

**USE OF THE PATIENT'S MEDICATION EXPERIENCE IN PHARMACISTS' DECISION MAKING PROCESS**

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ABSTRACT

When providing comprehensive medication management (CMM) services, pharmacists must recognize patients' medication experiences to make patient-centered decisions. The aim of this study was to understand how patients' medication experiences are applied in pharmacists' decision-making process during the provision of CMM services. Using grounded theory, we devised a theoretical proposition, which derived from narratives of 11 pharmacists, observations of CMM consultations and clinical case discussions. The results suggested that understanding the patient's medication experiences can guide the professional to identify and resolve drug therapy problems. According to the participants, the medication experience can lead the practitioner to two courses of action: to improve health literacy, helping the patient overcome barriers to medication use; or to adapt the intervention, matching the pharmacotherapy to the patient's routine. This knowledge can be used as a guide to teach pharmacy students and novice pharmacists how to incorporate patients' medication experiences into clinical decision-making.

Keywords: decision-making process; comprehensive medication management; grounded theory; patient's medication experience

INTRODUCTION

Comprehensive medication management (CMM) services are clinical services based on the theoretical framework of pharmaceutical care. This professional practice was developed to meet a social need: the high morbidity and mortality associated with the use of medications ^[1]. It constitutes a patient-centered approach in which the pharmacist takes responsibility for meeting patients' pharmacotherapeutic needs.

Pharmaceutical care practice involves an innovative approach of rational decision-making about pharmacotherapy. Initially, the professional assesses whether all the patient's health problems are adequately treated and whether the medications in use are indicated for treating the patient's health issues. Subsequently, an assessment is carried out to

assure that the medications used are the most effective and the safest ones available for treating the patient's conditions. Lastly, the practitioner assesses if the patient understands, agrees and uses the pharmacotherapy as instructed ^[1, 2]. Based on this reasoning, the professional identifies whether a drug therapy problem (DTP) exists and determines if the patient agrees with the solution found.

The literature proposes that the patient's medication experience should be incorporated into the resolution and prevention of patients' drug therapy problems. This concept has been positioned as a fundamental element to the effective provision of CMM services ^[1, 3, 4]. It can be defined as "the summary of the relevant events in a patient's lifetime that involve drug therapy" ^[4] or "as an individual's subjective experience of taking medication in his/her daily life"

^[5]. The feelings, thoughts, wishes and concerns that patients associate with medications may be direct or indirect, i.e., these experiences can be derived from their personal use of a medication or from witnessing something that occurred to someone they know after using a particular product ^[6]. The practitioner should understand, explore, and incorporate this information into their routine practice ^[7]. Understanding the subjective experience of each patient with medications should be regarded as an essential element for sound clinical judgment and for decision-making that is contextualized in the patient's routine ^[2, 5].

A meta-ethnography involving 34 studies on lived experience with medicines concluded that exploring patients' experiences at the time of therapeutic decisions contributes to individualizing care and proves fundamental for sound clinical decision-making ^[8]. However, the majority of studies on this theme focus on understanding these experiences and their meaning to the patient ^[9-14]. The way in which the medication experience is incorporated into the professional's decision-making process has not yet been explored in great detail. Ramalho-de-Oliveira et al. ^[15] presented strategies used by pharmacists for resolving drug therapy problems involving patients' medication experiences. The authors highlighted the need for an open attitude by the professional, listening to patients and suspending any judgments on their views and reasons influencing their behavior. They also emphasized that the patient's medication experience might also contribute to the shared decision making between healthcare professionals and patients ^[15].

To deepen the understanding of these experiences and their influence on the behavior of medication users, other studies are required to explore how this knowledge has been used by professionals at the time of the clinical decision-making. This knowledge can further the understanding of the interrelationship between subjective and objective knowledge when caring for medication users. Therefore, the aim of this study was to understand how patients' medication experiences are applied in pharmacists' decision-making process during the provision of CMM services and to devise a theoretical proposition for applying these experiences in clinical practice.

