

The Evaluation of Community Pharmacies' Service Quality in Ankara From Good Pharmacy Practice Perspective

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Summary : Sociology, economy, technology, demography and communication have all shaped pharmaceutical care, a term first used in the late 1980s. WHO stated that Good Pharmacy Practice (GPP) is a stepping stone to the practice of pharmaceutical care¹. The above mentioned factors will also help bring about further developments in pharmacy practice. GPP, also called the Tokyo Declaration, is a set of principles for hospital and community pharmacy practices. In this study, the critical structure-process elements of service quality of retail pharmacies in Ankara are evaluated according to GPP. The selected pharmacies are from two socioeconomically different quarters and those near hospitals. The questionnaire was filled out by pharmacists. Next the pharmacies' personnel were observed continuously and discretely. 58.26% pharmacists (127/218) agreed to participate in the study, but, it was not possible to contact 17.89 % of them (39/218) 23.85 % (52/127) did not agree to participate. The term GPP could be described by only four pharmacists (3.10 %). One half the community pharmacists named communication skills among the abilities they wished to have. Approximately three fourths of them stated that their service was of good quality. Almost 80% of the pharmacists had not participated in on-the-job-training programs for the last two years (1993-1995). Only 6.3% of pharmacies had a private area for counselling, 7.9 % had no source of professional information, 70 % had no computers. Therapeutic and pharmaceutical programs were used by only 11% of them. Of the drugs demanded 46% were prescription drugs. Of the drug requests, 60% were met by the pharmacists themselves. Written and oral information was provided in 16.68% of drug requests. Drug storage conditions and adverse drug reactions were hardly mentioned at all. Professional activities concerning drugs occupied only 18% of the pharmacists' time. The quality of structure-process elements of service is inadequate in terms of GPP.

Key words: Pharmacists, Patient Care, Community Pharmacy Services, Good Pharmacy Practice, Service Quality, Pharmaceutical Care.

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Ankara'daki Serbest Eczanelerde Sunulan Hizmet Kalitesinin İyi Eczacılık Uygulamaları (GPP) Işığında Değerlendirilmesi
Özet : Sosyolojik, ekonomik, teknolojik, demografik, iletişim gibi dinamikler 1980'lerin sonunda farmasötik bakım olarak adlandırılan meslek kimliğini ve DSÖ'nün de belirttiği gibi bu kimliğe geçişte bir ara kademe olan İyi Eczacılık Uygulamalarını (GPP) şekillendirmiştir¹ ve bugün gelinen noktayı daha da ileriye taşıyacaktır. Tokyo Deklarasyonu olarak da anılan GPP, serbest ve hastane eczacılığı hizmetlerine dönük olarak tanımlanmış çerçeve ilkelerdir. Bu araştırmada, sosyo ekonomik düzeyi farklı iki bölgede ve hastane civarında olan serbest eczanelerdeki hizmet sunum kalitesinin "kritik yapı-süreç" unsurları GPP ışığında değerlendirilmiştir. Serbest eczacılara anket uygulanmış, anket sonrasında da serbest eczane personelinin süreklilikli gözlemleri yapılmıştır. 218 eczacıdan 127'si (%58.26) araştırmaya katılmayı kabul etmiştir, %17.89'una (39/218) ise ulaşılamamıştır. 52 eczacı (%23.85) araştırmaya katılmayı kabul etmemiştir. Dört eczacı (%3.10) GPP'yi tanımlayabilmiştir. Serbest eczacıların yarısı (%50.40) iletişim becerilerini kendilerinde bulunmasını gördükleri öncelikli nitelikler arasında belirtmiştir. Serbest eczacıların yaklaşık ((%78.74) sundukları hizmetin kalitesini iyi olarak tanımlamıştır. 1993-1995 yılları arasında meslek içi eğitim programına (MIEP) katılan eczacı oranı sadece %17.30'dur (22/127). Eczanelerde sunulan danışmanlık hizmeti için özel alan kullanımı %6.30'dur. 10 eczane (%7.90) hiçbir profesyonel bilgi kaynağı yoktur. Eczanelerin %70.10'unda (89) bilgisayar yoktur. Bilgisayar bulunan eczanelerde terapötik-farmasötik programların kullanımı %11'dir. İlaç talebinin %46'sı reçetesizdir. Serbest eczacı ilaç talebinin %60'ına danışmanlık etmektedir. Danışmanlık esnasında yapılan yazılı+sözlü bilgilendirme %16.68'dir. İstenmeyen etkiler ve ilaçların saklama koşullarına hemen(hiç) değinilmemiştir. İlaça yönelik profesyonel aktiviteler eczacı zamanının %18'ini almaktadır. GPP çerçevesinde ele alındığında sunulan eczacılık hizmetlerinin yapı-süreç kalitesi yeterli değildir.

