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Authors Ingrid Kummer*, Jovana Mudrić†, Tamara Ćikarić†, Ljiljana Tasić†, Andrijana Milošević Georgiev†, Valentina Marinković†, Vojnosanitetski pregled (2020); Online First December, 2020.

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THE PATIENTS' PERCEPTION OF THE QUALITY OF COMMUNITY PHARMACY SERVICES USING THE CRITICAL INCIDENT TECHNIQUE (CIT)

PERCEPCIJA PACIJENATA O KVALITETU USLUGA U JAVNOJ APOTEKI KORISTEĆI TEHNIKU KRITIČNIH INCIDENATA

Ingrid Kummer*, Jovana Mudrić†, Tamara Ćikarić†, Ljiljana Tasić†, Andrijana Milošević Georgiev†, Valentina Marinković†

*Zagreb City Pharmacies, Zagreb, Croatia
† Department of Social Pharmacy and Pharmaceutical Legislation, Faculty of Pharmacy, University of Belgrade, Belgrade, Serbia

Correspondence to: Ingrid Kummer, Zagreb City Pharmacies, Zagreb, Croatia.
Phone: +385 99 6582 405; e-mail: ingrid.kummer2@gmail.com
Abstract

**Introduction / Aim.** The Critical Incident Technique (CIT) is a qualitative research method for measuring consumer satisfaction by collecting and analysing information on participants and their activities. This method allows participants to present their detailed experiences related to a particular service in the way they perceive them. The study aimed to examine patients' perceptions of an incident occurred in community pharmacies using CIT and determine recommendations for improving the quality of pharmacy services.

**Methods.** A qualitative study using an interview based on CIT was conducted in three pharmacies in Serbia, on the territory of Krusevac city. The entire course of the interviews was recorded, which provided detailed research.

**Results.** A total of 68 critical incidents were collected and divided into two groups: positive (37) and negative (31), depending on the (dis)satisfaction of patients with the services of pharmacists in community pharmacies. The following thematic clusters of pharmacy services were covered: accessibility of community-based pharmaceutical services, pharmacist behaviour, patient counselling, dispensing of drugs and / or medical devices, compounding, and pharmacy sales / commercial practice.

**Conclusion.** The results show that CIT is a useful tool for evaluating and improving pharmaceutical services. Based on the data collected, various aspects of community pharmacy services can be improved and further research should be carried out.

**Keywords**

Critical Incident Technique (CIT), community pharmacy services, pharmacist, patient satisfaction

Percepcija pacijenata o kvalitetu usluga u javnoj apoteci koristeći tehniku kritičnih incidenta

**Apstrakt**

**Uvod/Cilj.** Tehnika kritičnih incidenta (CIT) je kvalitativna metoda istraživanja za merenje zadovoljstva klijenata putem prikupljanja i analiziranja podataka o učesnicima i njihovim aktivnostima. Ova metoda omogućava učesnicima u istraživanju da predstave
detalje o svojim iskustvima povezanim sa određenom uslugom, na način na koji ih doživljava. Cilj studije bio je ispitati percepciju pacijenata o incidentu koji se desio u javnim apotekama korišćenjem CIT metode i predložiti preporuke za poboljšanje kvaliteta farmaceutskih usluga.

Metode. Kvalitativna studija pomoću intervjua zasnovanog na CIT-u sprovedena je u tri apoteke u Srbiji (na teritoriji grada Kruševca). Ceo tok intervjua je sniman pomoću diktafona čime je obezbeđeno detaljno istraživanje.

Rezultati. Ukupno je prikupljeno 68 kritičnih incidenata i podeljeno u dve grupe: pozitivne (37) i negativne (31), zavisno od (ne)zadovoljstva klijenata uslugama farmaceuta u apotekama. Obuhvaćeni su sledeći aspekti usluga u apoteci: dostupnost farmaceutskih usluga u zajednici, ponašanje farmaceuta, savetovanje pacijenata, izdavanje lekova i / ili medicinskih sredstava, rastvaranje lekova i prodaja / komercijalna praksa farmaceuta.