MATERIALS AND METHODS

Grounded theory methodology was utilized as it focuses on social processes and on understanding the interactions that occur in these processes. We followed the methodological approach proposed by

Charmaz ^[16]. According to her, grounded theory is built through our involvement and interactions with people, our perspectives and research practices. This offers an interpretive picture of the studied world ^[16].

This research was approved by the Ethics Committee of the Federal University of Minas Gerais (UFMG) in May 2014 (process number CAAE-25780314.4.0000.5149) and all participants agreed to participate.

Sampling and data collection

The participants involved in this study were pharmacists who provided CMM services in different practice settings in Brazil. They were from three different states: Minas Gerais, São Paulo and Bahia. The inclusion criteria to participate in the study was to be a pharmacist providing CMM services according to the theoretical framework of pharmaceutical care – as proposed by Cipolle, Strand, and Morley ^[4] – in the Public Healthcare System of Brazil.

Data collection commenced by interviewing an experienced pharmacist who ran the CMM service at a primary healthcare unit affiliated to the Pharmaceutical Care Center of the Federal University of Minas Gerais (CEAF-UFMG). From the analysis of this interview, further data were collected based on the preliminary themes that emerged. This process is called theoretical sampling and it is a strategy for obtaining more selective data by refining and completing the emerging categories ^[16]. The selection of other participants was also carried out by extending the research process to include participants with different levels of experience, working at different practice settings and in different locations. These participants could provide meaningful knowledge to better understand the phenomenon under study. The sampling process continued until data saturation.

We conducted semi-structured interviews with eleven (11) pharmacists. All of them agreed with the terms of this research and signed the free and informed consent form. All interviews were recorded with the consent of participants and transcribed verbatim for data analysis. Following the grounded theory approach, in the initial interviews open questions were used to explore the global perspective of the interviewees about the investigated phenomenon, such as: "what is the role of the patient's medication experience in your practice?" As the data analysis progressed, new categories and concepts emerged, providing a more refined focus for subsequent interviews. Thus, throughout the research process we

refined the questions to confirm what the data analysis was revealing, to investigate relevant aspects in more detail, to fill gaps of knowledge, and to better define emerging categories.

The average duration of interviews was 71 minutes, ranging from 45 to 94 minutes. During the interviews, other aspects of pharmacists' decision-making process, beyond the scope of the present article, were also addressed.

We also conducted participant observation of CMM consultations delivered by seven participating pharmacists who worked in the State of Minas Gerais. Participant observation occurred after the patient's consent. We observed 14 CMM consultations, each of them lasting approximately one hour. In addition, we observed seven clinical case discussions that happened during the biweekly meetings of the Pharmaceutical Care Discussion Group among participating pharmacists, at the Pharmaceutical Care Center, Federal University of Minas Gerais. During the observation of CMM consultations and clinical case discussions, we focused on the decision-making process, noting down in a field journal all information relevant to understanding the use of the patient's medication experience throughout the process. Data collection was carried out between November 2014 and December 2015.

Data analysis

Data analysis, according to the grounded theory methodology, entails a constant process of data coding and comparison^[16]. Data collection and analysis occurred simultaneously. The first interview was transcribed and then coded line-by-line. As pointed out by Charmaz^[16], this strategy allows the emergence of new ideas and attention to details that might otherwise go unnoticed in general thematic analysis.

This first analysis informed subsequent data collection and this process occurred throughout the research. Thus, line-by-line coding was carried out for each new data collected, comparing data within the same interview, between interviews, and comparing interviews against data drawn from observations. As the data analysis progressed, we started the process of focused coding, in which more frequent and meaningful codes were used to integrate and organize greater volumes of data. Given the dynamic nature of the data analysis, several initial codes were reexamined and renamed to better fit the data and enable a greater level of abstraction. The final stage of data analysis entailed selective coding,

in which we determined the relationship amongst tentative categories to explain how pharmacists employed patients' medication experiences to make clinical decisions. The whole process was performed using the NVivo 10 qualitative data analysis software.

