

The Dispensing Practice Of The Over The Counter Drugs In The Gaza Strip.

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Abstract

Background

There has been no systematic assessment of dispensing practices of over the counter (OTC) drugs in the Gaza Strip.

Methods

We surveyed a random sample of 127 pharmacists working in public pharmacies in the Gaza Strip using a pre-piloted questionnaire.

Results

Most pharmacists in the Gaza Strip dispense prescription-only drugs without valid prescriptions. For example, amoxicillin comes second only to paracetamol in a list of twenty two drugs dispensed without prescriptions. Drugs for cardiovascular diseases and diabetes mellitus are prescribed less frequently (metformin and amlidopine were dispensed by 16 % and 14 % of pharmacists respectively). Among the many factors for dispensing malpractice, the most important identified by pharmacists were economic competition among pharmacists (77%) and economic difficulties among patients (73%). Three quarters of respondents blamed the Ministry of Health and the Pharmacists' Syndicate for acquiescing in dispensing malpractice.

Interpretation

Our study has highlighted the importance of cooperation between the Ministry of Health, the Pharmacists' Syndicate and the College of Pharmacy to improve dispensing practice in the Gaza Strip.

Key words: The Gaza Strip, OTC, pharmacists, malpractice, dispensing practice.

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ممارسة صرف الأدوية بدون وصفة طبية في قطاع غزة

ملخص:

خلفية البحث:

لا يوجد تقييم منظم لعملية صرف الأدوية التي تباع بدون وصفة طبية في قطاع غزة.

طريقة البحث:

قمنا بدراسة عينة عشوائية من 127 صيدلي يعملون في الصيدليات الخاصة في قطاع غزة باستخدام

اختبار لثبات الأداء

نتائج البحث:

معظم الصيدالة في قطاع غزة بصرفون الأدوية التي تحتاج لوصفة طبية بدون إظهار وصفة معتمدة من الطبيب. على سبيل المثال عقار الأموكسيسيلين يأتي في المرتبة الثانية بعد الأكامول في لائحة من عشرين عقار تباع في الصيدليات بدون وصفة طبية. أدوية القلب والجهاز الدموي وأدوية اض السكر تصرف بدرجة أقل (عقار الميتفورمين والأملوديبين صرف بنسبة 16% و 14% على الترتيب). عوامل عديدة تؤدي للممارسة الخاطئة لصرف الأدوية، كان أهمها من وجهة نظر الصيدالة المنافسة بين الصيدالة (77%)، والصعوبات الإقتصادية لدى المرضى (73%). ثلاثة أرباع الصيدالة ألقوا باللوم على وزارة الصحة ونقابة الصيدالة في انتشار هذه الظاهرة.

خلاصة البحث:

دراستنا ألققت الضوء على أهمية التعاون بين وزارة الصحة ونقابة الصيدالة وكلية الصيدلة لتحسين ممارسة صرف الأدوية في قطاع غزة

Introduction

In many countries drugs are divided into two categories: over-the-counter (OTC) drugs that can be dispensed to consumers without prescription and prescription-only drugs that require valid prescriptions from health care professionals [1,2]. In some countries there is a third category known as pharmacy-only-medication (also known as behind-the-counter drugs), which do not require medical prescriptions but do require consultation with a pharmacist [3].

Despite concerns about the safety of some OTC drugs, especially for elderly people [4-8], increasing numbers of drugs have been shifted from the prescription-only category to the OTC category, and access to more drugs seems likely to be deregulated in this way [9,10]. Although there is increasing interest in official marketing figures of OTC drugs [11-13] and the attitudes of customers [4,14,15] in developing countries, there is little information about the knowledge, attitudes and practice of pharmacists about OTC dispensing policies. For the first time we have assessed the OTC status in the Gaza Strip from the pharmacists' point of view. Our aim was to understand the dispensing practices of OTC and prescription-only drugs.

Methodology

Between September and November 2009 we surveyed a probability convenience sample of 127 pharmacists working in public pharmacies in the five governorates of the Gaza Strip (North Zone [12], Gaza City [43], Middle Zone [12], Khan Younis [37], and Rafah [23]). The sample was drawn from the 420 pharmacists officially registered in the Palestinian Pharmacists' Syndicate (PPS) by convenience sample and the pharmacists who fit inclusion criteria. The inclusion criteria were all pharmacists who were registered by the PPS and their age between 25 to 60 year old. In addition the exclusion criteria were all pharmacist were not registered by the PPS and their age less than 25 and over 60 year old.

