Cognitive Group: A Treatment Program for Head-Injured Adults

(social interaction, group processes, activity groups)

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The need for social interaction is frequently viewed as secondary to that of cognitive remediation in the rehabilitation of the head injured. This paper describes the Cognitive Group as an adjunct to individual occupational therapy treatment, designed specifically for inpatients, at Kessler Institute for Rehabilitation. The theoretical approach of the Cognitive Group is based upon Mosey's developmental groups (A. C. Mosey, 1970. Three frames of reference for mental health. Thorofare, NJ: Charles B. Slack). The group's format consists of structured cognitive activities in a controlled social environment. A sample week of group activities is included. We found a general trend of improvement in memory and social interaction skills among the 46 patients who participated in the program.

The National Head Injury Foundation estimates that 100,000 individuals die annually from traumatic head injuries and more than 400,000 require hospitalization for head injuries sustained as the result of a motor vehicle accident, encephalitis, hypoxia, or cerebral hemorrhage. Two thirds of these individuals are less than 30 years of age (1).

A traumatic head injury can affect various realms of normal functioning. Physical, perceptual, cognitive, social, and emotional skills, as well as communication skills, can be disrupted to the extent that the head-injured persons have problems interpreting and interacting with their environment. Their learning capacity is greatly reduced by their inability to structure stimuli internally. This decreased capacity to learn may manifest itself as (a) disorientation and confusion, (b) memory deficits, (c) decreased attention and concentration, (d) inability to perform self-care activities, (e) decreased initiative for functional tasks, and (f) decreased organization of thought processes. The individual's level of awareness may range from unresponsive to stimuli to purposeful/appropriate, and the individual may display such behaviors as nonpurposeful action, agitation, or impulsivity (2).

Traditionally, treatment for individuals with traumatic head injuries has consisted of individualized remediation. While this approach may be successful in addressing physical, emotional, and perceptual, as well as many cognitive deficits, a group approach is better suited for enhancing social interaction skills. Moreover, the dynamics of group treatment are such that, in a structured group, head-injured individuals can begin to modify their behavior in response to feedback received from the leader and peers. Finally, groups can play a vital role in treating the head-injured adult as both an individual and a social being by addressing cognitive problems in a social setting.

With these considerations in...
mind and as the population of head-injured patients increased at
the Kessler Institute for Rehabilitation in New Jersey, we developed
the Cognitive Group as an adjunct to the daily individual occupational
therapy treatment these patients receive in the inpatient occupa-
tional therapy department. The goals of the group are to equip its
members with strategies for problem solving and memory storage
while providing opportunities for structured social interaction. Par-
ticipants are patients who have achieved an increased self-aware-
ness as well as an increased awareness of the environment, and who
have improved their orientation and attention span. These achieve-
ments are the major goals of the sensory stimulation group, a pro-
gram for head-injured patients functioning at a lower level. Most
patients referred to the Cognitive Group program had previously
participated in the sensory stimulation group.

This paper describes the frame of reference on which the Cogni-
tive Group is based as well as its format. The description includes a
sample of individual goals, practical information for running the
group, and activity suggestions. The group is unique in that it is
designed for inpatients. While there is literature available on cog-
nitive rehabilitation groups for outpatients, we found little informa-
tion on such programs for inpatients.

Frame of Reference

The Cognitive Group is based on Mosey's developmental frame of
reference, recapitulation of ontogenesis (3). It focuses on the skill
of group interaction. Of the five developmental groups Mosey de-
scribes, the first three—parallel, project, and egocentric-cooperative—
were observed to have developed in the Cognitive Group program.
Developmentally, the parallel group is the first level of group
interaction skills an individual learns to master. It involves a mini-
mal degree of group interaction as members undertake individual
tasks in the company of one another and under the direction and
aid of a therapist. There is little pressure to socialize; however,
group members may be led into casual conversation by the leader.

At the project group level, a short-term task requiring some co-
operation (and often spurring competition among members) is the
next type of activity that members encounter. The task or project be-
comes the main emphasis of the group. The leader guides the ses-
tion with increased opportunity for interaction among group mem-
bers. The goal is for completion of the particular activity within the
time frame of that group session.