We wrote memos throughout the data analysis process. This strategy allowed us to move more efficiently through all comparative levels of data analysis^[17]. Codes' explanations and correlations were also incorporated to the memos, as well as scientific references that tied in with these findings.

Memo writing assists in maintaining the methodological rigor. Other strategies were used in this research to ensure rigor: we have chosen participants who routinely perform clinical decision-making process during CMM services, therefore, they were key informants to understand this process; and we tested and confirmed the constructed categories, interpretations and conclusions with the participants.

RESULTS AND DISCUSSION

The context in which the patient's medication experience emerges in pharmacists' clinical practice

Participants showed sensitivity to the concept of medication experience and sought to incorporate these experiences into the provision of CMM services. Incorporating the patient's medication experience into the decision-making process was deemed a fundamental element to assure effective care by the participating pharmacists. They sought to use the medication experience to involve patients in their own treatment and to contextualize the decision-making process:

"[The patient's subjective experience with medication] is a filter for success, because you know how to gauge your intervention and how to involve the patient, addressing their fears, their beliefs... Subjective experience is everything. It's really important, because it can be missed by everyone else. So, what makes you their ally is listening and understanding these experiences in the context of how patients make their decisions about medications."

According to this pharmacist, the focus on patients' medication experiences differentiates CMM from other clinical services, given that professionals in this practice feel responsible for being alert to these aspects and have the opportunity to gather and

explore information about the patient that might not be assessed by other healthcare professionals. It should be emphasized that understanding and utilizing the patient's medication experience is a philosophical premise of pharmaceutical care practice, which is the theoretical foundation for CMM services ^[1, 2, 4]. Building a therapeutic relationship is necessary for patients to feel comfortable sharing their experiences. In addition, taking the patient's narrative into consideration strengthens the therapeutic relationship, consolidating a fundamental alliance between professional and patient in the care process ^[18].

Pharmacists considered the patient's medication experience instrumental to their daily practice, but the way it is applied to the decision-making process appears to be a tacit knowledge, which can be difficult to be described in words. In this article, we attempt to explain how pharmacists used these experiences in the clinical decision-making process. According to the findings of this research, the process of exploring the patient's medication experience and using it to make clinical decisions begins by learning to listen to the patient. Patients usually do not talk explicitly about their experiences with medications, so the pharmacist needs to elicit them from patients' narratives:

"I believe that knowing how to listen to the patient is important. I'm a good listener, I have developed this skill. I like listening and I can pick up many things... Including his [the patient's] subjective experience, because sometimes he does not tell me directly, but I pick up this information throughout our interactions."

By listening to the patient and remaining alert to details in their discourse, professionals strived to understand the impact of medication use in the patient's daily life. In addition, interviewees also highlighted the importance of being respectful and responsive to individual patient's needs and preferences, ensuring that patients' values were incorporated into clinical decisions:

"I assess how he [patient] uses medicines without my intervention, how it fits into his life and how he manages it in his life. Then I assess whether there is a need for intervention or not, and whether the patient has acted upon it or not. Because we know that he [the patient] doesn't always take the medications as prescribed, either because he lacks knowledge, because he was not properly counseled, because he did not understand the instructions, or because the medication as prescribed makes him feel

worse. The patient can and frequently does make changes to the prescription. So, before I make a decision, I assess if these adaptations were sufficient to resolve the problem and whether they were appropriate or not."

This excerpt can be seen an example of how understanding the patient's medication experience is a part of a patient-centered practice. The pharmacist acknowledges that patients might make changes to their own therapy and, therefore, she recognizes the need to analyze the impact of these changes and help patients in this process. The medication experience is immersed in patients' narratives and it becomes more evident to the pharmacist as she explores how the patient manages medications in his or her daily life.

According to the findings, pharmacists explored patients' medication experiences not only to understand meanings attributed to medication use, but also to aid the identification of drug therapy problems (DTP) experienced by the patient. Moreover, this information was frequently used as the basis for professional intervention during the care process.

