Evaluation of the satisfaction level of patients attended by a Pharmaceutical Care Program in a Private Communitarian Pharmacy in Vitória (ES, Brazil)

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The present study was designed to evaluate the satisfaction of users of a Pharmaceutical Care (PC) service in a private communitarian pharmacy in Vitória (ES, Brazil). In this transversal observational study, patient interviews were performed by an experimenter that had no relationship with the establishments evaluated. Data were collected using a structured questionnaire. The questionnaire used a five point Likert scale, in which smaller numbers represented lower levels of satisfaction. For comparison, user satisfaction was also evaluated for two pharmaceutical establishments that do not have standardized PC services. In these cases, age-matched patients were selected randomly. A higher level of satisfaction was reported by users of the PC service, with values between three and five. The higher averages for the establishment with PC service were the result of greater perceived pharmacist interest in the patient’s health. As the same results were not obtained by the services without PC, it was concluded that this practice is very important to the satisfaction level of users of pharmacy services.


INTRODUCTION

The concept of Pharmaceutical Care (PC) was firstly defined as the responsible provision of pharmacologic tre-

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ament, with the purpose of obtaining concrete results improving the patients quality of life. (Hepler, Strand, 1999) The practice of pharmaceutical care began to be better structured in Brazil in the year 2000, after a workshop organized by “Organização Pan Americana de Saúde”/World Health Organization (OPAS/WHO), which led to the proposal of Brazilian Consensus of Pharmaceutical
Care defining the same as the direct interaction between the pharmacist and the user, aiming rational pharmacotherapy, the obtainment of definite and measurable results, and designed to improve the quality of life. It includes attitudes, ethical values, behavior, abilities, commitment and co-responsibilities in the prevention of diseases, promotion and recovery of health, in an integrated manner to the health team (OPAS, 2002).

On account of the growing importance of PC in the society, it becomes necessary to evaluate the satisfaction level of patients who use that service. The satisfaction reflects the reality of care, as well as the preferences and expectations of the patient. Therefore, it becomes important to evaluate the satisfaction level of patients in face of the services offered by healthcare professionals, once it can be used as an indicator of quality of these services (Larson, Roves, Mackeigan, 2002; Kucukarslan & Schommer, 2002; Halal et al., 1994).

The observed satisfaction level becomes a useful instrument; since by it, it might be possible to take necessary corrective measures, aiming constant improvement of the patient’s care (Oliveira, Guirardello, 2006). There are some essential factors that might interfere with the quality of attending and the relationship between the patient and the healthcare professional. Among those factors, it could be mentioned the ability, the knowledge, the clearness in the transmission of information related to use of medications, and the constant assistance to each patient individually, creating greater confidence in the healthcare professional, consequently the patient will follow better the treatment (Greeneich, Long, Miller, 1992).

It is useless to evaluate the satisfaction of the patient considering only the PC service. Data related to the pharmacy structure, employees’ assistance, organization and resources are used as parameters which interfere with the service results (Scheider, Ninekmak, 1994).

Therefore, the present study was designed to evaluate the satisfaction level of patients of a pharmaceutical care service in a private communitarian pharmacy in Vitória – ES, besides comparing the satisfaction level with users of pharmaceutical services without this institutionalized practice and, in this way, qualify the healthcare services offered.

**METHODOLOGY**

It was evaluated the satisfaction level of users of a private communitarian pharmacy within the PC program implanted (service A) and, for comparison purposes, it was also evaluated the satisfaction of users from other two pharmaceutical establishments, private (service B) and public (service C), both having not this kind of service. This is a transversal observational study, using quantitative-qualitative approach, whose data were collected by means of a structured questionnaire.

**Evaluation of the satisfaction level of users of communitarian pharmacy with a PC Program implanted**

**Description of the service (Service A)**

This is a private communitarian pharmacy, located in Santo Antônio district, Vitória – ES, where assistance services are provided with commercialization of medications and other products, besides pharmaceutical care.

