

Turkish patients with osteoarthritis: Their awareness of the side effects of NSAIDs

Türkiye'deki osteoartrit hastalarının NSAİİ yan etkileri hakkındaki bilgi düzeyleri

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Background/aims: The study aim was to determine the awareness of Turkish osteoarthritis patients of the side effects of non-steroidal anti-inflammatory drugs. **Methods:** The patients were interviewed by 138 doctors regarding the level of their knowledge of the side effects of non-steroidal anti-inflammatory drugs. **Results:** A total of 3,755 patients (female/male: 3/1, 35% > 65 years) were included in the study. 35.5% of the patients were aware of side effects of non-steroidal anti-inflammatory drugs. 85.4% and 11.5% were aware of the gastrointestinal and other system-related side effects, respectively. 51% had learned of the side effects from doctors, 19.8% received information from the package inserts, 21.3% had experienced side effects, and 10.0% and 0.8% had learned from their friends and pharmacist, respectively. **Conclusions:** Turkish osteoarthritis patients have a moderate level of knowledge of side effects of non-steroidal anti-inflammatory drugs. Defining factors for knowledge of side effects of non-steroidal anti-inflammatory drugs were geographical region, socio-economic level and gender. This study reveals the physician's responsibility to educate patients about the side effects of non-steroidal anti-inflammatory drugs.

Key words: Osteoarthritis, non-steroidal anti-inflammatory drugs, side effects

INTRODUCTION

The most common chronic joint disease throughout the world is osteoarthritis, which is associated with degeneration of the joints. The prevalence of osteoarthritis of the knee is between 0.1%-44% depending on increasing age and female gender (1, 2). Current guidelines on the treatment of osteoarthritis recommend pharmacological therapy including acetaminophen for mild-to-moderate pain and non-steroidal anti-inflammatory drugs (NSAIDs) for moderate-to-severe osteoarthritis symptoms, if non-pharmacological interventions fail (3).

Amaç: Çalışmanın amacı, Türkiye'deki osteoartrit hastaları arasında non-steroid antiinflatuvar ilaçların yan etkileri hakkındaki bilgi düzeyini saptamaktır. **Yöntem:** Türkiye'de 9 farklı şehirdeki kliniklerden 138 hekim osteoartrit hastaları ile görüşme yapmıştır. **Bulgular:** Çalışmaya toplam 3755 hasta (kadın/erkek: 3/1, %35 > 65 yaş) alınmıştır. Hastalardan %35.5'inin non-steroid antiinflatuvar ilaçların yan etkileri hakkında bir fikri vardı ve sırasıyla %85.4 ve %11.5'i gastrointestinal ve diğer sistemlerle ilişkili yan etkilerden haberdardı. Bunlardan %51'i yan etkileri hekimlerden öğrenmiş, %19.8'i prospektüste okumuş, %21.3'ü kendi deneyimiyle öğrenmiş ve sırasıyla %10.0'u ve %0.8'i de arkadaşlarından ve eczacıdan öğrenmişti. **Sonuç:** Türkiye'deki osteoartrit hastaları non-steroid antiinflatuvar ilaçların yan etkileri hakkında orta düzeyde bilgiye sahiptirler. Yaşanılan coğrafik bölge, sosyo-ekonomik düzey ve cinsiyet bilgiye sahip olma oranı üzerinde etkili faktörler olarak bulunmuştur. Bu çalışma hekimlerin hastaları non-steroid antiinflatuvar ilaçların yan etkileri hakkında eğitime sorumluluğunu ortaya çıkarmıştır.

Anahtar kelimeler: Osteoartrit, non-steroid antiinflatuvar ilaçlar, yan etkiler

NSAIDs are among the most widely prescribed and used classes of drugs worldwide. Despite their clinical benefits in the management of osteoarthritis and rheumatoid arthritis, NSAIDs have considerable side effects, mostly affecting the upper gastrointestinal system, which limit their use (4, 5).