In attempting to uncover how pharmacists use patients' medication experiences to make clinical decisions, two major categories emerged: (I) Using the medication experience as supporting evidence to identify drug therapy problems; and (II) Understanding the patient's medication experience to help guide conduct. The latter category is subdivided into two subcategories: (1) Improving health literacy: helping patients overcome barriers; and (2) Adapting interventions: matching the pharmacotherapy to the patient.

Using the medication experience as supporting evidence to identify DTP

Exploring the patient's medication experience can help the pharmacist to identify problems related to the medications used by patients. The excerpt below from field journal illustrates how the patient's medication experience may sometimes be a sign of a drug therapy problem:

"Pharmacists and students were discussing the case of a patient with a prescription of nortriptyline for depression, but the patient was not taking the medication because she claimed she did not have depression. According to one of the students, the patient had a problem of non-adherence to the treatment. However, a pharmacist suggested that, as a first step, it was necessary to investigate whether

the patient had depression to assess the real need for that medication.”

In this case, pharmacists and students agreed that the patient's claim of not having depression should be further explored before working on adherence to a treatment that might not be necessary. Therefore, they referred the patient to a primary care doctor for a formal diagnosis.

During the process of exploring medication experiences and assessing the patient's medication-related needs, pharmacists associate this knowledge with the rational process for assessing the patient's pharmacotherapy in terms of its indication, effectiveness, safety, and convenience. In the example above, the importance of the rational method of decision-making in pharmacotherapy is evident. The pharmacist took the patient's medication experience into consideration and, before counseling the patient to use the medication; she first asked if there was an indication for using it. Because she could not be completely assured of the need for the medication, she could not move on to assess and support the patient's compliance. This prevented the pharmacist to promote the use of a potential unnecessary medication. Also, it sparked communication and collaboration amongst healthcare professionals. In a recent study, Sorensen et al. [19] discussed the importance of ensuring that the medication is indicated, effective and safe for the patient before promoting adherence. This is the only way to achieve true rational use of medications. The authors highlighted that focusing on the promotion of adherence severely limits the control of morbidity associated with inappropriate use of medications. Incorporating the patient's medication experience into the rational decision-making helps to ensure that medications used by patients are indicated, effective, safe and convenient to be used as prescribed for their health conditions.

This result showed that the medication experience can serve as a guide for helping professionals identify DTP. It complements the outcomes of other studies showing how these experiences emerge while identifying patients' DTP, and should be considered to enable successful resolution of these problems by professionals [3, 15]. Therefore, the experience with medication itself can help the professional identify drug therapy problems or the experience can emerge after identifying the problem.

The patients' medication experience is instrumental to the identification of the DTP and to the recommendation of patient-centered solutions to

resolve the problem. The application of this knowledge at this stage of the decision-making process is outlined in the next category.

Understanding the patient's medication experience to help guide conduct

Given the understanding of the patient's medication experience, the practitioner further analyzes this experience, in an attempt to determine if it is a perception/belief that the healthcare professional should incorporate into the construction of the care plan or if it is based on a misconception that need to be addressed with the patient.

“I try to understand their [patients'] experiences and try to see where they are wrong or right. For example, I have had patients like this [reproducing the dialogue with the patient]: What do you think of insulin? And the patient says: “Terrible, people using insulin die... My brother died because he started using insulin.” So then I focus on the brother: What did your brother have? And the patient goes: “Oh, he had diabetes”. And did your brother control it well? “Hardly, he ate sweets all the time”. Then I say: So do you think he died because he used insulin or because he didn't control his diabetes? And the patient goes: “Ah, it's probably because he didn't control it, isn't it? And I respond: Probably. So then, when the patient gets it, it is easier for me to start talking about insulin and its benefits.”

“[...] I need to know what patients' expectations are regarding their treatment, to see if their expectations are congruent with reality, with what can be achieved with the treatment. I often ask my patients: “what do you expect to achieve with this treatment?” If the expectation is correct, fine. If not, I know that we need to work on it.”

