Aged Patients and Use of Nonprescription Drugs

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Abstract: Elderly patients over 65, especially those over 75 years are more vulnerable to being prescribed inappropriate medications because of the high incidence of co-medication in this population resulting from the presence of multiple chronic diseases and also age-related changes in pharmacokinetics and pharmacodynamics. The aim at this study was to explore the habits of taking medications without recommendation fracture among older patients, to determine which medications are most often used without prescription, and if there is difference in this habits considering gender and age of respondents. Methods: A cross-sectional study was conducted by interviewing all patients ≥ 65 years that have arrived from 01.10. to 15.12.2015 in one ambulance of the Health Center of Mostar using the adapted questionnaire made out for the research. 90 questionnaires were properly filled for analysis, 60.0% were women and 40.0% of them were men. There was 45.6% respondents between 65 and 75 years, and 54.4% 76 years and above. Results: 15.6% of respondents said that they don’t take their therapy regularly. Women compared to men, significantly more often use non-prescription drugs (P = 0.007). Analgesics and sedatives are more often used as non-prescription drugs, compare to supplements (P = 0.002). Conclusion: This study, although conducted on a small sample should be an alarm for general practitioners. They should think more about adverse effects of drugs on the aged, and use Beers criteria in every day practice. In addition, pharmacists should respect the legislation and not sell drugs without doctor’s prescription to which it applies.

Key words: Nonprescription drugs, aged, adverse effects, sex.

1. Introduction

Over the next 15 years, the number of adults aged ≥ 65 years will increase by 80% and account for nearly 20% of the total population. “Baby boomers” born between 1949 and 1964, will reach age 65 years, and the elderly will compose the largest percentage of the total population. The fastest-increasing age group is that aged ≥ 85 years as life expectancy continues to increase, with average life expectancies of 80.8 years in women and 75.7 years in men. It is vital that health care professionals familiarize themselves with this unique population and employ evidence-based treatment strategies shown to ensure maximum efficacy and tolerability [1].

A disproportionate number of elderly people suffer from chronic and degenerative pathology, leading in turn to a demand for more medication. However, knowledge about the efficacy and safety of many drugs is often sparse for the frail elderly because they are generally excluded from clinical trials [2].

Elderly residents of long-term care facilities are more vulnerable to being prescribed inappropriate medications because of the high incidence of co-medication in this population resulting from the presence of multiple chronic diseases and also age-related changes in pharmacokinetics and pharmacodynamics [3].

Worldwide, there has been an emerging patient demand for access to efficient drugs without consulting a doctor and obtaining a prescription. As a result, there has been an expanding movement from prescription-only drugs to over-the-counter (OTC) status. An increasing number of drugs are becoming available OTC, empowering patients to treat themselves. Where the principle of empowering individuals to treat themselves can fail is when consumers lack the knowledge to do so safely [4].

Non-prescription (over-the-counter, or OTC) analgesics (painkillers) are used frequently. They are
available in various brands, package sizes, formulations, and dose. They can be used for a range of different types of pain [5].

Over-the-counter non-steroidal anti-inflammatory drugs (NSAIDs) and paracetamol are most commonly the first-line pharmacotherapy in combating different pain and inflammatory disorders and fever. Unfortunately, those drugs might have serious side effects, especially when they are used in an inappropriate way [6].

Elderly patients are particularly vulnerable and most at risk of suffering adverse drug reactions, which are often caused by inappropriate prescribing practice. Gaining insight into physicians' drug prescribing patterns in order to identify prescribing problems is the fundamental first step in trying to improve the quality of prescribing [2].

Researchers have documented the widespread incidence of inappropriate medication use in elderly persons and reported an estimated prevalence from 4.8 to 45.6% [3]. The proper use of medicines and monitoring for adverse effects are important factors in the treatment of elderly patients. Aging is associated with a reduction in first-pass metabolism and therefore an increase in the bioavailability and distribution of drugs, which increases the risk of adverse effects; these risks grows exponentially when a number of different drugs are used [3].

In some Pharmacies in BiH you can take some medications that do not belong to the group over the counter (analgesics, sedatives).

The aim at this study was to explore the habits of taking medications without recommendation fracture among aged patients, to determine which medications are most often used without prescription, and if there is difference in this habits considering sex and age of respondents.

2. Methods

A cross-sectional study was conducted by interviewing all patients ≥ 65 years that have arrived from 01.10. to 15.12.2015 in one ambulance of the Health Center of Mostar using the adapted questionnaire made out for the research. All patients under 65 years were excluded from the research.

Questionnaire gave as data about age, sex, regularity in taking prescribed therapy, use of OTC medications and most often used OTC medications.

After controlling collected questionnaires 90 of them were kept for analysis, 54 (60.0%) of them were women, and 36 (40.0%) were men, and analysing age it was determined that 41 (45.6%) were between 65 and 75 years, and 49 (54.4%) 76 years and above.

3. Statistical Methods

Data were analyzed using the Statistical Package for the Social Sciences (SPSS release 17.0, Chicago, Illinois, SAD) and Microsoft Office Excel 2007. Data are presented as number and percent (n (%)). Chi-square test was used for detecting the difference between the group of patients (Fisher’s exact test was used in the absence of the expected frequency). The level of statistical significance was set at \( P = 0.05 \).

