AWARENESS:
DO I KNOW WHAT I CAN DO?

INTRODUCTION

Each day when we awaken, we make a near immediate, though not necessarily conscious, decision what our capabilities are at that moment for the task at hand. For example, can we see clearly or do we need to don our glasses before attempting to get out of bed? Can we get out of bed independently or do we need assistance? What assistance do we need? As the day progresses, we come across hundreds of such decisions with each instance requiring an assessment of our capabilities. We are compelled to make many of these self-assessments instantaneously and accurately if we are to succeed and avoid possible dangerous situations.

Now imagine for a moment, that we are rendered unable to discern accurately what we are capable of doing. That is, we are not capable of determining what we can and cannot do. Furthermore, we are incapable of determining that we are incapable of this determination. This circuitous predicament is encountered by many individuals with brain injuries and their respective family members, caregivers, and rehabilitation professionals who are providing them with treatment. These individuals' self-awareness has been affected, most often to the point of being unaware that their self-awareness itself has been altered.

During the acute stage of some neurological conditions (e.g., traumatic brain injury, cerebrovascular accidents, etc.), individuals may demonstrate remarkable instances of this deficit. I once observed an individual with a significant right hemisphere injury who was quite angry with his aunt. When I questioned him regarding this matter, he indicated that his aunt's arm was in bed with him all the time and would give him no peace. When I asked him to show me, he pointed to his own left paretic arm. Upon further examination, he raised his unimpaired right arm when I asked him to raise his right arm and again raised his right arm when I asked him to raise his left arm. No form of reasoning on my part could dissuade him from his conclusion that his aunt's arm was in bed with him. This lack of recognition of his limb abated and finally ceased as the individual proceeded through the acute phase of his recovery.

ANOSOGNOSIA

The term anosognosia, or denial of illness, is coined for the occurrence of frank denial of a neurological deficit. It is often used to refer to the inability to truly recognize and appreciate one's strengths and deficits following a brain injury. The above example of the man with his aunt's arm is a dramatic anecdote of classic anosognosia and hemiplegia and occurs predominantly with right hemisphere lesions. However, denial of illness is also said to occur when an individual admits to deficits, but ascribes it to some cause other than the brain injury. For example, the inability to move a limb because it is fatigued. Also, individuals may acknowledge a deficit, but minimize its importance in his/her functioning. For example, an individual reporting that paralysis of a leg has no bearing on driving a large tractor-trailer. A diagnosis of anosognosia may also arise from information obtained from family members of friends. Anosognosic individuals will overestimate their capabilities when compared to the estimations of their significant others.

Up to this point in this article, I have intentionally utilized clinical anecdotes involving physical impairment that is quite clearly observable. However, it is important to note that unawareness of illness occurs quite readily with non-physical sequelae. One such example involves patients being unaware of a significant language disturbance (i.e. aphasia). This is in direct contrast to what we believe to be the case in our everyday functioning. We believe that we are quite attentive to the words we use and to those used by others as we are constantly monitoring our production and comprehension of speech. When this function is impaired, its clinical presentation is as striking as the anecdote above (i.e., the man with his aunt's arm). More specifically, patients with jargon aphasia may be quite verbose displaying a free-flowing style of speech (i.e., few hesitations, pauses, or self-corrections) that is full of nonsensical utterances. These patients appear to be unable to appreciate the errors that they are making or that the person with whom they are conversing should not be able to comprehend what they are saying. Indeed, the patient may become upset with the listener, because the listener does not understand what the patient is attempting to express. Furthermore, these patients do not recognize that they themselves do not understand what is being said to them. This pattern suggests that these individuals have difficulty monitoring speech.

Individuals may also show unawareness of memory difficulties. On the surface, this should not be too surprising. It stands to reason that if an individual has trouble remembering or learning, that same individual should have trouble remembering that he/she has a memory problem. Based on this contention, one would not anticipate that many individuals with even severe memory problems would be aware of their memory difficulty, but they are. Therefore, we cannot simply explain unawareness of memory impairment as a result of an individual not remembering the problem. Rather, it is believed that unawareness of memory disorders is due to a disturbance in the individual's ability to monitor, integrate information, and make temporal discriminations.

DEFENSIVE DENIAL VERSUS ANOSOGNOSIA

Individuals may display an unawareness of their deficits due to the psychological defence mechanism of denial. This form of denial results from the individual's unconscious psychological need to reject a painful reality whether it is a neurological deficit or some other harsh reality. Although this has an adaptive and positive purpose, it can also have negative and non-adaptive consequences.

