

Improving Communication between Medical Workers and their Communicatively Impaired Patients

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Abstract: **Objective** To improve communication between patients with communication disorders and their health care providers. **Methods** A communication training session and a communication toolkit for health care workers in long-term care facilities (L-TCFs) were used before. A control group and experimental group were used to assess the effectiveness of the communication training and a toolkit. **Results and Conclusion** There was little benefit to the training and toolkit. However, anecdotal observations showed there were some benefits, especially with the increased use of amplifiers for patients with hearing impairment. In addition, the L-TCF is inherent with structural obstacles to successful communication that need to be taken into account when interpreting the results. More research is needed in this area.

Key words: communication disorder; health care; communication training; communication toolkit

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[摘要] 目的 探讨如何改善交流障碍患者与其护理人员之间的交流。方法 在长期护理机构(L-TCFs)中对健康护理人员(HCPs)进行交流培训和使用交流工具箱,设立试验组和对照组用于评价交流培训和工具箱的有效性。结果和结论 培训及工具箱并没有显著效果。但某些措施对交流有益,特别是给听力损伤患者增加辅助用具。此外,L-TCFs的本质决定了要做到成功有效的交流会遇到机构设置等方面造成的障碍,这一点在解释研究结果时需予以考虑。本领域需要更多的研究。

[关键词] 交流障碍;健康护理;交流培训;交流工具箱

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This study piloted a communication toolkit and training protocol for health care professionals working with residents with communication disorders in two Long-term care facilities (L-TCFs). The toolkit contained items that would aid communication, such as: a voice amplifier, a hearing amplifier, tactile stimuli, communication boards, and tip sheet. The hour-long training consisted of explanations of dysarthria, apraxia, aphasia, dementia, hearing loss and voice disorders and examples of ways to communicate with people who have these disorders. The effectiveness of this training and toolkit were assessed by using pre- and post-training surveys of the health care providers (HCPs) as well as observations of interactions between HCPs and residents.

1 Literature Review

Generally, HCPs receive little communication training. Results from previous studies indicated a need for improving communication between HCPs and residents with communication impairments.

Many residents in L-TCFs have communication disorders.

The most common communication disorders in L-TCFs are aphasia, dementia and hearing loss. Aphasia causes difficulties in understanding, retrieving and formulating meaning and sequential elements of language in syntactic order. Approximately 22% of residents in L-TCFs have aphasia. Dementia defined as an "acquired persistent impairment of intellectual function with compromise in at least three of the following spheres of mental activity: language, memory, visuospatial skills, emotion or personality, and cognitive (abstraction, calculation, judgment, executive functioning and so forth)" is another highly prevalent disorder; 66% of persons admitted to L-TCFs were diagnosed with dementia. Hearing loss is another disorder commonly found in patients residing in a L-TCF which is caused by an interruption at one or more points along the auditory pathway. According to one study, 77% of L-TCF residents had a mild hearing loss and 51% had a moderate to severe loss.

Effective communication between health care professionals and residents with communication disorders in skilled nursing facilities can be a challenge. Research has shown that educating and providing strategies for health care providers to use when communicating with patients with communication disorders benefits the patient.

Previous studies have shown that training and tools can im-

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prove many aspects of communication. For example, Hickey, et al. found that multi-modality training (speaking, drawing, gesturing, pointing, and writing) improved communication between L-TCF residents with aphasia and trained volunteers. In all, there were increases in comfort, comprehensible responses by residents, turn-taking and topic maintenance. Low-technology tools such as picture boards, memory books and illustrations, and strategies such as showing objects, and modifying the environment by reducing background noise and visual distractions can also aid in communication.

2 Hypotheses

In the current study it was hypothesized that a communication toolkit and training would have the following effects on the interactions between Health Care Providers (HCPs) and L-TCF residents with communication disorders: ①HCPs will use more tools and strategies. ②The number and quality of interactions will improve. ③The residents will indicate improved communication after implementation of the toolkit and training. ④HCPs will indicate improved comfort levels when interacting with residents with communication disorders. ⑤HCPs will improve interactions overall when interacting with residents with and without communication disorders. ⑥HCPs will improve patient-centered communication with residents with communication disorders.