Our survey instrument was a self-administered questionnaire. Prior to its use in the main survey, this was reviewed by a team of consultants with

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expertise in the development of survey instruments. It was piloted using 10 pharmacists, after which minor modifications to wording were made.

The questionnaire covered several domains, including pharmacists' demographic information, knowledge of OTC drugs and the practice of dispensing drugs without prescription, the presence of reference lists of OTC drugs in the pharmacy, the role of health institutions in regulating drug dispensing, and the causes underlying dispensing prescription-only drugs without prescription. The questionnaire also included a list of twenty two drugs chosen because of their popularity among medical professionals in Gaza, and which pharmacists often decided to dispense without prescription. This list helped us to assess whether pharmacists may have underestimated the extent to which they dispensed prescription-only drugs.

Continuous variables are represented as means (\pm standard deviations) and categorical variables as percentages.

Results

Characteristics of participants

The demographic characteristics of the 127 pharmacists surveyed are summarized in Table 1. Over a third (37%) were women; most (97.6%) had only a first (Bachelor's) degree; and nearly one in five (18.9) had less than 2 years professional experience.

Drug dispensing practice

When asked about OTC concept, 83% of the pharmacists think that they have good knowledge, and 17% of them think that they have either weak or no knowledge. 39% admitted dispensing prescription-only drugs without valid prescriptions. Only 11 pharmacists (8.7%) reported that they relied on a list of OTC drugs to guide their dispensing. Nearly two thirds (62.4%) obtained information about OTC drugs from text or internet websites. Considerable percent (**49.6**) of pharmacists distinguish OTC drugs and get information about these drugs from the pamphlet or from friends, university lecturers or doctors.

Most (89%) of our respondents believe that dispensing prescription-only drugs without valid prescriptions may harm patients. 78% wanted formal policies to regulate dispensing in community pharmacies, and 82% supported punishments for pharmacists who dispense prescription-only drug without valid prescriptions. The Ministry of Health and the Pharmacists' Syndicate were judged by most respondents to be responsible for the absence of such policies (strongly by 77.6% and 74.2%, respectively), although 43.7% also judged the colleges of pharmacy to be blameworthy.

Reported reasons for dispensing prescription-only drugs without prescriptions

Several causes of the violation of prescription-only drugs were reported. Competition among pharmacists was considered by most pharmacists (77.6%) to have a strong effect, Economical situation have forced most pharmacists to accept the patients requests even if they do not have valid prescription in order not to loose valuable customers. Similarly 73.6% reported that the poverty of patients forces pharmacists to dispense prescription-only drugs. Due to poverty most patients bypass the doctors in order not to pay for them. Instead they go directly to the pharmacists and consult them about their diseases..

Less important causes included incomplete patient knowledge about drugs, patients forcing pharmacists to dispense prescription-only drugs without valid prescriptions, and the weak trust of patients in physicians and primary health care centers.. The health centers and hospitals in Gaza strip are very crowded and the level of health services is relatively poor. Additionally most of the doctors in Gaza strip were graduated from Eastern Russian universities with low standard qualifications. Therefore many patients lost the trust in the doctors (**Figure 1**).

In order to assess dispensing practice of OTC and prescription-only drugs indirectly, respondents were asked about their dispensing of specific drugs. In contrast to the high proportion of pharmacists who claimed complete knowledge about the concept of OTC drugs, many prescription-only drugs were dispensed without valid prescriptions, and at a similar rate to known OTC drugs (**Figure 2**).

Discussion

Although most pharmacists (83.5%) in our study claimed that they were aware of the Over The Counter (OTC) concept only 9.4% reported having a list of OTC drugs in their pharmacies: 49.6% depended on the labels on drug packages as the main source of OTC information (data not published). Over a third (39%) of our respondents admitted dispensing prescription-only drugs in community pharmacies without valid prescriptions. However, data reflecting actual practice (Figure 2) suggests that the self-reported proportion of Gazan pharmacists dispensing prescription-only drugs is probably an underestimate. The vast majority (96 %) admitted prescribing amoxicillin without valid prescriptions. Similar results were obtained with ciprofloxacin, despite the fact that these oral antibiotics are not included in any OTC list worldwide [2,16].