Anahtar kelimeler: Eczacılar, Hasta Bakımı, Serbest Eczacılık Hizmetleri, İyi Eczacılık Uygulamaları, Hizmet Kalitesi, Farmasötik Bakım.

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Introduction

Traditional medicine preparation and dispensing services continued until the 1960s when clinical pharmacy began². Clinical pharmacy started in university hospitals, parallel to drug information centers in the early 1960s and unit dose drug distribution systems in the mid 1960s³. Drug utilization, drug evaluation and selection, education⁴, patient profile recording and monitoring of adverse reactions⁵ were functions of clinical pharmacy while the drug information centers and unit dose drug distribution systems provided the foundations of clinical pharmacy development. Communication and counselling are the basic components of clinical pharmacy³. According to the European Clinical Pharmacy Society (ESCP), a clinical pharmacist is a health care provider promoting the effective, safe and economic use of drugs by individuals and society⁶. The word clinical means interacting directly with individuals. Hence, clinical pharmacy practice covers the fields of hospital and community services. Technology, the developments of social and professional organizations, labor division and finance development helped to bring about the transformation from the traditional role of the community pharmacist to a clinical one⁷. *Social pharmacy* is another care approach in the development of clinical pharmacy, and the pharmacist's patient-centered role. Social pharmacy is a bridge between pharmaceutical science and social-behavioral sciences. It is described as a pharmacy practice solving problems related to drugs in community health care systems⁸.

The profession underwent a third change in the mid 1980s. Although this new approach was closely described at the Clinical Practices in Pharmacy conference by Charles D. Hepler^{9,10}, Mikeal was the first person who stated that pharmaceutical services must be provided for individuals in 1976¹¹. In 1987, Hepler and Strand described "*Pharmaceutical Care*" (PC), stating that pharmaceutical services would not be improved if clinical knowledge and skills did not take into account patient health¹⁰. Health care services focusing on process have to take outcome into consideration. Pharmaceutical care is defined as "the responsible provision of drug therapy for the purpose of achieving definite outcomes that im-

prove a patient's quality of life"¹². These outcomes are¹³;

- 1- cure of disease
- 2- elimination or reduction of a patient's symptoms
- 3- arresting or slowing of a disease process or
- 4- preventing a disease or symptoms

Turkish Organization for Standardization (TSE) defines the quality as: the totality of characteristics of an entity that bear on its ability to satisfy stated and implied needs¹⁴. According to the American Medical Association high quality health care service is one which continually contributes to improving quality of life or life expectancy¹⁵. Avedis Donabedian describes health care services as a system made up of three components¹⁶;

- A- Structure (input); personnel, technology, money, current sources, organizational structure, patient's need.
- B- Process; patients' behavior and decisions, health care provider actions.
- C- Outcome; of treatment, rehabilitation, improvement, error, for instance; a) positive, negative or no change in a patient's health b) patient and personnel satisfaction with quality of service c) the cost of patient care.

The abovementioned components depend on and relate to each other¹⁷. A good process can be created by a good structure that is constructed with good materials, human resources and organization. Naturally, good outcomes result¹⁸. In the pharmacy structure- process- outcome paradigm, an approach is defined that can be used to achieve definite outcomes which improve a patient's quality of life¹⁹. Pharmaceutical care is a favorable approach because of its maximal individual benefit when evaluated according to the quality indicators created by Donabedian²⁰.