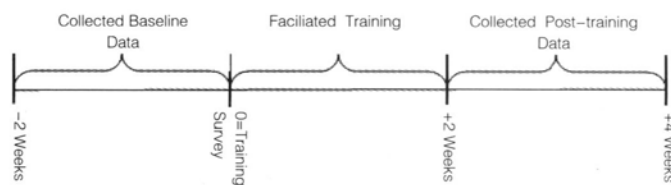
3 Method

3.1 Sample Two L-TCFs were used as research sites in this study and were randomly assigned as an experimental group and a control group. Two residents from each L-TCF who had a communication disorder participated in the study. A total of 14 HCPs from both facilities were also included. The experimental group included one resident (referred to as EM) with hearing loss, vision impairment, and mild dementia and one resident (referred to as EH) with Organic Brain Syndrome, difficulty understanding and making herself understood. The experimental site also included 6 health care professionals (CNA, LPN, activities personnel). The control group sample consisted of one resident (referred to as CH) with hearing loss, vision impairment, dysarthria, dementia and one resident (referred to as CM) with global aphasia. The control site also included eight HCPs (CNA, LPN, activities personnel).

3.2 Procedures The timeline in figure 1 shows the sequence of events for the procedures. Data was collected by survey of HCPs and the residents, and also by direct observation of HCPs interacting with residents while the residents were in their rooms and in common dining and activity areas. The study focused on the quantity and quality of the resident and HCP communication. Observational and survey data on the interaction between the residents and the HCPs was collected before and after the HCP staff in the experimental group received a communication toolkit, a one-hour in-service, and 10-hours over two weeks of facilitative training.

The HCP training provided information on specific communication disorders such as apraxia, voice disorders, aphasia, hearing loss, and dementia and included suggestions for ways to communicate in multiple modalities. The experimental site was given a communication toolkit along with directions on how to use it. The kit consisted of: a voice amplifier, a hearing amplifier, tactile stimuli (soft stuffed animals, plastic, knobby, twistable toy), communication boards, an aphasia booklet kit, and tip sheets regarding different disorders (e.g. dementia, aphasia, and hearing loss). These items were chosen based on current research and personal experiences. The facilitative training consisted of the researcher modeling the use of the items in the toolkit and encouraging use of the strategies on the tip sheets. The researcher then observed interactions between the staff members and the residents in the study, making suggestions as to which tools and strategies could be helpful at that moment. All staff members were encouraged to try each item of the toolkit at least once.

Figure 1 Timeline



Observational data was collected by watching HCPs interact with residents using a coding system that was developed by the researchers. The researchers were able to establish 93% point-by-point inter-judge reliability with the coding system used. Data was coded for: number of turns per interaction; communicative success; and tools and/or strategies used. In addition, residents were surveyed pre and post-training and asked to rate their perceptions of their interactions with the HCPs.

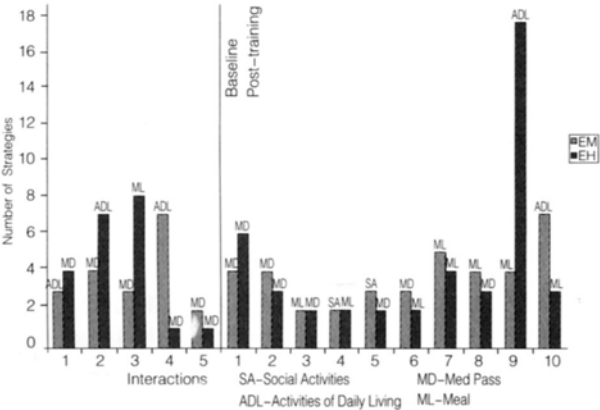
The pre and post-training survey given to the HCPs asked them to rate: the effectiveness of the toolkit and training; the overall effectiveness of their interactions with the residents; their self-assessment of their level of patient centered communication; and their overall comfort level communicating with people with communication disorders. They were also asked to indicate which tools and strategies they used when interacting with residents with communication disorders.

3.3 Data Analysis Data from the observations of the interactions between the HCPs and the two control and two experimental L-TCF residents was compared. One resident from each facility was cognitively able to complete the resident survey.

