(RESEARCH ARTICLE)

Community pharmacists' response to acute back pain: A simulated patient study in western region, Saudi Arabia

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Abstract

Objectives: To investigate response of the community pharmacists to acute back pain consultations by the patients, using doctor of pharmacy degree (Pharm D) final year students as simulated patients.

Method: The study was a cross-sectional study, conducted over a three months period from April 2016 to July 2016 in community pharmacy setting. The study was done at the western area in Saudi Arabia, at three cities: (Jeddah-Mecca-Taif). Convenient sample of 300 pharmacies were chosen. The students appeared in the pharmacy as patients. A check list was filled immediately after the visit.

Results: Results of the study showed that most of pharmacies studied were chain pharmacies (67.3%). The response of the pharmacists towards patients' counseling ranges from (6-55%). The majority of the pharmacists did not ask about spreading of the pain (93%), other disease (91%), medications taken (90%), intensity of pain (83.67%), and duration (83%). There was a low response of pharmacists towards self-care, except rarely, who gave advice for back exercise (6.667%). About 98% and above, did not give information about expected drug problems. Referral was given mainly for numbness symptoms (10.67%). Types of medications recommended were diclofenac sodium (44.67%), muscle relaxants (28.67%) and topical NSAIDS (25.33%). About 70%, of the pharmacists did not give advice spontaneously. Counseling time was less than one minute in 67.67% of the cases.

Conclusions: The response of community pharmacists, to acute back pain consultations was inadequate, which necessitates educational and training programs in minor disease treatment, and availability of national guidelines.

Keywords: Low back pain; Community pharmacy services; Simulated patients; Saudi Arabia

1. Introduction

Many studies, for different diseases, document inadequate patient counseling in community pharmacy [1-6]. The World Health Organization, in it's "Good Pharmacy Practice" document, encourages pharmacists to undergo more proactive functions towards patients [7]. Other organizations develop guidelines for pharmacist-conducted patient education and counseling [8].

Investigation of community pharmacists 'counseling through the use of simulated patients is one of procedures devised to reveal the gaps in this practice. The simulated patient might be a professional actor or other trained person. In study from Saudi Arabia, regarding counseling practices in community pharmacies at Riyadh city, the results showed that the majority of the simulated patients were given information only when they asked for it. Most of the pharmacists did not inquire about medication history and drug allergy. The only information provided by the majority of the pharmacists was information regarding the dose [9]. In study from Qatar, evaluating community pharmacy practice in acute

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gastroenteritis management, using simulated patient method; the findings indicate suboptimal dispensing practice, with limited information on drug use [10].

Acute low back pain is self-limiting, common disease. In US it accounts for the fifth most common reason patients see a medical practitioner and in UK 7 to 8% of all adult GP consultations are for low back pain [11]. A review of seven cross-sectional studies, done at Saudi Arabia, investigating epidemiology of low back pain, revealed prevalence and pattern ranging from 53.2% to 79.17% [12]. Therefore, community pharmacies can give an additional setting for primary care for minor symptoms. The practice of dispensing Over- the- counter Medications (OTC), through responding to symptoms in community pharmacy, is one of the important roles of the pharmacists in improving patients 'self-care. Most community pharmacists, in developing countries are involved in responding to symptoms activities, but this practice is neglected by health authorities, underestimated and run without well- defined practice standards [13].

 Acute low back pain is defined as pain present for less than 6 weeks [14]. In community pharmacy most low back pain conditions are expected to be mild, although a look for referral for high risk situations should always be attended for. Community pharmacies are considered as another gate, in addition to primary care clinics, for treatment for such a common ailment.

The American college of physicians and the American pain society [15] , recommends the following, when treating patients with back pain : a focused history and physical examination, no diagnostic tests for non-specific low back pain and this only required for severe conditions, advise and provide patients with evidence-based information , clinicians should consider the use of medications with proven benefits and safety, and for patients who do not improve with self-care options, clinicians should consider the addition of non-pharmacologic therapy with proven benefit.

