Increasing Medication Compliance in a Woman With Anoxic Brain Damage and Partial Epilepsy

Hon Keung Yuen

Key Words: activities of daily living • brain injuries • reality therapy

In Conrad’s (1985) study of adults with epilepsy, 42% of the subjects were noncompliant with their prescribed anticonvulsant medication. The two most common reasons for noncompliance were the subjects’ belief that side effects, such as slowed mental functioning and impaired memory, hindered their ability to participate in daily social interaction, and the subjects’ questioning of the efficacy of the medication. In addition, Conrad discovered that their attitude toward medication contributed to their noncompliance, which took the form of adjusting dosage according to their perception of need, their fear of stigmatization, and their fear of medication dependence.

Roles of the Occupational Therapist in Enhancing Medication Compliance

Medication routine is listed in the Uniform Terminology for Occupational Therapy—Second Edition (Uniform Terminology Task Force, 1989) as one of the essential performance components under activities of daily living. Little has been written about the role of the occupational therapist in this area. With the current trend toward a transdisciplinary team approach in postacute residential care for persons with brain damage, the occupational therapist may become involved in the medication routine (Leland, Lewis, Hinman, & Carrillo, 1988). Along with other experts, occupational therapists would use intrinsic motivation, their training in psychological intervention, and their understanding of the cognitive and motor limitations of persons with brain damage. Their roles could include (a) designing and implementing intervention strategies to improve compliance with self-medication, (b) improving the medication routine through cognitive cueing and through structuring the task and the environment, (c) prescribing the appropriate pillbox timer to remind a person with brain damage when to take medication, (d) adapting or fabricating pillbox containers to facilitate persons with motor incoordination and visual impairment to improve self-medication, and (e) facilitating oral medication through dysphagia management.

Intervention Strategies to Improve Medication Compliance

Noncompliance with medication was the most frequently reported reason that anticonvulsant therapy failed to control epilepsy (Jennett, 1990). Research has explored the use of a variety of psychological techniques to motivate persons and to understand the thoughts and feelings that impede medication compliance (Facchinetti, 1987).

Among the various strategies used by health care professionals aiming to change the attitude of persons with epilepsy towards medication compliance were: (a) thoroughly explain and repeat the rationale for the regimen; (b) determine causes of noncompliance; (c) estab-

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This article was accepted for publication December 9, 1991.
lish rapport, reassure, and reward; (d) incorporate the clients in planning the regimen; (e) simplify the regimen; and (f) provide the clients with control and choices (Heszen-Klemens, 1987).

For persons with traumatic brain injury, noncompliance with anticonvulsant medication regimens may be more complicated than the issues Conrad (1985) explored. Noncompliance may be partially attributed to denial of or decreased awareness of the existence of a medical problem, delusional thinking, or behavior problems such as attention seeking and oppositional behaviors. Therefore, compliance techniques traditionally used for adults with epilepsy may need to be modified for the specific behavior problems exhibited in persons with brain damage.

Wheatley and Rein (1990) emphasized that the interpersonal sensitivity of the providers toward the clients is the primary component in building a therapeutic relationship. A close, friendly, and caring relationship that displays positive emotional attitude and trust between providers and clients has been advocated as one of the most important components to promote compliance (Facchinetti, 1987; Heszen-Klemens, 1987; Lloyd & Maas, 1991; Peloquin, 1990). Often, the sole reason for compliance in treatment of persons with cognitive deficits such as brain damage is simply a client’s faith in the provider (Hogan, 1988). A pilot study conducted by Porszt-Miron, Florian, & Burton (1988) indicated the positive influence of rapport on task performance and compliance in persons with cognitive impairment.

Another way to look at the rationale behind rapport building and compliance was explained by DePaulo & Brittingham’s (1983) study. They found that people who received appropriate help reported more positive affect and more liking for their helper. The subjects who received more appropriate help also tended to give more appropriate help (compliance with requests) in return.

Besides showing empathy, respect, genuineness, and concreteness (Lloyd & Maas, 1991), the use of humor may establish therapeutic relationships with clients (Schmitt, 1990). In the area of activities of daily living (ADLs), humor can create an environment that motivates clients to accomplish tasks (Schmitt, 1990). The following case study illustrates that several techniques – building rapport, using humor, and identifying the cause of noncompliance – successfully increased compliance with medication intake for a woman with anoxic brain damage who displayed complex partial seizures.

Case Study
Subject

A 36-year-old single woman sustained cerebral anoxia associated with postoperative complication from a proctocolectomy 17 years ago. Two days after surgery (construction of ileostomy), she developed a prolonged generalized convulsion followed within a few days by recurrent seizures. She lapsed into a coma for 2 weeks. Apparently the seizure activities were severe enough to result in hypoxic ischemic cerebral injury. She began to recover after 1 month of hospitalization and approximately 1 month of rehabilitation. She was discharged home, but on three occasions required psychiatric hospitalization for agitated psychotic behavior. Reportedly, compliance with anticonvulsant medications was poor, partly because of religiosity and feelings that the medication was preventing her from communing with God. She stated that the medication would “mess up my brain,” or that “the Lord has told me that I will die by overdose.” She demonstrated little awareness of the severity of her illness. She was switched from Dilantin and phenobarbital to Depakote after experiencing prolonged status epilepticus. The psychiatric diagnosis was Organic Delusional Syndrome secondary to anoxia with a long-standing history of partial complex epilepsy. No mention of suicidal or self-destructive tendencies was made. In addition, anoxia damaged her visual cortex, resulting in cortical blindness.