It is important to ascertain whether this self-awareness difficulty is due primarily to an organic neurological lesion or the psychological defence mechanism. It should also be noted that these are not mutually exclusive phenomena. That is, an individual may display either or both organic and psychological denials at different points in his/her recovery. For example, an individual might initially display an organic denial of illness during the acute

phase of his/her recovery. However, the psychological defence mechanism of denial may begin to emerge and play a significant role as the individual progresses.

Rehabilitation professionals will often speak of the organic and psychological denials in terms of the percentage that each contributes to the clinical picture. In the example of the man whose aunt's arm was in bed with him, it was believed that he initially displayed nearly 100% anosognosia. As he became aware of his own left paretic arm, he continued to demonstrate an unawareness of some of his other deficits. At that point, therapists began to believe that a part of his unawareness was then due to his defensiveness - perhaps 25%. There is little exactitude to these measures or to the phenomena. The estimate of what percentage of an individual's unawareness is organic versus psychological varies considerably. The variation is due to not only the changing and recovering individual, but due to the clinicians' level of expertise.

There are three factors that are often considered when trying to discern neurologically based (anosognosia) from psychologically based denial of illness. The first involves the time factor for what is being observed clinically. Generally speaking, severe cases of anosognosia, such as the man with his aunt's arm usually occur very early on in the clinical course and improve relatively quickly. In contrast, defensive denial is observed to endure for a greater time. The second factor involves the constellation of symptoms observed. In cases of anosognosia, there is a pattern of results obtained from neurological consultation, neuroradiological investigations, and neuropsychological assessment suggesting that the brain injury is the primary cause. In defensive denial the pattern of findings suggests the etiology to be one of acute or chronic psychological upset. The third factor involves the reaction of the individual to confrontation by the clinician on the matter that the individual is denying. The most common reaction of an anosognosic individual to being confronted is a combination of indifference, confusion and bewilderment. Conversely, individuals displaying defensive denial become increasingly agitated.

IMPLICATIONS

Dependent upon a clinician's expertise, the therapist may come to see the individual, who is denying illness, as resistant to therapy as he/she is unwilling to see, recognize, acknowledge, or accept the deficits. This may result in a power struggle as therapists attempt to validate their own self-beliefs and needs of why they became therapists in the first place. Similarly, family members may come to see the individual as unwilling to perform the activities that could make them better. This too may lead to a power struggle, while also creating considerable bitterness on the part of the family member. It happens all too often that an individual will alienate family and friends while being completely perplexed and befuddled as to his/her role in causing this rift. The individual's social isolation is often the end result of this course.

For many individuals with traumatic brain injury, their lack of recognition for the severity of their remaining deficits may continue for many years. In addition, it may represent the greatest single barrier to the individual achieving his/her ultimate level of greatest recovery. Also, it has important ramifications for individual treatment and management. If an individual is unaware of his/her problem areas, the individual is less likely to cooperate with treatment plans or accept help from concerned family members or significant others. In addition, the individual may seek to carry out actions that are both impractical and unsafe given his/her deficits. For example, the individual may attempt a level of work re-entry that is not compatible with his/her abilities. Not surprisingly, this usually has a psychosocial impact that is extremely unfavourable. In addition, as mentioned above, social isolation is a common sequelae of denial of illness.

As mentioned above, anosognosia and defensive denial often occur together and can have devastating effects on an individual's psychosocial functioning. Therefore, treatment is both difficult and crucial if the individual is going

to progress to his/her highest level of recovery. As often happens, treatment must progress from the basis of a trusting relationship that has developed between the individual and the therapist. A gradual and systematic approach of presenting the individual's strengths and limitations is then required. Initially, this is most often carried out in individual treatment sessions. However, group treatment is often not only helpful, but a necessary component in helping the patient with awareness and acceptance. This process is quite delicate as the therapist must be perceptive to the patient's ability to receive critical information (both positive and negative) and his/her emotional status.

Education and supportive therapy for family, friends, and significant others play a vital role in the process of improving the awareness of the individual. This therapy contributes in several ways to this process. Initially, the family gains a better understanding of brain injury and the awareness phenomenon. This leads to an appreciation on their part of how it applies in their particular circumstance. Now they are better able to cope and to provide support to the individual with the brain injury. This will ultimately help the patient to become aware and reach a level of acceptance. In returning the individual to the work site, a similar, but less intimate process has proven effective.

In summary, our understanding of the awareness phenomenon has improved greatly in the last 100 years. In addition, we have learned a great deal about how to provide treatment to address it. It was not all that long ago, that these individuals would lead lives far below their maximum potential. Indeed, skilled treatment programs are now able to return many of these individuals to work.

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