conversations about their medical treatment, care, and rehabilitation.

It seemed from the outset that specific methods of communication partner training, including the SCA method, would need adaptation to the specific context and professionals who were to use it. Implementation in clinical practice of guidelines or methods tested in scientific experiments is generally considered to be challenging. According to Grol, Bosch, Hulscher, Eccles, and Wensing (2007): “improving patient care is not easy, particularly if an innovation requires complex changes in clinical routines, better collaboration among disciplines, changes in patients’ behaviour, or changes in the organization

of care” (p. 93). Staff’s communication with patients appears to be a complex behaviour, which is embedded in their clinical routines. Suggested innovations had to include consideration of barriers that staff might be facing and the possible solutions to these barriers. Accordingly, it was decided to design the implementation project as a stepwise process that included collaboration with a selected group of interdisciplinary staff members. Their role would be to help adapt the tools and techniques to the hospital context and negotiate the needs and concerns of their own professions.

It was decided that a guiding principle of the implementation project should be that “communication is everybody’s business,” not just the domain and responsibility of the hospital speech-language therapists. The intent was to give the nursing staff and other professions a sense of ownership of the supportive tools and techniques by directly involving them in the development and adaptation process. Since improvement and implementation may be impeded by organisational, economic, or administrative factors (Curran, Grimshaw, Hayden, & Campbell, 2011), involvement of stroke unit leaders in all aspects of the adaptation and implementation process was also prioritised.

The present study evaluates the outcomes of the adaptation and implementation of supported conversation for nursing staff. Nurses and nursing assistants were chosen as the focus of study because they constitute the largest staff group on a stroke unit. They have a primary coordinating role in patients’ day-to-day rehabilitation. Accordingly, nursing staff plays a very important communicative role in relation to patients with aphasia. The aims of the study were (1) to evaluate outcomes for nursing staff after participating in the interdisciplinary training programme, and (2) to explore nursing staff’s perceptions and experiences with using the SCA techniques.

Methods

Site of the implementation project

The site of the implementation project was the stroke unit at the Department of Neurology, Glostrup University Hospital. The stroke unit is one of two thrombolysis units in Copenhagen and suburbs and has between 130 and 150 monthly admissions. The hospital also serves as a community hospital for the surrounding areas and two of the four wards of the stroke unit provide in-hospital rehabilitation for patients from the catchment area. Patients from outside the catchment area are transferred after acute medical treatment to other hospitals or facilities for their rehabilitation.

The Danish Health Law (“Sundhedsloven [Danish Health Law],” 2005) describes the rights of all patients to be informed about their health and involved in decision-making between possible treatment options. A national accreditation programme, The Danish Health Care Quality Programme, ensures that Danish hospitals meet these requirements (<http://www.ikas.dk>). However, communication disorders are not given special attention in this programme, but by implication hospitals are expected to fulfil these rights for all patients, including patients with aphasia.

Prior to the implementation, hospital staff on the stroke unit had not received training in communication support and training in supported conversation is not part of the educational curriculum of Danish nurses or other health professionals with the exception of speech-language therapists.

The project was initiated by an experienced speech-language therapist at the hospital and was carried out in collaboration with a university researcher and a speech-language therapist who had been trained to teach supported conversation to other health care

professionals at the Aphasia Institute in Toronto. The project group also included the chief neuropsychologist and the medical chief of staff on the stroke unit.

Goals of the interdisciplinary implementation project

The overall goal of the implementation project was that communicative needs of patients with aphasia would be acknowledged and accommodated with techniques and tools which were recognisable to the patient across staff members from all professions. The primary aim was to develop a local guideline shared by interdisciplinary staff for communication with in-patients with aphasia. Local guidelines are standardised descriptions of actions and procedures made at a specific hospital or in a regional district to implement national guidelines or ensure quality within a particular setting. Other aims were to develop an interdisciplinary training course, to educate all staff members in the SCA method, and to make available a set of shared communication tools.

Although the current study focuses on training outcome for the nursing staff, the interdisciplinary adaptation and implementation procedure is described in some detail in the next section because of its relevance to understanding the training given to the nursing staff.

The interdisciplinary adaptation and implementation procedure

A stepwise adaptation and implementation procedure was followed, which proceeded in four stages over the course of 8 months (see [Figure 1](#)). Stages 1, 2, and 3 were funded by an external regional grant for continuing education. Stage 4 was made possible through hospital-internal funds for continuing education and quality assurance.

Stage one

The goal of this stage was to recruit and train eight staff members in supported conversation. Their role was to provide feedback to the project group about adaptations needed. They were to become future super-users of the SCA techniques and provide assistance to colleagues from their own unit or profession. The eight staff members (two nurses, two nursing assistants, a doctor, a physiotherapist, an occupational therapist, and a neuropsychologist) participated in two 3-hr workshops. In the intervening period between workshops, they were asked to practice the techniques and make video recordings of themselves using these techniques in a work-related situation with a patient with aphasia. The participants were also given a preliminary Danish translation of the picture resource booklets developed by the Aphasia Institute in Toronto, *Talking to your Nurse*, *Talking to your Doctor*, *Talking to your Physiotherapist*, *Talking to your Occupational Therapist* (Kagan & Shumway, 2003a, 2003b, 2003c, 2003d) in order to provide feedback on the appropriateness of the terminology and illustrations in relation to their own profession.