This indicates that the pharmacists we surveyed (all of whom had at least first university degree in pharmacy) have unsatisfactory knowledge about

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the OTC concept. Three quarters of our respondents blamed the Ministry of Health and the Pharmacists' Syndicate for this situation, although nearly a half also blamed colleges of pharmacy. This suggests that there is a need for better cooperation between these three bodies in improving pharmacists' knowledge about OTC drugs.

Lack of knowledge was not the only reason for dispensing malpractice in the Gaza Strip, however. Other important factors included loss of patients' trust in doctors, and loss of pharmacists' trust in physicians and health care centers. The most prominent causes were deemed by pharmacists to be patients' economic situation (mentioned by 94.4% of respondents) and economic competition among pharmacists (mentioned by 83.1% of respondents).

The attitudes of the pharmacists revealed in the list of twenty two drugs relevant to a variety of physiological systems and diseases demonstrate that most pharmacists here lack clear dispensing guidelines. Even parental prescription-only drugs, such as gentamicin and insulin, are being dispensed without valid prescriptions. Amoxicillin comes second only to paracetamol in the list of the drugs frequently prescribed without valid prescriptions. This might explain the high incidence of antibiotic resistance in Gaza [18-21]. On the other hand, most pharmacists were reluctant to prescribe drugs for cardiovascular diseases and diabetes mellitus. High percentages of our respondents reported that they never dispensed digoxin (79.5%), enalapril (72.0%), glibenclamide (64.2%) or metformin (61.3%) without prescriptions, reflecting their concerns about the side effect of these drugs. However, drugs such as gentamicin with narrow therapeutic windows were dispensed OTC by 23% of pharmacists. The ranking of drugs in the list is not consistent with the OTC drug lists in developed countries [2,17] and this may indicate lack of pharmacist knowledge about the adverse effects of the drugs in the list.

In the light of our findings we offer the following recommendations:

- 1) improve cooperation between the Ministry of Health, the Pharmacists' Syndicate, and the College of Pharmacy in orientating pharmacists to good OTC practices;
- 2) encourage the only College of Pharmacy in the Gaza Strip to give increased attention to OTC studies in their undergraduate curricula; And
- 3) cooperation between the Ministry of Health, the College of Pharmacy and an international organization such WHO to draw up a modified OTC list, taking account of the economic and political situation in the Gaza Strip.

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Table 1. Participant characteristics.

Characteristic	Number	Percentage
Gender		
Male	80	(63%)
Female	47	(37%)
Governorate		
North	12	(9.4%)
Gaza	43	(33.9%)
Middle	12	(9.4%)
Khanyounis	37	(29.1%)
Rafah	23	(18.1%)
Qualification		
Bachelor	124	(97.6%)
Postgraduate	3	(2.4%)
Experience years		
Less than 2 years	24	(18.9%)
From 2 to 4 years	27	(21.3%)
From 5 to 9 years	42	(33.1%)
More than 10 years	34	(26.8%)