It is important to point out that this strategy does not involve judging the patient. In fact, the professional understands that he/she needs to consider the experiences of the patient, so that the resolution of that specific problem can be properly contextualized. One of the participants stressed that she “filters or weighs up” her interventions based on patients' medication experiences. By deeply understanding these experiences, the professional decides which course of action he/she should take with the patient. Once the pharmacist understands the patient's experiences, he/she usually takes one of the following courses of action: 1. Improving patient's health literacy: when the pharmacist concludes that the patient's experiences need to be further discussed so that the patient better understands his treatment and overcomes the challenges to its adoption. 2.

Adapting interventions: when the pharmacist recognizes that the patient's experience must be incorporated into the clinical decision to achieve a positive outcome.

These different conducts are further discussed below.

Improving health literacy: helping patients overcome barriers

Health literacy is a concept defined as "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions" [20]. This concept refers to how patients understand the information on health received constantly, and how they use it to make decisions [21]. Exploring patients' medication experiences is a way of elucidating the patient's health literacy level and it also contributes to the design and implementation of patient-centered interventions, as discussed by this pharmacist:

"For example, at the initial assessment the patient clearly shows that she has a fear, reluctance, and that she misunderstands the treatment. So you identify this misunderstanding on the initial assessment, but you make a care plan centered on you, choosing what YOU deem best for the patient. But by doing this, you are keeping the patient at the same health literacy level as she was before. I believe we, healthcare professionals, have this duty to help the patient improve their health literacy level. We do play an educational role."

This result suggests that pharmacists use the medication experience as a tool to help improve patients' health literacy. To this end, practitioners should seek strategies that foster patients' understanding of their health conditions and medications. Patients can then make informed decisions, as noted by another participant:

"You should provide the person with the knowledge: 'look, such and such situation can happen. If x happens you should do the following, if y happens you should do this instead'. The person can then manage it herself. So, it's kind of honing the knowledge, providing them with it and saying: 'do what's best, if it doesn't work out, contact me and we will sort it out together.'"

It is noteworthy that by sharing information with the patient to improve understanding about their health, the pharmacist is fostering patients' involvement in the care process. The pharmacist is also contributing to restoring patients' autonomy by enabling them to make informed decisions about their health.

Misconceptions and held beliefs can hinder or even prevent patients from achieving positive health outcomes. Participants in this study agreed that they should contribute to improving the patient's health literacy by addressing misconceptions and filling knowledge gaps. According to them, perfecting the patient's notions and understandings, while respecting the patient's time and clinical condition, helps the patient to overcome barriers to the use of the medication:

"And then he [patient] already had a series of complications because starting on insulin was being delayed so much. I had to really work on him... But it was he who made the decision ... I think we met about four times, before he said like 'I want to take it'. It was one small step at a time, like crawling, I kept showing him what would happen and the benefits of taking the insulin."

In this narrative, the participant revealed how she needed to provide the patient with information in small chunks, so that he understood the role of insulin in his treatment and agreed to start using this medication.

Previous studies have shown a positive association between low health literacy and increased mortality risk among the elderly [22, 23]. Therefore, healthcare professionals need to be attentive to this characteristic and constantly seek to improve patients' health literacy levels. Understanding patients' medication experiences proved to be an important step to identify the patient's level of knowledge on their health, providing further support for interventions in this area. Miller [24] showed a significant impact on improving patients' level of health literacy and adherence to treatment after implementing health literacy interventions. However, no other studies before have associated patients' health literacy with the concept of the patient's medication experience.

Adapting interventions: matching the pharmacotherapy to the patient

In some situations, pharmacists showed how the medication experience could lead to changes in the conduct of the professional, contributing to the achievement of positive health outcomes:

She [patient] came into the office and straight away said "there's no way I'll take this medication [nifedipine]". Then I said "Ok. May I ask why not?" I was trying to understand... Then she said "this medication here is red [referring to the light protection packaging]. Red is the color of the devil and I'm not taking it, I won't take it". Then I thought that perhaps another professional, on impulse, would

say “that makes no sense! If you open up the blister pack, you will see that the tablet is white, just the shell is red”. But I said ok, I’ll think of something else. Then I requested a switch to amlodipine, because the blister pack was transparent, I thought that wouldn’t be a problem. I switched to amlodipine, she adhered and her BP got under control. I think this was the case that struck me the most, because I understood she held a belief and I was the one that changed. I said “ok, there is another option that could also be good, and we’ll manage to resolve the problem without interfering with what you believe”.

