### AN ABSTRACT OF THE THESIS OF

Pamela A. Bantam for the <u>Master's Degree</u> in <u>Psychology</u> presented on <u>August 23, 1992</u> Title: <u>Medication and Diagnostic Information in</u>

Schizophrenic Outpatients: A Rural and Urban

Abstract approved: Coper B. Holmer

A study was conducted among outpatient schizophrenics being seen at two mental health centers. The purpose of the study was to assess the outpatient's knowledge of his or her diagnosis and prescribed medication.

The study assessed differences in the amount of knowledge of those living in the city containing their mental health center and those living in more rural areas. The differences in the amount of knowledge of diagnosis and medication in men and women was also assessed.

The participants in this study were 46 schizophrenic outpatients. They were chosen from the current caseload of two Kansas mental health centers. Participants had a diagnosis of schizophrenia, were prescribed antipsychotic drugs, and were judged currently stable by their psychiatrist or casemanager. The ages of the participants varied from 18 to 73. An equal number of men and women were used in each group. All stable schizophrenic outpatients being seen at both mental health centers were divided into two groups: those living in the city containing the mental health facility or satellite office, and those living in rural areas. These two groups were further broken down by gender.

A questionnaire adapted from one used in a 1983 study by McGill, Falloon, Boyd, and Wood-Silverio was used to assess the participant's knowledge of his or her illness and medications (See Appendix A). The questionnaire consisted of eight open-ended questions. The answers were assessed by mental health staff with access to the client's file. Each correct answer was scored as one point.

Results showed a significant difference in the scores of urban and rural participants as well as a significant difference between the scores of men and women participants. Those participants living in the city containing the mental health facility scored higher than those living in more rural settings; at the same time, women scored higher than men. MEDICATION AND DIAGNOSTIC INFORMATION IN SCHIZOPHRENIC OUTPATIENTS: A RURAL AND URBAN COMPARISON

A Thesis Presented to the Division of Psychology and Special Education Emporia State University

In Partial Fulfillment of the Requirements for the Degree Master of Science

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by Pamela Ann Bantam August, 1992

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Jaul M Vowell Approved for the Graduate Council

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### CHAPTER 1

### Introduction

In 1955, Congress created the Joint Commission on Mental Health and Illness. The commission prepared a report that urged a reduction in the population of mental hospitals and encouraged the development of a community mental health program (Bloom, 1973). At the same time, the therapeutic effects of antipsychotic medications were being discovered. Use of antipsychotic medications to treat schizophrenia began in the United States in the late 1950's. In 1963, legislation was passed that provided federal funding for the construction of mental health centers and services for specific geographic regions. The days of the large, crowded psychiatric institution were drawing to a close.

This trend toward delnstitutionalization has continued to the present day and has increased in strength in the past few years. Long-term hospitalization has become extremely costly and research has found that long-term hospitalization is ineffective as a treatment strategy (Kiesler, 1982). Currently, most states are again going through mental health reform, further decreasing the number of inpatients and cutting back on the available beds for

temporary hospitalization. An increasing number of schlzophrenic outpatients are being maintained in the communities.

The shift from inpatient to outpatient care for the long-term mentally ill has increased emphasis on community management of schlzophrenia and has extended the responsibilities of community mental health centers. In many states, there has been a shifting of funds from large state hospitals to community-based programs. The goals of outpatient care are to keep long-term mentally ill patients living and functioning in their natural community environment, to help minimize psychotic symptoms, and to prevent relapse and rehospitalization.

## Literature Review

Studies suggest that most psychlatric patlents lack knowledge about their medications. In 1982, Geller found that only 8% of 281 inpatlents could correctly state the name, dosage schedule, and intended effect of at least one medication they were taking. Linden and Chaskel (1981) reported that 93% of 85 chronic schizophrenic outpatients could identify correctly the medication they were taking and 85% could mention at least one general therapeutic effect. However, only 21% could identify specific benefits of their medication, such as improved thought organization and hallucination control. Only 40% could name a side effect of the medication. Patients are seldom sufficiently informed about their illness to understand the significance of continued medication in their outpatient treatment programs. Noncompliance is a direct result of this lack of information (Van Putten, 1978).