In 2000, it was implanted the Pharmaceutical Care Program (PCP) in that pharmacy with costless services for patients from SUS (“Unified Health System”), in association with the Public Health Center (PHC) located in the same district. In this Program, from February 2007 to May 2008, 56 previously selected patients followed the PCP. At first, it was carried out a survey of data about these patients, such as: social-economic aspect, medical record of present and past health conditions, life style, diet and family medical record. Also, it was made an evaluation of the prescription and medicative application, identification of drug-related problems (DRP), interventions for solution of those ones and assistance about the correct use of the medications (Saliba et al., 2007).

Besides pharmacists, the Program had the participation of a multiprofessional team from the PHC, consisting of: physicians, nurses, physical educators, social assistants and health agents (Saliba et al., 2007).

The patients were observed for 13 months, nine individual meetings were held at the pharmacy and four collective meetings at the PHC.

During the individual meetings the patients were submitted to: blood pressure measurement, verification of weight, height, abdominal circumference, capillary glycemia. In addition, informative material was distributed, evaluations of the pharmacotherapy and therapeutic purpose were achieved, identification and resolution of DRP, pharmaceutical interventions and the medical request for diagnosis of other diseases, as well as reevaluation of the treatment. Furthermore, at the collective meetings, biochemical exams were made: total cholesterol, HDL, VLDL, LDL, uric acid, urea, creatinine, glucose and glycosylated hemoglobin (Saliba et al., 2007).

The patients had free access to the PCP, to informative material, to capillary glycemia exams, to biochemical exams and medications Simvastatin and Amlodipine, used as supplement to the medication offered by SUS.
The exams, materials, equipments and the medications Simvastatin and Amlodipine were financed by private companies (Saliba et al., 2007).

**Profile of the users**

The PCP had participation of 50 patients with age average of 62 ± 2 years, 82% of the participants were female and 18% were male; 20% illiterate, 32% low education level and 48% medium education (Saliba et al., 2007).

**Evaluation of the satisfaction of users of establishments that do not have PCP implanted**

**Communitarian Pharmacy (Service B)**

This is a private communitarian pharmacy, also located in Santo Antônio district, Vitória – ES, close to the PHC of this area. At that pharmacy, commercialization of medications and other products were made. Such service was developed by a responsible pharmacist and other employees. The pharmaceutical professional, as declared, is present at the establishment full time to help and answer the clients’ questions, if necessary and solicited. However, PC services are not offered.

**Public Pharmacy located at the PHC (Service C)**

It’s about the PHU pharmacy of the district. The service A collaborates with one of the family health program teams at this PHU to make available the PCP, however with no participation of that health center pharmacy, in other words, service C. This PHU is equidistant at the others pharmacies which provide the services A and B. At the PHU pharmacy, it is done the dispensation of medications, by means of prescription to the registered people. During the dispensation, the pharmacist, if necessary, transmits some important information about the medications. At that establishment, however, there’s no standardized PC service. The PHU provides multi-professional assistance, by means of several existing health programs.

At the pharmacies which provides the services B and C were interviewed respectively 20 and 21 people, in a random manner and age-matched (in other words, individuals of the same age group, independently of other characteristics).

**Satisfaction Evaluation Instrument**

In order to check the users satisfaction, it was performed a structured interview using as instrument the “Satisfaction Questionnaire with the Pharmacy Services”, first elaborated and implanted by Kucukarslan & Schommer (2002) and adopted, translated and validated to the Portuguese language by a research group of the Federal University of Paraná (Correr et al., 2009).

The questionnaire evaluated the services provided by the pharmacist as well as the general services of the pharmacy. The used scale consists of a five point Likert scale, in which smaller number represents the option “bad” and the largest one the option “excellent”. The interviewed, then, chooses an answer that better represents his opinion. The same procedure was performed at the services B and C.

