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### Research paper

# Elderly polypharmacy patients' needs and concerns regarding medication assessed using the structured patient-pharmacist consultation model

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#### ABSTRACT

**Objective:** To evaluate elderly polypharmacy patients' needs and concerns regarding medication through the Structured Patient-Pharmacist Consultation (SPPC).

**Methods:** Older patients on chronic treatment with  $\geq 5$  medications were asked to fill in the SPPC form at home. A consultation with the community pharmacist, structured according to patient's answers, followed within 2–4 weeks. Logistic regression associated patients' individual treatment with care issues and consultation outcomes.

**Results:** Out of 440 patients, 39.5% experienced problems, and 46.1% had concerns about medication use. 122 patients reported reasons for discontinuing treatment. The main outcome of the consultation was a better understanding of medication use (75.5%). Side effects and/or non-adherence were identified in 50% of patients, and 26.6% were referred to the doctor. Atrial fibrillation, COPD, anticoagulants, benzodiazepines, and beta agonists/corticosteroids were associated with problems during medication use. Patients with diabetes improved their understanding of medication use significantly.

**Conclusion:** Patients on benzodiazepines, anticoagulants, and beta agonists/corticosteroids, with atrial fibrillation and/or COPD, may have a higher potential for non-adherence. Counseling patients based on the SPPC model may be particularly useful for patients with diabetes.

**Practice Implications:** The SPPC model is a useful tool for counseling based on patient needs.

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## 1. Introduction

Over the past decades, studies have confirmed the effectiveness of pharmaceutical care services in improving medication use [1]. Lack of adherence is a significant problem in medication use, especially in elderly patients on chronic treatment in primary care [2,3]. Non-adherence does not only severely compromise therapeutic outcomes and patients' safety, but it also results in additional healthcare costs [4–6]. Unintentional non-adherence is related to patients' skills or their ability to take their medication, whereas intentional non-adherence is associated with motivation and patients' beliefs and concerns towards medication use [7]. In order to address the problem of non-adherence, practitioners need

to gain a deeper insight into patients' individual perception and attitude towards medication therapy [8]. Hence, a number of instruments for improvement of patients' involvement in the consultation through written or verbal prompts and guidance have been developed, evaluated and tested. Tools which encourage patients to consider and write agenda issues prior to the appointment with healthcare practitioner can lead to longer consultations, increased number of questions asked and problems discussed [9–14]. Geurts et al. developed the self-completion concordance form (SCCF) for patients with a prescription for new chronic treatment, consisting of eleven open-ended questions. Patients' drug-related expectations, concerns, information needs, possible reasons for discontinuation as well as practically experienced problems during the first two weeks of the therapy, prior to a consultation in the pharmacy were addressed [15]. The questionnaire was slightly modified and used in a research program coordinated by the European Directorate for the Quality of Medicines & HealthCare (EDQM, Council of Europe) for the assessment of patients' involvement in pharmaceutical care. The

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aim of the present research was to assess the needs and concerns of elderly polypharmacy patients regarding medication through the Structured Patient-Pharmacist Consultation (SPPC) model in Serbia.

## 2. Methods

### 2.1. Study design and patients

Between March and June 2014, a prospective study was conducted, in Serbia. After obtaining a local Ethical Committee permission, the recruitment process was launched. The research was carried out in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki). The study was announced on the website and in the official journal of the Pharmaceutical Chamber of Serbia. Pharmacists who applied for participation were asked to fill in, sign and send an agreement form to the national coordinator. After that, they were provided with all study materials. Instructions suggesting procedures for recruiting patients and delivering consultations were also at pharmacists' disposal. All material was originally developed in English and later on translated into the local language. Translations were then evaluated by a small group (8–10) of native speakers to ensure that the resulting translations are correct, clear and understandable. Back-translation into English was then performed and the resulting forms sent to the project leader for final approval.

