Personal Influence on Individual's Willingness to Follow Pain Treatment Plans

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Abstract

Most treatment options for pain management include the use of analgesics and adjuvant medications such as antidepressants or corticosteroids that may lead to adverse side effects. Nonetheless, the National Ambulatory Medical Care Survey reported that pain-relief drugs were among the top 5 therapeutic drugs requested of office-based physicians.

Keywords: Analgesics; Ambulatory patients; Hispanic patients; General population; Pain medications; Marginal association

Introduction

Analgesics are used most often for pain and infections and may be taken either daily or as needed. Studies examining public attitudes toward chronic pain and its management have found that pain medications may be over-the-counter, prescribed, or a combination of both types, and may be over-utilized by women and underutilized by those with less education. Although underutilization and noncompliance with analgesics prescribed for pain have not been well studied in the general public, a 1999 study estimated noncompliance rates for opioid use among cancer patients to be between 62% and 72%. More recently, a growing body of research suggests that noncompliance among cancer patients who are prescribed analgesics may be influenced by ethnicity or race, sex, being underserved, or being less educated [1]. Financial restrictions or a lack of access to certain types of analgesics may also contribute to underutilization or noncompliance. Ward and Hernandez studied the attitudes of 263 Puerto Rican ambulatory patients toward pain management and administered a Barriers Questionnaire. These patients had many concerns about analgesic use, including fears of tolerance and addiction. The investigators also reported that higher scores on the Barriers Questionnaire were usually associated with individuals with a lower income and less education [2]. Similar findings from Anderson and colleagues reflect that the majority of socioeconomically-disadvantaged African American and Hispanic patients with recurrent or metastatic cancer expressed concerns about addiction and tolerance, and took their pain medication only on an as-needed basis. Other studies found that, compared to African American patients, Hispanic cancer patients had greater concerns about taking too much pain medication and having problems with side effects related to the analgesics [3]. A review of the literature on pain management shows a controversy surrounding sex variation. The majority of studies report that women tend to be at greater risk for the under treatment of acute and chronic pain. However, others suggest that men may receive less potent analgesics, placing them at a greater disadvantage than women as shown in (Figure 1). Researchers suggest that these findings may stem from health care providers' cultural beliefs that men should tolerate greater pain than women [4]. Unruh's review on sex variation in clinical pain, however, reported that there was no clear pattern of differences in analgesic use by sex. Studies conducted among the general public have found that a person's willingness to follow prescribed analgesic treatment plans may be hindered by fear of adverse side effects and concerns about addiction. The Mayday Fund Survey reported that 46% of respondents would wait until the pain gets bad before taking their analgesics [5]. Eggen's study of 19,137 community-dwelling men and women reported that less educated and unmarried men were not as likely to take analgesics as men who were highly educated and married. 8 Further investigations of the relationship between willingness to use analgesics and socio-demographic factors such as sex, ethnicity, income, and educational differences are needed to determine which factors contribute to analgesic use or non-use in the general population [6].

Methodology

If we can gain better insight into the public's pre-existing perceptions and practices associated with pain and analgesic regimens, we may improve pain treatment outcomes. In this article we report on a large metropolitan-county study that examined the attitudes of community members toward the use of opioid and non-opioid analgesics for pain [7]. We hypothesized that community members would vary in their willingness to take different types of pain medications for mild,

Figure 1: Men under treatment of acute and chronic pain.

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Figure 2: Type of pain medications for mild, moderate, and severe pain.