The International Pharmaceutical Federation (FIP) adopted international guidelines for *Good Pharmacy Practice* at its Council Meeting in Tokyo on September 5, 1993. GPP is a framework of principles for community and hospital pharmacy services. All practicing pharmacists are obliged to ensure that the

service they provide to every patient is of appropriate quality. GPP is a means of clarifying and meeting that obligation^{21,22}. The World Health Organization (WHO) approved GPP at the 35th meeting of the WHO Expert Committee on Specifications for Pharmaceutical Preparations¹. GPP is a way of implementing PC and is expanded by WHO's approval. WHO's revised GPP document calls attention to new principles: a) the importance of social and behavioral sciences in under- and post-graduate education, b) the development and improvement of communication skills at all stages of pharmacy education, c) control over substandard and counterfeit pharmaceutical drugs which may be inefficacious or toxic, d) the reporting of adverse events, medication errors, defects in product quality.

GPP requirements²¹;

A- GPP requires that a pharmacist's first concern must be the welfare of the patient in all settings.

B- GPP requires that core of pharmacy activity is the supply of medication and other health care products, appropriate information and monitoring the effects of their use.

C- GPP requires that an integral part of the pharmacist's contribution is the promotion of rationale and economic prescribing and appropriate medicine use.

D- GPP requires that the objective of each element of pharmacy service is relevant to the individual and is clearly defined and effectively communicated to all those involved.

Method and Materials

Data collection was started in November 1995 and completed in April 1996. The data was collected through;

a- face-to-face questionnaire with pharmacists with respect to their service information and attitude

b- observations on critical factors that influence the level of service provided

c- discrete observations on pharmacists and auxiliary personnel, a time- motion study.

It was assumed that the quality of pharmacy services would vary according to the socioeconomic characteristics of the neighborhoods in which the pharmacies were located and their proximity to hospitals. Eighteen neighborhoods within the municipal boundaries of Ankara were randomly selected by a stratified random sampling method. The total number of pharmacies was determined for each neighborhood. The computer program "SPSS for Windows" was used for statistical analysis of the data. The Mann Whitney-U test was selected for the statistical comparison of the groups. Pharmacists used a ten point scale to evaluate the quality of the service provided.

Results

58.26% pharmacists (127/218) agreed to participate in the study, but 17.89 % (39/218) could not be contacted. 23.85 % (52/127) did not agree to participate.

The term GPP could only be described by 4 pharmacists (3.10 %). Half the community pharmacists stated that communication skills were among the abilities they wished to have. Almost 80% of pharmacists scored their service quality among 6-10 points. Nearly 80% of them had not participated in on-the-job-training for the last two years (1993-1995). Only 6.30% of pharmacies had a private area for counselling. 7.90 % of the pharmacies had no sources of professional information and 42.50% of them had periodicals which were published in 1993 and after. 70.10 % had no computers and a therapeutical and pharmaceutical programs were used by 11% of them. Of the requested demanded, 54% were prescription and 46% were non-prescription drugs*.

The breakdown of counselling personnel and their self-evaluation of service quality is presented in table 1.

* Nonprescription drugs are defined as;

a- drugs which are sold without a prescription according to laws and regulations

b- drugs which are sold without a prescription in spite of the law because of characteristic circumstances of the Turkish healthcare system.

Table 1. The distribution of counselling personnel and their self-evaluation of service quality.

Self-evaluation of Service Quality*	Average % breakdown of counselling personnel		Number of pharmacists (n)
	Pharmacist	Auxiliary personnel	
0-5	56.47±40.10	43.53±40.10	21
6-10	61.20±37.33	38.80±37.33	98
	Total		119

Z = -0.4698 p > 0.005

* on a ten point scale

Z statistic was applied because there was a sufficient number of subjects in this study²³. According to the Mann Whitney-U test, the difference is not important in respect of pharmacist and staff counselling in pharmacies in which sufficient and insufficient perceived service was given to consumers. Pharmacist counselling was provided in 56.47% of pharmacies in the 0-5 quality category, 61.20% of pharmacist were in the second category. Pharmacist self-evaluation of service quality is presented in table 2.

According to the Mann Whitney U test, the difference is not significant among the self evaluation categories and the distributions of the type of counselling provided. Written information was ranked 0-5 on a ten point scale in 22.51% of pharmacies, and it was ranked 6-10 in 23.85% of pharmacies. The distribution as to the level of quality of oral information was similar to written information results. Of the drug requests, 60% were met by the pharmacists.

