Patient Education and Counseling 99 (2016) 988–994

Contents lists available at ScienceDirect

Patient Education and Counseling

journal homepage: www.elsevier.com/locate/pateducou

Gist and verbatim communication concerning medication risks/benefits

Susan J. Blalock[a,*], Robert F. DeVellis[b], Betty Chewning[c], Betsy L. Sleath[a], Valerie F. Reyna[d]

[a] Pharmaceutical Outcomes and Policy, Eshelman School of Pharmacy, University of North Carolina at Chapel Hill, USA
[b] Health Behavior, Gillings Global School of Public Health, University of North Carolina at Chapel Hill, USA
[c] Social and Administrative Sciences Division, School of Pharmacy, University of Wisconsin-Madison, USA
[d] Human Neuroscience Institute, Cornell University, Ithaca, NY 14853, USA

ARTICLE INFO

Article history:
Received 11 August 2015
Received in revised form 14 November 2015
Accepted 2 December 2015

Keywords:
Rheumatoid arthritis
Risk communication
Medications
Patientprovider communication

ABSTRACT

Objectives: To describe the information about medication risks/benefits that rheumatologists provide during patient office visits, the gist that patients with rheumatoid arthritis (RA) extract from the information provided, and the relationship between communication and medication satisfaction.
Methods: Data from 169 RA patients were analyzed. Each participant had up to three visits audiotaped. Four RA patients coded the audiotapes using a Gist Coding Scheme and research assistants coded the audiotapes using a Verbatim Coding Scheme.
Results: When extracting gist from the information discussed during visits, patient coders distinguished between discussion concerning the possibility of medication side effects versus expression of significant safety concerns. Among patients in the best health, nearly 80% reported being totally satisfied with their medications when the physician communicated the gist that the medication was effective, compared to approximately 50% when this gist was not communicated.
Conclusion: Study findings underscore the multidimensional nature of medication risk communication and the importance of communication concerning medication effectiveness/need.
Practice implications: Health care providers should ensure that patients understand that medication self-management practices can minimize potential risks. Communicating simple gist messages may increase patient satisfaction, especially messages about benefits for well-managed patients. Optimal communication also requires shared understanding of desired therapeutic outcomes.

1. Introduction

Rheumatoid arthritis (RA) is an incurable, systemic, autoimmune disorder affecting approximately 0.5–1% of adults in developed countries worldwide [1]. Despite advances in therapy, RA often leads to progressive joint destruction and significant functional impairment, affecting patients' ability to work and perform social roles [2]. The inflammation caused by RA can also damage internal organs, leading to premature mortality [3,4]. Current guidelines call for aggressive treatment of early RA with disease-modifying drugs (DMARDs) to control inflammation and pain, minimize joint damage, and prevent loss of function [5,6].

Although individuals with RA have a variety of treatment options available to them, the potential benefits associated with different options are accompanied by serious risks [7,8]. Principles of informed consent, informed and shared decision-making, and professional ethics emphasize the importance of patients' understanding the risks and benefits of all treatment options [9–12]. Nonetheless, research also suggests that many RA patients have a poor understanding of their medications [13,14], suggesting that current efforts to educate patients about medication risks/benefits are suboptimal.

Most patients view their physician as their primary and most trusted source of information about medications [15,16]. Several studies have used audio or videotapes of patient office visits to examine the information that physicians provide when prescribing medications [17–21]. Findings from these studies suggest that most discussion is limited to identifying the medication and providing instructions pertaining to medication use (e.g., dosage). Discussion of medication benefits and potential side-effects occurs

* Corresponding author at: Division of Pharmaceutical Outcomes and Policy, CB# 7573, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599–7573, USA. Fax: +1 919 966 8486.
E-mail address: s_blalock@unc.edu (S.J. Blalock).

http://dx.doi.org/10.1016/j.pec.2015.12.001
0738-3991/

less frequently. Makoul, Arntson, and Schofield also found that both physicians and patients tend to overestimate the information provided [17]. Thus, patients may leave visits with an "illusion of competence," unaware of their knowledge deficits.

In contrast to previous research that has focused on the verbatim information that physicians provide concerning medication risks and benefits, the research described in this paper was designed to advance understanding of how patients extract meaning from the information provided by physicians. The study was guided by *fuzzy-trace theory*, a dual-process model of memory, judgment, and decision making that has been used to study how both children and adults make decisions that involve risk [22]. Briefly, *fuzzy-trace theory* posits that, when an individual is exposed to a meaningful stimulus (e.g., a statement made by one's physician), two types of representations of the stimulus are encoded in memory, a verbatim representation and one or more gist representations. Verbatim representations capture the specific wording and/or numbers as stated. Gist representations capture the bottom-line meaning of the statement, including its emotional meaning. People may form multiple gist representations in response to the same information. For example, when told that a medication has a 10% chance of causing liver toxicity, a patient might represent this information in memory as some risk (as opposed to no risk) and as a high (as opposed to low) risk. However, individuals may also fail to understand the information provided or make inappropriate inferences—leading to gist representations that are in conflict with factual information. For example, if a physician does not discuss any potential risks when prescribing a medication, a patient might infer that the medication has no risks, leading to the formation of inaccurate gist representations [23]. These representations support both judgments (e.g., perceived risk, satisfaction) and decisions (e.g., medication adherence).