Zaključak. Rezultati pokazuju da je CIT korisno sredstvo za procenu i unapređenje farmaceutskih usluga. Na osnovu prikupljenih podataka mogu se poboljšati različiti aspekti usluga u javnoj apoteci i potrebna su dalja istraživanja.

Ključne reči
tehnika kritičnih incidenata, usluge javne apoteke, farmaceut, zadovoljstvo pacijenta

Introduction

An integral part of pharmacist contribution to healthcare is the improvement of rational and economical prescribing and proper use of drugs. The goal of each part of pharmaceutical care service is relevant to each patient, clearly defined, and comprehensively and clearly presented to each healthcare provider (HCP) involved in the treatment and care of patient1.

Most of the researches conducted in the field of quality of pharmacy services are based on practice; they are focused on the identified problem and seek its clarification, evaluating and improving services2.

The Critical Incident Technique (CIT) is a well-established qualitative research tool used in many areas of health science, education, as well as management and marketing. John C. Flanagan was the first to describe the Critical Incident Technique (CIT) and the original purpose of this method was applied in organisational psychology3. The Critical Incident
Technique (CIT) is used to find the cause of system problems to minimize loss of person, property, money or data. The technique takes into the account the collection, analysis and interpretation of reports on actions taken by experts in response to their experience. This includes the development of constructs that report critical incidents into defined categories; subsequent analysis allows the researcher to draw conclusions on improving results for future scenarios.

CIT is a method for measuring consumer satisfaction with services by collecting and analyzing information about participants and their activities. This method allows participants to present their details about experiences regarding a particular service, in the way they perceive them, instead of asking them questions defined by others.

This approach also allows participants to express their satisfaction or dissatisfaction with a particular part of the service. In this paper, CIT was used to determine (dis)satisfaction of patients with pharmaceutical care services in the community pharmacy.

Studies using CIT in health care have involved nursing staff, physicians, student-patient relations and healthcare workers (HCW), as well as their behaviour in daily work, the standpoint of HCWs in dealing with patients and their complicated chronic conditions and specific patient needs.  In nursing practice, the CIT as a research tool is used to investigate the experiences of patients suffering from age-related wet macular degeneration; how these patients perceive nursing care and to what extent they are satisfied. Also, the CIT tool has been used in patients struggling with advanced COPD and lung cancer, as well as in cancer survivors to investigate and collect information on complementary and alternative medicine (CAM).

Other studies have examined how HCWs make decisions regarding patient health; reveal why medication errors occur and how to avoid them. The patients suffering from chronic conditions were investigated concerning their perceptions in interactions with HCWs and their time spent in the hospital setting.

When searching for publications from pharmaceutical practice, not enough researches regarding the quality of pharmaceutical services exist as well as any specific tools that could help in measuring / assessing patient satisfaction.
In Elvey et al.\textsuperscript{11} study, conducted by CIT tool, the patient-centred professionalism and behaviour of early-career pharmacists working in community and hospital pharmacies were examined; other researches were focused on revealing which factors have an impact on pharmacy students when making decisions about OTC drug recommendation to a patient\textsuperscript{12}. A few studies have also dealt with pharmacist-related issues, e.g. how they perceive specific situations in their work, the root of patient aggression, the consequence of this aggression on the pharmacist's work and behaviour\textsuperscript{13,14} or why community pharmacists might violate the rules of standardised procedures that should be applied when such a violation could pose a potential threat to patient safety\textsuperscript{15}.

The study aimed to examine patients’ perception regarding the incident occurring in community pharmacies by using CIT and to determine recommendations for improving the quality of pharmacy services.

**Methods**

A qualitative CIT-based study\textsuperscript{3} using the interview method was conducted following the approval of the Ethics Commission in three community pharmacies located in central Serbia.

**Sample**

The sample of patients was selected based on two criteria: (i) patients who visited the pharmacy to collect chronic therapy for themselves (for hypertension, asthma, osteoporosis or diabetes mellitus) and (ii) patients who had any of the acute symptoms such as headache, high fever or rash.

