Solutions for improving communication with Parkinson's disease patients

“In this article, I describe some of the communication deficits associated with Parkinson's disease and provide suggestions for mitigating their effects.”

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Although Parkinson's disease (PD) traditionally has been classified as a movement disorder, research conducted over the past 25 years has revealed a variety of nonmotor deficits associated with this disease, including both cognitive and language impairment. These deficits can appear relatively early in the progression of the disease and may hinder a person's ability to communicate effectively. Effective communication is critical for the development and maintenance of relationships; hence, it is important for people to be aware of possible changes in the communication abilities of people with PD. Enhanced awareness may help lessen interpersonal issues and misunderstandings that may occur. In this article, I describe some of the communication deficits associated with PD and provide suggestions for mitigating their effects.

Individuals with PD can display both language comprehension and language production deficits. In terms of the former, there is evidence for impaired syntactic comprehension [1], especially the comprehension of complex syntax that taxes

working memory [2–4]. Other research suggests that people with PD exhibit, to varying degrees, deficits in higher-order aspects of language comprehension, that is, comprehension requiring the integration of multiple sources of information such as the social context, the speaker's emotional state and so on in order to understand a speaker's intended meaning [5–7]. More specifically, people with PD display impaired comprehension of metaphor [6], irony [5] and speech acts (i.e., recognition of a speaker's intention [7,8]). Problems with recognizing speaker's intentions and nonliteral meaning are exacerbated by a diminished ability to infer the emotional states of others, either through accurate recognition of facial expressions or tone of voice [9–11].

There are several strategies that can help mitigate the comprehension deficits associated with PD. First, speakers should make an effort to avoid complex syntactic constructions that tax working memory. In addition, speakers are advised to actively ground their contributions to conversations [12] – that is, to chunk the information they are conveying into smaller

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units and wait for acknowledgement (which sometimes may need to be elicited) before proceeding to the next chunk. Second, because people with PD may sometimes have difficulty following subtle topic shifts [13], it is important to clearly delineate topics. In other words, an attempt should be made to structure conversations so as to thoroughly discuss a single subject in a compartmentalized manner before shifting to an unrelated and new topic. Grouping conversation topics will reduce working memory load and allow for greater topic understanding. It is recommended also that speakers use topic markers (e.g., “Returning to what we were talking about earlier...”) and make it clear when transitioning to a new topic.

Third, people often rely on their facial expressions or emotional prosody to help others disambiguate their meaning. The problem is that individuals with PD may show a deficit in recognizing others’ emotional expressions, particularly in terms of emotional prosody [14]. People need to be aware of this and not assume that their facial cues and tone of voice will make their meaning clear. Instead, meaning should be made explicit. Similarly, the use of metaphors, idioms and other types of nonliteral meaning should be avoided. Instead, meaning should be conveyed directly in order to minimize the need for extensive inferential processing on the part of the recipient. Also, the use of performative verbs is recommended. Performative verbs are verbs that name the speech act that is being performed. For example, to remind someone of something it is better to use a form of the verb ‘remind’ rather than to leave it implicit. And always strive to secure understanding, that is, elicit feedback regarding their interpretation of an utterance to ensure the intended meaning was accurately received.

Finally, to the extent that it is possible, distractions should be minimized. Try to have conversations in a quiet environment with minimal background distractions and the speaker oriented to face the listener. It is also helpful to speak at an octave slightly above the normal range and at a reduced rate; this is particularly useful when communicating complex information. And understanding will be facilitated if phrases are kept short, with the incorporation of additional pauses when long sentences are required.

In addition to problems comprehending language, people with PD can also exhibit deficits with various facets of language production.

First, the language produced by individuals with PD tends to be syntactically simple and lower in informational content [15,16]. Also, their sentences tend to be shorter and contain fewer propositions, relative to nonimpaired individuals [17]. Second, PD has also been associated with abnormalities in speech fluency in the form of prolonged and inappropriate pauses (e.g., within a phrase or clause), as well as significant impairment on measures of both semantic fluency and phonetic fluency, with the former typically more severe than the latter [18–20]. It is possible that impaired semantic fluency contributes to reduced informational content. Moreover, some production deficits, such as lowered informational content, may be partially a function of a comprehension deficit (failure to understand a prior turn) rather than a production deficit *per se*. In general, these deficits are related to disease duration and severity as well as overall cognitive ability.

Third, in addition to cognitive resources, successful speech production also requires the capacity to perform proper motor plans and movements involving the respiratory, laryngeal and supralaryngeal systems. Research has shown that people with PD show deficits in each of these systems during speech production [21–24], and there is some evidence that these aspects of PD speech can result in negative perceptions of the speaker [25].

Fourth, research examining pragmatic production (e.g., conversational appropriateness) has documented PD impairment on a variety of dimensions including both nonverbal (intonation, eye contact, facial expressions, gestures and proxemics) and verbal dimensions (conversational initiation, turn taking, topic maintenance, response length, presupposition and referencing skills) [26,27]. The impairment is somewhat greater for nonverbal dimensions than for the verbal dimensions and is related to mental status, motor severity and disease duration [27]. Other researchers have documented a politeness deficit in PD as well as a tendency to be pragmatically under-informative [28]. More recently, researchers have begun to analyze how some of these pragmatic difficulties can disrupt the overall conversational system. This research suggests, for example, that PD speakers, due to both speech production deficits (dysarthria) and cognitive deficits, are at a disadvantage in initiating repair sequences, a difficulty that appears to frequently result in the deletion of PD turns at talk [29,30].

There are several strategies that can help lessen the impact of these PD production deficits. First, simple awareness that individuals with PD display a variety of language production deficits (e.g., long and inappropriate pauses, reduced information content and impoliteness) can lessen the likelihood of making unwarranted, negative judgments of people with PD. This is particularly important because research suggests that people with PD are often unaware of their communication deficits [31]. Second, be patient and do not rush. One of the clearest production deficits in PD is the occurrence of long and sometimes inappropriate pauses; these can be problematic because appropriate pausing plays a critical role in the management of conversational turn taking. It may be helpful, then, to be aware of their tendency to pause, and to give them time to complete any turns before initiating one's own turn.

Third, ask questions regarding utterance comprehension. The lowered informational content in PD speech sometimes may reflect misunderstanding of the prior turn. Hence, it may be occasionally useful to ask questions in an attempt to ascertain their current understanding of the conversation rather than taking a brief or incomplete utterance at face value. Fourth, ask simple questions, and if possible, questions requiring only a 'yes' or 'no' response. This is because of the production deficits that are associated with PD; successful communication becomes more likely if questions are straightforward and require no extensive elaboration in response. Finally, encourage the person to speak louder when their speech volume is abnormally soft. This should facilitate your comprehension and reduce the need to have

the PD speaker repeat statements and hence increase cognitive and respiratory demands.

Summary & conclusion

Research over the past two decades has made it clear that multiple communication deficits are associated with PD. These deficits manifest as both difficulties comprehending others and difficulties contributing satisfactorily to verbal interactions with others. Many of these communication difficulties worsen with increasing disease duration and severity, and some are a result of general cognitive decline, especially impaired working memory and set-shifting abilities. At the same time, not everyone displays these deficits, and some are helped with dopaminergic medication. Moreover, people suffering with PD may not be aware of their deficits, and so awareness and sensitivity when communicating with them is recommended. In particular, the strategies suggested here should be used with some caution so as to avoid appearing condescending. Still, I hope that the suggestions provided here can help contribute to successful communication when interacting with those suffering from PD.

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