Stage two

A comprehensive 2-day workshop was given to 25 staff members representing all professions. The content and format of day 1 of the workshop adhered to the educational principles described by Kagan (1998) with an initial motivational/conceptual module, which expanded the concepts of patient involvement, competency, and communicative

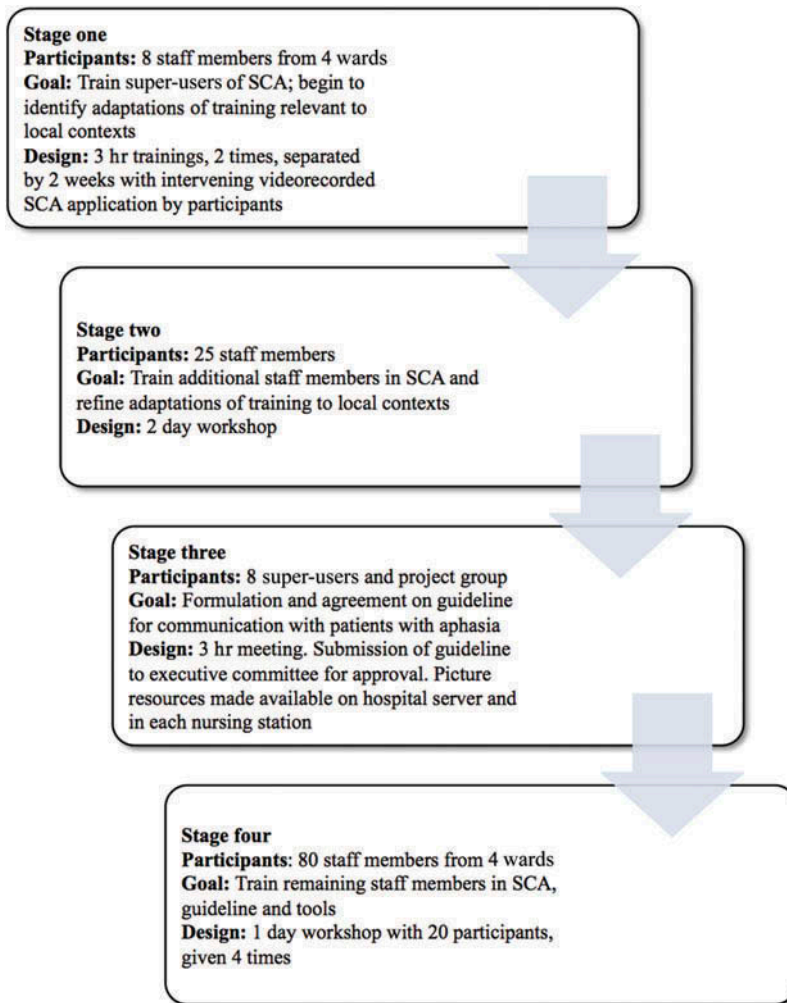


Figure 1. Stages in the process of adapting and implementing supported conversation on the stroke unit.

access. Other modules included techniques of acknowledging and revealing competence, integrative role-play, and evaluation of video examples. Video clips were shown of the eight super-users successfully interacting with patients using techniques and tools. Day 2 included practice sessions with patients with aphasia recruited from the stroke unit. Workshop participants also participated in group discussions of how to apply SCA techniques in communicatively challenging situations, for example interdisciplinary meetings with patient participation. Finally, they were asked to provide feedback to the instructors about the content and format of a future 1-day workshop for the remaining staff in the stroke unit. The 2-day workshop and the subsequent 1-day workshops in stage four were all taught by the same speech-language therapist who had been trained to teach supported conversation to health care professionals. In the 2-day workshop, a university researcher participated as co-teacher and observer.

Stage three

Based on information and feedback obtained in the preceding two stages, the project group formulated a local guideline for staff's communication with patients with aphasia. The guideline has four components: (1) description of the principles and techniques grounded in the SCA method to be used with patients with moderate to severe aphasia, (2) tools for communication support, including the translated picture resources, available to staff, (3) dialogue notebooks given to patients with aphasia to be kept at bedside and used for writing important keywords and information, and (4) delegation of specific responsibilities and assignments to staff members, such as decision-making concerning the use of a dialogue notebook, instructing patient and family in its use and alerting other team members to the patient's need of communication support. See Appendix 1 for a more complete description of the guideline. The guideline was approved by the stroke unit executive committee and included in the general set of local guidelines and procedural protocols for the unit.

Stage four

Four additional (1-day) workshops with 20 participants were given over the next 6 months. The workshops were mandatory for all staff members associated with the stroke unit: doctors, nurses, nursing assistants, physiotherapists, occupational therapists, speech-language therapists and neuropsychologists, dietician, and hospital porter.

In all, 105 interdisciplinary staff members participated in a workshop on the SCA method in the course of an 8-month period (approximately 95% of the staff on the stroke unit). In the same period, the hospital speech-language therapists began to integrate the use of supported conversation in their bedside training with patients with moderate or severe aphasia. Through this training, patients (and their families) became familiar with the SCA method and learned to expect (or ask for) communication support from staff members.

Design of the study

A mixed-methods design was used which combined quantitative and qualitative assessments in order to increase study validity by comparing findings. According to Clarke (2009), "The use of a mixed-method approach is particularly appropriate when the methods used are similar (such as a scaled quantitative questionnaire and a structured qualitative interview) and when the methods examine different facets of the same phenomenon" (p. 297).

To assess outcomes for the nursing staff as a group, a self-administered scaled questionnaire was given to all participants before and after training. The questionnaire was intended to provide a quantitative evaluation of changes in nursing staff's knowledge of aphasia and aspects of their communication with patients with aphasia. To explore nursing staff's perceptions and experience with the SCA method in greater depth, a qualitative interview study was carried out with seven nurses and nursing assistants. A semi-structured approach was chosen for the interviews to encourage informants to expand on their experiences and permit them to pursue themes or topics not previously identified by the investigators.

Questionnaire study

Questionnaire data were collected to evaluate changes in staff's self-evaluated knowledge of aphasia and communicative behaviour in relation to patients with aphasia. A Danish translation was made with permission from the Aphasia Institute in Toronto of the Knowledge of Aphasia Questionnaire (KAQ) used in previous studies of supported conversation (Simmons-Mackie et al., 2007; Sorin-Peters et al., 2010) (see Appendix 2).

In all, 72 nurses and nursing assistants received the questionnaire one to two weeks before workshop participation. Of these, 52 filled out and returned the pre-workshop questionnaire. Between 3 and 8 months after the workshops, the nursing staff was given the same questionnaire. A total of 43 nurses and nursing assistants filled out and returned the post-workshop questionnaire. Of these, 31 participants (15 nurses and 16 nursing assistants) had also returned the pre-workshop questionnaire. Questionnaires were coded to permit a repeated measures design and the following analyses were based on the 31 participants who completed the pre- and post-training questionnaires (see Figure 2).

