

Self-evaluated knowledge of pharmacy customers in South-Estonia about the use and safety of herbal products

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ABSTRACT

Medicinal plants and their products are popular in Estonia. There are two approaches to use of herbal products: first, that based on traditions and practical experience and, second, that supported by scientific evidence. It is important to marry these two approaches. One place where traditions and new knowledge could meet is the pharmacy. In this study we evaluated knowledge about the use and safety of herbal products of pharmacy customers in South-Estonia. A convenience sample of pharmacy customers in south Estonia (n = 196) participated in the study. Of the survey participants, 76% were frequent or occasional users of herbal products and considered these products safe (75%) and effective (73%). Herbal products were mostly (91%) consumed for prophylaxis or treatment of minor illnesses. Main information sources about herbal products were pharmacists (75%) and package information leaflets (65%). Mode of action (95%), administration (81%) and indication (77%) were the information details more frequently sought from the pharmacy about herbal products. Of the survey participants, 22% described some problems connected with the use of herbal products. Herbal products are popular in Estonia and pharmacists have an important role in counselling on these products. Despite knowledgeable use of herbal products and infrequent experience of side effects with these products, safety issues should be more stressed in the providing of information details to pharmacy customers.

Keywords herbal products, safety, community pharmacy, pharmacy customer, Estonia

INTRODUCTION

Products that are not generally considered as part of conventional medicine – herbal and homeopathic medicines, traditional Chinese medicines, Ayurvedic medicines, antroposophic medicines and dietary supplements are defined as complementary medicines (CM). Herbal products are one considerable part of CM and include both herbal medicines and herbal supplements (Barnes and Abbott, 2007).

Estonia is a small country (population 1.3 million) in the north of Europe with a long tradition of using medicinal plants and their preparations. Mostly local wild plant species are used (Raal and Sõukand, 2005). Different issues about medicinal plants in Estonia like resources, import-export and cultivation have been investigated over the past 80 years. In recent decades the most popular medicinal plants have been German Chamomile, Valerian, Bearberry, Peppermint and Caraway. Herbal teas have been frequently used for treatment of minor complaints of the urinary tract and the upper respiratory tract, for stress-relief and to assist in a good night's sleep (Raal et al., 1998; Volmer et al., 2011).

In Estonia, a large selection of herbal products is sold in the pharmacy (Volmer et al., 2011). There are two types of herbal products available at community pharmacies: herbal medicinal products and herbal supplements. The State Agency of Medicines (SAM) is the institution responsible for

classification of herbal products as medicinal products or supplements. The categorization is made on the basis of the safety of the active components (Medicinal Products Act, 2005). Herbal medicinal products are regulated according to the EU directive 2003/63EC as medicines and sold only at pharmacies (Commission Directive 2003/63/EC amending Directive 2001/83/EC, 2003). Herbal supplements are regulated on national bases with no detailed requirements related to the quality, efficacy and safety of the product. The sale of herbal supplements is not restricted to community pharmacies.

For the treatment of minor illnesses, Estonians use herbal products often as the first remedy. Information concerning the mode of action and indication is obtained from previous experience or provided by a health care professional (mainly a pharmacist) (Volmer et al., 2007; Volmer et al., 2009). According to Bouldin et al. (Bouldin et al., 1999) it is an apparent opportunity for pharmacists to become a source of scientific information concerning herbal products. The pharmacist has a prime position to advise pharmacy customers in the case of self care with herbal remedies or consult their use during treatment with conventional medicines (Cuzzolin et al., 2009).

The attitude of the Estonian public to safety issues attached to herbal products has not been studied. A long tradition of taking mainly non-poisonous local medicinal plants may have led to the assumption that people consider herbal products safe. However, long-term use is not always a proof of safety and today there is little information about the identification of long-term side effects, the use of herbal products by patients with chronic conditions or when they are used concomitantly with conventional medicines (Barnes 2003; Barnes et al., 1998; Sanfelix et al., 2001). In the study conducted by Dergal et al

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(Dergal et al., 2002) among older adults attending a memory clinic, several potential herb-drug interactions were identified. The most common potential herb-drug interaction was between *Ginkgo biloba* and aspirin.

The objective of this study was to evaluate the knowledge of pharmacy customers in south Estonia about the use and safety of herbal products.

MATERIALS AND METHODS

Study sample and data collection

Written questionnaires were provided in two community pharmacies in different cities in south Estonia in November-December 2005. In order to get a random sample, questionnaires were distributed on different days and times (four weeks from 9.00 - 13.00 h and four weeks from 15.00 - 19.00 h) to over-the-counter (OTC) customers. All OTC customers visiting the pharmacies at these times were asked about use of herbal products and those answering yes were asked to participate in the study. The aim of the study was explained and survey participants self-completed the study instrument based on their perceptions of OTC herbal medicinal products and herbal supplements discussed in this paper as herbal products. Additional information or support (explaining questions, helping the elderly) was provided by pharmacists when necessary. During the study 196 questionnaires were collected. Of the sample 76% (n = 149) were women and 24% (n = 47) were men. The mean age of the respondents was 47 ± 24 years. Fifty five percent of the study participants were from cities and 45% from rural areas.

Study instrument

The self-developed study instrument consisted of 18 questions and included items related to (1) perception and use of herbal products, (2) the perceived importance of different aspects in information and information sources about herbal products, (3) safety considerations and experienced side effects of herbal products and (4) the respondent's demographic characteristics.

The survey instrument was pilot tested for face validity among a convenience sample of ten members of the general public. A copy of the survey instrument can be obtained by contacting the corresponding author.