Axelrod and Wetzler (1989) reported a study of 134 psychiatric patients in a New York City municipal hospital. This study examined the impact of patient characteristics, clinical variables, and patient attitudes toward both illness and medication. Excluding 31 patients who required rehospitalization. 70% of subjects attended their first follow-up appointment and 40% completed six months of follow-up. Factors found to be assoclated with better compliance were patient attitudes towards illness and medication. Those patients with less denial of psychiatric illness and greater recognition of the need for medication were more compliant.

The type of treatment regimen has been identified as an important factor in compliance. Patients are more likely to adhere to a simple regime than to a complex one. When multiple medications are prescribed

simultaneously or doses are to be taken several times a day, compliance is reduced (Blackwell, 1972). If patients do not understand their medication schedules, compliance cannot be expected.

Chan (1984) investigated knowledge and attitudes of 19 men and 17 women psychiatric outpatients regarding medication. Using personal interviews, Chan (1984) examined the extent to which self-reported medication compliance was predictable from the subject's cognitive characteristics towards medication. The results 80% of indicated that over the variance of self-reported medication compliance was predictable by cognitive variables. Compliant and noncompliant patients differed in their expectancy and prior experience of beneficial effects of the medication and in their fear of undesirable side effects and addiction. Chan concluded that patient education could lower rates of noncompliance.

Brown, Wright, and Christensen (1987) found an association between the amount of medication instruction received by the client and the rate of compliance. The study focused on the effects of the education of side effects and the compliance among 30 chronic schizophrenic outpatients. The subjects were assigned to one of four treatment groups and received instruction consisting of a verbal or a written presentation and minimum or maximum information about side effects. Knowledge of side effects and compliance were assessed one month before and one month after instruction. All subjects' medication knowledge increased after instruction. Subjects who received only verbal instruction and minimum information about side effects had significantly lower compliance rates than did subjects who received written supplementation and maximum information about side effects.

Evidence has been found that noncompliance is related to the severity of illness. Marder, Mebane, and Chien (1983) conducted a cross-sectional survey of the level of psychopathology in 15 voluntary men patients who refused drug therapy and a group of matched patients who consented. Ratings on the Brief Psychiatric Rating Scale (BPRS) by non-blind raters showed that the 15 noncompliant were significantly more symptomatic than the compliant patients, with mean BPRS total scores of 58.2 versus 43.9. Marder et al. (1983) hypothesized that this difference reflected clinically meaningful differences in the severity of the illness.

In another insight-compliance study, by Lin, Spiga, and Fortsch (1979), insight was operationally defined as a recognition of the existence of problems and the

need for intervention. Patients were selected for a screening interview based on (1) current diagnosis of schizophrenia, (2) a history of mental illness for minimum of two years, (3) at least two admissions in the past two years, and (4) readmission within six months of the last discharge. A total of 100 cases were collected during the six month study. Patients were rated on insight and how beneficial they perceived medication to be. The results confirmed the hypothesis that insight and perceived medication benefits were variables affecting compliance.

The lack of insight, part of the nature of the illness itself, makes the transferral of realistic information about schizophrenia and medications difficult. However, a variety of studies show successful increases in the amount of patient knowledge and compliance.

Providing verbal and written information about the medication has proved to be effective in improving compliance. In 1974, Linkewich found that packaging antipsychotic medications with instructional and educational materials increased compliance.