Differences in participants' responses in the pre- and post-workshop questionnaires were assessed for each question separately. Continuous data (Question 2) were compared using a paired *t*-test. Ordinal data (5-point scale used in Questions 4, 5, 6, 7, 8, 9, and 12) were compared using paired Wilcoxon signed-rank tests with continuity correction. A significance level of 5% was chosen. Statistical calculations were carried out using R ver. 2.14.1 for MacOS X (R Foundation for Statistical Computing, Vienna, Austria). The remaining questions were open-ended questions requiring text responses. To evaluate possible changes in participants' use of strategies from pre- to post-training, a classification scheme was developed based on strategy modality, the type of assistance provided, or

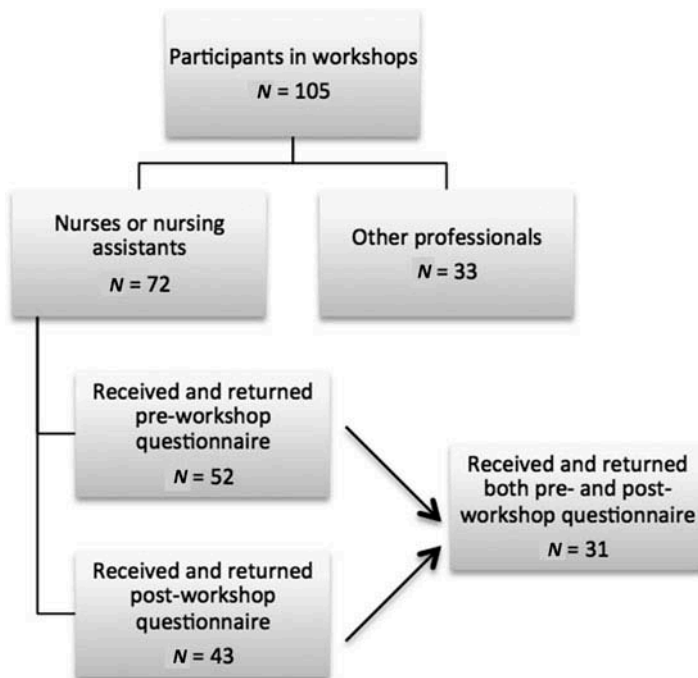


Figure 2. Nurses and nursing assistants included in the questionnaire study before and after workshop participation.

the type of materials named by participants. Text responses about supportive strategies were categorised independently by two of the authors and consensus about differences in classification was obtained. Changes in strategies were evaluated by visual inspection of frequency counts for different categories before and after the workshop.

Qualitative interview study

The aim of the interview study was to explore in more depth the general perceptions and experiences of nurses and nursing assistants who had been trained in the SCA method. Charge nurses on each of the four wards identified nine potential participants with SCA experience. They received an email from a co-investigator, a speech-language therapist unconnected with the hospital and the implementation project, and were asked if they were willing to participate in the study. One potential participant did not respond to the email and another potential participant cancelled a scheduled interview due to a change in her shift plan. The remaining seven staff members, five nurses and two nursing assistants, completed the interviews. Their average time of employment on the stroke unit was 6 years (varying from 2 to 10 years). Four of the seven participants had participated in the initial super-user workshops (see Table 2). The interviews took place between 1 to 8 months after the participants had attended one of the workshops and were carried out by the above-mentioned co-investigator, who had been trained in supported conversation and interviewing techniques.

A semi-structured interview guide was developed and adjusted after two pilot interviews. The interview guide was developed to probe informants' experiences with using SCA techniques by asking open-ended questions. The interviewer pursued informants' perceptions and attitudes with follow-up questions concerning supportive conversation and communication with patients with aphasia.

Interviews lasted between 30 and 45 min and took place on the stroke unit in a quiet office or empty therapy room. During the interviews, the interviewer was attentive to asking clarifying questions if she was unclear about the intended meaning of the informants.

Interviews were recorded on a Dictaphone (Model 10562, Agk Nordic A/S, Langaa, Denmark) and transcribed. For the purpose of analysis, transcriptions were read through many times. Meaning units were extracted and assigned labels closely representing informants' own wording (Kvale & Brinkmann, 2009). Subsequently, labels were grouped into major themes, and quotations from all informants (if existing) were collated under each theme. The analysis was carried out by one investigator and subsequently assessed by the first author for reliability and consensus. Given the nature of the study and the

Table 2. Description of informants in qualitative interview study ($n = 7$).

Profession	Years on stroke unit	Ward type	Super-user
Nursing assistant	4	Rehabilitation	Yes
Nurse	2	Acute	Yes
Nurse	10	Rehabilitation/acute	Yes
Nurse	10	Acute	No
Nursing assistant	5	Acute	No
Nurse	2	Rehabilitation/acute	Yes
Nurse	10	Rehabilitation/acute	No

potential bias of the investigators in favour of a positive outcome, special attention was given to negative cases, that is, informants mentioning difficulties, limitations or undesirable outcomes associated with using the SCA method (Mays & Pope, 1995).

Findings

Results from questionnaire study

Questions appropriate for statistical analysis

A statistically significant increase was found in how well nurses and nursing assistants rated their own understanding of aphasia (Question 2) ($p = .0004$, 95% CI of difference [5.8–17.6]), see Figure 3.

Furthermore, a significant decrease was seen for answers to Question 7: “I find that communication with patients with aphasia is embarrassing/frustrating for the person with aphasia” ($p = .03$, 95% CI of difference [-2.0 to -3.2E-6]). The results for Question 7 are shown in Figure 4.

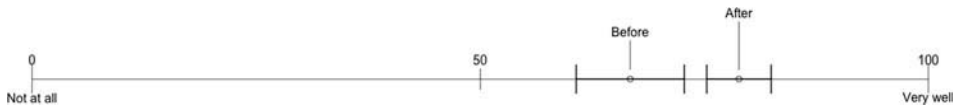


Figure 3. Participants' self-rated knowledge of aphasia measured on a continuous scale from 0 to 100 before and after attending a workshop (mean values \pm 2 standard errors of the mean).