The group interaction skills required at the level of the egocen-
tric-cooperative group are more advanced than at the other two
levels. This level group uses a task that increases member participa-
tion and is executed over a long period. The members are respon-
sible for selecting and executing the task using the leader for sup-
port, guidance, and resource assistance. The primary goal is the sa-
faction of the social and emotional needs of the group mem-
bers. The completion of the activity is the secondary goal.

The Cognitive Group, like Mosey's developmental groups, can be
understood best if it is perceived as a continuum. Although each Cog-
nitive Group develops sequentially from lower to higher levels of func-
tioning, it does not necessarily start at the parallel level or progress to
the egocentric-cooperative level. The addition of new members and
the discharge of present members also influence the group's progress.

Format

The format for the Cognitive Group was originally based on the
formats of successful group programs throughout the country, in-
cluding the program at Rancho Los Amigos Hospital in Downey,
California (4). Based on Rancho's Levels of Cognitive Functioning,
appropriate referrals for the Cognitive Group include patients func-
tioning at Rancho Level V (confused, inappropriate, nonagitated),
Level VI (confused, appropriate), and Level VII (purposeful, appro-
riate). Patients with severe dysarthria and aphasia are excluded
from the Cognitive Group. Patients are referred by their individ-
ual occupational therapist and/or physician.

The Cognitive Group consists of six patients, the maximum number
that can be accommodated comfortably, plus the leader. It meets
in a quiet, distraction-free area 5 days a week for 30-minute sessions.
The emphasis of a group session may vary depending on whether
the group is at the parallel, project, or egocentric-cooperative group
level. Each patient's referring occupational therapist suggests individ-
ualized goals on the referral card to be addressed in the group
situation. The most common individual goals are as follows:

- improve organization skills,
- increase awareness of appropriate and inappropriate behavioral responses and encourage self-
  monitoring of these behaviors (i.e., impulsivity, lability),
- improve judgment and reasoning,
- improve self-initiation, and
- decrease egocentricity and increase ability to interact with others.

Specific guidelines are used to achieve these goals. For example, the activities are structured to provide consistency and allow for at least one successful experience in a session. The activities selected are familiar and meaningful to the group members, and they are varied to avoid the learning of splinter skills. The complexity, rate, and duration of tasks is adjusted to meet the individual’s information processing level (i.e., tasks are graded from concrete to more abstract). Incorrect responses are handled in a manner that is not destructive to the group member’s self-esteem. A developmental sequence is used to promote the learning of adaptive skills. Some prior level of individual competency in interaction skills, which is required in all five of Mosey’s developmental groups, is assumed to have been achieved by most Cognitive Group members before they sustained their head injury.

A card file has been developed to aid in the planning of the activities used in the sessions (a suggested format for these cards is seen in Figure 1). The format for each card includes a recommended group level for the activity, necessary materials, the procedure (including the role of the leader and group goals), the purpose (including the behavioral outcomes the leader hopes to facilitate), and the grading and adaptation of the activity. The activity cards are organized into five categories: Reasoning and Abstraction Skills, Perceptual and Cognitive Activities, Memory Activities, Life Skills, and General Activities (see Figure 2).

A weekly program is recorded in advance in a planning book so that the group can be conducted by another leader if the group leader is not present for a session. A sample week, which illustrates the diversity of activities for a group of this kind, is provided.

**Sample Week**

**Monday**

1. **Discussion.** The group begins with a discussion of what each group member and the group leader did over the weekend. This is a pleasant, informal way to start the session and it encourages the participants to exercise their memory to recall what took place over the weekend.

2. **Activity of the day: Role-playing.** Role-playing is described in the Reasoning and Abstraction Skills section of our card file. Group members are given different telephoning situations (i.e., ordering a pizza, inquiring about bus schedules, calling directory assistance for a phone number), and a discussion follows about the information the caller must give and probable questions the caller will be asked. This activity can be approached at a parallel group level where each group member role-plays with the group leader. This requires minimal, if any, group interaction as the other members look on. If the activity is approached at the project group level, members can team up and role-play with each other in front of the group. Feedback can then be given by all.