Seltzer, Roncar, and Garfinkel (1980) studied the effects of patient education on medication compliance. The study used 44 schizophrenics, 16 bipolar, and 7

unipolar patients. The patients were divided into control and experimental groups. All patients were Eysenck Personality Inventory and aiven the а questionnaire that assessed drug knowledge, fears, attitudes, and compliance measurements. The patients were then divided into three groups and given a series of nine lectures teaching them about the nature of their disorder and pharmacological management. The results showed that "educated" patients tended to be more compliant on outpatient follow-up and were less fearful of side effects and addiction.

Research has shown that rates of noncompliance differ and that patients may adjust their medications to a level that feels comfortable to them. McClellan and Cowan (1970) studied 286 Veteran's Administration outpatients with mixed diagnoses and found that a least 24% were taking less phenothiazine, in different degrees, than the amount prescribed. McClellan et al. (1970) speculated that the patients tended to adjust their phenothiazine dosage downward in accordance with their own self-identified needs. Similar results were reported by Apsler and Rothman in 1984. One thousand adult schizophrenics in the Boston area were surveyed. The survey asked guestions that could help determine the overall quality of life of the subjects.

Well-being, economic status, overall satisfaction with life, health status, dependence on medications, and experience of drug-caused problems were measured. The results of the patients' quality of life were then examined in relation to the degree of medication compliance. The study found that those who scored highest in terms of well-being did not comply totally with the medication, but took a lesser amount than was prescribed. The amount was self-determined by the subject.

Patients can modify their prescribed amount of medication to a level that seems to be appropriate for However, outside of that range relapse can them. occur. It is very common for the schizophrenic patient to begin to feel symptom-free and stop taking the medication for weeks or months. The time course of schizophrenic relapse is such that discontinuing medication does not usually lead to an immediate recurrence of psychotic symptoms. Patients may remain well for months before the full consequences of non-compliance becomes apparent (Davis, Schaffer, & Killian, 1980).

In a study of intermittent medication, prescribing antipsychotics to be used on an as needed basis versus maintaining constant medication, Herz, Glazer, Mostert,

and Sheard (1991) found that intermittent medication is not recommended for stable schizophrenics. Herz et al. advised that education for the patient and family about benefits of maintaining medication, even during periods of no psychotic symptoms, should be included in outpatient treatment of schizophrenics.

Eckman, Liverman, Phipps and Blair (1990) tested a behaviorally-oriented medication management program with 160 partial hospitalization clients. Results of the study showed significant gains in medication compliance.

Ascher-Svanum (1988) constructed a program to systematically educate schizophrenic inpatients and outpatients about their disorder and to address their concerns and misperceptions to increase compliance with medication regimen and improve self-management. The program educated patients about the nature of schizophrenia, its course, causes, prevalence, drug treatments, common misperceptions about medications, and community resources. Pre and post assessment showed a significant gain in medication compliance.

Klienman, Schacter, and Koritar (1989) administered a multiple choice questionnaire to 21 patients who were read a standardized information form on tardive dyskinesia, a possible side effect of antipsychotic medications, and 27 patients who were not read the information form. The study was to determine whether a formalized informing process transmitted knowledge of risks and benefits of antipsychotic medication. The mean scores for the informed subjects were significantly higher and the differences between the two groups remained significant in a six-month follow-up questionnaire.

## Statement of Problem

There has been a marked shift in the treatment of schizophrenia in the past few decades. More recently, an emphasis on community maintenance of the chronically mentally ill has added responsibility to community mental health facilities. As outpatients. schizophrenics are given the responsibility of their own medication. It is likely that the biggest problem with the outpatient treatment of schizophrenia is noncompliance with antipsychotic medications. Noncompliance is the refusal or inability of the patient to take medication as prescribed. Usually this involves not taking any or taking too little of the medication. Relapse and rehospitalization are a direct result of noncompliance (McEvoy, Howe, & Hogarty, 1984). Compliant and noncompliant patlents differ in the amount of knowledge they have about their

medications and illness. In schizophrenia, noncompliance is complicated by lack of insight, a part of the illness itself. Educational programs have been effective in increasing patient knowledge and decreasing noncompliance.