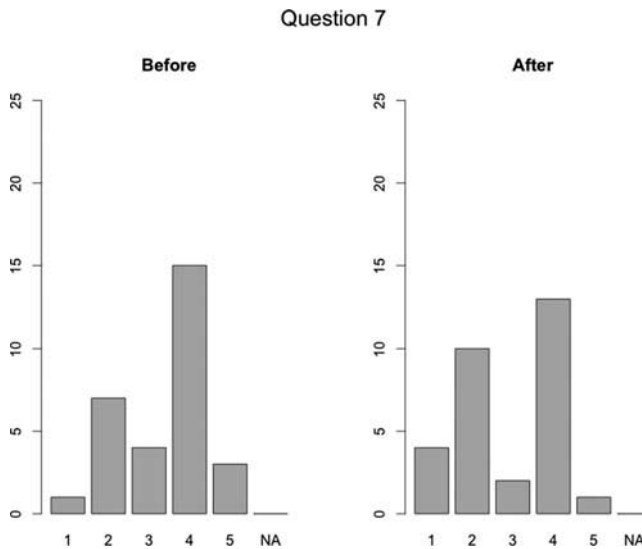


Figure 4. Distribution of participants' self-assessed ratings on a 5-point scale before and after the workshop for Question 7: “I find that communication with patients with aphasia is embarrassing/frustrating for the person with aphasia.” (1 = Strongly disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, 5 = Strongly agree, NA = Not answered.)

No significant differences were found between pre- and post-training responses for the remaining questions. Nurses and nursing assistants generally did not agree that they avoided communication with patients with aphasia. The majority of nurses and nursing assistants found that communication with patients with aphasia was difficult and required time. They also generally agreed that communicating with patients with aphasia might be rewarding and that they had some confidence in their ability to support a patient with aphasia in conversation. However, participants differed in their perception of whether patients with aphasia tended to be isolated on the stroke unit. Since many of the participants worked on both acute and rehabilitation wards, it was not possible to determine whether these perceived differences were related to type of ward.

No significant differences were found between nurses as a group ($N = 15$) and nursing assistants ($N = 16$) in any of the questions ($p > .05$, two-sample t -tests).

Open-ended questions with text responses

The KAQ included questions about staff's use of strategies and tools. Both in the pre- and post-workshop questionnaire, participants (all but one) indicated that they used strategies in their communication with patients with aphasia. Strategies reported by participants fell into the following categories:

- Using body language (using gaze, facial expression, or gesture; showing things/ pointing to things)
- Using slow/simple speech (speaking slowly, using simple or short sentences; repeating information)
- Using *yes/no* questions or assisting the patient with printed *yes/no* response options
- Using writing (writing keywords, prompting patient to write)
- Using drawing or pictures (to support understanding or for the patient to point to)
- Using "Picture pointing board" (which refers to a specific pointing board used in Danish hospitals with 12 pictures showing basic needs such as *food, drink, medicine, toilet*, and so forth)
- Giving the patient extra time to respond
- Showing patience and understanding in general
- Using SCA method (SCA techniques, patient's dialogue notebook, translated picture resources, toolkit in nursing stations)

To examine possible shifts in strategy use, strategies were counted for each category before and after training. Figure 5 shows the frequency by category count for the supportive strategies listed by participants. In the post-workshop questionnaire, many participants naturally named the SCA techniques and resources, which had not been available to them before the workshop. Other changes were also evident. Before the workshop the most frequently reported strategies were *Using body language*, *Using slow and simple speech*, *Giving time to respond*, and *Using pointing board*, the latter referring to a specific simple pointing board. After training, participants more frequently reported *Writing down words* and *Drawing/bringing pictures*. It seems, then, that a shift had taken place from strategies involving body language or accommodations within the auditory modality to strategies more focused on writing and picture support.

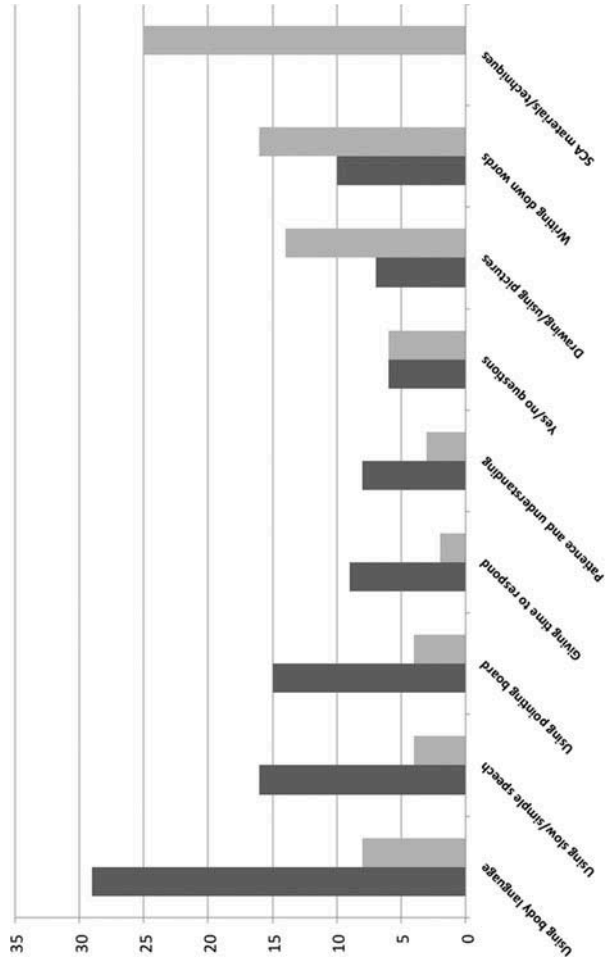


Figure 5. Categories of supportive strategies and number of times they were reported by participants in questionnaire study before and after training (Dark grey = before training, Light grey = after training).

Findings from qualitative interview study

Meaning units from the interviews with seven nurses and nursing assistants could be grouped into five major themes:

- Staff members' own feelings about communicating with patients with aphasia
- Patients' feelings about communication as perceived by staff members
- Communication techniques, strategies, and tools
- Barriers and facilitating factors to communication with patients with aphasia
- Implementation of the SCA method on the stroke unit

These five themes are reported in more detail later with quotations from informants in English translation (in referencing transcriptions in the following section, informants are identified by a number which, for the sake of their anonymity, bears an arbitrary relationship to the order of informants in [Table 2](#)).

