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Original Research

Patient responses to inhaler advice given by community pharmacies: The importance of meaningfulness



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A B S T R A C T

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Background: The value of counseling in community pharmacy depends on its ability to help patients improve their use of medicine and thereby health status, by their adherence to recommendations. Studies showing how patients respond to daily pharmacy counseling are, however, scarce. The aim of this study was therefore to investigate how patients respond to medical advice given by pharmacy staff.

Methods: A heterogeneous sample of patients who received the 'Inhaler Technique Assessment Service' (ITAS) in Denmark were interviewed, using a semi-structured schedule. Meaning condensation and theoretical analysis were conducted.

Results: Twenty-two patients who had received the ITAS were included in the analysis. Participants found recommendations about optimal inhalation technique meaningful and accepted these without questioning. This contrasted how they accepted advice toward their medicines, in general. Participants experienced various difficulties when trying to adhere with ITAS recommendations at home. Participants who used inhalers for a long time did not feel an improvement in disease symptoms due to having improved their inhalation technique; however, they still continued to inhale the way proposed by pharmacy staff.

Conclusions: ITAS recommendations seemed important to adhere with for patients despite experiencing difficulties when doing so and secondly not feeling an immediate improvement of health. Reasons for this appear to be connected with the concept of meaningfulness. Hence, this aspect should be investigated further, as this could help staff providing adequate counseling to patients. Further, pharmacy staff should focus more on supporting patients implementing their health advice at home.

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Introduction

Counseling at the pharmacy counter to support patient outcomes has become an important part of pharmacy practice. However, results documenting the benefits patients gain from counseling have varied. Larger pharmaceutical care programs, such as asthma interventions and medication reviews, have shown positive clinical results,^{1–4} however, there is more uncertainty about how counseling at the pharmacy counter influences

patients.⁵ Apart from an increased sense of safety and control over their disease, patients who have received normal pharmacy counseling over the counter appear to have difficulties expressing their gained benefits.^{6,7} Findings further suggest that patients forget parts of the advice given or do not find it important.^{8–10}

Changes in patients' medicine behavior or reinforcement of appropriate habits subsequent to pharmacy counseling are prerequisites for the counseling to have a positive influence on patients' health status. Controlled studies and studies exploring patients' own accounts of their changed behavior due to the counseling are both needed to illustrate this impact. The need for patient accounts is particularly important as their perceptions of what has been discussed at an encounter can vary from the perception of the pharmacy staff.^{11,12} Furthermore, patients' accounts are important for understanding *how* counseling actually supports changes in their medicine behavior.⁶ However, such

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studies are scarce.

The aim of this study was to obtain a deeper understanding of how pharmacy counseling affects patients' medicine taking behavior (and thereby possibly health status) by exploring patients' responses to that counseling.

The case explored is the 'Inhaler Technique Assessment Service' (ITAS) in Denmark. The service has existed since 2005 and aims to improve patients' inhaler technique.¹³ The ITAS takes a maximum of 10 min and is fully reimbursed by the Danish government. The service takes place on a regular basis at Danish pharmacies ($n = 236$) that provide approximately 40,000 services each year. Patients are offered the service when handing in a prescription on a dry inhaler system. If they accept, they are asked to demonstrate (usually at the counter) how they inhale in order for the staff to detect any errors. The service can be performed by accredited pharmacists and pharmacist technicians.

Methods

Design

Semi-structured interviews were chosen to explore patients' responses to having received an ITAS. As the study was considered exploratory with little known about patients' responses and outcomes of the service, semi-structured interviews were conducted with patients both having received inhaler medicine for the first time as well as patients who received the ITAS even though they had used inhaler medicine for several years. Interviews were conducted by the first author of this paper (see [Appendix](#) for interview guide) as well as by pharmacy internship students (similar but more detailed interview guide) at Copenhagen University (including the third author of this paper) to achieve an acceptable numbers of participants and to ensure further heterogeneity of participants in terms of their place of living.

Hence in 2013, all students at their pharmacy internship were introduced to the background and aim of the study, and 6 students volunteered to carry out interviews. These students were then instructed on how to carry out the interviews. To reduce interviewer bias, the interviews of students were kept more structured than the ones of the first author i.e. all interview questions were predetermined as were questions for probing.

Interviews investigated patients' daily experiences living with a lung disease and medication for chronic conditions, communication around the ITAS recruitment, patients' reasons for accepting the service,¹⁴ how the service was performed (including if errors were detected), and how patients responded at home to staff recommendations. The last part included patients' reflections on whether to follow the recommendations as well as experienced challenges and benefits.

Recruitment

Recruitment of participants was done by both permanent pharmacy staff from 6 community pharmacies from different suburbs of Copenhagen and by the pharmacy internship students representing community pharmacies from 4 different cities in Denmark.

The interviews conducted by the first author were tape-recorded and transcribed *ad verbatim* with permission of the interviewees, whereas the students either taped or documented participants' answers by taking extensive notes. As students' interviews were kept more structured these lasted an average of 15 min compared to an average time of 50 min of the other interviews.

Interviewees for the longer semi-interviews received gift cards

of 25 Euros, however, were not informed of this incentive beforehand.

Analyses

Permission to gather and process the personal data of the interviewees was granted by the Danish Data Protection Agency at the 30th of May 2011 (j.no. 2011-41-6374).

To explore if and how pharmacy counseling affects patients' medicine behavior, the longer semi-structured interviews were first analyzed using the 'meaning condensation' process suggested by Kvale, i.e. a phenomenological approach where important statements by interviewees are identified and kept, yet condensed.¹⁵ The first step was to identify relevant statements regarding:

- if corrections in the inhalation technique were suggested by staff
- if participants tried to implement recommended changes
- perceived problems applying the new inhalation technique at home
- participants' perceived benefits

Statements were extracted and condensed, and then grouped together forming codes on an individual basis. Codes between participants were then compared.

As one emerging theme was patients' unquestioning acceptance of the ITAS recommendations, the analysis was supplemented by a theoretical analysis based on the works of Pound et al¹⁶ to explore the type of adherence applied by the participants. Pound et al identified three groups in medicine adherence: accepters, modifiers, and rejecters. Accepters were divided into passive, purposeful, and problematic accepters according to patients' reflections of the recommended treatment and whether patients are concerned about their treatment after starting it. Modifiers vary according to their reasons for changing their medical treatment, often due to patients wanting to reduce their medicine intake, wanting to reduce the influence of medicine on their daily life, or wanting to take control over ones' life.

Statements pertaining to patients' responses to inhalation changes suggested by staff were extracted and interpreted according to the theoretical frame. To explore if this behavior was due to aspects pertaining to the ITAS or general adherence behavior, the theory was also used to assess patients' general adherence to inhalation medicines. Adherence in this study therefore pertained both to for example, number of dosages, as well as the way patients take in the medicine (inhalation technique).

The extensive notes taken by pharmacy internship students were applied to the analysis to validate and refine the identified patterns. The results were further validated by including all authors in the process of analysis.

The data were also analyzed with regard to patients' reasons for accepting the service – these results are reported elsewhere.¹⁴

Results

Twenty-two patients participated in the study. Nine participants were interviewed between 2011 and 2013 by the first author of this paper, and 13 patients were interviewed in 2013 by pharmacy internship students. [Table 1](#) provides more information about the participants.

General adherence to chronic inhaler medication

Patients displayed several ways of adhering to their daily

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