User’s Satisfaction in a Brazilian Drug Information Center: Evaluation under a New Approach

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SUMMARY. Seventy-four professionals were interviewed to evaluate user’s satisfaction in a Brazilian Drug Information Center (DIC). The questions were divided into 4 groups: “user’s profile”; “service quality”; “general information” and “suggestions or observations”. Service quality was divided into three subgroups: easiness of access to information (how easy it was to contact the DIC, and service hours), quality of information (clearness, objectivity, timeliness of response, if the answer helped user’s necessity, and need of information from additional sources), and concept of user about the service (the willingness of user to contact again). Among respondents, 94.5 % declared being satisfied with easiness of access, 88.1 % with quality of information, and all of the subjects declared that would get back to consult the service despite the fact that objectivity of the answers obtained the lowest weighted average (7.6). Overall, the service received a positive evaluation. However, the analysis utilized permitted us to recognize specific deficiencies, mainly lack of objectivity of the answers.

INTRODUCTION

According to the WHO, medicines represented 15.2 % of total health spending in the world in 2000 and misuse is a serious global problem, being both wasteful and harmful. Drug-related problems are responsible for a substantial proportion of visits to emergency departments and for hospital admissions worldwide. In response to these facts, basic policies directed to appropriate use of medicines include regular monitoring of utilization, updating of clinical guidelines, implementation of therapeutics committees in hospitals or regions, and the availability of drug information centers (DIC) for prescribers and other health professionals. Unfortunately, these policies are being implemented in a minority of countries.

The ever growing number of pharmaceuticals, the increased amount and complexity of literature, and the critical need for unbiased assessment of clinical data underscore the importance of well-developed drug information skills in the background of health professionals, specially pharmacists. Regardless of practice setting, provision of information about medicines has traditionally been one of the most important activities of pharmacists. The need for updated, qualified, critically assessed, unbiased and timely information leads to the creation of DICs. These centers play a role in providing reliable and updated information to health care professionals, especially if centers' actions are independent from government and pharmaceutical industry. DICs must not only provide information of good quality but can also improve patient outcomes.

The Brazilian Drug Information Center of Rio Grande do Sul (CIM-RS) begins its activities in November 1999, in a partnership of Pharmacy School of Federal University (UFRGS) and Regional Board of Pharmacists of Rio Grande do Sul (CRF-RS) and provides drug information to health professionals of the region.

Considering that there is no single robust in-
dicative which has a good validity regarding sensitivity and specificity for DICs [6,13], evaluation is based on a combination of structure, process, and outcome measures to demonstrate the impact of the service [5,7,9,10,14,17]. It is suggested that at least two aspects of quality must be considered: an academic dimension (technical quality of the evidence based answers), and a service dimension [6,15].

The assessment of activities of a DIC is an important process to maintain the adequacy of tasks [6,9,15,18]. This provides service improvement, maintenance of standards of quality [7,14] and, as a consequence, stimulates the utilization of the service by professionals. Despite of the importance of these evaluations, there is a paucity of well conducted studies in this area [15].

The objective was to evaluate user's satisfaction in a Brazilian DIC during the year of 2010 regarding to easiness of access to information, quality of information and concept of the user about the service.

METHODS

The query was applied to health care professionals that used CIM-RS service from January to December 2010. During this period the Center provided information for 254 users that asked 583 questions. Sample size was estimated on following parameters: an expectation of satisfaction of 85%, according to data verified in previous studies [11,12,19], accepted error of ±6%, and 95% confidence interval. A group of 108 individuals randomly selected from a database of CIM-RS users was interviewed by phone from April, 11 to May 5, 2011. The professionals whose telephone number were not available or those non-responders after three contacts were e-mailed with the questionnaire and research's information in a cover letter. Two reminders in 7 days interval were sent compelling the users to answer.

The questionnaire was structured based on those utilized in former researches by CIM-RS in 2001 [11] and 2006 [12], and by CEBRIM (Brazilian Drug Information Center) in 2003 [19]. It consisted of 21 questions with multiple-choice and open-ended questions. The professional was instructed to answer the questionnaire considering the most recent question addressed to CIM-RS in 2010. A standardized text explaining the purpose of the contact was read (by telephone) or sent (by e-mail) with the questionnaire. The questionnaire had been previously pre-tested and optimized for adequacy of content and design of the questions.

Answers were analyzed by SPSS® v18 program and by software developed for marketing purposes (Delta SYS®-Allcon). The software has been used to evaluate user's satisfaction permitting analysis of questions distributed in groups and subgroups and identifies higher and lower averages within subgroups. Differences between groups were tested using the chi-square test when applicable. A p-value of 0.05 was considered to be statistically significant. The questions were divided in 4 groups: “user's profile”; “service quality”; “general information” and “suggestions or observations”.