In Saudi Arabia an OTC directory was devised since 2000 [16], but it is obvious that this document is not activated in practice. Community pharmacies remain isolated from any joint programs with health authorities, as the case in most developing countries. There is paucity about studies from Saudi Arabia, investigating response of community pharmacists to acute back pain. The disease can affect a variety of populations: students, teachers, drivers and other workers.

This study aims to assess community pharmacists 'interaction with patients who suffer from acute back pain, in the western region of Saudi Arabia. The study was done in the main cities of this region: Jeddah, Mecca and Al-Taif.

2. Methods

The study was conducted over a three months period from April 2016 to July 2016 in community pharmacy setting. The study was done in the western area in Saudi Arabia, at three cities: (Jeddah-Mecca- Al Taif). The study population was all private community pharmacies in the three cities.

 The study was a cross-sectional one. One of the trained students acted as a simulated patient suffering from low back pain and visited the pharmacy for advice and treatment. A convenient sample of 300 community pharmacies was chosen, 100 pharmacies from each city.

2.1. Data collection tool

 A checklist was used, which should be completed by the student (simulated patient), immediately after the end of the visit to the pharmacy. This checklist was adapted from literature [17]. The checklist was piloted in 5 pharmacies.

The checklist was divided into two parts. Part one consisted of demographic and general information. Part two consisted of 34 items expected to be asked by the pharmacist. The main headings include: general questions to be asked by the pharmacist, advice for self-care, pharmacologic treatments, side effects and contraindications, referral suggestion, counseling duration and counseling spontaneity.

2.2. Procedure

Two students visited the community pharmacy, one of them acted as the patient, and the role of the second one was to double check any missing information from the actor student, and to observe any other points. The student who acted as the simulated patient was instructed not to give any information except if asked by the pharmacist. After the end of visit the two students, completed the checklist information outside the pharmacy immediately.

This research was approved by the ethical committee of research in college of pharmacy, university of Al-Taif.

2.3. Statistical Analysis

The results were coded and entered in Excel and revised, then entered to SPSS version21. Descriptive statistics (frequencies/percentages) were used for general responses and One-Way Anova for comparison of the results of the three cities, location, pharmacy type and nationality.

3. Results

Demographic and general information are shown in table 1. The results of the study showed that most of the pharmacies studied were chain pharmacies (67.3%). Most of the pharmacies were located in the main streets (77.3%), and less in market area (3%). We found that most of the pharmacies visited have low number of customers (ranging from 1-10). Most of the pharmacies had only one staff (85%). The majority of the pharmacists were of Egyptian nationality (90.3%). There is no statistically significant difference between the location of the pharmacy (P0.087), pharmacy type (P0.085), city (P 0.375), and nationality (P 0.054) when compared with the responses of the pharmacists.

Table 1 Demographic and general information

Demographics		Number	Percentage (%)
City	Taif	100	33.3
	Mecca	100	33.3
	Jeddah	100	33.3
Pharmacy type	Chain	202	67.3
	Independent	98	32.7
Pharmacy location	Private clinic	25	8.3
	Street	232	77.3
	Market area	9	3.0
	Residential area	34	11.3
Number of visitors	No visitor	93	31.0
	One	61	20.3
	Two	71	23.7
	Three	29	9.7
	Four	20	6.7
	Five	6	2.0
	Six	6	2.0
	Seven	6	2.0
	Eight	2	0.7
	Nine	4	1.3
	Ten	2	0.7
Number of staff	One	255	85.0
	Two	42	14.0
	Three	3	1.0
Nationality	Egyptian	271	90.3
	Sudanese	22	7.3
	Jordanian	7	2.3

Questions and advices given by the pharmacists are shown in Table 2. The response of the pharmacists, towards many patient counseling points was weak ranging from 6-28%, with who have the back pain question being most frequently asked (55%). Almost the majority of the pharmacists did not asked about spreading of the pain (93.67%), any other disease(91%), medications taken (90%), intensity of pain (83.67%), and duration (83%).

