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AN INVESTIGATION OF PRESCRIBED AND NONPRESCRIBED MEDICINE USE BEHAVIOR WITHIN THE HOUSEHOLD CONTEXT

JOSEPH D. JACKSON[1], MICKEY C. SMITH[2], THOMAS R. SHARPE[3], ROBERT A. FREEMAN[2] and RONALD HY[4]

[1]Hoechst-Roussell Pharmaceuticals, Washington, DC, [2]Department of Health Care Administration, [3]Research Institute of Pharmaceutical Sciences and [4]Department of Political Science, University of Mississippi, University, MS 38677, U.S.A.

Abstract—The goal of this study was to study empirically individual and household characteristics and their relation to individual medicine use behavior. The study accounted for 40% of the variance in prescribed medicine use and 20% of the variance in nonprescribed medicine use behavior for 545 AFDC households in Northern Mississippi. Perceived morbidity was the primary mediator of medicine use and 57% of the explained variance in nonprescribed medicine use. Age was a significant contributor to the variance explained in prescribed medicine use behavior. The use of nonprescribed medicines by other members of the household also significantly enhanced individual nonprescribed medicine use. Although many of the other individual and household variables were significant predictors of medicine use behavior they contributed little to the total explained variance. Research concerning medicine use in the context of the household is in the initial stage of theory development.

This study examined prescribed and nonprescribed medicine use in the context of households with children enrolled in the Aid to Families with Dependent Children (AFDC) program.

The population chosen for study, AFDC households, provides an important medium for health research. Glasser and Navarre [1] in the book, *Families in Crisis*, described the AFDC family as a unit beset by problems. Almost all AFDC households have experienced marital crisis, poverty, unemployment, out-of-reach medical and dental costs and poor health interfering with work activity. The goals for the families in the AFDC program are the same: financial independence and emotional security. Health is an obvious prerequisite for these goals, and knowledge of family's medicine use behavior is an important component of any strategy to help the family achieve its goals. Many authors have written about health and illness in a family context but empirical research on the role of the family in matters of health and illness has been 'extremely limited' [2]. Nevertheless, the family appears to have a key role in decision making concerning matters of medicine use behavior. Therefore, the areas of family morbidity and family medicine appear to have substantial potential for further study. However, only one of the family variables, family size, has received considerable attention in the literature concerning medicine use behavior. Most researchers have found that increases in family size are associated with a decrease in the use of medical services, including the use of medicines. The work of Osterweis *et al.* [3] is a notable exception to this finding, and only the Osterweis Study has directly considered a number of variables, approximating a 'family context', in relation to prescribed and nonprescribed medicines by placing the individual in his 'family context'*.

Logic would suggest that the primary determinant of medicine use would be morbidity. Empirical research has shown, however, that other factors are related to the extent of use of both prescribed and nonprescribed medicines. The major support in the literature for a significant relationship between other 'household' variables and medicine use is provided by Osterweis *et al.*, who found that the household's use of nonprescribed medicines and the percent of household members who were children were positively related to prescribed medicine use. They also found that household morbidity, the percent of household members who were female, and the household's use of prescribed medicines were negatively related to prescribed medicine use. Concerning nonprescribed medicine use, they found the household use of prescribed medicines and the percent of household members who were children to be positively related. The household use of nonprescribed medicines was negatively related to use of nonprescribed medicines. The percent of females and the amount of morbidity in the household were not significantly related to nonprescribed medicine use.

OBJECTIVES

Based on our review of the literature it appears that very little is known about the determinants of medicine use among the poor, although some pioneering

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*Although Osterweis *et al.* used the term 'family' in describing their sample, the more appropriate term is 'household', which is used in the present report. Some members of the family may live elsewhere, and some members of the household may not be relatives.

investigations have been conducted. This lack of understanding concerning determinants of medication use among children (especially welfare children) was the stimulus for the present study. Its focus is on both prescription and over-the-counter (OTC) medication use among children in AFDC households, with particular emphasis on determinants which are related to the household context. The specific research objectives were as follows:

(1) To describe the nature and distribution of medicine use in a sample of AFDC households;
(2) To determine the amount of interrelation among selected individual and household characteristics and individual prescribed and nonprescribed medicine use; and
(3) To determine the relative predictive power of the individual and household characteristics to the explanation of individual medicine use.