User's profile group included the variables: gender, profession, city of work, institution and time since graduation. Service quality was divided into three subgroups: A: “easiness of access to information”, with questions about how easy it was to contact CIM-RS, and service hours; B: “quality of information”, with questions regarding clearness, objectivity, timeliness of response, if the answer helped user's necessity, and need of information from additional sources; C: “concept of user about the service” considering as indicator the willingness of user to contact CIM-RS again.

Question about how the professional knew the CIM-RS belongs to “general information” group and professional opinion and suggestions belongs to “suggestions/observations” group.

For questions on service quality group (except the question about the need of information from additional sources) descriptors of an adjectival scale were used. Weight (0-10) was attributed for each answer and weighted averages were determined. Satisfaction was assumed if the user’s answers corresponded to the two higher weights for each question (Table 1).

RESULTS

Seventy-four users participated in this study, corresponding to 68.5% of estimated sample and 29% of total professionals attended by CIM-RS in 2010. A total of 46 (62.2%) questionnaires was answered by phone and 28 (37.8%) by email. The respondents belonged to 30 different cities, 31 (41.9%) of the State capital, Porto Alegre, 15 (20.3%) from the metropolitan area, 26 (35.1%) from other cities of the state, and 2 (2.7%) from other States.

The majority of the answers came from females (89.2%) and all interviewed were pharmacists; 25% worked at hospitals and 24.3% at drugstores. The answers were divulged by 63.5% of respondents to other services or colleagues of their institutions, 35.1% declared that the in-
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formation was not shared, whereas 1.4 % did not answered the question. Among the respondents, 52.7 % had graduated less than 10 years ago and 50.0 % knew about the CIM-RS through pharmacy schools.

Table 1 shows aspects related to “service quality”; and we point out that the variable that presented the higher evaluation was related to the easiness of contact with the Center (weighted average = 9.1), whereas the objectivity of the answer provided by CIM-RS obtained the lowest weighted average (7.6). For all variables the answers were more favorable in the e-mail group compared to the phone group, with significant difference for the items clearness of information, if the answer reached the necessity of the user, and necessity to search other sources (p < 0.05).

Table 2 shows the final results of the analysis about the variable quality of the service, including results of easiness of access to information, quality of information and concept of the user about the service being 8.7 the weighted average.

Health care professionals that consulted CIM-RS applied the answers provided for patient counseling regarding drug utilization (17.6 %), to standardize or modify procedures of their services (14.7 %), to provide orientation to other professionals (12.2 %), or to clarify own doubts about technological and therapeutic aspects of medicines (12.2 %).

<table>
<thead>
<tr>
<th>Service Quality</th>
<th>Questions</th>
<th>Frequency (%)</th>
<th>Weighted average</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A - Easiness of access to information</td>
<td>How easy was it to contact CIM-RS?</td>
<td>Very easy</td>
<td>9.1</td>
<td>0.0006</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>55 (73.1)</td>
<td>13 (17.6)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>e-mail</td>
<td>19 (25.6)</td>
<td>7 (9.5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phone</td>
<td>36 (48.9)</td>
<td>14 (18.9)</td>
</tr>
<tr>
<td></td>
<td>How would you rate the working hours of CIM-RS?</td>
<td>Excellent</td>
<td>7.7</td>
<td>0.0425</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>27 (36.5)</td>
<td>8 (10.8)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>e-mail</td>
<td>12 (16.2)</td>
<td>2 (2.7)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phone</td>
<td>15 (20.0)</td>
<td>6 (8.2)</td>
</tr>
<tr>
<td>B - Quality of information</td>
<td>The information provided by CIM-RS was:</td>
<td>Totally clear</td>
<td>8.4</td>
<td>0.024</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>39 (52.7)</td>
<td>31 (41.9)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>e-mail</td>
<td>19 (25.6)</td>
<td>7 (9.5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phone</td>
<td>20 (27.0)</td>
<td>24 (32.0)</td>
</tr>
<tr>
<td></td>
<td>The information provided by CIM-RS was:</td>
<td>Tota</td>
<td>7.6</td>
<td>0.306</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>26 (35.1)</td>
<td>39 (52.7)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>e-mail</td>
<td>12 (16.2)</td>
<td>12 (16.2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phone</td>
<td>14 (19.2)</td>
<td>27 (36.5)</td>
</tr>
<tr>
<td></td>
<td>How satisfied were you with the time of reply?</td>
<td>Tota</td>
<td>8.5</td>
<td>0.626</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>37 (50.0)</td>
<td>37 (50.0)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>e-mail</td>
<td>14 (19.2)</td>
<td>12 (16.2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phone</td>
<td>23 (31.3)</td>
<td>25 (33.8)</td>
</tr>
<tr>
<td></td>
<td>Did the reply of CIM-RS meet your needs?</td>
<td>Tota</td>
<td>8.5</td>
<td>0.029</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>45 (60.8)</td>
<td>20 (26.8)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>e-mail</td>
<td>21 (28.4)</td>
<td>4 (5.4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phone</td>
<td>24 (32.0)</td>
<td>22 (29.4)</td>
</tr>
<tr>
<td>C - Concept of the user about the service</td>
<td>Would you consult CIM-RS again in the future?</td>
<td>Yes</td>
<td>10.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 1. Answers for service quality variables group (n=74) - CIM-RS, 2010. * chi-square test.