The participant had to meet all two criteria, after which the time and place of the interview were subsequently agreed. The participants were informed of the purpose and protocol of the study and ensured the confidentiality of the data collected and signed an informed consent.

Sampling was continued until saturation occurred, e.g. until the addition of new incidents contributed to further information for the analysis. The number of participants ended after new critical incidents did not appear in the respondents’ answers.
The research was conducted in three community pharmacies ("Benu", "Andjela" and "Lazarica") on the territory of Krusevac city. One pharmacy is located in the city centre and two other pharmacies are located on the outskirts of the city (not on the same side). The pharmacies were selected so that one pharmacy is in public ownership ("Lazarica" Pharmacy), and the other two pharmacies are in private ownership, in the pharmacy chain. One of the pharmacies operates only in the local municipality ("Andjela" Pharmacy), while the other operates throughout Serbia ("Benu" Pharmacy).

Ethical approval and consent for participation was applied and waived by the Ethics Committee of the Faculty of Pharmacy, University of Belgrade, No. 430/2. Twenty patients were examined; half of them were in the age group of 30 to 50 and were predominantly female (90%).

**Procedure, analysis and rigor of data collection**

An open-ended interview was designed (Appendix 1); the interviewer (TC) was trained on the way of approaching participants during the interview. Each interview was audio-recorded and conducted at a time and place convenient to each patient. The interviews lasted 5 to 20 minutes (average 10 minutes). All interviews were transcribed verbatim in written format. Each episode was analysed to gain an in-depth understanding of the significance of the previous participant in a given context.

An inductive analysis was performed by identifying the mechanism on which each episode is based and comparing all mechanisms to identify differences and similarities between the studied events. A descriptive list of elements was made and subsequently revised to remove redundancies. Then a list of descriptive elements is organized into a cluster of topics. The expert group (VM, LJT, IK) reached a consensus on the final list of the thematic cluster of pharmacy services and the relationship between the topics. For each example, citations were identified and included anonymously (patient statement only in relation to a particular incident).

**Results**
A total of 20 respondents (90% women and 10% men) were included in this study. Table 1 shows data on the socio-demographic characteristics of 20 interviewed respondents including their age, gender, employment, and the pharmacies they visit.

Table 1

| Characteristics       | Number of respondents (N=20) | Percentage (%) |
|-----------------------|------------------------------|----------------|
| **Age**               |                              |                |
| < 30                  | 2                            | 10             |
| 30 - 50               | 10                           | 50             |
| 50 - 70               | 6                            | 30             |
| > 70                  | 2                            | 10             |
| **Gender**            |                              |                |
| female                | 18                           | 90             |
| male                  | 2                            | 10             |
| **Employment status** |                              |                |
| unemployed            | 3                            | 15             |
| employed              | 6                            | 30             |
| retired               | 11                           | 55             |
| **Pharmacies included in the survey** |  |  |
| “Anđela” Pharmacy     | 9                            | 45             |
| “Benu” Pharmacy       | 6                            | 30             |
| “Lazarica” Pharmacy   | 5                            | 25             |

All critical incidents were sorted according to patients’ satisfaction and their experience with particular pharmacy service and pharmacist behaviour. After classifying the critical incidents, all elements were classified into six thematic clusters (three categories of the structure and three of the procedures), as shown in Table 2.