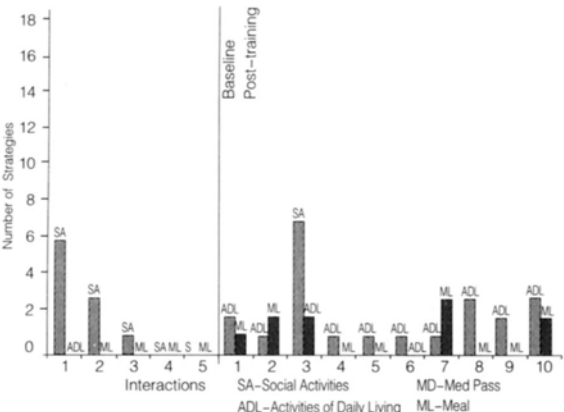
These surveys were compared pre and post for changes in their perceptions of their interactions. Data from the HCP staff survey results were compared pre and post training for changes. Averages and standard deviations were calculated for items on the HCP surveys.

4 Results

The total number of communication strategies used by residents in the experimental group showed little change from baseline to post-training. The number of strategies used appeared to increase for one resident in the control group. The experimental group used a greater number of strategies than the control group during the baseline survey.



A



B

(A) Experimental Group and (B) Control Group

The experimental group only made gains in one area of strategies or tools used while the control group made gains in three areas. See Table 1 and 2. There was a small positive change that occurred in all five categories for at least one of the subjects in the experimental group. The percent of communicative success went up for the residents of both the experimental and control groups. See Table 3.

The experimental groups residents rating for item number 5 went from 4 to 2, showing a decrease in frustration. The resi-

dent from the control groups rating changed from 1 to 4, showing an increase in frustration. On the final question of the post-training survey, "Has communication with the L-TCF staff improved?", the resident from the experimental group answered "definitely" and the resident from the control group answered "not at all." See Table 4. Improvement was seen in comfort level in the experimental group, but not the control group. However, the control groups comfort level was already high. See Table 5. HCPs ranged from feeling there was some to a significant amount of improvement with patients with and without communication disorders in the experimental group. The average rating of improved interactions indicated more progress was made with patients with communication disorders. See Table 6. Surprisingly, in the experimental group HCPs level of P-CC decreased with patients with communication disorders and increased with patients without communication disorders after training occurred. In the control group the level of P-CC increased for patients with and without communication disorders in the post survey. See Table 7.

Table 1 Strategies Used by HCP pre and post Training (self-reported)

Strategy	Experimental Group (n=6)		Control Group (n=8)	
	Pre	Post	Pre	Post
Use a slow rate of speech	100 % (6/6)	100 % (6/6)	100 % (8/8)	100 % (8/8)
Use simple sentences	83 % (5/6)	83 % (5/6)	100 % (8/8)	100 % (8/8)
Use of interpreter (family member)	83 % (5/6)	67 % (4/6)	38 % (3/8)	63 % (5/8)
Decrease background noise	83 % (5/6)	67 % (4/6)	88 % (7/8)	100 % (8/8)
Repeat what the patient said	100 % (6/6)	100 % (6/6)	88 % (7/8)	88 % (7/8)
Allow extra time to communicate	100 % (6/6)	100 % (6/6)	100 % (8/8)	100 % (8/8)
Provide visual cues	83 % (5/6)	83 % (6/6)	100 % (8/8)	88 % (7/8)
Write down information	33 % (2/6)	67 % (4/6)	13 % (1/8)	38 % (3/8)
Ask patient to repeat back what you said	83 % (5/6)	83 % (5/6)	25 % (2/8)	38 % (3/8)

Table 2 Tools Used by HCP pre and post Training (self-reported)

Tools	Experimental Group (n=6)		Control Group (n=8)	
	Pre	Post	Pre	Post
Amplification for hearing loss	100 % (6/6)	100 % (6/6)	88 % (7/8)	100 % (8/8)
Picture/Communication boards	67 % (4/6)	67 % (4/6)	63 % (5/8)	75 % (6/8)
Pen & Paper	83 % (5/6)	67 % (4/6)	38 % (3/8)	75 % (6/8)
Amplification for Voice Loudness	33 % (2/6)	50 % (3/6)	13 % (1/8)	50 % (4/8)

Table 3 Average Turns by Resident ; Percent of Communicative Success, Total Number of Strategies Used ; Number of Different Strategies Used ; and Percent of Utterances that Contained more than Three Words

BASELINE	EMI		EHI		CMI		CH2	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Turns by Resident	2.6	2.9	2.0	2.0	2.8	2.3	2.4	2.3
Success	88 %	91 %	70 %	77 %	66 %	86 %	62 %	92 %
Strategies Total	3.8	3.8	4.2	4.4	0	10	2	2.2
Different Strategies	1.6	1.7	2.4	2.4	0	0.8	5	1.3
Over 3 words per turn	46 %	59 %	0 %	40 %	7 %	0 %	64 %	35 %

5 Conclusions

Results were mixed when assessing if the toolkit and training had an affect on the interactions between the medical staff and the residents .