Table 2. Counselling care approach as to pharmacist self-evaluation of service quality.

Self-evaluation of Service Quality*	Average % provision of care		Number of pharmacists (n)
	Voluntary	On patients' demand	
0-5	21.71±25.18	12.27±21.98	21
6-10	25.00±21.87	9.62±13.22	98
	Z=0.9414 p>0.05	Z=-0.2892 p>0.05	Total 119

* on a ten point scale

According to the Mann Whitney-U test, the difference between the categories is not significant. Of drug dequests, 21.71% of counselling was provided voluntary in 21 pharmacies in the 0-5 category. In the 6-10 category, the figure was 25.00% in 98 pharmacies.

Of drug requests , 16.68% of pharmacies provided written and oral information. The type of care services in respect of perceived service quality of pharmacists is presented in table 3.

The subject matter of counselling according to self-evaluation of pharmacists is presented in table 4. According to the Mann Whitney U test, the difference between two groups of quality levels is not important as to subject matter of counselling. In only one of the 1259 "patient/representative-pharmacy personnel" interactions, adverse drug reactions were mentioned. However, drug storage conditions were not cited at all.

Table 3. Pharmacist's self-evaluation with respect to the types of counselling provided

Self-evaluation of Service Quality*	Mean of the type of counselling		Number of pharmacists (n)
	Written information	Oral information	
0-5	22.51±22.19	27.81±28.65	21
6-10	23.85±22.25	26.07±17.90	98
	Z=-0.2672 p>0.05	Z=-0.3495 p>0.05	Total 119

* on a ten point scale

Table 4. The subject matter of counselling according to perceptual service quality of pharmacists

Self-evaluation of Service Quality*	Mean % of counselling matter				Number of pharmacists
	The aim of drug usage	Drug dosage schedule	Adverse drug reactions	Storage conditions	(n)
0-5	4.06±5.54	30.09±30.52	0.00±0.00	0.00±0.00	21
6-10	5.07±11.04	32.36±21.60	0.51±5.05	0.00±0.00	98
	Z=-0.7258 P>0.05	Z=-1.047 P>0.05	Z=-0.4629 P>0.05	Z=0.000 P>0.05	
				Total	119

* on a ten point scale

The aim of drug usage was provided % 0.51 % in both level groups of quality by pharmacists. Drug dosage was provided on 32.36% in the 6-10 quality level.

Professional activities concerning drugs occupied only 18% of the pharmacists' time whereas they occupied 16% of the time spent by the auxiliary personnel.

Discussion

Although approximately half of the pharmacies, 42.50 %, had the professional information sources published between 1993 and 1995, only four pharmacists could correctly define the term Good Pharmacy Practice (GPP). This result is interesting because some related subjects, such as service quality and pharmaceutical education, were broadly discussed in the 1st National Pharmaceutical Education Congress which was held April 11-14 1995 in Ankara in GPP workshop groups²⁴. Following this congress news was published by TEB- Turkish Pharmacists' Associations- in the journal, Güncel Eczacılık, which is regularly mailed to all pharmacies in Turkey²⁵. It is apparent that pharmacists are not well informed about GPP and other such new approaches. They may soon realize and this, they are not meeting consumer demand and this will force them to evaluate their competency.

One-fifth of pharmacists ranked their services quality among 0-5 on a ten point scale. Four-fifths of them ranked it among 6-10.

Service quality in the service sector is based on whether the expectations are met or not. Service

quality is of two types. First there is the quality level of regular service. Second, there is the quality level at which "expectations" are met or "problems" are resolved²⁶. Perceptual quality, that component of quality based on the perceptions of customers, is not as easily defined or measured for at least two reasons; 1) there are many different groups of customers 2) perceptual quality is multidimensional²⁷.

Consumer demand can affect the perceived quality by the person who provides the service. Subsequently, if the patient or his/her representative does not make inquiries, the pharmacist may have the impression that the quality of structure and process of service is sufficient even if this is not so. In other words, the pharmacist perceives his/her level of service as high. But this may be far from the truth.

If the pharmacist judges his/her services as a business person, not as a professional, this will cause him / her to perceive his/her service quality as satisfactory. In addition, the fact that in many cases, the patient's representative interacts more with the pharmacist than the actual patient contributes to this negative situation.