In this paper, we examine the gist that can be extracted from the information that physicians provide concerning medications risks/benefits. We also examine the relationship between verbatim/gist communication and patient satisfaction with their current RA medication regimen. Satisfaction is an important mediator that links patient-provider communication to treatment adherence and health outcomes [24]. Finally, we also evaluate the following hypotheses:

(1) Better health status will be associated with greater medication satisfaction;
(2) Controlling for health status,
   a. Gist communication emphasizing medication effectiveness (i.e., benefits) will be associated with greater satisfaction;
   b. Gist communication emphasizing medication risks will be associated with lower satisfaction; and
(3) The relationship between medication satisfaction and gist communication will be greatest when patients view their current health status favorably.

2. Methods

2.1. Data source

Data were collected between 2003 and 2007 as part of a National Institute on Aging funded study entitled, *Older Adults and Drug Decisions: Collaboration & Outcomes*. The *Older Adults* study used a randomized controlled trial design to evaluate an intervention that encouraged patients to talk to their doctor about their most important health concerns. Participants were recruited from rheumatology practices in Wisconsin and North Carolina. The study was limited to patients who: had a physician-confirmed diagnosis of RA; had no known terminal illnesses; could speak English; and were mentally competent. Clinic staff identified eligible patients prior to their next office visit. At the visit, a research assistant explained the study to the patient and obtained written, informed consent. After providing informed consent at baseline, each participant's visit was audiotaped. Immediately following the visit, patients completed an interview and brief questionnaire. These data collection procedures were repeated at follow-up office visits approximately 6 and 12 months after baseline.

2.2. Procedures

2.2.1. Measures created via content analysis of audiotaped office visits

The audiotapes were transcribed to facilitate content analysis. All coding was then conducted using only the transcripts. Two separate coding schemes were developed and used to analyze the transcripts. Because both coding schemes have been described in previous publications [25,26], only a brief overview is provided below. Because verbatim content is literal but gist content reflects interpretation, research assistants performed verbatim coding and RA patient-coders (who had the experience needed to interpret the information rheumatologists provided) performed gist coding. Whether these patient-coders interpreted information in a way that roughly approximated the interpretations of study participants is an empirical question that can be evaluated, in part, by whether coded gist predicts the judgments made by study participants.

Verbatim coding scheme: The *Verbatim Coding Scheme* captured the specific medication risks that the rheumatologist discussed during each visit and, for each risk, whether the following risk dimensions were discussed: probability of occurrence, potential severity/impact, strategies to minimize risk, strategies to monitor risk, what to do if the risk occurs, time course (e.g., when the risk is most likely to occur), whether potential harm would be permanent or temporary, and therapeutic alternatives with different risk profiles [26]. Data were aggregated across risks so that each observation in the analytic dataset corresponded to a specific medication discussed at a specific patient visit. Each dimension was coded as "1" if it had been mentioned for any risk associated with the medication. Otherwise, the dimension was coded as "0." Two aggregate scores were also created by: (1) summing the number of medication risks discussed and (2) computing the average number of dimensions discussed per risk.

Gist coding scheme: The *Gist Coding Scheme* was designed to capture the gist of information concerning medication risks and benefits that patients are likely to extract from the information that rheumatologists provide during office visits [25]. Four patients with RA worked with the lead author to develop this coding scheme by reviewing a subset of the transcripts and identifying, from the patient perspective, the important medication-related themes that emerged. The final coding scheme included the following gist themes: *The medicine has some serious side-effects*, *The medicine is less safe than other medicines*, *The rheumatologist is concerned about the safety of the medicine for this patient*, *The patient can use the medicine as long as therapy is monitored carefully*, *The medicine is helping the patient a lot*, and *The patient needs the medicine a lot*. Working independently, the four patient coders used the *Gist Coding Scheme* to code each transcript. Because some transcripts contained brief mention of several medications, coders were instructed to identify those medications that, in their judgment, were discussed most during the visit and were limited to coding no more than two medications/visit.

Ratings were combined across coders to create a final dataset where each observation corresponded to a specific medication discussed at a specific visit. In this dataset, each gist theme variable