A total of 68 critical incidents were collected and divided into two groups: positive (37) and negative (31), depending on the patient's satisfaction / dissatisfaction with community pharmacy services. The same critical incident was assessed by both participants positively and negatively based on a number of dependent variables: age, gender, prior experience with community pharmacists and pharmacy services, emotional state, and the impact of other patients' experiences (Figure 1).
FACTORS AFFECTING CRITICAL INCIDENT PERCEPTIONS:
- age of participants
- gender
- previous experience with community pharmacists and pharmacy services
- emotional state
- patient is influenced by the experiences of other patients

CLASSIFICATION OF CRITICAL INCIDENTS (thematic clusters)
- accessibility of pharmacy services
- community pharmacists’ behaviour
- patient counselling
- dispensing of drugs and medical devices
- compounding
- community pharmacists care on the cost-benefit ratio

Figure 1 Classification of critical incidents (thematic clusters) as they are perceived by patients
Community pharmacy services comprise different interrelated segments, and the underdevelopment of one can cause the weakening of other segments, resulting in health / clinical, economic and legal consequences. The most interesting patient statements, e.g. descriptions of situations, whether positive or negative, are listed in Table 2 and Table 3.

| Thematic clusters of pharmacy service descriptors | Positive critical incidents (satisfaction of patients) | Negative critical incidents (dissatisfaction of patients) |
|-------------------------------------------------|-----------------------------------------------------|--------------------------------------------------------|
| **Accessibility of pharmacy services in community pharmacies** | pharmacy opening hours (working day, weekend) | pharmacy opening hours (working day / weekend) - working hours too short, especially on Sundays |
| | waiting time for pharmacy service | waiting time for pharmacy service |
| | pharmacy access (parking zone for customers, access for people with special needs) | pharmacy access (parking zone for customers, access for people with special needs) |
| | proximity to complementary services (e.g. medical centre and laboratory) | |
| | pharmacist available at a community pharmacy by phone or mail | |
| **Dispensing of drugs and medical devices** | community pharmacy equipment (wide assortment of prescription drugs, medical devices, dietary supplements, etc.) | partial (incomplete) information on the proper use of medical devices |
| | legible and clear dosing instructions on drugs' packaging | illegible and confusing writing of the dosing instructions on the drug packaging |
| | giving complete information on drugs (name, interval, dosing, route of administration) | not giving complete information about the drug (name, interval, dosing, route of administration) |
| | informing the patient on possible adverse drug/medical device reactions and clinically significant interactions and measures to avoid or alleviate them | emphasizing the possibility of adverse drug/medical device reaction – the patient is afraid of using the drug prescribed to him |
| | recognition and reporting of adverse reactions to drugs / medical devices | |
| | careful reading of prescriptions | |
| | appropriate expiration date of drugs | |
| | ordering availability (for products that are not | |
Pharmacist behaviour in a community pharmacy

Currently available in the pharmacies
organizing work in the pharmacy
politeness and appropriate facial expression of the pharmacist
responsibility of the pharmacist
understanding the patient’s emotional state
providing support (assistance) and readiness to help the patient
careful listening to the patient
the patience of the pharmacist in contact with the patient

Patient counselling

giving correct and complete evidence-based information during counselling
using appropriate language that patients can understand (without technical and foreign terms)
adjusting the tone of voice when addressing patients with hearing difficulty
using capital letters on written materials if the patient has vision problems

Compounding

proper labelling of the compound
control of the expiration date of the compound
control of the compound inner package

Pharmacist behaviour in sale/commercial aspects

notification on the discounts
informing the patient about the benefit/cost ratio of the treatment
accurate drug billing (participation, total drug costs)

Thematic clusters of pharmacy service and patients’ narratives of positive and negative experiences

| Thematic clusters of pharmacy service | Patients’ statements (positive critical incidents) | Patients’ statements (negative critical incidents) |
|---------------------------------------|--------------------------------------------------|--------------------------------------------------|
| Pharmacy services accessibility in the community (n=9) | “The phone line at the pharmacy is never busy, so I can get information on my prescribed drugs from very kind pharmacists.” | “I can never find free parking in front of the pharmacy. I take my prescription drugs, and I have no time to ask for any detailed advice (explanation for drugs), as I am in a hurry so that my car does not get towed.” |

Dispensing drugs and medical devices

“Although my eyesight is very poor, the pharmacist writes the instructions for taking drug