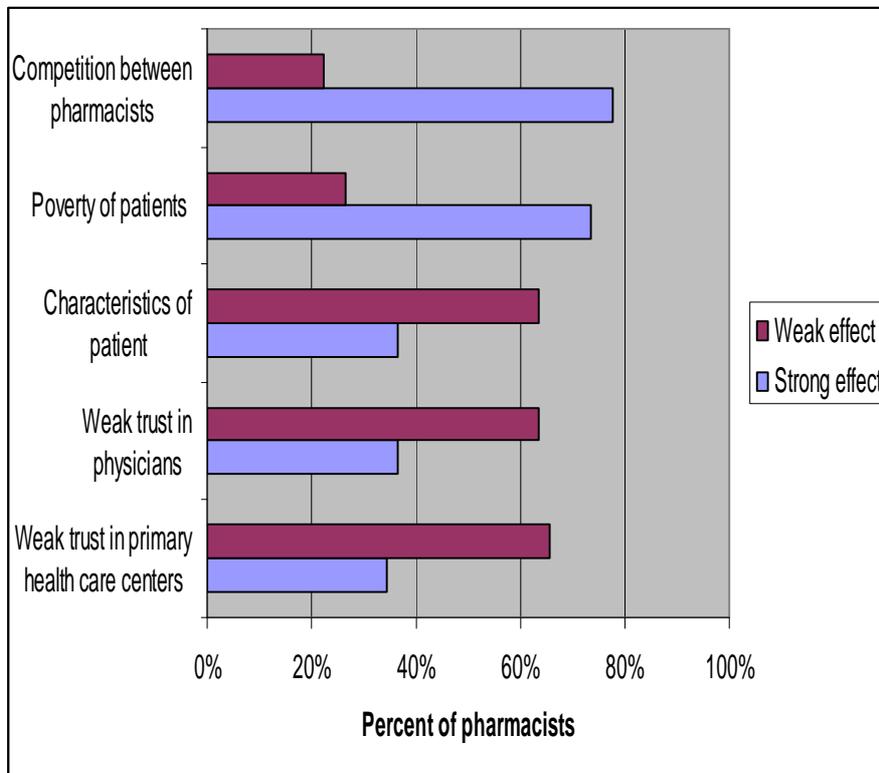


Figure 1. Factors that affect the dispensing of prescription only drug without valid prescription expressed as a percent of pharmacists who claim that certain factor has strong effect (blue columns) or weak effect (red columns).

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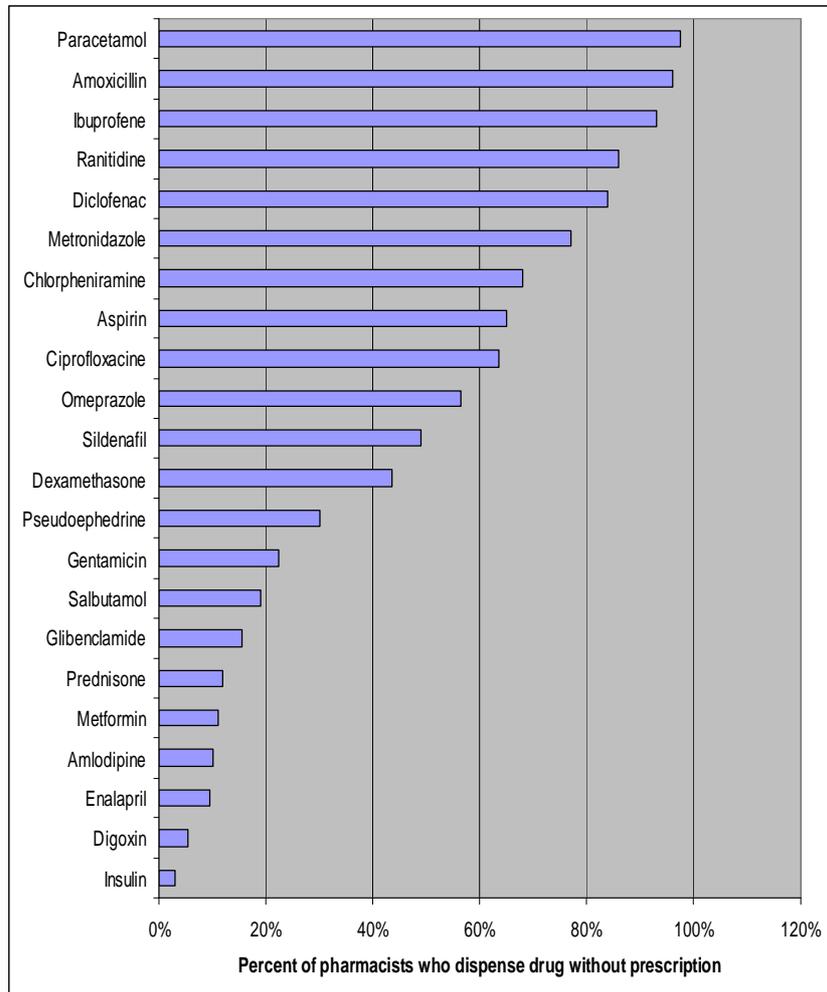


Figure 2. Percent of pharmacist who dispense the mentioned drugs without valid prescription.