In this example, the patient held a strong religious belief about the color of the blister pack that prevented her from taking it. This is a common scenario in Brazil, where religious practices and beliefs are frequently intertwined with the patient’s perception of health and illness [25]. Although the pharmacist could have explained the process of drug degradation if exposed to sunlight, this information was unlikely to impact the patient’s religious belief. In addition, the medication alternatives available allowed the pharmacotherapy to be adapted to the patient’s belief without compromising the treatment outcomes. It is important to highlight that the pharmacist’s decision in this scenario would probably be different if there were no other therapeutic alternatives to treat the patient’s hypertension. Thus, understanding the medication experience helps the practitioner decide on the most suitable alternative, considering the therapeutic alternatives available and the patient’s preference, as confirmed by another participant:

“... Sometimes you have two or three possibilities to resolve the same problem and then the subjective experience can tell you what is preferable for the patient. So you think about that possibility with more care, trying to make it viable, like that, see what is the actual viability.”

As previously mentioned, attention to the patients’ medication experiences is one of the first steps towards enabling shared therapeutic decision-making between practitioners and patients. It increases patients’ involvement in their own treatment, allowing them to actively participate in the process of adapting the pharmacotherapy to best suit their routine:

“So now I show him [patient] the different ways of resolving the problem and try to estimate more or less how long it will take to attain that objective, but it’s the patient who chooses the course to be taken. I cannot impose a decision on him, nor change his routine so that he follows what I think is best for him.

I have to try and incorporate the whole care plan into his routine.”

Pharmacists involved patients in the decision-making process, either by helping them overcome barriers to medication use or by adapting the pharmacotherapy to their routine. These courses of action led to the emergence of shared decision-making with the patient. Shared decision-making is an approach in which professionals and patients make decisions together using the best available evidence [26]. For shared decision making to take place, the patient must be willing to be involved and the professional must be willing to accept the patient as a team player in the process of exploring different treatment alternatives [27, 28]. Patients’ medication experiences can help professionals identify the need to provide patients with alternatives for the resolution of certain DTP, together with any further needed information. Consequently, patients will have the means to play a role in choosing among the options available in an active and informed manner.

The pharmacists included in this research used similar strategies to those reported by Ramalho-de-Oliveira et al. [15] to handle patients’ experiences with medications. Strategies including listening, building a strong therapeutic relationship, adopting an open and non-judgmental attitude, educating the patient, involving the patient to encourage shared decision-making, were identified in both studies.

The patient’s medication experience is a fundamental concept in the provision of CMM services. All pharmacists interviewed in this study sought to incorporate these experiences into their daily practice. It is important to highlight that even experienced medication management practitioners had difficulties describing how to incorporate the patient’s medication experience into the provision of clinical services as discussed by Shoemaker et al. [3]. We suggest that the incorporation of this knowledge into practice may be challenging for students and novice professionals. Therefore, educational strategies should be adopted early on and woven into the curriculum to aid the learning of this important skill. The knowledge uncovered in this article can be used as a teaching guide to illustrate how patients’ medications experiences can be incorporated into the decision-making process of clinical pharmacists.

CONCLUSION

The results presented in this article showed that pharmacists took the patient’s medication experience into account when identifying drug therapy problems

and defining the best course of action for resolving them. We expanded the current understanding of how these experiences are used in practice and we presented a theoretical proposition for the application of this knowledge in the decision-making process from the perspective of the participants. This proposition further informs professionals on the

relevance and applicability of patients' medication experiences to the rational decision-making method in pharmacotherapy. Although this research involved pharmacists from specific practice settings, these results might be transferred and applicable to professionals involved in caring for patients in use of medications in other scenarios.

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