Staff members' feelings about communicating with patients with aphasia

Most informants said that, before participating in the workshops, they felt uncertain when communicating with patients with aphasia. Feeling uncertain was related to not feeling confident about their ability to communicate with the patients, and to not being sure in specific situations if an adequate understanding had been reached with the patient. One nurse described it as follows: "I've often left [the patient] and felt uncomfortable about the situation and frustrated, because my experience was that I was unable to understand the patient and vice versa" (P6, lines 12–14).

Most informants said they felt more prepared to communicate with patients with aphasia after participating in the workshop. One informant described how she was more willing to engage in conversation with the patients: "You kind of have the courage to initiate that type of conversation, which before [the workshop] you might have tried to slip out of" (P1, lines 152–153). Another informant noted that conversations with patients with aphasia had become longer and more meaningful:

I think conversations have become longer. You get more out of the conversations and afterwards you may think this was a quite ordinary conversation. It may be that it was carried out using picture materials and some simple yes and no cards, but you've actually had a conversation where you've covered different topics. (P3, lines 207–210)

Patients' feelings as perceived by staff

Staff perceptions of patients' feelings should be interpreted with caution since these might not reflect what patients actually feel. Generally, nurses and nursing assistants perceived patients with aphasia as feeling frustrated, sad, or angry. Staff also remarked that the patients with aphasia may have given up on communicating with staff or others. All informants had noted positive changes in patients' feelings and behaviour after implementation of the SCA method. Some informants reported that patients were more active in their attempts to communicate. For example, patients might bring their dialogue notebook or other materials with them when leaving their room: "The patients seem more at ease. They are braver. They bring their notebooks around with them on the ward. Certainty [in communication] and understanding has improved. It's easier to tune in on the right topic" (P2, lines 151–153).

One informant, who had prepared a picture-based nursing interview with a patient with severe aphasia, described how the first systematic use of pictures with this patient effected a very positive change in her general communicative behaviour:

Just around the time of the workshop we had a patient I did an interview with together with a colleague. She [the patient] opened up completely afterwards and was much more open and suddenly initiated conversations with everyone and everybody, not just the nursing staff, but other patients as well. She had not at all done anything like that before. (P1, lines 165–172)

Communication techniques, strategies, and tools

Informants reported using communication techniques, strategies, and tools both before and after workshop participation, but before the workshop they were not systematic in their approach and had to invent their own ways because they did not have access to a shared set of tools and techniques:

I think we just tried to talk back and forth hoping for the best and putting our faith into having done it right, but it really wasn't quite right. You feel it when you leave the [patient's] room that it really wasn't quite good enough. (P1, lines 42–44)

All informants described using techniques associated with getting the information IN, helping the patient getting the information OUT and VERIFYING that they and the patient with aphasia had understood each other correctly (Kagan, 1998). Several informants also mentioned that writing down keywords in the patient's personal dialogue notebook was very helpful to communication:

I actually use it every time now for severe aphasia. I think it's good that you write key words down all the time, so you can look back on them, because patients also point to them if you are in the process of saying something that is not right, or if you are going down the wrong alley. Then they point back to what they are talking about. (P3, lines 92–98)

Informants were inconsistent in how much they used the supportive picture materials from the communication toolbox. Two informants said that they selected materials for planned interactions such as admission nursing interviews, or when they had to inform the patient about a medical procedure. Others reported that they had not had enough time to familiarise themselves with the content, or they suggested that some of the picture resources were too complex to be really useful to them. The preferred materials used with patients with aphasia were *yes/no* cards and geographical maps.

Barriers to staff's use of the SCA techniques and tools

All informants mentioned that lack of time might be a significant barrier to using techniques and tools:

What's preventing it [use of techniques] is, of course, shortage of time. You could definitely use the method more if only you had time to prepare the patients for what's going to happen (...). If we were able to say, "Now I'll go in there for twenty minutes and explain to Mrs Hansen what it is that she is supposed to do today." That would be a dream scenario. (P5, lines 256–261)

Patient characteristics and specific symptoms were mentioned as possible barriers, including patients' lack of insight into their aphasic problems, extreme fatigue, or psychological crisis. Informants who worked in the acute care ward suggested that there were additional barriers in this setting. Patients were often very ill or not alert enough to participate in extended exchanges of information. Nursing care was characterised by frequent interruptions due to incoming patients or patients in sudden need of more intensive care. Patients who were well enough to engage in communication and ready for transfer to a rehabilitation ward were not attended to as much when time was scarce.

Presence of significant others was regarded as an opportunity to gain or give information about the patient, but also as a challenge if family members took over and answered questions addressed to the patient. Some informants suggested that observing staff's use of techniques, such as writing down keywords, might be helpful to the patient's family by demonstrating ways of successful communication with the patient.

Implementation of the SCA method on the stroke unit

Informants generally provided positive evaluations of the implementation of supported conversation on the stroke unit, especially commending the interdisciplinary approach and the resulting shared knowledge between doctors, nursing staff, and therapists: "Everyone uses the same principles and, therefore, patients recognize what is going on when you talk with them" (P5, lines 324–326).

Some expressed a concern that they might forget the techniques if they did not regularly care for patients with aphasia or receive a brief annual brush-up course. Although informants' overall evaluation was positive, the techniques and tools had obviously not solved all problems and communicating with patients with severe aphasia remained challenging and not always successful:

Just to get any breakthrough sometimes (...) when they just grab me and just sit there and sigh and need to talk about something and then to be able to tune in on it. It can still be very difficult and it's still a lot of guesswork sometimes. (P2, lines 155–158)

Discussion

Quantitative and qualitative outcomes of implementing the SCA method

The questionnaire results showed that nurses and nursing assistants rated their understanding of aphasia significantly higher after training and found communication less embarrassing or frustrating for patients with aphasia. Changes were also noted in the categories of strategies reported by participants. In the pre-training questionnaires, participants listed many strategies involving body language and strategies involving changes made to their own speech or way of expressing themselves. After training, most participants listed the SCA techniques or tools related to the implementation process. Other frequently reported strategies were *Writing down words* and *Drawing/using pictures*. The shift in strategies may reflect the emphasis given in the training workshops to the usefulness of writing keywords in the patients' dialogue notebooks, and the need to assist patients in responding by using pictures or yes/no questions. The introduction of new and more extended picture materials, including the staff toolkit and the picture resource booklets (Kagan & Shumway, 2003a, 2003b, 2003c, 2003d), may have added to staff's awareness of pictures as relevant tools. However, the training workshops also

included video clips illustrating the use of body language and gesture to support patients in understanding and responding. It is not possible to determine from this study if the increased report of using writing and pictures reflects a behavioural change, which has occurred at the expense of using body language. Nor is it clear if this would be a desirable or undesirable outcome.