The study showed less response of the pharmacists towards self-care, except rarely, who gave advice for back exercise (6.667%). Fewer advices were given for drug problems in general; some of these were directed towards gastrointestinal side effect of drugs (1.667%), and allergy (1%). The highest percentage for referral by the pharmacists was given to numbness (10.67%).

Table 2 Questions and advices given by the pharmacist

	Questionnaire item	Percentage of "Yes" (%)	Percentage of "No" (%)
Questions asked by the pharmacist	Who have the back pain	55.0	45.0
	Age of the patient	20.33	79.67
	When the pain occurs	28.0	72.0
	Duration of the pain	17.0	83.0
	Spreading of pain	6.33	93.67
	Intensity of pain	16.33	83.67
	Medications taken	10.0	90.0
	Any other disease	9.0	91.0
Advice for self-care	Reassurance of favourable outcome	0.0	100.0
	Advice to remain active	0.33	99.67
	Give books, handouts and leaflets	0.0	100.0
	Advice for superficial heat	0.33	99.67
	Back exercise	6.67	93.33
Advice for drug problems	Gastrointestinal effects	1.67	98.33
	Reno-vascular risk	0.33	99.67
	Myocardial infarction	0.33	99.67
	Allergy	1.0	99.0
	Other side effects	0.33	99.67
Referral advice	Infection	0.0	100.0
	Radiating pain	1.33	98.67
	Numbness	10.67	89.33
	Worsening pain	0.33	99.67
	Weight loss	1.0	99.0
	Feeling unwell	2.33	97.67
	Morning stiffness	0.67	99.3
	Feeling unwell	2.33	97.67
	Morning stiffness	0.67	99.3

The most recommended medications were: diclofenac sodium (44.67%), muscle relaxants (28.67%), and external non-steroidal anti-inflammatory drugs –NSAIDs- (25.33%). this is displayed in Table 3.

Table 3 Pharmacologic treatment

Questionnaire item	Percentage of "Yes" (%)	Percentage of "No" (%)
Paracetamol tablets	10.67	89.33
Ibuprofen tablets	9.33	90.67
Diclofenac sodium tablets	44.67	55.33
COX2 inhibitors tablets	0.33	99.67
Muscle relaxant tablets	28.67	71.33
External NSAIDs	25.33	74.67
Patches	4.0	96.0

Counseling duration and spontaneity are displayed in Table 4. Most of pharmacist took less time (less than 1 minute) in patient counseling (67.67%), and (69.33%) of pharmacists did not gave spontaneous advice.

Table 4 Counseling duration and spontaneity

Questionnaire Item		Percentage (%)
Counseling duration	Less than 1 minute	67.67
	1-5 minutes	27.67
	Above 5 minutes	4.67
Counseling spontaneity	Spontaneous	23.33
	Upon request	7.33
	None	69.33

4. Discussion

The results of this study showed a clear suboptimal interaction of community pharmacists, in Saudi Arabia, with patients with acute back pain. This lack of adequate counseling seems to be a general trend with community pharmacists in developing countries [18-19].

Most of the pharmacies visited were chain pharmacies, and this shows the expected future role of this sector in Saudi Arabia, especially when constructing any patient-oriented practice programs. About half of the pharmacists asked about who is the patient, and less about other points, as occurrence of pain, age and duration. Counseling regarding spreading and intensity of pain was very poor. Regarding self-care advice, this found to be of rare occurrence, and when given it was for back exercise only. Almost there was no advice for the patients to stay active. This clearly emphasizes a lack of any previous training in patient counseling for minor diseases in general, and acute back pain in particular. Although pharmacies were not crowded, as most pharmacies have only one to two patients during the time of simulated patient 'visit, still pharmacists were not able to get this chance for proper counseling. Most pharmacists were not inclined to give any information before the cost of the medication was paid.