Table 2. Weighted average and satisfaction of service quality variable and subgroups, CIM-RS, 2010.
The last question made possible for users to give their opinion or suggestions related to CIM-RS service. More objectivity in answers (45.2%), better divulgation of service (30.6%), increase of working hours (30.6%) and a website of the Center (23.2%) were the most frequent, from a total of 31 respondents. Each professional could give more than one suggestion.

DISCUSSION

The assessment of the activities of a DIC is crucial in the process of continuous improvement of the service. With this purpose we developed a survey with users of CIM-RS.

Considering the number of users that answered the survey (n = 74), the rate of response was 68.5%. This value is consistent with results from a previously published meta-analysis 16. Among the potential causes of missing in our study we can mention the fact that some professionals may have indicated a private phone number, making difficult a contact during working hours. Also, some professionals may not be available in their working period, changed frequently their jobs and, finally, some may be resistant in answering satisfaction survey at work.

The fact that all respondents were pharmacists, and that half was informed about the Center through the School of Pharmacy is consistent with the observations of Rosenberg et al. 20 that found that all DICs are more involved in educating health-professions students. It also may be indicative of the need for a wider divulgation of the service, including settings with other health professionals. On the other hand, since most of the professionals have graduated less than 10 years ago, the Center appears to be well divulged in the universities.

In our study the respondents were pharmacists, the professional that also predominated in other studies 6,21 and the most frequent use of information was to provide patient counseling. Also, the fact that 49.3% work in the hospital and drugstores, as seen by Repchinsky & Masuhara 21, may partially explain that 63.5% of these professionals share the information with other colleagues or services.

Although easiness of access to information obtained a high weighted average (9.1) working hours of the Center was mentioned as the most important problem in this issue. Users suggested the need of access to information during the hours of duty as a reason to modify the working hours of the Center. However, CIM-RS’ schedule is in accordance to that referred in the Australian standards 14 that indicate that the working period of a Center should be during the conventional commercial schedule with some form of permanent access. Also, our DIC keeps a phone number with answering machine active 24 h, besides an e-mail address.

In Table 2, that shows “service quality”, we can perceive that the subgroups “easiness of access to information”, and “quality of information” were bellow the weighted average of the group. The best result was obtained in “concept of the user about service”, measured by the question “would you contact CIM-RS again?”, with positive answer gave by all respondents as observed in other study 18.

The “quality of information”, the lowest average among the three components of quality evaluated in our study, is a very complex issue since it involves aspects such as clearness, objectivity, timeliness of response, if the answer helped user's necessity and need for additional information. We can observe that the objectivity of the answers provided by the Center was slightly below the weighted average. The need for information from additional sources was mentioned by 36.5% of responders, and this may be due to the fact that for some questions there is not enough information in the literature to provide a satisfactory answer. The users mentioned the internet, books, articles, contacts with pharmaceutical laboratories, and colleagues as additional sources.

It is important to consider that 91.2% of the users are satisfied with the Center, a number consistent to what was observed in studies carried out in Germany 6 and Sudan in which over 90% 18 of the users declared that the service evaluated was good or excellent.

The suggestions provided by some of the users may produce a benefit for the Center. Focus must be directed to those aspects with lower averages in the evaluation: lack of objectivity of the answers, working hours of the Center and divulgation, the components most frequently mentioned. It is important to point out that some initiatives were recently implemented, including divulgation to other professional boards and the inclusion of CIM-RS in the social networks.

As a limitation of this study we must acknowledge that the way that the users were contacted must have influenced in the answers as cited by other researchers 16. Those obtained by email were more favorable, and some possible reasons for this are the sequence in which
the options were presented in the questionnaire (most favorable options appear first) and the fact that email answers were directly send to CIM-RS coordinator. This issue is approached by Spinewine that points out the difficulties to evaluate DIC quality and that the methodological aspects of this kind of survey must be more rigorously observed.

CONCLUSION
The study presents positive results concerning DIC’s service quality considering the number of satisfied users. However, it highlighted areas that require improvement, such as divulgation to other health professionals and objectivity of the answers. This research strengthens the importance of periodically evaluation of user’s satisfaction and of service quality pursuing best methodological approach.

REFERENCES
7. FIP (2005) Requirements for Drug Information Centres. FIP Pharmacy Information Section, pp.1-5.