“The pharmacist wrote on the drug packaging how to use it for high blood pressure as 0+0+1, so I take it every third
| (n=20) | in capital letters. I try to use it regularly so that it can help me.” | day. My blood pressure varies, so I will ask my physician to prescribe me some stronger drug.” |
|---|---|---|
| Pharmacist behaviour (n=13) | “I was arguing with pharmacists in a community pharmacy for half an hour, trying to explain that it was not the same drug I had been taking for years. He assured me that the manufacturer had changed the packaging and the medicine was the same, and the price was the same. Finally, I took that drug with new packaging, when I saw that other pharmacies also no longer have (old packaging) drug.” | “I went to the pharmacy to get my prescription for diabetes, but also to find out what should I modify in my diet, to avoid using insulin so often. The pharmacist was very unpleasant, and she did not want to dispense the prescribed drug to me and emphasized that she was not an endocrinologist.” |
| Patient counselling (n=13) | “Lately, my son has had a harsh, strange and mutated voice. It was very strange since he is not yet in puberty, but the pharmacist explained that it could be due to the inhaler he was using, so she suggested he should use the Volumatic chamber. She also advised him to rinse his mouth out with water, so the drug particles do not deposit in his throat.” | “Once I went to the pharmacy to get my prescribed drugs... they were completely unorganized - piles of scattered papers, prescriptions... The pharmacist dealt more with the papers than listening to me, and she gave me a urinary tract tea instead of the respiratory tract tea that I requested, as I had a dry cough.” |
| Compounding (n=6) | “The pharmacist scared me when he told me that my son could get anaphylactic shock if I gave this antibiotic to him. He has never taken this drug before, so I’m not sure if he is allergic or not.” | “After waiting a long time to perform the OGTT test, I failed because the glucose I bought at the pharmacy did not dissolve in water. When I returned, I went to the pharmacy and informed the pharmacist to check the glucose, because I did not want other patients to have the same problem during testing; however, the pharmacist was not interested (he did not want to hear my objections), so I turned and left.” |
| Pharmacist behaviour in sale/commercial aspects | “The drug for osteoporosis that my physician prescribed was expensive. The pharmacist offered me a more affordable drug at a discount.” | “Ever since I quit smoking, I've been anxious and started eating more, and I've gained 10 pounds. The pharmacist tricked me into selling me the most expensive weight loss formulation that didn't help me lose weight.” |
Discussion

Patient-centred care describes the partnership between the patient and HCW, where patients’ expectations and experiences with their disease as well as experiences with drugs determine their willingness to adhere to prescribed drugs. In recent years, pharmaceutical practice has expanded significantly, with the increase mainly related to person centered care and patient needs.

The context in which health care services are provided by different HCW, such as physician, nurse or pharmacist, is different, but the expectations of patients in these systems are somewhat similar.

The behavioural research involving patients exists, but research in pharmaceutical practice from the patients’ point of view is rare, so the research instrument used in this study is interesting because it has been used in other disciplines before (e.g. nursing, doctor).

In this study, the number of actual critical incidents (37) exceeded the number of negative critical incidents (31), indicating that participants were generally satisfied with pharmacy services in community pharmacies. Positive experiences with patients mean that in cooperation with a pharmacist, patients could achieve positive clinical outcomes, while negative critical incidents indicate that pharmacy services require improvement to reduce errors in the provision of pharmacy services in community pharmacies. A significant cluster of pharmacy services is the process of counselling at the time of dispensing drugs that should be processed with sufficient privacy.

Our results are consistent with research by Emsfors et al., in which when patients were perceived to have been treated with respect and when they were involved in the process; this created confidence and trust among them and a willingness to cooperate. The most common reasons why participants said they were discouraged to ask for advice and help from a pharmacist were: lack of time, lack of privacy, insufficient number of qualified pharmacists in the pharmacy, pharmacist dealing with administrative matters and inadequate pharmaceutical education. Lack of perceived privacy is an obstacle to patients as well as in the study conducted among cancer survivors, where privacy concerns were a restrictive factor for participants, the same as for patients in our study. It should be noted
that patients in different health care institutions (e.g. community pharmacy, hospital) have almost similar problems when receiving care. Lack of attention, poor communication, lack of continuity in care, insufficient information, if not considered “co-partners”, have reduced the ability of patients to participate in decisions about their care, thus it is considered poor health care.