Diclofenac sodium tablets was the main drug recommended, followed by muscle relaxants and superficial medications. Generally no importance was given towards side effects and risks of medication information. Referral practice is very weak, and this may be due to lack of any organized system of referral.

These results are similar to two studies from Australia. The findings of the first study, which used a cross-sectional survey among Australian chiropractors, showed that there was less advice for patients to stay active [20]. In a recent

observational study, among Australian community pharmacists [17], there was inadequate provision of reassurance of favorable outcomes and advice to stay active. In this study diclofenac sodium was the most used medication. Acetaminophen, as an additional drug, was recommended in only3% of visits, while in our study it was supplied, as a single drug, in about 10% of the visits. The findings of a simulated patient study from Malaysia [21], among community pharmacists, obtained similar results to our study. The general results in this study showed a suboptimal response of community pharmacists to back pain treatment. Only five counseling elements, of 13 recommended were addressed. The authors reported that when medication was requested by name, this was probably one of the reasons of less counseling. The most recommended medication was oral diclofenac sodium, followed by COX-2 inhibitors, and topical non-steroidal anti-inflammatory drugs (NSAIDs). Compared to the current study diclofenac was mostly used, followed by, muscle relaxants, topical NSAIDs, and COX2 inhibitors were almost rarely recommended. The most frequent counseling point addressed, in this study, was the route of administration, followed by frequency and dose. In our study the same was addressed. Regarding questions commonly asked by the pharmacists, this study is in contrast to the present study, in that the most asked question was about the medical history, followed by patient identity and age. In our study the question asked frequently was about patient identity, followed by time of occurrence of the pain, and age. Both studies generally arrive at correct counseling information although identity of the patient should be established before any treatment. Most of the consultation time, in this study, took less than two minutes or 2 -5 minutes with a median time of 1 minute. In our study most of the consultations took less than one minute, followed by between 1-5 minutes. This is considered a very critically low time, to gain information about the patient. Spontaneous counseling in the current study was very low, as most of the pharmacists responded only when the patients asked.

In most of the developing countries community pharmacy is always isolated from governmental healthcare institutions. This could be solved by integration in joined national programs. Minor diseases are a fertile area to start the change. The role of the community pharmacists in this area will decrease the load in primary health clinics and hospitals. The uniqueness of the community pharmacy, as an easy accessed health setting should not be underestimated. Guidelines and proper training courses should be constructed .Above all; a link between ministry of health and this sector should be developed. As starting point the presence of the high number of chain pharmacies, can give a proper organized channel of cooperation though contracts, with health authorities, in minor diseases programs. Many developed countries as: UK, USA, and Canada [22-24], have initiated successful programs with proper contracts with authorities.

The future of provision of triage service in community pharmacy was investigated in a review of thirty seven studies [25]. The authors commented that in all these studies pharmacists were found to make appropriate differential diagnosis, but those who do not use guidelines/protocols did not ask sufficient questions. They concluded that community pharmacy triage service is feasible and appropriate, and has the potential to reduce burden on other healthcare services, but a worry about the consistency and funding of the service remains there.

The study has some limitations. A convenient sample was used. The study was not audiotaped, as some problems with voice recording was encountered, when piloted .One scenario was used in which the simulated patient asked for treatment of acute back pain. The other expected scenario of asking about specific medication was not used.

The implication of these results to practice is summarized in the following: community pharmacists should have access to international guidelines for treatment of minor diseases, and they should be linked to training courses, to be given by pharmacy authorities. National guidelines should be made. Future studies should investigate barriers for professional practice in community pharmacies.

This study, according to our literature search, is the first simulated patient study investigating acute back pain, among community pharmacists, in Saudi Arabia.

5. Conclusion

There is inadequate counseling, for acute back pain, in Saudi community pharmacies in the western region. This should be augmented by the use of guidelines or protocols, and training. To improve pharmacy practice in this area a sort of contracts with community pharmacies and health authorities, to offer minor diseases services, should be devised.

Compliance with ethical standards

Disclosure of conflict of interest

The authors declare no conflict of interest.

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