For a number of questions on the questionnaire no significant differences were found after training. For example, both before and after training, nursing staff had some confidence in their ability to communicate with the patients and they found communication with patients with aphasia to be difficult and time-consuming. This may be consistent with a realistic view of the scope and potential impact of the SCA method on a stroke unit: implementing the techniques may improve some aspects of patient–staff communication, but cannot be expected to solve all difficulties. Other questions which showed no statistically significant changes may have been biased in their wording, prompting participants to affirm or reject question content both before and after training. Two such questions are Question 8: “I find communicating with patients with aphasia to be rewarding,” and Question 4: “I avoid communicating with patients with aphasia, unless it is absolutely necessary.”

The qualitative interviews were undertaken to explore in greater depth the perceptions and experiences of the nursing staff with using the SCA method on the stroke unit. Overall, the participating nurses and nursing assistants provided very positive evaluations. They described feeling more confident about their ability to communicate with patients and more certain about having reached an understanding. However, in the quantitative study nursing staff’s confidence in their ability to communicate with patients with aphasia did not increase significantly. One possible explanation for this is that the questionnaire study had too few participants to demonstrate a statistically significant change, or the questionnaire was not sufficiently sensitive to change. Another possibility is that the nurses and nursing assistants who participated in the qualitative interviews were in fact staff members who had benefited more from training than others.

The qualitative interviews brought forth other positive outcomes, such as patients having become more active in their communication behaviour. Some informants also expressed a readiness to initiate conversations about more complex topics with patients with aphasia. This may be due to their feeling more equipped to support the patients in solving communicative problems. In the questionnaire, nurses report that they do not avoid communicating with patients with aphasia. However, communicative interactions between nurses and patients have been found in other studies to be task-focused, nurse-controlled, and restricted in content (Finke et al., 2008; Gordon, Ellis-Hill, & Ashburn, 2009; Pound & Ebrahim, 2000). Thus, while not avoiding patients with aphasia, nurses may opt to restrict their interaction with patients to short encounters relating to patients’ care and treatment.

Not all informants in the interview study shared the experience that supportive techniques led to more extensive conversations with patients with aphasia. Informants who worked on acute wards felt that lack of time and the necessity to focus on the nursing care needs of severely ill patients precluded their spending continuous time with patients who were physically well enough to engage in communication. Simmons-Mackie et al. (2007) also found difficulties with implementing supported conversation in the context of an acute care unit. Simmons-Mackie (2013) suggests that this type of context may present special challenges to establishing an aphasia-friendly environment.

Study limitations

Some limitations should be taken into account when interpreting the results from this study. First of all, the study has no control group but seeks to increase the validity and relevance of study findings by comparing the perspectives offered by different methodologies (Mays & Pope, 2000). Regarding the quantitative parts of the study, it is a concern that the validity and reliability of the questionnaire has not been investigated by previous studies, nor has its sensitivity to change been established. Self-rating scales, such as the visual analogue scale used by participants to rate their knowledge of aphasia, have an inherent limitation when used as outcome measures, since participants may not know what they do not know until after they have been trained. Finally, the number of participants in the quantitative part of the study was small, since only 31 of 72 nurses and nursing assistants returned both pre- and post-workshop questionnaires. Although a response rate of 43% is not uncommon in questionnaire studies, low response rates may potentially distort findings, since the participants who chose to respond may have been more enthusiastic users of supported conversation.

Limitations also apply to the qualitative methodology in the interview study. There may have been a bias in recruiting informants, since it is possible that the nurses and nursing assistants who elected to participate were staff members who had positive experiences with the use of SCA techniques. Although the investigators were careful to attend to negative examples in all aspects of the study, one also cannot rule out that their investment in the implementation process had an influence on the results.

A general limitation of the present study is that it does not permit inferences about the consistency and success with which staff used supported conversation after the implementation process. A different design and methodology, for example using regular observation of staff's communication with patients, would be required for such a purpose.

From a Communicative Access perspective (Cruice, 2007), it is a clear limitation that the adaptation process did not also involve patients with aphasia in the development of the guideline. Patient participants might have brought attention to needs and values which differed from staff's needs and values. This is an obvious shortcoming, which should be remedied in future revisions. However, patients were included in implementation in another way. Simultaneously with staff's training workshops, the speech-language therapists began to use the SCA method systematically in their communication and training with patients on the stroke unit. Although this patient-related aspect of the implementation project has not been expanded on or evaluated here, it is quite possible that preparing patients to accept, expect, or ask staff to write in their dialogue notebooks may be as important as teaching staff to do so.

General discussion and future directions

The overall goal of the implementation project was to improve the ability of interdisciplinary staff on a large stroke unit to support patients with aphasia in participating in conversations about their medical treatment, care, and rehabilitation. The specific aims of this study were to evaluate outcomes of training for the nursing staff and to explore staff perceptions and experiences with using the SCA method on the stroke unit. Altogether 105 staff members (95% of the staff) participated in workshops on supported conversation. Picture resources and other communication supports were made accessible to staff. Patients with aphasia were given a dialogue notebook to be kept at their bedside table. The purpose of the notebook was to provide a continuous record of information relevant

to patient and staff. The procedural guideline for staff's communication with patients with aphasia was accepted by the stroke unit executive committee and included in the general set of guidelines for actions and procedures relating to care, treatment, and rehabilitation on the unit.

