*THE EFFECTS OF REARRANGING WARD ROUTINES
ON COMMUNICATION AND EATING BEHAVIORS
OF PSYCHOGERIATRIC PATIENTS*

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Several aspects of ward routine were changed to study the effects of environmental manipulation on the behavior of 21 psychogeriatric patients. Furniture was rearranged to be more conducive to conversation (i.e., grouped around tables instead of along corridor walls), and mealtime routines were changed to allow patients more time to eat, more freedom in choosing the composition of the meal, and more pleasant surroundings. Patients were divided into experimental and control groups, and data were collected on the frequency of verbal and tactile communication and degree of skill in eating behavior. Following baseline, environmental changes were introduced across behaviors. Results show that the frequency of communication increased for the experimental group, as compared to both baseline and the control group. Eating behavior also improved significantly for the experimental group. The study shows that minor changes in the physical environment can promote therapeutic change in the behavior of patients diagnosed as senile dementia.

DESCRIPTORS: psychogeriatric patients, senile dementia, ward routines, communication, eating behavior

The inactivity of old people in general and geriatric patients in particular is often considered to be the result of the organic changes which occur in old age (e.g., Alston & Dudley, 1973). However, a number of studies have shown that inactivity and apathy may be regarded as artifacts of the institution (e.g., Hoyer, Mishara, & Riebel, 1975; Ullmann & Krasner, 1969). Geriatric wards are relatively impoverished with regard to social reinforcers and those that do exist are often distributed contingent upon displays of passivity. However, in order to prevent, or at least slow down the degenerative process associated with aging, the geriatric patient would appear to require the exact opposite, i.e., active participation (Bonner, 1969).

The beneficial effects of increasing the time the institutionalized elderly spend in goal-directed activity have been known for some time (Reichenfeld, Csapo, Carriere, & Gardner, 1973). Quilitch (1975) reported a study in which 43 male and female "psychiatrically impaired" geriatric patients were simply exposed to activity opportunities and because of that

their purposeful activities on the ward greatly increased. Quattrochi-Tubin and Jason (1980) showed the effectiveness of a stimulus control procedure in increasing attendance and interactions among elderly in a nursing home. A study by Peterson, Knapp, Rosen, and Pither (1977) with geriatric patients reported an increase in frequency of talking as an effect of furniture arrangement. A few other studies (e.g., Chien, 1971; Volpe & Kastenbaum, 1967) have also shown the importance of the situation for active and social behavior in elderly patients.

The purpose of the study was to evaluate the effects of changes in furniture arrangements and mealtime routines on two types of behaviors,

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communication and appropriate eating, in elderly patients diagnosed as senile demented.

METHOD

Subjects and Setting

The study was conducted on a psychogeriatric ward at a large state mental hospital. The ward contained 4-bed, 2-bed, and single rooms, as well as a lounge, dining area, and occupational therapy room. The staff consisted of one head nurse, one nurse, and 12 attendants. During the day, the staff-patient ratio was 1 to 3. Twenty-one patients participated. Fifteen were diagnosed as senile dementia, two as suffering from cerebral atherosclerosis (multiple infarct dementia), two as presenile dementia, and two as chronic schizophrenia. The patients were randomly assigned to either experimental or control groups, giving a mean age of 82.1 and 80.5 years and mean length of hospitalization of 12 and 3.2 years, respectively. None of the patients attended appropriately to their personal hygiene, or toilet. Seven patients in each group were regularly fed by the staff. None of the patients was oriented in time or place and only one could engage in meaningful conversation.

Data Collection

The following behaviors and recording methods were used throughout the study.

Communication. The number of contacts (either verbal or tactile) between patients or patients and staff was registered during the 30-min afternoon coffee break (Schaefer & Martin, 1969). By means of a rotation system, each patient was observed for 15 sec for a total of four periods, i.e. 1 min of the coffee break. During each observation period the observer recorded whether or not a given patient made contact with anyone else.

Eating behavior. Correct eating was defined in accordance with O'Brien and Azrin (1972), and was specified as to the proper use of utensils, glass, and napkin. Behavior was recorded during

lunch, according to a rotation system, and each patient was observed for 15 sec, four times.

Reliability

Two observers participated in the study and they were trained in observation and recording on another ward prior to the study. Interrater reliability was calculated on three occasions (in the beginning, in the middle, and at the end of the study) by dividing the number of agreements by the number of agreements plus disagreements. For communication, the reliabilities were .96, 1.0, and .98; for eating behavior they were .96, .97, and .97.