moderate, and severe pain as shown in (Figure 2). These attitudes were expected to be related to socio-demographic characteristics and a clinical factor [8]. Based on prior research, we hypothesized that subjects who were Hispanic, male, less educated, or less affluent would be more conservative. We also hypothesized that subjects who had experience with adverse side effects such as constipation, dry mouth, confusion, nausea, and vomiting would be less willing to take analgesics [9]. The study sample consisted of 302 community members living in a large metropolitan area with an ethnically diverse population. A community member was defined as any individual who was representative of the general population living in a particular ZIP code. Eligibility criteria for the respondents included, being at least 18 years old and speaking English or Spanish, residing in selected ZIP codes, and, being willing to participate in a telephone interview. Persons who previously or currently experienced cancer-related pain or other painful conditions were not excluded from the study [10]. According to the U.S. Post Office, the Harris County area encompasses 140 ZIP codes; how- ever, for this study we used only 101 codes [11]. We excluded 39 codes because their populations were not ethnically diverse or because they crossed into another county. A professional survey group was used to identify households in the county area and to collect data. To collect study data, we used a computer-assisted telephone interview system. This system assisted interviewers in conducting telephone surveys by means of such useful features as random-digit dialling; a facility for programming survey questions into a logical, response-based order, real-time data entry via the computer screen, and the scheduling and monitoring of interviews. The interviewer obtained verbal informed consent from the respondent before proceeding with the telephone survey. Subjects chose whether to be interviewed in English, Spanish, or both languages [12]. Interviewers assured potential subjects that they could withdraw from the study at any time during the interview. All interviewers had previous experience in survey research, were bilingual, and had participated in a 3-hour training session on the study instrument. The University of Texas M. D. Anderson Cancer Centre Institutional Review Board approved all study procedures [13].

Discussion

A group that included the authors, individuals from the community, patients, and professionals with experience in pain management developed a 52-item survey instrument entitled the Community Preferences Survey, which was tested and piloted before final administration. The survey focused on four areas, recall of a significant experience with physical pain, its pain intensity, willingness to take pain medications and actions taken to obtain pain relief, and rankings of adverse side effects related to pain medications. We also collected data on the subject's socio-demographic characteristics and self-reported health status. The interviewer asked subjects to recall and describe a particularly painful past or current experience [14]. The interview progressed through a series of questions that asked about the respondent's willingness to use analgesics for different levels of pain, prior experience with side effects related to medications used to treat pain, and opinion as to which were the worst side effects. Subjects were asked to use a simple ranking method to rate the 6 side effects that most often result from analgesic use. We conducted 3 analyses: descriptive, cluster, and binary logistic regression. The following section discusses each of these analyses. All statistical procedures were conducted using SPSS 11.5 for Windows. Descriptive statistics were used to depict the characteristics of the community adults participating in the telephone interview. Qualitative content analysis of the reported pain experiences yielded 7 types of pain groups that were dichotomized into 2 pain categories, chronic and acute. Self-reported health-status categories were collapsed into 2 groups, excellent, very good, and good were coded as 1, and fair and poor were coded as 2 [15]. We also dichotomized 6 questions regarding whether respondents would stop their daily activities when experiencing different levels of pain severity, so that yes was coded as 1 and no was coded as 2. The dependent variable for the binary logistic regression analysis, conservative attitude or liberal attitude, was defined as the outcome from a cluster analysis described below. The main independent variable was defined as the response to prior experience with 6 adverse side effects. In particular, we were interested in assessing whether previous experience with more than 1 adverse side effect had an impact on willingness to use analgesics. To address this question, we created a summary score of prior experience with 6 adverse side effects based on the responses to 6 separate questions asking, have you had prior experience with constipation, confusion, nausea, vomiting, dry mouth, or sleepiness? Responses to these questions were yes, no, don't know, or refused. A summary score equivalent to the number of side effects that the subject reported as having previously experienced was calculated with possible scores from 0 to 6. Determining predictors of a conservative or liberal attitude consisted of performing exploratory univariate analyses and fitting several binary logistic regression models. Under the univariate analyses, chi-square analyses were used to examine the differences in the type of pain experience reported by the respondent, the level of pain intensity, cessation of daily activities, and prior experience with the 6 side effects by demographic variables. Socio-demographic characteristics were also included as independent variables.

Conclusion

An independent variable under the univariate analysis was considered a candidate for further inclusion in the binary logistic regression models if it had a marginal association. A cut-off value of 0.25 was used initially and was decreased to 0.05 in the multivariate regression model so that strong predictors were not inadvertently excluded. Predictor variables were also selected based on research that suggests minorities, particularly Hispanics, show greater noncompliance with prescribed analgesic treatment plans compared to white non-Hispanics. We included sex as an independent variable because some studies suggest that men may be at a greater disadvantage to effective pain control because they receive less medication in general and less potent analgesics.

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Page 3 of 3

Conflict of Interest

None

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