3. **Assignment of memory words** (an important tool of the group). Monday through Thursday at the end of each session, a word is assigned to each group member. At the beginning of the next day’s session, each member is asked to recall his or her “memory word” and repeat it to the group. These words are chosen to relate in some way to the day’s activity and to encourage the development of short-term memory skills. Those who have the greatest difficulty in memory word retrieval often trigger the recognition of their own word in listening to others. Examples of memory words for this activity are: dial, receiver, touchtone, and operator.

**Tuesday**

1. **Review of memory words from previous day.**

2. **Activity of the day: Hangman.** This activity is described in the Perceptual and Cognitive Activities section of the card file. All words used center on a theme, and these words may also serve as the day’s memory words. For example, words pertaining to a holiday can be used. Each member is asked to guess a letter of a word with a specified number of letters in it. If the letter

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**Figure 1**

Suggested format for Cognitive Group activity card

<table>
<thead>
<tr>
<th>Level of Group: Recommend one of three levels: parallel, project, or egocentric-cooperative.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity: List skill or activity.</td>
</tr>
<tr>
<td>Materials: List all items required to set up and carry out activity. Include location and work surface if important to the type of activity and its success.</td>
</tr>
<tr>
<td>Procedure: Describe the role/function of the leader as relevant to the achievement of group goals. Include the responsibilities that the leader will delegate or assume. Describe techniques to be used. Describe the sequence, process, and structure of the group during sessions.</td>
</tr>
<tr>
<td>Purpose: Describe what you expect group members to accomplish with this activity. List behavioral outcomes that you hope to facilitate.</td>
</tr>
<tr>
<td>Grading/adaptation: List various ways in which the activity may be changed to suit the functional level of the particular group. For example, describe how the activity can be made simpler or more challenging, or more or less structured.</td>
</tr>
</tbody>
</table>
General Activities

3. Memory Activities
- Activity card file (guideline for the use and adaptation of activity cards)

Adapting Each Activity Card Sample Activities

Key Questions to Consider for
Adapting Each Activity Card
1. Reasoning and Abstraction Skills
   - Does logical thought and problem solving exist?
   - What level of abstraction do group members possess?

2. Perceptual and Cognitive Activities
   - Do specific visual-motor problems exist? (i.e., visual acuity, tracking, extracurricular movements)
   - Does the activity require perceptual abilities that all group members possess? (i.e., figure-ground, form constancy, position in space, and body scheme)

3. Memory Activities
   - Are group members able to retain items for immediate retrieval (short-term, day-to-day, long term)?
   - What stimulus or combination of stimuli (visual, auditory, tactile, olfactory) are most easily retained by group members?

4. Life Skills
   - Is the activity appropriate for the age, sex, and intellectual level of each member?
   - What life roles do individual group members play? (e.g., spouse, employee, etc.)

5. General Activities
   - What is the present level of group functioning? (parallel vs. project, project vs. egocentric-cooperative group)

Remembering a tape-recorded series of sounds
Remembering objects with increasing time delays
(visual memory activities)

Reading a map
Locating services in the community
Ordering items from a catalog

Doing a collage
Role-playing

Completing a story
Analyzing potentially dangerous situations
Completing a story

Friday sessions are an important part of the group’s dynamics, and members look forward to it each week. Members gather in the occupational therapy kitchen for an informal snack that conforms with the individuals’ dietary restrictions. Members are partially responsible for assisting in the preparation and clean-up of the snacks, depending on their physical limitations. This session is more relaxing in that except for the discussion of the memory words from the previous day the agenda is unstructured. Usual topics of discussion are current events or plans for the weekend. This is a good time for the group leader to observe socialization and group interaction skills.