Design

The study was conducted with one experimental group and one control group, according to a multiple baseline across behaviors design (Baer, Wolf, & Risley, 1968). Communication and eating behavior were observed and recorded daily for both groups for a total of 6 weeks. The first week served as baseline. Changes in the physical environment were introduced in the second week and changes in mealtime routines during the third for the experimental group.

Baseline

The ward was sparsely decorated and furnished to minimize time required for cleaning. Furniture was generally placed along the walls, and patients were often wheeled from their beds to the eating area. Meals were standardized, served from a tray which was often placed over the patient's chair or wheel chair, and most often completed in less than 30 min.

Changes in the Physical Environment

Patients in the experimental group were moved from along the walls of the ward corridor and placed around small tables. Instead of the usual individual trays, the cups, saucers, sugar, cream, coffee, and buns were placed on a table in a special coffee room and patients

were able to serve themselves. The staff was not present during coffee time. The lighting of the room was also brightened. Patients were allowed to consume coffee and buns and remain at the tables for 30 min. The control group received coffee as usual in their chairs along the walls of the corridor.

Changes in Mealtime Routine

Meals for the experimental group were served in their coffee room, with breakfast being available between 8:00 and 10:00 a.m., lunch between noon and 1:00 p.m. and dinner between 4:00 and 5:00 p.m. Patients were grouped around small tables that had serving dishes, beer, soft drinks, milk, salt and pepper, and napkins available. Registration of eating behavior occurred during lunch. An attendant was present to assist patients if necessary. The control group continued to receive the meals on trays. Dishes from the experimental group were returned to the kitchen with a later tray cart.

RESULTS

The upper panel of Figure 1 shows the mean number of contacts in the two groups. There was a significant increase in communication in the experimental group from baseline to treatment ($t = 3.17$, $p < .01$) and between the two groups during the treatment condition ($t = 2.84$, $p < .01$). No difference was found between the groups during baseline or between the periods in the control group ($p > .05$).

Figure 1 also shows the mean percentage of observations during which the patients were considered to eat properly during lunch. There was an improvement in eating behavior in the experimental group from baseline to treatment ($t = 6.46$, $p < .01$), as well as a difference between the two groups during treatment ($t = 12.42$, $p < .01$). No difference occurred between the groups during baseline or in the control group across conditions ($p > .05$).

DISCUSSION

The present study shows that minor changes in furniture arrangements and mealtime routines may increase communication and table manners among geriatric patients, most of whom were considered senile.

The increased activity shown by the experimental group suggests that inactivity may partially be an effect of the patients' social setting. It is important to demonstrate this phenomenon on this group of senile patients, as most problem behaviors shown by this group are seen as symptoms of the degenerative brain process involved in senility.

However, changes in the patients' environment do not automatically lead to increased activity. To ensure a positive effect on the patients' behavior, contingency analyses have to be made. The ward milieu has to be created to increase the possibility to communicate and to obtain reinforcers, not just by putting the patients close together but also by making them dependent on each other if possible. In the present study this was done by changing the meal situation so that the patients had to communicate to get what they wanted from the table.

In a social setting such as a hospital ward, there are many different interests involved, some of which may be in conflict. Sommer (1969) showed that one reason patients did not communicate was that the chairs in the dayroom were set against the walls, an arrangement to make life easier for the janitors and the nurses. These kinds of problems must be taken into account when analyzing social systems such as geriatric wards. In addition, a behavior analysis of ward structures and social interactions among geriatric patients should concentrate on locating and using available reinforcers—both tangible and intangible.

Wisocki, Mosher, and Korfhage (Note 1) found that patients themselves were more important social stimuli for each other than either

Fig. 1. Mean number of contacts between patients or patients and staff (upper panel) and mean percentage of intervals during which correct eating was observed.

the experimenters or the regular ward staff. This important finding points to the possibility of reinforcing social and recreational behaviors naturally on geriatric wards—a possibility that has not yet been explored in published studies.

A social setting is required in which natural reinforcers are more easily available, not only

by making geriatric wards more “normal” social settings but also by changing these wards into what Lindsley (1964) has called prosthetic environments, ones in which it is possible to compensate for patients’ physical and mental handicaps by providing more distinct cues and a responsive environment (cf. Götestam, 1980).

However, as shown in our study and in others, even low-cost, minor changes in ward structure result in improved patient behavior. Whether these changes are permanent or not is yet to be determined.

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