The interviews were performed in April 2008 by an experimenter that had no relationship with the PCP, neither with other pharmaceutical establishments.

**Statistical Analysis**

Collected data were compiled on a spreadsheet, which was elaborated with Microsoft Excel®, Office 2007 version. Database was analyzed with utilization of the statistical program Statistical Package Social Science 11.5 (SPSS 11.5). It was performed the simple relative frequencies on the qualitative variables within each group, also compared among the groups (crossed relative frequencies). Chi-square test was applied at a significance level of 5%. For the quantitative variables it was developed a one way variation analysis (ANOVA). Fisher was the post-hoc test used, with the purpose of multiple comparisons with fully random lineation. These data were expressed as the mean ± standard error of the mean (S.E.M.)

**Ethical Aspects**

The present study was developed according to research regulations involving human beings and it had its previous approval by the Institutional Review Board/ Independent Ethics Committee of Salesian Faculty, in Vitória (protocol nº 02/2006).

**RESULTS AND DISCUSSION**

From the 56 patients selected to participate in the PCP service A, 50 finalized the project, corresponding to an adhesion of 89.28%. The reasons for abandonment of the pharmacotherapy assistance of this service were: death (n=1), change of district or state (n=3) and two cases not showing interest in continuing. As observed on Figure 1, the satisfaction average of the users, referring to the analysis of all the 20 questions of the instrument, at service A was 4.55 ± 0.06, a number larger than the one obtained at other establishments, whose results were 3.44 ± 0.18 e 3.66 ± 0.18; representing services B and C, respectively (p<0.01 with respect to the users of service A). Besides, the percentage of ‘excellent’ answers was also superior
at service A (55.9%) in comparison to the others (Service B = 23.7%; Service C = 18.9%; p<0.01 in relation to the service A). These numbers indicate that the practice of PC was the factor which raised the satisfaction rate of the users at the pharmacy with the program implanted. All the users of service A reported satisfaction level above the average, in other words, between 3 and 5, in a scale varying from one to five points.

Analyzing each item of the questionnaire (Table I), the highest average value obtained at service A corresponds to the following questions: “pharmacist’s interest in your health” (4.8 ± 0.6), which obtained 82% of replies ‘excellent’, and “pharmacist’s engagement to maintain or improve your health” (4.8 ± 0.7), which obtained 84% of replies ‘excellent’. This result shows that the practice of the pharmaceutical professional, at this service, is focused on the patient, so this one starts to develop a better contact with the pharmacist, who, by means of his intervention, succeeds in making the patients realize the interest this one has to improve his health. So, it was confirmed that the relationship pharmacist-patient interferes positively with the satisfaction level.

For comparison, at the establishments having no PC services, the averages obtained from the question referring to the pharmacist’s interest in the health were very lower than those at service A (2.45 ± 0.28 at service B and 3.06 ± 0.32 at service C; p<0.01 compared to service A). It indicates that a differentiated pharmaceutical service is a relevant factor which influences the satisfaction level of users of a public or private establishment.

At the services B and C the highest average value obtained was from the question referring to the establishments, reaching 4.0 ± 0.23 (45% of ‘excellent’ replies) and 3.81 ± 0.20 (33.3% of ‘excellent’ replies), respectively.

The lowest average values obtained, at service A (3.94 ± 0.12), corresponds to the pharmacy in general, which involves the establishment employees. It might have occurred because the patients do not use frequently the services provided by the employees, since most of the used medications are gotten at PHU, with no charges.

It is worthy to mention that medications Simvastatin and Amlodipine, not available at the PHU, were donated to PCP participants by a pharmaceutical private company; some exams were also made periodically and free of charge. It can’t be denied the fact of that practice might have influenced positively the results of satisfaction obtained at service A. However, if the medications free of charge and the realization of exams were the main determinant aspects of users satisfaction with health services, the evaluation result performed with the individuals attended by service C (Pharmacy of the Health Center, where medications are also costless) should have been compatible with service A.