Noncompliant patients are institutionalized and released over and over. This cycle is not only traumatic to the client and their families, but costly to the taxpayer. Often, an involuntary hospitalization involves the police, the county attorney, a judge, and mental health professionals before institutionalization and restabilization can take place.

This study will address this problem by comparing the amount of knowledge of medication and illness between rural and urban stable schizophrenic outpatients. A difference in the amount of correct information about the diagnosis and medications would indicate alterations in the patient education process.

#### CHAPTER 2

### Method

This study investigated the relationship between urban and rural environments of outpatients and knowledge of medication. Amount of knowledge about their diagnosis was also assessed.

### <u>Sample</u>

The participants in this study were 46 schizophrenic outpatients. They were taken from the current caseload of two Kansas mental health centers. Participants had a diagnosis of schizophrenia, were prescribed antipsychotic drugs and were judged currently stable by their psychiatrist or casemanager. The ages of the participants varied from 18 to 73. An approximately equal number of men and women were used in each group.

All stable schizophrenic outpatients being seen at both mental health centers were divided into two groups: those living in the city containing the mental health facility or satellite office thereof, and those living in rural areas. These two groups were further broken down by gender. The names of 12 women and 11 men rural outpatients were then drawn at random. The

names of 12 women and 11 men urban outpatients were chosen in a similar way.

#### <u>Deslan</u>

As with all correlational research, there were threats to the internal validity of this study. Some of these threats included differences in the participant characteristics between the two groups, location differences, instrument decay, and data collector bias.

In an attempt to control for differences in participant characteristics, only stable outpatients were used and an equal number of men and women were used. Of special concern was instrument decay and data collector bias. To control for this, precise instructions for administration were given to the mental health staff surveying the participants.

Results of this study were generalizable only to schizophrenic outpatients served by a mental health facility whose catchment area contained rural and urban clients and which had community support programs for schizophrenic outpatients. This study was intended to help discern whether or not rural outpatients received less information about their diagnoses and medications.

### Procedure

A questionnaire adapted from one used in a 1983 study by McGill, Falloon, Boyd and Wood-Silverio was used to assess the participant's knowledge of their illness and medications (See Appendix A). The questionnaire consisted of eight open-ended questions. The answers were assessed by mental health staff with access to the client's file. Each correct answer was scored as one point.

The questionnaires were administered to the participants by their casemanagers. Each participant was presented with an informed consent form and an explanation of what was being asked of them. The casemanager read the questionnaire to the participant, answered any questions, and recorded the answers. During a two week period, casemanagers administered the questionnaires during routine visits to their client's homes. All participants could refuse to answer the survey without penalty.

Each correct answer was used to create an individual score for each participant. The total score would range from 0 to 8, with 8 representing the greatest number of correct responses.

## Statistical Design

Scoring the survey produced one score for each participant. The participants' scores were used to run a 2 X 2 ANOVA. The four cells of the ANOVA were: men urban participants, female urban participants, men rural participants, and women urban participants. The ANOVA was used to determine if differences between the four groups were significant. The null hypothesis stated that there would be no significant differences found in the amount of knowledge among the four groups.

#### CHAPTER 3

### Results

Four groups of outpatient schizophrenics currently being seen by community mental health center workers were given a questionnaire to measure knowledge of their diagnoses and prescribed medication. The four groups were men living outside of the city containing the mental health center, men living within the city, women living outside of the city, and women living within the city. The questionnaires were scored from 0 to 8, with a score of 8 meaning all eight questions were answered correctly. The data were analyzed with a 2 x 2 ANOVA computer program for unequal group sizes. The results of this ANOVA are shown in Table 1. The four groups showed different patterns of correct answers, as shown in Table 2.

Women scored significantly higher than men with means of 6.33 (<u>SD</u>= 1.28) and 4.63 (<u>SD</u>= .74) respectively. Those participants living in the city containing the mental health centers scored significantly higher than those living outside the city. The mean score for the city participants was 6.17 (<u>SD</u>= 1.08), while the rural participants' mean score was 4.87 (<u>SD</u>= 1.41).