Before their training, staff members had to rely on their own individual strategies for communicating with patients with severe aphasia. The development of shared principles and tools seems to have improved that situation. However, patients with aphasia differ in both needs and preferences for communication support (Johansson, Carlsson, & Sonnander, 2012). If strategies are overused or used indiscriminately, communication support may cast patients as helpless and in fact be harmful to the establishment of inter-subjective understanding. The SCA principle of "Acknowledging competence" (Kagan, 1998) serves to remind users of supportive strategies of this caveat, including the need to speak to persons with aphasia in as normal a fashion as possible. In the training workshops, these issues were explicitly discussed with staff and it was suggested that staff might pay attention to small opportunities in their interaction with patients with aphasia for reinforcing patients' sense of autonomy and personhood. Nevertheless, it is possible that some staff members may overuse techniques or use them indiscriminately as a consequence of their training.

As pointed out by Simmons-Mackie et al. (2007), leadership, institutional culture, and work environment may be important factors in determining the success of implementation projects. The current project was carried out at a well-organised stroke unit where leaders had already established a strong focus on interdisciplinary collaboration and patient participation. For example, on the rehabilitation wards, interdisciplinary team members participate in regular biweekly meetings with individual patients and their significant others, where progress and goal setting is discussed. This working culture most likely contributed to the general positive reception of supportive conversation. Another facilitative factor may have been the principle of actively involving staff members in the adaptation of the SCA method.

Implementation of complex changes in clinical routines such as changes affecting staff's communicative behaviour may rightfully be regarded as challenging (Grol et al., 2007). Continued monitoring, development, and adaptation of the SCA method are likely to be needed if it is to be used by the majority of staff members. Since the initial project described here, the Department of Neurology at University Hospital Glostrup has secured permanent funding for a speech-language therapist position dedicated to the continued implementation of supported conversation at the hospital, including implementation on three general neurological wards in addition to the stroke wards. This has become possible following a recent Medical Technology Review of Brain Injury Rehabilitation carried out by the Danish National Board of Health (Sundhedsstyrelsen, 2011a, 2011b) and regional operational funding made available to ensure the implementation and maintenance of evidence-based methods.

Conclusion

The findings from questionnaire and interview data suggest that the training and implementation of the SCA method were generally perceived to be successful in accommodating the needs of the nursing staff and were perceived by them to be helpful to patients. Important factors for successful implementation may have been staff involvement in adaptation of tools and techniques, leadership support, and contextual factors such as the working culture on the stroke unit. Continued monitoring, education of new staff and

re-evaluation of procedures will be important to ensure that tools and techniques are being used by the majority of staff members. A different study design including patients with aphasia will be needed to evaluate the possible effects of the implementation project on patients' experiences of communicating with staff.

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Appendix 1

Local guideline for communicating with patients with aphasia

Principles and techniques

Staff members are to show special attention to the needs of patients with aphasia and are to use techniques to acknowledge and reveal patients' competence such as writing keywords in the patients' dialogue notebooks (see later) when giving information. When complex topics are to be discussed, staff should prepare the conversation and consider how they might convey specific information, for example by bringing relevant pictures. Patients should be given ample time to respond and be assisted with responding if needed, for example by printing *yes* and *no* on a sheet of paper for pointing, by drawing analogue scales, or by writing down possible choices. It is emphasised that using supportive techniques is a creative and active process, which must constantly be attuned to a specific patient's needs and preferences. Overuse of techniques may cast a patient as less competent than he or she is and cause frustration. Communication with a patient with severe aphasia may not be easy or successful, even with use of appropriate techniques and tools.

Tools for communication support

Danish translations of the picture resource booklets *Talking to your Nurse*, *Talking to your Doctor*, *Talking to your Physiotherapist*, *Talking to your Occupational Therapist* (Kagan & Shumway, 2003a, 2003b, 2003c, 2003d) are available to the staff on the hospital server for easy access and printing. Physical copies of the booklets are placed in the nursing station of each of the four stroke units along with a portable plastic box, *the communication toolbox*, which contains calendars, number and alphabet charts, picture dictionaries, local and global geographical maps, and other communication supports. Speech-language therapists will assist staff members to produce dedicated pocket size picture flashcards, for example flashcards for bedside interviews on the acute ward.

Dialogue notebooks for patients with aphasia

Each patient is given a *dialogue notebook*, an ordinary spiral-back paper notebook. The notebook belongs to the patient and is kept on the bedside table, but it is intended for everyone to write in (after permission from the patient). The dialogue notebook provides easy access to paper and pen for both patient and staff and it serves as a visible reminder to write down keywords and important information. The workshops conveyed to the staff that it is helpful if they leave *conversational footprints* in this notebook which serve to both support patients' understanding and help patients to recall or refer back to information. Patients are likely to benefit from having this permanent record of the information they have been given or have succeeded in conveying to staff. For example:

- The patient may want to inquire about information previously given by staff, for example information about a scheduled CAT-scan (why, when, what).
- The patient may need to convey information to staff once again after a nurse's shift if this information was not properly transmitted during a change of shift.
- Patients may want to discuss or share information given by staff with their families, or vice versa.

Specific responsibilities assigned to staff groups

Any staff member may decide that the use of SCA techniques will be helpful in their own communication with a specific patient. The patient's primary nurse (or the speech-language therapist) may decide that a patient will benefit from having a *dialogue notebook* and will explain its use to the patient and the family. The primary nurse is also responsible for alerting other staff members to the patient's need for communication support at staff morning meetings and for placing a magnet with a notebook icon as a reminder on the board in the nursing station.

The decision not to make the speech-language therapist responsible for all decisions about using the SCA method was motivated by the principle that "communication is everybody's business," and it was hoped that by assigning ownership of the SCA method to all staff members, especially the nursing staff, they would regard the method as a tool of their trade, supporting them in providing treatment and care for patients with aphasia.

Special responsibilities are assigned to the eight super-users: they are to assist other staff members in the use of communication support and they participate in regular semi-annual meetings with the project group about the continuing implementation process.

Appendix 2

Danish translation of Knowledge of Aphasia Questionnaire (Simmons-Mackie et al., 2007; Sorin-Peters et al., 2010) (KAQ). Reprinted with kind permission from the Aphasia Institute, Toronto. (The Aphasia Institute retains all right, title and interest in the translated work.)