The procedure required the recruitment of 10 consecutive patients meeting the following criteria: age  $\geq 65$  years and five or more medications for conditions that have been present at least six months. Medications of interest were: cardiovascular (ATC: C01–C10), alimentary tract and metabolism (ATC: A1–A16), musculo-skeletal system (ATC: M01–M09) and respiratory system (ATC: R01–R07). Patients with at least one medication of interest were included in the study. Exclusion criteria were: no possibility for personal contact with the patient (e.g. patients who cannot leave their home), physically frail elderly, and patients receiving palliative care, patients with cognitive impairment and illiterate patients. Patients with cognitive impairment had a diagnosis of diseases such as Alzheimer's disease and dementia, whereas frailty was assessed by the pharmacist.

The pharmacist briefly informed patients about the project and invited them to participate. A self-completion concordance form called "My CheckList" was handed out to participants and a consultation appointment was scheduled, usually for the date of next visit or within 2–4 weeks. "My CheckList" consisted of seven

questions covering five subjects: knowledge, expectations, problems, concerns and reasons to stop treatment (Table 1). If patients' needs in pharmaceutical care process remained unmet, the patient could ask additional questions. The pharmacist structured the consultation according to patient's answers and documented the care issues in the Consultation Form for Pharmacists. Moreover, the patients were asked about the usefulness of the consultation and whether it was helpful for better understanding of medicine use. Pharmacists documented the outcome of the consultation by filling in one or more of following issues: Patient agreed that he/she understood better the use of his/her medication; possible side effects were identified during the consultation; patient's non-adherence to therapy was identified; patient was referred to the doctor due to side effects of prescribed medication; patient was referred to the doctor due to patient's non-adherence to therapy; no major outcome to be reported due to the fact that the "My CheckList" form was not completed meaningfully (i.e. the patient's answers were not appropriate for this type of consultation); other.

If participating community pharmacists had uncertainties of any kind, they referred to a senior academic pharmacist and six teacher-practitioner pharmacists at the Faculty of Pharmacy, University of Belgrade. During the study period, two meetings with community pharmacists were organized. Additionally, regular correspondence between teaching pharmacists and community pharmacists was maintained. The online platform Moodle was used as a forum for discussions, support, and sharing of experience.

### 2.2. Statistical analysis

Descriptive statistics was performed to analyze the overall use of the SPPC model within the settings of the community pharmacies. Due to the heterogeneity of the data, the development of a coding system was necessary. Patients' answers were summarized and replaced by keywords, which were further grouped into categories. Statistical analysis was performed using binary logistic regression. Drug or disease/condition; gender; age; the number of prescribed drugs; and the number of indications; were entered in the logistic regression analysis and a model was built using the backward conditional method which excluded variables at a selection threshold of 0.1. The results of the analysis and predictive factors are presented with odds ratios (OR) and their 95% confident intervals (CI). A probability value of  $<0.05$  was considered to be statistically significant.

**Table 1**  
My "CheckList".

#### Questions That You, The Patient, May Have Concerning Medication Use

1. What medication were you prescribed? Please write down the name of the medications.
2. What would you like to know about medications?
3. What are your expectations of the effects of medications?
4. Have you experienced problems using medications during the first weeks of treatment (i.e. practical problems and/or unwanted effects)?

- Yes
- No
- I do not know

4a. If yes, please list practical problems that you experienced (e.g. problems in taking the medication at the time indicated by the prescriber). If you did not experience any practical problems, please write "None."

4b. If yes, please list unwanted effects that you experienced. If you did not experience any unwanted effects, please write "None."

5. Do you have concerns about taking medications for long term (e.g. afraid of experiencing side effects; afraid that the medication will affect my normal daily routine; etc.)? If yes, please write your concerns down.

6. What would be a reason for you to stop using medications?

7. Please note here any questions or issues that you think will be important to discuss with your pharmacist as you continue to receive the treatment

Italic values are a subcategory to the category above. I.e. within the category Problems, practical problems are the subcategory of problems and Regimen issues and Administration problems are the subcategory of practical problems. Gastrointestinal system, Nervous system and Cardiovascular system are subcategories of Side effects.

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