# Table 1

ANOVA Summary for Medication and Diagnostic Information In Schizophrenic Outpatients

|                      | <u>SS</u> | DF | MS    | F     | P     |
|----------------------|-----------|----|-------|-------|-------|
| Source               |           |    |       |       |       |
| Gender               | 33.05     | 1  | 33.05 | 15.63 | .0003 |
| Location             | 19.48     | 1  | 19.48 | 9.21  | .0041 |
| Gender X<br>Location | 0.01      | 1  | 0.01  | 0.00  | .944  |
| Within<br>Groups     | 88.84     | 42 | 2.12  |       |       |
| Total                | 141.47    | 45 | 3.14  |       |       |

# Table 2

# Percentages of Correct Responses by Group

|         | <u>City Women</u> | <u>Rural Women</u> | <u>City Men</u> | <u>Rural Men</u> |
|---------|-------------------|--------------------|-----------------|------------------|
| Questic | nc                |                    |                 |                  |
| 1       | 66.66%            | 83.33%             | 72.73%          | 81.81%           |
| 2       | 91.66%            | 91.66%             | 63.64%          | 36.36%           |
| З       | 100.00%           | 91.66%             | 100.00%         | 63.64%           |
| 4       | 100.00%           | 83.33%             | 100.00%         | 63.64%           |
| 5       | 100.00%           | 91.66%             | 90.91%          | 72.73%           |
| 6       | 83.33%            | 41.66%             | 54.55%          | 63.64%           |
| 7       | 83.33%            | 50.00%             | 9.09%           | 9.09%            |
| 8       | 83.33%            | 50.00%             | 54.55%          | 9.09%            |

City women, as a group, scored higher than all other groups with a mean score of 7.0 ( $\underline{SD}$  =.833). Rural women had the next highest mean with 5.6 ( $\underline{SD}$  = 1.33). City men had a mean of 5.27 ( $\underline{SD}$  = .66) correct responses while rural men had a mean of only 4.00 ( $\underline{SD}$ =1.64) correct responses. There was no significant interaction between sex and location.

#### CHAPTER 4

### Discussion

There are two limitations to the current study: the small sample size and the use of only two mental health centers. Despite these limitations, the recent findings suggest some conclusions that may be useful in reducing outpatients' noncompliance with their medication regimens, and in planning further research in this area.

The findings from this study suggest that the amount of correct information schizophrenic outpatients have regarding their illnesses and prescribed medications is affected by gender and distance from the mental health facility providing treatment. The results showed that women know more about their diagnoses than men do. This may be because women generally seem more compliant with outpatient treatment procedures, such as keeping appointments with mental health staff. Therefore, they have more contact with mental health staff than men (Krucko, 1978).

The results of the current study showed that while a large percentage (66.67%) of women knew the effects of consuming alcohol, only a very small percentage of men (9.09%) said that they knew that they were not supposed to consume alcohol while taking medication. These findings are consistent with those of an earlier study conducted by Blazer (1985), in which Blazer interviewed schizophrenic outpatients on antipsychotic medications. It was discovered that in comparison to their urban counterparts rural clients are more likely to abuse illegal substances or alcohol while on medication.

Chu, Lee, and Sallach (1986) studied 94 urban and rural schizophrenics. Chu et al. found significant differences in the clinical course of urban compared to rural schizophrenic outpatients. Specifically, rural subjects were more likely to experience relapse due to medication noncompliance. If ignorance of diagnosis and medication is considered one of the foundations of outpatient noncompliance, then the current study also supports the findings of Chu et al. The current study showed that rural subjects were less knowledgeable about their diagnoses, symptoms, medication, and side effects than their urban counterparts.