The Table II indicates the distribution of frequencies according to the social-economic and cultural characteristics of the users. The users of service B had education level higher than that of other users. Some authors observed association between the scholarity rate and the level of satisfaction with the services provided, showing that the individuals with less education tend to devalue themselves and be more condescending towards the health services provided for them (Rodriguez, Lopez, 2002; Camprubí, 1998). So, the highest scholarity rate of service B users could have influenced negatively on satisfaction, as well as the highest satisfaction level of service A users might have been influenced by the lower scholarity rate of the participants. When the users are matched by the same scholarity rate (it was chosen the highest education level at the three services, high school), it was verified the maintenance of the superior evaluation tendency of service A, once 100% of the users with higher education attributed value ≥4, against 25 % of service B and 66.6% of service C.

In relation to the familiar income, it was noticed that service C users had monthly income inferior than the others; 52.4 % received from 1 to 2 minimum wages, while at the other services, the users received from 3 to 5. It was proved already the tendency of users from low social levels to evaluate positively the provided services (Ware, 1978; Mosteller, 1988). However, in this study it was not
observed the positive influence on satisfaction from users having small income, due to the fact that satisfaction result of service C represented a lower level than service A. The number of interviewed women was higher than men at the three services, while the difference was lower at service B. However, the variant sex did not influence the results at service A, once satisfaction levels of men and women were equivalent (85.4% of women and 88.9% of men attributed values between 4 and 5). Another observation that confirms the nonexistent gender influence on obtained results was the evidence that, despite service B has a higher number of men, they evaluated the service as being more satisfactory than service C (40% of the men at service C and 66% of the men at service B attributed values between 3 and 5), but the general average of satisfaction between these two services was the same. The variant age cannot be considerate to justify the result differences obtained at services A, B and C, as the age averages were equivalent (62 ± 2, 61 ± 3 & 66 ± 3 years, respectively).