Individuals who feel that they are competent will not strive for professional development. The factors which cause pharmacists to feel competent are;

- 1- The quality of service is sufficient no matter what, according to the pharmacist's professional expectations.

2- Because of the limited knowledge of the consumer about the drugs, the pharmacy profession and health, there may not be a high level of expectations/ demand by the consumer .

If the pharmacist is seen as an internal consumer, he/she is a client of people working in wholesalers, associations and other health related organizations. As an internal consumer, the pharmacist will evaluate the quality his/her services by:

- a) drug procurement and continuity and competency of financial resources
- b) his/her own provision of care
- c) the external consumer's (patient/his or her representative's) perception.

The perceptual quality of service of pharmacists is shaped by one or all the factors mentioned above.

More than four-fifths of community pharmacists, (82.70%) have not participated in any continuing pharmaceutical education program between 1993 and 1995. It can therefore be assumed that pharmacists seem not to be motivated enough to participate in educational programs. Most probably, they have professional commitments that put limitations on their time. Courses can be made more convenient for participants in terms of time and arrangements. Health consciousness of their role as a health professional may not have been developed in their undergraduate education. Even so, the probability of not reflecting this professionalism in practice may be thought of as a diminishing quality.

As in other professions, pharmacists have to improve their practice in order to provide better professional service. Therefore they should keep up their professional competency and expand it. Continuing education is the main way in which professionals can systematically improve their competence for better practice and patient care²⁸. The aims of continuing professional education are: to keep up with the knowledge required to perform responsibly in the chosen career, to master new concepts of the career itself, to keep up with changes in the relevant basic disciplines, and finally, to prepare (sometimes after the fact!) for changes in a personal

career line²⁹. Accordingly, a project to determine the priority areas in the continuing education of pharmacists can be planned. Thus the majority of pharmacists may be motivated to participate in continuing education on a subject-based model³⁰.

Half the pharmacists (50.40%) have stated that communication skills should be acquired. As a consequence, patients drug usage habits will improve³¹. In a study, in 25-59% of cases, patients misused drugs³². Communication barriers originated from both physician and patient. These barriers are listed below;

- 1- The patient is unwilling to ask questions for fear of appearing ignorant.
- 2- The patient is confused by medical terminology.
- 3- The patient is too fearful and nervous to ask question.
- 4- The patient does not realize the importance of what the physician explains.
- 5- The physician, being uncomfortable and unsure of how to end a patient encounter, ends by writing a prescription.

In conclusion, communication skills acquired by pharmacists will be of value to patients who leave a physician's office confused, when they create a positive atmosphere for gathering patient treatment information, encouraging the patient to talk, answering the patient's questions³³. Therefore, pharmacist-patient communication would improve pharmacy's image among the public and therefore benefit the profession³⁴.

Behavioral sciences were placed in the curriculum of pharmaceutical education in the late 1970s in the United States³⁵. From health promotion to health counselling, pharmacists benefited from communication skills learned³⁶. Communication skills and counselling methods are included in continuing education service programs in Holland³⁷. Providing information to the patient is not the only service they can offer in their newly changing role. Pharmacists also have to be able to maintain ongoing communication with other health care professionals such as physicians, nurses, etc.³⁸. Thus they are able to provide drug information to physicians³⁹. They

contribute to safe and effective drug treatment by bringing up-to-date information to the physician.

There was no professional information source in 7.9% of the pharmacies visited. The quality of counselling in these pharmacies is suspect. Pharmacists are supposed to have adequate information in order to use it in all matters of profession. Relevant matters of profession are listed below⁴⁰;

- 1- Prescribing process
- 2- Clinical pharmacy or patient care
- 3- Follow-up drug utilization
- 4- Producing magisterial preparations
- 5- Traditional and alternative drugs
- 6- Treatment with non-prescription drugs
- 7- Informing health personnel and public
- 8- Health promotion
- 9- Home care
- 10- Providing agricultural and veterinarian drugs

Professional information sources are a necessity. As Europe discusses private counselling areas in pharmacies, the lack of information sources in pharmacies in Turkey is shocking⁴¹.