In the current study, rural men appeared to have the least knowledge of their diagnoses and medication among the four test groups, based on their average number of correct responses (4.0) to the questionnaire. Two major factors contribute to the lack of knowledge

about diagnoses and medications among rural men. One, as Krucko noted, men are less likely to participate fully with treatment programs. Men in general have less contact with mental health staff than women. Two, as Chu et al. found, rural outpatients are seen less often by mental health staff because of their distance from the mental health facility.

Urban women are on the other side of the spectrum. They receive a great deal of contact with mental health staff because they are close to the mental health facility. In addition, women are generally more likely to meet with their casemanagers weekly. Curiously, several of the urban women who were highly knowledgeable about their symptoms and medication missed only the first question. They could not, or would not, identify their diagnosis as schizophrenia. They seemed to have some clinical sophistication and knew about different disorders, yet chose not to accept their diagnosis of schizophrenia, but to label themselves otherwise. For instance. several urban insisted that their diagnosis was multiple women personality or borderline personality disorder, both of which currently receive considerable attention in the media.

The patient's understanding of the illness and the medication is crucial to the treatment of the disease and the prevention of relapse. Various studies have shown that educating the schizophrenic patient about the illness and medications can significantly improve compliance (Seltzer, Roncar & Garfinkel, 1980). In addition, Kinney (1985) reviewed the use of psychoeducational interventions in rural mental health These programs were found to be effective programs. when the families of the outpatients were also educated.

The current study seems to indicate that further research should be done in developing educational programs targeting both rural male patients. and Special attention should be paid to educating these groups about the effects of alcohol on antipsychotic medications. At the same time. mental health professionals should attempt to insure greater contact between themselves and these high-risk groups.

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Instructions: These questions are designed to find out how much you know about your disorder. Please answer each question as best you can, do not worry if you are not sure of the answers. 1. What is your diagnosis, the name of your illness?\_\_\_\_\_ Name three symptoms of your illness. \_\_\_\_\_\_ 3. What is the name of the medication or medications you have been prescribed? 4. What directions are you to follow in taking the medication, such as how much to take and when to take it?\_\_\_\_

ID\_\_\_\_\_

| 5. | What | symptoms | or | problems | is | the | medication | designed | to |
|----|------|----------|----|----------|----|-----|------------|----------|----|
| he | lp?  | _        |    |          |    | _   |            |          |    |

| 6. Name one             | e side  | effect | of e  | each r | nedicati | on   |            |      |      |
|-------------------------|---------|--------|-------|--------|----------|------|------------|------|------|
|                         |         |        |       |        |          |      |            |      |      |
| 7. How wou              | ld drin | king a | lcohc | ol af: | fect the | medi | catio      | on?  |      |
| 8. Name o<br>medication |         | d or   | drug  | you    | should   | not  | use        | with | each |
|                         |         |        |       |        |          |      | - <u> </u> |      |      |
| City or                 |         |        |       | _      | _        |      |            |      |      |
| Diagnosis:              |         |        |       |        |          |      |            |      |      |
|                         |         |        |       |        |          |      |            |      |      |
|                         |         |        |       |        |          |      |            |      |      |
|                         |         |        |       |        |          |      |            |      |      |
|                         |         |        |       |        |          |      |            |      |      |
| Medication              | 3       |        |       |        | <u>-</u> |      |            |      |      |

### Appendix B

## Informed Consent Form

I, Pam Bantam, am conducting a study which deals with the amount of knowledge patients have about their diagnosis and medications. Participation in the study involves answering questions. There are no risks involved at any time and you do not have to participate. You may stop participating at any time during the questions. All information will be kept confidential.

I,\_\_\_\_\_\_, affirm that I have read and understand the above statement and have had all of my questions answered.

Date:\_\_\_\_\_

Signature:\_\_\_\_\_\_

To: All Graduate Students Who Submit a Thesis or Rsearch Problem/Project as Partial Fulfillment of the Requirements for an Advanced Degree.

From: Emporia State University Graduate School

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