Evaluating the Group Approach

To evaluate the Cognitive Group we adapted a portion of the “Occupational Therapy Functional Evaluation” (5). Although originally designed for use on individuals with psychosocial dysfunction, it does not appear in a word, a different part of the body is drawn from the hangman’s noose. The object is not to be “hung.” This activity incorporates the cognitive skills of auditory memory, problem solving, visual organization, and sequencing. It can be structured as a parallel group activity.

3. Assignment of memory words.

Wednesday

1. Review of memory words from previous day.

2. Activity of the day: Group collage. This activity is found in the General Activities section of the card file. It can be an ongoing activity and is used here to illustrate an egocentric-cooperative group. Group members together decide on a theme for the collage and the media they plan on using (i.e., drawings, magazines, photos, three-dimensional objects). During each session, they work on assembling the collage. The leader acts only as a resource person. This activity enhances socialization skills and incorporates the cognitive skills of decision making, sequencing, problem solving, and thought organization, as well as fine and gross motor skills if scissors and glue are used.

3. Assignment of memory words. The memory words given relate in some way to the collage.

Thursday

1. Review of memory words from previous day.

2. Activity of the day: Dining out. This activity is found in the Life Skills section of the card file. This section is the largest in the file and contains the most functionally oriented of activities. A discussion on dining out can be either a parallel or project group task. The group leader asks for a discussion about different types of restaurants (i.e., diner, carryout or fast-food restaurant), what type of clothing is appropriate to wear to each, what a tip is, how much one should tip, what a la carte means. A sample menu from a restaurant is helpful. This activity incorporates the cognitive skills of memory, judgment, thought organization, reasoning, and appropriate social behavior.

3. Assignment of memory words. The memory words given are relevant to restaurants.

4. Planning a snack. A snack is decided upon for the Friday meeting.
this evaluation has behavioral as well as social interaction components that apply to a group situation.

The areas specific to measuring performance in a Cognitive Group include need satisfaction, dependency, ability to organize stimuli, maintaining focus and attention, responsibility, following directions, decision making, validating judgments, adhering to rules and regulations, handling constructive criticism, frustration tolerance, impulse control, communication skills, assertiveness, group skills, and relationship to therapist. We added a memory skills category, which includes immediate and short-term memory as well as auditory and visual memory.

The group leader completes the evaluation form for each group member every other week. The forms are then shared with the referring occupational therapist so that changes can be documented in the patient's monthly progress notes.

In a 27-month period a total of 46 patients participated in the Cognitive Group program for an average of 7 1/2 weeks. Group members participated from 2 to 24 weeks, with nearly one third of the members attending from 3 to 4 weeks. The patients ranged in age from 15 to 77 years; over 65% of those seen were between the ages of 15 and 34 years. Most patients evaluated have shown a trend to improve their memory skills and social interaction skills.

Summary and Implications for Clinical Practice

Progression through the various Rancho cognitive levels (2) and Mosey's group subskills (3) is readily observed with an inpatient head-injured population. Planned intervention can enhance and shape this progression. The Cognitive Group program has proved useful for introducing graded social experiences. As an adjunct to individual occupational therapy treatment it not only encourages the complete development of an individual, but also provides a more realistic simulation of life situations.

In addition, a group treatment approach is cost-effective in that one therapist can interact with a group of patients with similar problems at the same time. This approach also offers the opportunity for members to identify with one another and to share common problems and achievements. Mosey's group interaction subskills provide a developmental structure for the reacquisition of competency in group situations. We have found that the systematic approach of cognitive remediation lends itself well to this structure.

In the treatment of head-injured adults the roles of the occupational therapist, speech therapist, and psychologist frequently overlap. The leader of the Cognitive Group, an occupational therapist, does not attempt to replace or duplicate the roles of the speech therapist and psychologist on the team but attempts to enhance the treatment goals of the patient through the use of functional activities.

The Cognitive Group can be easily reproduced and adapted to meet the needs of other treatment facilities. Occupational therapists today are acutely aware of the need to integrate their skills as clinicians; the Cognitive Group, because it applies psychosocial theory in a physical dysfunction setting, can provide an excellent opportunity to do just that.

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REFERENCES