DATA COLLECTION

A major problem with research of medicine use behavior in a household context is the choice of the unit of analysis. In theory, the household is an appropriate unit of analysis because it is the unit responsible for the purchase and consumption of most goods and services (including medicines). However, in practice, the development of a survey research methodology to study medicine use in the context of the household has many problems. The unit of analysis and the definition of the household are among the major problems. Variables operationalized to represent household characteristics, if they are applied to each household member, risk (1) the loss of the statistical independence, and (2) biased results. If the household is selected as the unit of analysis, then the variables should be measures of all household members.

The approach, used in the present study, to incorporate household characteristics and still maintain the individual household member as the unit of analysis, was to randomly select one individual to represent the entire household. This process ensured that individual and household characteristics could be analyzed at the individual level without the problems of independence and weighting biasing the results.

The present study centered on a group of 545 AFDC households who are, by their membership in the AFDC program, categorically needy. At least one member of the household had to be enrolled in the AFDC program of one of the two study counties to be included in the sample selection process. Recipients were systematically assigned to one of 12 months for which data were collected so that one-twelfth of the interviews were conducted each month (February 1980–January 1981).

The majority of the sample were nonwhite females under the age of 30. Because of the select nature of the sample, caution is advised in generalizing the results of the present study to other populations. It would seem likely that income levels, availability of 'free' prescription medication and other factors may make this an 'atypical' sample in comparison to the general population. At the same time those same *factors*, and their relationships to medicine use make it a desirable area for study.

MEASUREMENT OF VARIABLES

The variables selected for the present study were based, to a large extent, on the variables used by Kohn and White [4] in the World Health Organization (WHO) study, and the later work of Osterweis *et al.* [3]. There were two dependent variables in the present study: (1) the number of prescribed medicine products used by the individual in the previous 2-week period, and (2) the number of nonprescribed medicine products used by the individual in the previous 2-week period. The eleven independent variables of the present study pertained to five individual and six household characteristics of the subject. The five individual characteristics included: (1) the age of the subject, (2) the race of the subject, (3) the sex of the subject, (4) the number of nonprescribed medicine products used by the subject during the previous 2 weeks if the dependent variable is the number of prescribed medicine products used, or the number of prescribed medicine products used by the subject during the previous 2 weeks if the dependent variable is use of nonprescribed medicine products, and (5) the subject's score on a morbidity index. The six household characteristics included: (1) the number of persons residing in the household, (2) the number of females residing in the household, (3) the number of children residing in the household, (4) the mean perceived morbidity score of all persons other than the subject residing in the household, (5) the mean number of prescribed medicine products used by all other persons residing in the household, and (6) the mean number of nonprescribed medicine products used by all other persons residing in the household.

Morbidity in the present study was measured by an index which contained ordinal values from 0 to 3, which were designed to represent a continuum from health to serious and chronic illness. This was the same morbidity index that was used in the Osterweis Study [3] and, prior to that, in the WHO study [4]. Fourteen health status questions were included in the determination of the perceived morbidity index score for an individual. These questions concerned whether the individual was experiencing, within the last 2 weeks, 'bother', 'hurt or pain' and 'concern or worry' related to health problems that required either: (1) staying in bed for all or part of a day, (2) limiting normal activities, or (3) experiencing any other health problem that was not accounted for by bed or limited activity days. Two questions dealing with the existence of a chronic illness or a physical impairment or handicap were also among the fourteen questions which were included in the morbidity index. The respondent, usually the mother, answered the items of the questionnaire for the members of the household; therefore, perceived morbidity was according to the respondent's perceptions.

The following sequence explains how the perceived morbidity index was calculated on an ordinal scale. Let 'A' represent the existence of a chronic illness or a physical impairment or handicap; let 'B' represent a bed, limited activity, or a problem day where anything else is wrong, with associated 'bother', 'hurt or pain' or 'concern or worry', but not all three; and let 'C' represent a bed, limited activity or problem day where anything else is wrong, with 'bother', 'hurt or