4. Results

Regularity in taking prescribed therapy and taking nonprescription drugs regarding sex and age of respondents is presented in table 1.

The results demonstrated that significantly more of respondents take their therapy regulary (Table 1). Slightly more of respondants took medication without prescription. Women compared to men, significantly more often used non-prescriptiond drugs, while life age didn’t display to be statistically significant parameter at self initiative medication. Analgesics and sedatives are more often used as nonprescription drugs, compare to supplements. Neither sex or age affect significantly on type of drugs that patients take without physicians recommendation.

5. Discussion

Unfortunately due to not respecting legal acts and
Table 1  Regularity in taking prescripted therapy and habit of taking nonprescription drugs regarding sex and age of respondents.

<table>
<thead>
<tr>
<th></th>
<th>Number (%) of respondents (N = 90)</th>
<th>Total</th>
<th>Sex</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>M</td>
<td>F</td>
</tr>
<tr>
<td>Taking therapy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regularly</td>
<td></td>
<td>76 (84.4)</td>
<td>33</td>
<td>43</td>
</tr>
<tr>
<td>Irregular</td>
<td></td>
<td>14 (15.6)</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>p</td>
<td></td>
<td>&lt;0.005</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taking nonprescription drugs</td>
<td></td>
<td>48 (53.3)</td>
<td>13</td>
<td>35</td>
</tr>
<tr>
<td>Yes</td>
<td></td>
<td>42 (46.7)</td>
<td>23</td>
<td>19</td>
</tr>
<tr>
<td>p</td>
<td></td>
<td>0.527</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number (%) of respondents (N = 48; voluntarily taking drugs)</th>
<th>Type of medication</th>
<th>Analgesics</th>
<th>Sedatives</th>
<th>Supplements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>23 (47.9)</td>
<td>6 (46.1)</td>
<td>14 (40.0)</td>
<td>12 (46.1)</td>
</tr>
<tr>
<td></td>
<td>20 (41.6)</td>
<td>7 (53.9)</td>
<td>16 (45.7)</td>
<td>11 (42.3)</td>
</tr>
<tr>
<td></td>
<td>5 (10.5)</td>
<td>-</td>
<td>5 (14.3)</td>
<td>3 (11.6)</td>
</tr>
<tr>
<td></td>
<td>0.002</td>
<td>0.757</td>
<td>0.563**</td>
<td></td>
</tr>
</tbody>
</table>

P value is the result of the chi-square test, unless otherwise stated; ^ Fisher’s exact test.

not imposing penalties for offenders, in some pharmacies in Bosnia and Herzegovina you can still purchase medications which should not be available without doctors prescription. In our research something over half of the respondents admitted that they take some medications on their own, without consulting with doctor first. Women are more likely to use medications on their own, and they usually use sedatives (> 90% were benzodiazepines (BDZ)). Sedative drugs our patients mostly used inadequately, usually for sleeping, and for years. Large use of this medicines is also pronounced in the world. Research done in Canada in 1995 points out that 77% of examinees used BDZ for over a year, and 14.5% of them didn’t had no indication for using them [7]. According to Beers criteria, BDZ are drugs that should surely be avoided in patients over 65 years [8]. Even though doctors prescribe more of BDZ than justified, possibility of taking BDZ without prescription resulted in high percentage of our respondents that take this group of drugs. Also, Buck with associates [12], in his research find out that polifarmacy (> 6 medications) is more often in women, and frequent visits to the physician were significantly associated with potentially inappropriate therapy. Research conducted in south Korea confirm that 58.2% patients during 2012 took at least 1 unmatching drug according to Beers criteria, out of that 58.7% were drugs that affect central nervous system [12].

In our research NSAIDs are most often used voluntarily, namely paracetamol and ibuprofen, in accordance with results in the world [4]. Ibuprofen in a dosage of 200 mg is OTC drug, however our patients were taking larger doses (400 mg). Larger dose of ibuprofen increases unwanted effects and exposes patient to larger risk from intestinal bleeding, chronic kidney failure etc, and of course increases the possibility of interaction [4, 6, 13-14]. Number of unwanted side effects increases with taking more type of drugs and with length of taking them [3, 6, 11]. We didn’t research unwanted side effects of this drugs, what could be a new subject made in larger sample.

6. Conclusions

Taking into account that most of our patients have more than one disease at the same time, there is a possibility of polifarmacy, but also polypragmasy. In addition to that, our patients are not limited in purchasing drugs that are potentially harmful for them, what moreover impairs the situation and increases chances of adverse effects. Certainly it is relevant to limite use of medications that according to the Beers
criteria are dangerous for persons aged > 65 years. Important goal is to reduce polypragmasy and restrict uncontrolled use of drugs like sedatives and NSAIDs.

According to Beers criteria, both group of drugs that are most commonly used among our patients voluntarily belong to group of drugs that are not recommended for older patients. This should be an alarm to work more on education of patients, and try to reduce the consumption of these drugs that can be dangerous for older persons.

Reference