It is well known that success of pharmacotherapy is highly dependent on patient compliance and a rational choice of drug. A readable and correct prescription does not guarantee appropriate use by the patient. Among the major principles of rati-

onal use of drugs is to inform the patient about pharmacological effects, side effects, potential interactions, instructions for use and warnings regarding the drug, and the diagnosis (6, 7). Lack of information on medications is a primary reason why many patients fail to take their medications as prescribed (8, 9). The information provided not only by the physician, but also by the pharmacist, is highly important in order to improve patient compliance (10).

Besides gastrointestinal toxicity potential, long-term use of NSAIDs, increasing age of patients with osteoarthritis, and multi-drug use in this age group of patients have negative effects on patient compliance. Therefore, patient education is quite important to increase patient compliance with NSAIDs treatment in osteoarthritis.

This hospital-based epidemiological surveillance study was designed to determine the level of knowledge about the side effects of NSAIDs among Turkish patients with osteoarthritis in order to gain insight into their compliance with their treatment.

MATERIALS AND METHODS

This study was designed as an epidemiological surveillance study. A total of 250 doctors (primary care physicians, physical therapy and rehabilitation specialists, orthopedic surgeons, internists and rheumatologists) from nine different cities in Turkey were invited to the study and 138 of them interviewed the osteoarthritis outpatients who were under NSAIDs treatment and had signed informed consent forms between May 2002 and January 2003. The cities in which the participating doctors were located were widely enough scattered at various geographical regions to sufficiently represent the whole country. Table 1 shows the number and percent of patients from each city. Similarly,

Table 1. Number and percentage of patients from each city

City	n	%
Istanbul	927	24.7
Ankara	679	18.1
Izmir	677	18.0
Adana	541	14.4
Samsun	508	13.5
Bursa	181	4.8
Antalya	125	3.3
Diyarbakır	85	2.3
Erzurum	32	0.9
Total	3755	100

specialty distribution of the doctors showed a similar profile; therefore, a representative sample of osteoarthritis patients was believed to be enrolled in the study.

A case report form containing questions regarding patient knowledge about the side effects of NSAIDs was completed for each patient during the interview (Figure 1).

Date: / /	
Inclusion Criteria	
<input type="checkbox"/> Has diagnosis of osteoarthritis	<input type="checkbox"/> Under NSAIDs treatment for osteoarthritis
<input type="checkbox"/> Signed informed consent form	<input type="checkbox"/> In suitable condition to give medical history
Age:	Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female
Is patient aware of side effects of NSAIDs? <input type="checkbox"/> Yes <input type="checkbox"/> No	
If yes, which side effects of NSAIDs is he/she aware of?	
.....	
Where did he/she obtain information on side effects of NSAIDs?	
.....	

Figure 1. Case report form of the study

Statistical Method

The data were expressed by using descriptive statistics such as number and percentage of patients. A p level of 0.05 was regarded as statistically significant. Discrepancies in the total number of patients in the different tables are the result of missing information on case report forms.

RESULTS

A total of 3,755 patients (female/male: 3/1, 35% over 65 years of age), 3,442 under NSAIDs treatment, were included in the study.

It was observed that 35.5% of the patients had a general idea about the side effects of NSAIDs. Females had a significantly higher ratio (37.5%) than males (29.3%) ($p < 0.001$). Significant differences were also observed between patients from different cities regarding their general idea about the side effects of NSAIDs, with the highest level in Istanbul (46.4%), followed by Izmir (38.6%), Samsun (35.1%), Ankara (34.2%), Antalya (27.4%), Adana (27.4%), Diyarbakır (21.7%), Erzurum (12.5%) and Bursa (6.8%) ($p < 0.001$). The ratio of patients who had a general idea about the side effects of NSAIDs was highest for patients from the high socio-economic group (53.6%) versus those from the medium (40.5%) and low socio-economic groups (26.1%) ($p < 0.001$).