Brug ca. 10 min. på at udfylde dette spørgeskema. Dine svar skal afspejle din nuværende viden om afasi så præcist som muligt. Du bliver bedt om at gentage vurderingen på et senere tidspunkt, hvis du deltager i et kursus om afasi for hospitalspersonale. (*Please use 10 min to fill out this questionnaire. Your answers should reflect your present knowledge of aphasia as precisely as possible. You will be asked to complete the form again at a later time, if you participate in a workshop on aphasia.*)

- (1) Beskriv kort, hvad forstår du ved "afasi"? (*Describe briefly your understanding of "aphasia"?*)
- (2) Hvor godt mener du, at du forstår, hvad afasi er, på en skala fra 0 til 100? Sæt en lodret streg gennem linjen på det punkt, du mener svarer til din viden om afasi. (*How well do you think you understand aphasia on a scale of 100? Place a vertical mark through the line below at the point you feel best reflects your knowledge of "aphasia".*)

0 _____ 100
Slet ikke (*Not at all*) Meget godt (*Very Well*)

- (3) Hvordan opfatter du viden og dømmekraft hos afasiramte personer? (*What is your understanding of the competence of people with aphasia?*)
- (4) Jeg undgår helst kommunikation med patienter, der har afasi eller andre kommunikationsforstyrrelser, medmindre det er absolut nødvendigt. (*I avoid communicating with patients with aphasia and other communication disorders, unless it is absolutely necessary.*)

Meget uenig (<i>Strongly disagree</i>)	1
Uenig (<i>Disagree</i>)	2
Ved ikke (<i>Undecided</i>)	3
Enig (<i>Agree</i>)	4
Meget enig (<i>Strongly agree</i>)	5

- (5) Jeg oplever kommunikation med patienter med afasi som værende vanskeligt/svært. (*I find communicating with patients with aphasia to be difficult/frustrating.*)

Meget uenig (<i>Strongly disagree</i>)	1
Uenig (<i>Disagree</i>)	2
Ved ikke (<i>Undecided</i>)	3
Enig (<i>Agree</i>)	4
Meget enig (<i>Strongly agree</i>)	5

- (6) Jeg oplever, at det er tidskrævende at kommunikere med patienter med afasi. (*I find communicating with patients with aphasia to be time-consuming.*)

Meget uenig (<i>Strongly disagree</i>)	1
Uenig (<i>Disagree</i>)	2
Ved ikke (<i>Undecided</i>)	3
Enig (<i>Agree</i>)	4
Meget enig (<i>Strongly agree</i>)	5

- (7) Jeg oplever, at kommunikation med patienter med afasi er pinagtigt/svært for den afasiramte person. (*I find communicating with patients with aphasia to be embarrassing/frustrating for the person with aphasia.*)

Meget uenig (<i>Strongly disagree</i>)	1
Uenig (<i>Disagree</i>)	2
Ved ikke (<i>Undecided</i>)	3
Enig (<i>Agree</i>)	4
Meget enig (<i>Strongly agree</i>)	5

- (8) Jeg oplever, at det er berigende at kommunikere med patienter med afasi. (*I find communicating with patients with aphasia to be rewarding.*)

Meget uenig (<i>Strongly disagree</i>)	1
Uenig (<i>Disagree</i>)	2
Ved ikke (<i>Undecided</i>)	3
Enig (<i>Agree</i>)	4
Meget enig (<i>Strongly agree</i>)	5

- (9) Jeg oplever, at patienterne med afasi er socialt isolerede på afdelingen. (*I feel the patients with aphasia are socially isolated.*)

Meget uenig (<i>Strongly disagree</i>)	1
Uenig (<i>Disagree</i>)	2
Ved ikke (<i>Undecided</i>)	3
Enig (<i>Agree</i>)	4
Meget enig (<i>Strongly agree</i>)	5

- (10a) Bruger du strategier/hjælpemidler for at kommunikere med patienter med afasi? (*Do you use strategies/tools to communicate with patients with aphasia?*)

Ja (*Yes*) Nej (*No*)

- (10b) Hvis du svarede ”ja”, skriv hvilke slags strategier/hjælpemidler du bruger. (*If you answered “yes”, please list the types of strategies you use.*)

- (11) Til hvilke formål bruger du disse strategier/hjælpemidler? (sæt \surd ved alle, som passer) (*For what purpose do you use these communication strategies (check all that apply)*)
- For at give information (*To provide information*)
 - For at have en samtale om pleje, behandling, genoptræning (*To have a conversation about care*)
 - For at inddrage patienten i en almindelig samtale (*To socialize with a patient who has aphasia*)
 - For at støtte patientens muligheder for at tage beslutninger og være uafhængig (*To facilitate decision-making and independence*)
 - Andet (*Other*)
- (12) Jeg har tillid til mine evner til at understøtte kommunikationen i en samtale med en patient med afasi. (*I feel confident in my ability to support a conversation with a patient with aphasia.*)
- | | |
|--|---|
| Meget uenig (<i>Strongly disagree</i>) | 1 |
| Uenig (<i>Disagree</i>) | 2 |
| Ved ikke (<i>Undecided</i>) | 3 |
| Enig (<i>Agree</i>) | 4 |
| Meget enig (<i>Strongly agree</i>) | 5 |
- (13) Beskriv nedenfor dit indtryk af, hvordan det må være for personer, som lever med afasi. (*Please describe your impressions of what it must be like for people living with aphasia.*)
- (14) (Valgfrit) Beskriv en episode/situation, hvor du oplevede, at det ikke lykkedes at kommunikere med en patient med afasi. Kommenter gerne, hvad du synes, var årsagen til at kommunikationen mislykkedes. (*Optional*) (*Describe a situation, where you experienced lack of success in communicating with a patient with aphasia. You may also comment on why you think communication was unsuccessful.*)
- (15) (Valgfrit) Beskriv en situation, hvor du oplevede, at det lykkedes at kommunikere med en patient med afasi. Kommenter gerne, hvad du synes, var årsagen til at kommunikationen lykkedes. (*Optional*) (*Describe a situation, where you experienced success in communicating with a patient with aphasia. You may also comment on why you think communication was successful.*)