The client was active in church activities before her injury and was pursuing a college degree in religious studies. She was with a foster family before this admission. Both her biological parents are active in a Christian church. Neuropsychological evaluation revealed major learning and memory, language, and verbal reasoning deficits (i.e., looseness of association and delusional thinking patterns) (see Table 1). The client demonstrated impaired ability to acquire information over repeated learning trials. She was oriented to person and place and could correctly identify the year and time of day, but not the month, date, or day of the week. Her vigilance deteriorated as task complexity increased. Her interactions were marked by significant response hesitancies and occasional perseverations, both verbal and motoric. She demonstrated auditory processing problems, confusion between reality and fantasy, and preoccupation with thoughts of emotional importance, particularly with respect to religious topics. During her rehabilitation in a residential setting, her delusional talk and aggressive acts increased in connection with medication refusals for

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more than two consecutive days. Medication at the time of intervention was Morban at bedtime and Tegretol or Depakote or both three times daily.

**Intervention**

Within the transdisciplinary team approach used at Highwatch Rehabilitation Center (Leland et al., 1988), the occupational therapist used several techniques that had been found successful in improving the client's medication compliance, including rapport building, humor, and reality training. The occupational therapist established rapport through sharing the client's interests and feelings and through friendly, appropriate verbal compliments. The occupational therapist respected the client's religious beliefs and assisted her to engage in reality-based religious experiences. For example, the therapist took her to church, read to her from the Bible, and located the Bible whenever it was misplaced. Whenever the client refused her medication, the occupational therapist would ask "Can you name one reason not to trust me?" After waiting for a response, the therapist would say "Trust me, this medication is to help you, not to hurt you."

Humor was used to disrupt the client's delusional thinking and noncompliance. For example, when she refused to take anticonvulsive medication, the occupational therapist could say "What would I do if you had a seizure at the barn? I guess I would have to put you on a horse and we'd ride down to the hospital."

Throughout treatment, the occupational therapist and nurse explained the importance of anticonvulsive therapy and that the medication would not interfere with the client's spiritual pursuit. Unfortunately, because of her delusional thinking and cognitive impairment, which included impairment of concrete thinking and memory, a simple explanation of the treatment rationale was not always effective. To prove that the medication would not prevent her from continuing her relationship with God or interfere with her recall of a passage in the Bible, the occupational therapist would read the beginning of a verse from the Bible and ask the client to recall the rest of the verse. After a couple of trials, the therapist would then tell the client, "This is the best way to prove to yourself that the medication does not interfere with the spiritual part of your brain."

![Figure 1. Number of repeated verbal prompts needed for the client to take her medication over 19 weeks.](http://ajot.aota.org/)
Results

Initially, compliance with medication was less than 85% over a 1-month period. Data collected over the next 4 months showed the following sequence of increased medication compliance: 85%, 90%, 90%, and 100%. Refusal was defined as not taking medication after at least three trials of repeated verbal prompts in an hour's time. The number of repeated verbal prompts was reduced from 96 per week to an average of 10 per week (see Figure 1). Repeated verbal prompts was defined as more than three verbal cues to take medication. A follow-up call 6 months after discharge revealed that the client was compliant with medication and had had no epileptic seizures.

Conclusion

The intervention strategies confirmed Heszen-Klemens' (1987) suggestion that the most effective way of managing a client's medication noncompliance is by dealing directly with his or her specific reasons for refusal. In this case, the client occasionally ignored the consequences of not taking her medication. Often her decision-making ability was impaired by delusional thought. When her attention was diverted in a nonthreatening manner by humor or engagement in the decision-making process, and when her misconceptions of drug side effects were decreased with simple reality orientation and confrontations, her compliance improved (Heszen-Klemens, 1987). Rapport building was established by the therapist's doing a variety of favors for her and requesting reciprocal favors from her. Through these techniques, the therapist was successful in prompting the client's compliance with medication.

Medication is a real concern for most persons, and its side effects may lead them to question the efficacy of their medication regimen. This problem is compounded when a person is more acutely aware of side effects than of the need for medication. Even a highly delusional and irrational client can have rational concerns regarding the side effects of medications. When staff members consider medication times part of the institution's routine, they can be frustrated by refusals to take medication. This frustration can instill fear in the clients, which can then lead to emotional denial, deepening anxiety, decrease of self-esteem, feelings of coercion, and loss of a sense of control during medication times (Facchinetti, 1987; Heszen-Klemens, 1987). Occupational therapists can help incorporate a client's medication routine into his or her performance of ADLs and can thus decrease the client's anxiety. Future study should focus on matching the underlying rationales of medication noncompliance with specific psychosocial interventions and on evaluating the effectiveness of each intervention separately in persons with cognitive impairment.

Acknowledgments

I thank Joyce A. Hartwick, OTS, David Armstrong, and Merry Welch for their helpful suggestions, and David Hoisington for data collection.

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