Hypothesis 1 : Neither the data collected on individual observations nor the survey results of the HCPs supported the hypothesis that HCPs would use more tools and strategies post training .

Table 4 Resident Survey Results pre and post Training

Survey Questions	EM		CH	
	Pre	Post	Pre	Post
How often do you use (the above) strategies to assist communication ?	7	7	4	4
How often do you feel that your message is understood when you use these strategies ?	6	6	4	4
How often do you feel that your message is understood without these strategies ?	7	7	4	4
How often are you able to convey your wants and needs ?	4	4	4	4
How often do you become frustrated when trying to communicate with the LTCF staff ?	4	2	1	4
How often do you initiate an interaction with the LTCF staff ?	4	4	4	4
Rate how successful you think these initiations are .	4	4	4	4
Has communication with the LTCF staff improved ?	n/ a	7	n/ a	1

Notice : on a scale of 1 ~ 7, 1 was "never" and 7 was "always" .

Table 5 Comfort Levels

Groups	Period	Avg	Range	SD
Exp	Pre	4 .67	4 ~ 7	1 .21
	Post	6 .08	4 ~ 7	1 .20
Control	Pre	6	3 ~ 7	1 .41
	Post	6	4 ~ 7	0 .93

Notice : on a scale of 1 ~ 7, 1 was "not at all comfortable" and 7 was "very comfortable" .

Table 6 Overall Interactions after Training and Toolkit Were Implemented

Experimental Group	Range	Avg	SD
Communication disorder	4 ~ 7	6 .0	1 .20
No communication disorder	4 ~ 6 .5	5 .0	1 .20

Notice : on a scale of 1 ~ 7, 1 was "no improvement" and 7 was "significant improve ment" .

Table 7 Level of Patient-centered Communication pre and post training

Groups	Period	Comm .	Avg	Range	SD
Exp	Pre	Disorder	6	5 ~ 7	1 .10
		No Disorder	5	4 ~ 7	1 .10
	Post	Disorder	5 .42	4 ~ 6 .5	0 .92
		No Disorder	6 .25	5 ~ 7	0 .76
Control	Pre	Disorder	5	3 ~ 7	1 .20
		No Disorder	5 .5	4 ~ 7	1 .60
	Post	Disorder	5 .5	4 ~ 7	1 .07
		No Disorder	6 .88	4 ~ 7	0 .35

Notice : on a scale of 1 ~ 7, 1 was "not at all patient-centered" and 7 was "completely patient centered" .

Hypothesis 2 : Data obtained from observations of the communication interactions between HCPs and residents weakly supported the hypothesis that the number and success of inter actions would improve .

Hypothesis 3 : Results from the patient surveys supported

the hypothesis that the residents would indicate improved communication after implementation of the toolkit and training .

Hypothesis 4 : Results from the HCP surveys supported the hypothesis that HCPs would indicate improved comfort levels when interacting with residents with communication disorders .

Hypothesis 5 : HCPs reported they felt they made some improvements in the overall quality of their interactions with their residents with and without communication disorders supporting the hypothesis that HCPs would improve interactions overall when interacting with residents with and without communication disorders after training . Greater gains were made with the patients with communication disorders .

Hypothesis 6 : Oddly , this hypothesis was not supported because HCPs did not improve patient centered communication with residents with communication disorders .

There was anecdotal evidence that the activities personnel often used the tools and strategies at times when the researcher was not present . It was also reported that the pocket talkers were frequently used once the training and toolkit was introduced to the experimental group . Again , this was not directly observed .

6 Discussion

In general , the effect of the training and toolkit was not as positive as was hoped . The times during which interactions were observed (meal times and administration of medications) were very busy times for the staff . It may have been easier for the HCPs to continue doing what they were prior to the training and/or anticipate the residents' needs . The HCPs in the experimental group may view their scope of practice as more custodial care while the activities personnel view theirs as personal interactions . The positive changes noted in the control group , may have been due to different resident/ staff member dyads , the Hawthorne effect , or a priming effect .