### TABLE I – Instrument items of evaluation and replies from the patients

<table>
<thead>
<tr>
<th>Questions</th>
<th>Service A</th>
<th>Service B</th>
<th>Service C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Professional visual aspect of the pharmacy?</td>
<td>4.1±0.1</td>
<td>4.0±0.2</td>
<td>3.8±0.2</td>
</tr>
<tr>
<td>2. Pharmacist’s availability to answer your questions?</td>
<td>4.6±0.1</td>
<td>3.7±0.2</td>
<td>3.3±0.3</td>
</tr>
<tr>
<td>3. Professional relationship between you and the pharmacist?</td>
<td>4.6±0.1</td>
<td>3.6±0.3</td>
<td>3.7±0.2</td>
</tr>
<tr>
<td>4. Pharmacist’s ability to warn you about the problems you could have with your medications?</td>
<td>4.6±0.1</td>
<td>3.5±0.3</td>
<td>2.9±0.4</td>
</tr>
<tr>
<td>5. Efficiency to help you with your prescription?</td>
<td>4.4±0.1</td>
<td>4.2±0.2</td>
<td>3.5±0.2</td>
</tr>
<tr>
<td>6. Professionalism of the pharmacy employees?</td>
<td>4.4±0.1</td>
<td>3.5±0.4</td>
<td>2.9±0.4</td>
</tr>
<tr>
<td>7. Pharmacist’s explanation about your health?</td>
<td>4.7±0.1</td>
<td>4.2±0.2</td>
<td>3.5±0.2</td>
</tr>
<tr>
<td>8. Pharmacist’s interest in the action of your medication?</td>
<td>4.8±0.1</td>
<td>2.5±0.3</td>
<td>3.1±0.3</td>
</tr>
<tr>
<td>9. Pharmacist’s assistance to use your medications?</td>
<td>4.7±0.1</td>
<td>2.8±0.4</td>
<td>3.1±0.3</td>
</tr>
<tr>
<td>10. Pharmacist’s engagement to solve the problems you have with your medications?</td>
<td>4.6±0.1</td>
<td>3.0±0.3</td>
<td>3.5±0.3</td>
</tr>
<tr>
<td>11. Responsibility that the pharmacist assumes in relation to your medication?</td>
<td>4.7±0.1</td>
<td>3.2±0.2</td>
<td>3.3±0.3</td>
</tr>
<tr>
<td>12. Pharmacist’s orientations about how should you take your medications?</td>
<td>4.8±0.1</td>
<td>3.2±0.2</td>
<td>3.3±0.3</td>
</tr>
<tr>
<td>13. The general services of your pharmacy?</td>
<td>3.9±0.1</td>
<td>3.9±0.2</td>
<td>3.6±0.2</td>
</tr>
<tr>
<td>14. Pharmacist’s replies to your questions?</td>
<td>4.6±0.1</td>
<td>3.7±0.5</td>
<td>3.5±0.2</td>
</tr>
<tr>
<td>15. Pharmacist’s engagement to maintain or improve your health?</td>
<td>4.8±0.1</td>
<td>3.1±0.4</td>
<td>3.6±0.2</td>
</tr>
<tr>
<td>16. Courtesy and respect shown by the pharmacy employees?</td>
<td>4.6±0.1</td>
<td>4.3±0.2</td>
<td>3.9±0.2</td>
</tr>
<tr>
<td>17. Privacy during the talks with your pharmacist?</td>
<td>4.5±0.1</td>
<td>3.4±0.4</td>
<td>3.0±0.4</td>
</tr>
<tr>
<td>18. Pharmacist’s engagement to assure you that the medications have the effects expected?</td>
<td>4.7±0.1</td>
<td>2.3±0.3</td>
<td>3.4±0.3</td>
</tr>
<tr>
<td>19. Pharmacist’s explanation about the possible adverse drug reactions?</td>
<td>4.3±0.1</td>
<td>2.9±0.5</td>
<td>3.2±0.3</td>
</tr>
<tr>
<td>20. About the time the pharmacist spends with you?</td>
<td>4.3±0.1</td>
<td>2.9±0.3</td>
<td>3.6±0.3</td>
</tr>
</tbody>
</table>

1The numbers represent the mean ± the standard error of the mean (S.E.M.). **p<0.01 in relation to service A. †p<0.01 and ††p<0.05 in relation to service B. Replies excellent(5) and bad (1). 2Percentage of replies excellent (5). *p<0.05 in relation to service A. b p<0.05 in relation to service B.
The studies on customers' opinion are really relevant to improve the execution of activities at an establishment. Concerning to a pharmaceutical establishment, an effort is made to improve the quality of dispensation, the resolution of the complaints and the capacity to satisfy the patients’ needs (Pires et al., 2006). The user dissatisfaction can be understood by his reaction against the context, the process and the overall result of his experience respecting to a given service (Donabedian, 1980).

Perceptible, the importance of checking and evaluating the user’s satisfaction, of this and other health services, as well as knowing the factors that influence satisfaction. Also, the aspects that can be improved in order to assure high quality services, consequently promoting benefits to the users.

Therefore, to correct the deficiencies of each service is not only a matter of prestige of such service. Actually, such measures might result in a worthy impact over essentially “technical” aspects, over morbidity and, possibly, over users mortality (Kloetzel et al., 1998).

**CONCLUSION**

With the questionnaire was possible to measure users satisfaction level of the pharmacy with PCP. There was a high level of satisfaction at service A, mainly concerning to pharmacist’s interest in health and his engagement to improve or maintain the users’ health.

The presence of the PC service seems to be the main factor determining the satisfaction level of users of pharmaceutical services, once the same result was not obtained by the services without PC.

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Alquimia Pharmacy by donation of medications, to Abbott Medisense Laboratory by donation of strips, lancets and capillary glycemia dosage equipments; necessary to the PCP at service A.

REFERENCES


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