While 85.4% of these patients were generally aware of the dyspeptic complaints of NSAIDs

Table 2. The number and percentage of patients who are aware of dyspeptic complaints of NSAIDs

Dyspeptic complaints	n	% All patients	% Informed patients
General dyspeptic complaints	582	16.5	46.4
Gastric pain, burning sensation, abdominal pain	425	12.0	33.9
Nausea, vomiting, diarrhea, constipation, indigestion, bloating, etc.	160	4.5	12.7
Gastrointestinal bleeding	136	3.9	10.8

(Table 2), the percentage of patients who knew about side effects related with other systems was less than 11.5% (renal 3.9%, skin lesions/allergic 2.7%, hepatic 0.7% and cardiovascular 1.4%) (Table 3).

Table 3. The number and percentage of patients who are aware of NSAIDs side effects, other than those of the gastrointestinal system

Side effects	n	% All patients	% Informed patients
Renal	49	1.4	3.9
Skin lesions and allergy	34	1.0	2.7
Cardiovascular	18	0.5	1.4
Hepatic	10	0.8	0.7
Others	53	1.5	4.2

There was no difference regarding the number of patients who had a general idea about the side effects of NSAIDs and about the general dyspeptic complaints of NSAIDs between the different age groups ($p=0.063$ and $p=0.194$, respectively). Gender also had no effect on the ratio of patients who had a basic idea about the general dyspeptic complaints of NSAIDs ($p=0.141$).

Fifty one percent of these patients had learned about the side effects of NSAIDs from their doctors, 19.8% had read the package inserts, 21.3%

Table 4. The distribution of patients according to their source of information regarding side effects of NSAIDs

Information source	n	% All patients	% Informed patients
Physician	595	15.8	51.3
Experience	248	6.6	21.3
Package inserts	230	6.1	19.8
Acquired from community	116	3.0	10.0
Press	52	1.3	4.4
Pharmacist	10	0.2	0.8
Others	69	1.8	5.9

had experienced one of the side effects, 10.0% had learned about the side effects from their friends and 4.4% had obtained the information from newspapers. Only 0.8% had learned of the possible side effects from their pharmacist (Table 4).

DISCUSSION

There are limited number of studies in the literature which were conducted to investigate the level of knowledge of patients about their prescribed drugs. In this study, we focused on the knowledge of Turkish patients with osteoarthritis who were under NSAIDs treatment regarding the possible side effects.

Studies have shown that personal factors such as knowledge, attitudes, and motivation have particular importance in patient compliance and effectiveness of therapies (11). These factors may be influenced by the patient's education level, gender, the type of the disease and medication, doctor-patient relationship, and culture, etc. (11).

This hospital-based non-interventional epidemiological study is the first to have been performed on a large number of patients who represent the population of Turkish patients with osteoarthritis under NSAIDs therapy.

In the present study, one-third of patients were found to have a general idea about the side effects, mostly gastrointestinal, of NSAIDs. Half of these patients had learned about the side effects of NSAIDs from their doctors and the other half had either experienced one of the side effects, obtained information from the package inserts or learned about the side effects from their friends/press. Less than 1% learned about the possible side effects from their pharmacist.

The awareness level of Turkish osteoarthritis patients regarding side effects of NSAIDs therapy seems to be relatively higher compared to other populations. For example, in a telephone screening survey in over 3,000 patients, Zandman-Goddard et al. (2001) reported that the Israeli population was not aware of the side effects of NSAIDs (12).

This study also reveals the importance of the responsibility of doctors and pharmacists to educate patients on possible drug side effects. There are many studies on the importance of patient education at the time of prescription (13).

In a randomized pilot study performed in Turkey, it was shown that written information improves the knowledge of NSAIDs users about the possib-

le side effects (14). Several other studies have also shown that use of verbal or written material positively affects patient education among the population of NSAIDs users, and improves their level of knowledge and compliance with NSAIDs treatment (15-18).

In conclusion, this study demonstrated that Turkish patients with osteoarthritis have a moderate level of knowledge about the side effects of NSAIDs. This knowledge covers especially gastrointestinal side effects. Defining factors for knowledge

on the side effects of NSAIDs were geographical region, socio-economic level and gender. As a part of the rational pharmacotherapy of osteoarthritis, this study reveals the necessity of physicians to educate their patients about the side effects of these drugs.

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