Of the total number of critical incidents collected, participants had the most positive experiences with the service in a community pharmacy dispensing drugs and medical devices, because this service is the most common reason for visiting a community pharmacy and the main and traditional service in pharmacy practice.

Pharmacists’ behaviour in a community pharmacy can impair communication with patients if the pharmacist does not listen to what his patient says, does not try to explain things in a way the patient can understand, has a negative attitude (insecure, preoccupied, pessimistic), expresses disinterest in the patient's problems, ignores the patient’s emotional state or the patient’s fears, or if the community pharmacist is in a constant rush due to various assignments.

Patients should be informed about the drugs they use, and how they should be used to achieve the best possible outcome. The same problems, when patients were unaware of what to expect from treatment or what would precede their recovery, arose in research conducted by Bailey et al. in nursing practice research or when patients felt that their emotional support was gone. As a solution, the pharmacist should strengthen the sense of trust among patients, providing them with clear and unambiguous explanations about the use of drugs and possible adverse drug reactions (ADR).

Another very important question for patients is how HCW perceives them. It is vital that they are considered equal partners in deciding their treatment with their HCW; they recognise themselves as persons and receive sufficient information regarding their health condition. In a community pharmacy, when patients were not satisfied with the proposed solution or explanation given by the pharmacist, they felt that the quality of service was declining. Our findings are well related to the results of Emsfors et al., who studied patients suffering from age-related wet macular degeneration, and similar nursing
behaviour resulted in patients’ satisfaction and the perception that they received the treatment they needed.

Recommendations on how to overcome barriers in communication between community pharmacists and patients include: avoiding technical language when addressing patients, using written instructions instead of verbal ones where necessary, checking that the patient understands instructions, actively listening to the patient, patiently answering the patient’s questions, paying attention to the patient's emotional and social needs, communicating with confidence and empathy. Empathy in communication in health care implies humanity, care, altruism, sharing emotions, and it has been noticed that it has a positive effect on the patient's well-being and his perception of the therapy that is received.

Implications

The results of this study show that CIT could be a useful tool for improving the quality of pharmacy services in the community by increasing patient satisfaction. Based on the results obtained, various aspects of community pharmacy services can be improved. Further research is needed using CIT in more community pharmacies and more countries to allow comparison of results.

Limitations

This study describes the experiences of patients from three different pharmacies in a smaller city in Serbia (Krusevac, about 60,000 citizens). Therefore, the small size of the sample does not allow a conclusion to be drawn about the wider population of patients.

Conclusion

The CIT recognises six descriptors / thematic clusters of incidents in community pharmacy practice, as foundation for a quality improvement recommendation. The patient's perception of pharmacists' behaviour is considered a very important descriptor. It is identified especially in three basic pharmacy services (such as dispensing, cancelling and compounding of drugs) to meet the patients’ needs and achieve positive therapeutic results. A good communication between a patient and a pharmacist has increased patient
satisfaction. Also, it had an impact on the quality use of non-prescribed drugs (self-medication). Based on the data collected, various aspects of public pharmacy services can be improved and further research should be carried out.

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Appendix 1

Open-ended questions that led the interview:

1) Introductory statement

"We are conducting a study that aims to examine your experiences with community pharmacy services and community pharmacists in any of your previous visits to community pharmacies";

"May I interview you?"; "May I record your voice during the interview?" (Signed consent form.)

2) Remembering and contextualising the episode

"Do you remember any good or bad experiences you had with community pharmacists while providing pharmacy services in the community pharmacy?"

3) Describing the dynamics of the event

"Please, describe the event in detail and how it happened."; "Please, tell me the details of the episode (e.g. what was the pharmacist doing, how did they behave?)"; "Have you ever experienced any benefit or consequence as a result of the pharmacist's behaviour in the community pharmacy?"