In scientific literature, it is emphasized that counselling of patients with a prescription must cover the following subjects⁴²:

- a) Name and physical characteristics of the drug
- b) Dosage schedule
- c) Duration of drug usage
- d) Administration
- e) Adverse drug reactions
- f) Storage conditions
- g) Precautions

Therefore, counselling on the abovementioned topics require up-to-date information sources.

During the time spent in pharmacies, it was observed that there was no space set aside for a confidential conversation that could not be overheard by others. Only 6.30% of pharmacies had such a space. On the other hand, this requirement is included among the main elements of GPP. It helps achieve the aims of GPP such as "health promotion and ill- health prevention, advice to ensure that the

patient receives and understands sufficient written and oral information to provide maximum benefit from the treatment". This survey's results emphasize that there must be a physical layout for counselling in pharmacies. In the literature, it is stated that such a private area in pharmacies will increase the quality of counselling⁴³.

There was no computer in 70.10% of pharmacies. Therapeutical and pharmaceutical computer programs were found in only 11% of pharmacies that had computers. Computer pharmaceutical programs can maximize the services of the pharmacy. Prescription information and patient documentation on the computer can be used to create patient-medication profiles (PMP).

The PMP was applied in pharmacies in the 1970s as a component of clinical and hospital pharmacy⁴⁴. PMP is a record of information about a patient's drug therapy⁴⁵. Physician prescription habits and costs is followed up with PMP records. Adverse drug reactions and drug misuse can be prevented by detailed patient drug information⁴⁶. Monitoring and controlling drug- drug interactions can also be done. Also, drug history can be kept up-to-date for patients⁴⁷. The computer is an auxiliary tool that can improve counselling⁴⁸. It is able to state the storage conditions of drugs, and alert potential drug- drug interactions⁴⁹. As a result, computer programs can improve the management skills of pharmacists and improve their image⁵⁰. In Australia, 75% of community pharmacies have computers and therapeutical and pharmaceutical programs⁵¹. In Canada, 80% have computers and PMP programs are used⁵².

Auxiliary personnel help provide pharmacy in services. Professional activities concerning drugs occupied only 18% of the pharmacists' time whereas they occupied 16% of auxiliary personnel's time. Naturally this result indicates that the auxiliary personnel must be further trained as well as pharmacists. In other words, the pharmacist can profit from their time by training their personnel when not counselling patients. Pharmacists can improve their counselling by mentioning the aim of drug usage. It was only mentioned in 5% of drug requests and ad-

verse drug reactions and drug storage conditions were not mentioned at all. Furthermore, 80% of their time was spent on non-professional tasks, which could be spent on on-the-job training programs which normally 20% of pharmacists participate in.

78.74% of pharmacists stated that the quality of their service was among 6-10 on a ten scale point. However, 40% of drug requests, were met by auxiliary personnel. They may have perceived their service quality as high by evaluating their performance as a business person. It seems that their approach was not realistic. Furthermore the self-evaluation of their counselling ranked their service as high quality and support that impression. For instance, in these pharmacies, counselling, adverse drug reactions and storage conditions of drug were not included at all. Another indication of inadequate counselling that ranked high by pharmacists is written and oral information given to patients or their representative. Of all drug requests, 23.85% were given written information and 26.07% oral information. It is concluded that there was no difference between counselling approach and the containment of service in respect of perceptual quality level of pharmacy service.

Conclusion

The results of the survey confirm the hypothesis that the critical structure and process factors are not compatible with GPP. Currently, pharmacy services in Turkey revolve around a traditional drug oriented approach. Pharmacists are one of the most important sources for improving the quality of drug treatment but are not able to reflect this potential in practice. The results support the following conclusions;

- 1- The community pharmacist is not fulfilling his / her role in the rational use of drugs.
- 2- The quality of structure and process of service provided is not up to the standards of GPP guidelines.
- 3- The perceptual quality of pharmacists of their service is far from the truth.
- 4- The layout of community pharmacies and their use is not favorable for counselling.
- 5- Computer use is not common and is not taken full advantage of for counselling.

- 6- The sources of professional information are inadequate in pharmacies.
- 7- Pharmacists are not provided with sufficient on-the-job training programs.
- 8- Community pharmacists and auxiliary personnel do not use their professional time effectively.

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