This study had several limitations such as not being able to videotape interactions between HCPs and residents as researchers were not able to review the interactions later . The number of residents observed was small and only one resident subject from each group was able to fully participate in the study . Data for specific HCP- resident dyads could not be compared pre and post- training to control for individual differences . Also , HCPs were not given enough opportunity to guided practice of the new skills .

Research implications for duplication of this study include : videotaping interactions , increasing the amount of resident participants and allowing the staff participants to practice the skills during the training and receive feedback on their performance . More time is should be allocated for data collection . Although the results of this study were mixed the authors continue to believe that speech and language pathologists in L- TCFs can help facilitate better communication and in turn improve the quality

of life for residents with communication disorders through educating and training the staff.

Appendix

Talking to People with Dementia

- Speak slowly, simply, and concisely; use familiar words.
- Give one direction or ask one question at a time.
- Don't offer too many choices at once, it may make it hard for the person to make a decision.
- Don't avoid talking with the person who is having difficulty. Try to help.
- Avoid instructions the person may take literally. (e.g., hop into bed)
- Use direct statements to initiate action or an activity.
- Don't assume the person did not hear you if there is no response. It may take a while to process what you said and then form an answer.
- Watch for signs of restlessness and withdrawal indicating the person does not wish to communicate. Respect her wishes and try later.
- Decrease distractions such as noise from a radio or TV.
- Let the person see you on his level. If he is sitting, sit facing him.
- Learn to "read" the individual's behavior.
- Move slowly and calmly.

Talking to People with Hearing Loss

- Make sure you have the person's attention before you begin speaking.
 - Avoid speaking over long distances.
 - Ask the person what would be the best way to communicate.
 - Have paper and pencil ready. You may want to write down words that are hard to understand.
 - Decrease background noise or find a quieter place to talk.
 - Be patient.
 - Face the person you are speaking to so that they can read your lips.
 - Try not to rush. Rushing can make it hard for the other person to hear you or read your lips.
 - Don't pretend to understand if you don't. Ask the person to repeat what he said.
 - Ask him, "Do you understand?" Or ask, "Do you want me to say that again?"
 - If repeating what you said, use shorter, simpler words and sentences.
 - Use a low-pitched, slow speaking voice which older adults hear best.
 - Check hearing aid for optimal performance (e.g., are batteries good)
 - If person doesn't have a hearing aid, try an amplifying device, such as the pocket talker.
- ### General Tips for Making Yourself Understood
- Speak slowly, articulating each word.
 - Use simple, straightforward sentences.
 - Be clear, but not patronizing.
 - Watch to see if the person understands. If necessary, repeat a statement.
 - Supplement words with gestures.

- Be patient.
- Provide listener with context.
- Don't shift topics abruptly.
- Use turn-taking signals.
- Get your listener's attention.
- Use complete sentences.
- Use predictable types of sentences.
- Use predictable wording.
- Rephrase your message.
- Decrease distractions.
- Avoid communicating over long distances.
- Remember, an older adult's capacity to understand is usually greater than the ability to express themselves verbally.

General Tips for Improving Your Understanding of Unintelligible Speakers

- People can be hard to understand for many reasons, such as difficulty moving the articulators due to a stroke, brain injury, progressive disease such as Parkinson's, poor fitting dentures, voice disorders, and decreased loudness.
- Know the topic of the conversation.
- Watch for turn-taking signals.
- Give your undivided attention.
- Watch the speaker.
- Piece together cues.
- Avoid communicating over long distances.
- Incorporate strategies for resolving communication breakdowns.
- If person is soft spoken, offer the use of a voice amplifier.

Talking to People with Aphasia

- Aphasia can affect all language modalities. Some may have difficulty with reading, writing, listening, or speaking or any combination of the above. Communication tips will depend on the patient's strengths and needs.
- For residents having difficulty formulating words and sentences:
- Be patient.
- Be honest with the individual. Let him/her know if you can't quite understand what he/she is telling you.
- Ask the person how best to communicate.
- Avoid being too quick to guess what the person is trying to express.
- Encourage the person to write the word he/she is trying to express and read it aloud.
- Use gestures or pointing to objects.
- Using pictures or a communication board, allow the person to point to the appropriate picture.
- Allow time for the person to respond
- For residents who are speaking in jargon (nonsense speech):
- Present everything you say visually with gestures, printed words, and pictures.
- Disregard most of the patient's speech. Do not struggle to interpret his or her words.
- Try to focus on gestures and other visible responses.
- Reduce the amount of speech you use. Use single words or short phrases.

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