Statistical analysis

Data analysis was carried out by SPSS 11.0 for Windows. The frequencies were analysed followed by cross-tabulation and calculation of statistical differences by the Pearson Chi-Square test. Statistical correlations were calculated based on gender, age and place of residence of pharmacy customers. A statistical correlation was considered significant if $p < 0.05$.

Younger respondents were defined as the respondents aged 20 - 40 years; whereas older respondents were those aged 41 - 60 and 61 + years.

RESULTS

Knowledge about and consumption of herbal products

Sixty seven percent of respondents evaluated their knowledge about herbal medicines positively (12% excellent/good and 55% medium); 30% considered it as poor and 3% reported missing/a complete lack of knowledge. Insufficient knowledge was mentioned more by men than women ($p < 0.001$) and more by younger than older respondents ($p < 0.05$).

Thirty two percent of respondents consumed herbal products frequently, 44% occasionally, 21% rarely and 4%

reported no experience with herbal products. Utilisation was higher among women than men ($p < 0.05$) and among older than younger respondents ($p < 0.01$).

Herbal products were purchased from the community pharmacy 93%, from the marketplace 37%, in a supermarket 36% or via the Internet 2%. Seventy one percent of the respondents collected medicinal plants themselves. Described activity was more frequent among women than men ($p < 0.05$) and more among people from rural areas than from those in the cities ($p < 0.01$). Younger respondents bought medicinal plants and herbal health products more from supermarkets than did older respondents ($p < 0.05$).

More popular medicinal plants were Linden flowers for colds (35%), Chamomile (34%), Calendula (17%) and St. John's Wort (12%) for inflammatory conditions, Peppermint as a tranquilizer (23%) and Garlic for prophylaxis of different illnesses (8%).

Forty five percent of the respondents expected after the usage of herbal products to get well within two or three days and 29% within one week. 10% of respondents anticipated waiting for two weeks to one month before feeling better. 5% of study participants reported that they had to use herbal products all the time for them to be effective.

Information about herbal products

The main source of information for the respondents was the pharmacist (74%), followed by package information leaflets (62%) and advertisements in mass media channels and the general practitioner (both 41%). Mode of action (95%), administration (81%), indication (77%) and side effects (37%) were stressed as more important details in information provided about herbal products at the community pharmacy. Women more often than men ($p < 0.05$) requested different detailed information about herbal products.

Safety considerations and experienced side effects of herbal products

Herbal products were considered as safe (75%), effective (73%) and as products with a long tradition of utilisation by 83% of pharmacy customers participated in the study.

Herbal products as safe products should be recommended to pregnant women 70%, children 75% and elderly people 46%. In case of children, women considered the use of herbal products as more important than men ($p < 0.05$). Older respondents more than the younger ($p < 0.01$) and more people from rural areas than from cities ($p < 0.01$) found that it is more sensible to use herbal products for the elderly. More people from the countryside than in the cities would recommend herbal products to pregnant women ($p < 0.05$).

Twenty two percent of respondents had experienced problems in the use of herbal products occasionally or rarely. The most frequently described problems were the inefficiency of herbal products (72%), followed by side effects and misunderstanding of the mode of action of the product (both 35%), interactions and poor knowledge of how to make herbal tea (both 19%) and administration of herbal medicines (14%).

Allergic skin reactions, disorders of the gastrointestinal tract and heart problems were described as side effects of herbal products. Half of those respondents had experienced side effects, regarded these as severe or moderately severe. However, side effects were not reported to a general practitioner or pharmacist, but handled by the pharmacy customers themselves.

DISCUSSION

This is the first study in Estonia to investigate the public knowledge towards herbal products and their consumption. In general, the findings support information from previous studies (Volmer et al., 2006; Volmer et al., 2007, Volmer et al., 2010). However, some new issues have arisen.

If to evaluate the self-perceived knowledge about herbal products of pharmacy customers, a mix of traditional experience based and scientific evidence based information could be demonstrated. In comparison with a UK study (Barnes 2002), where herbal remedies were consumed for treatment of acute and chronic conditions, the use of herbal products in south Estonia was clearly limited to conditions suitable for self-treatment or the prophylaxis of illnesses. Described behaviour contributes to the evidence-based approach of the general public to the use of herbal products. However, some of the perceptions about herbal products as almost safe products with quick relief to the health problems could be influenced by "grandmother recipes" and not supported with contemporary scientific information.

In Estonia, herbal products can either be purchased from a community pharmacy or be collected directly from medicinal plants. Information about these products can be received either from professionals (the pharmacist and the GP) or from non-professional sources (friends, relatives, and popular media). In the current study, pharmacy customers clearly preferred the first mentioned option. According to UK studies (Dergal et al., 2002) the general public mostly uses herbal medicines without consulting a professional.

As far as the desired information is concerned, questions about the administration, indication and the mode of action are those most often posed. It does appear, however, that there could be some improvement in the communication skills of community pharmacists because many of the problems cited were concerned with the administration of herbal products.

The lay public do not consider safety issues of herbal products very important. Nor are pharmacists and their customers very active in talking about the side effects of herbal products. Only in the last ten to fifteen years has information concerning the serious side effects of some medicinal plants and their interactions with conventional medicines become available. St. John's Wort is a prime example (Barnes 2003; Dergal et al., 2002). Limited information available concerning the efficacy and safety of herbal medicines is connected with a small number of quality randomized controlled trials (Goldman, 2001). To help the reader to judge the validity and implications of the findings in the reports of clinical trials, Gagnier *et al* developed a checklist of 22 items (Consolidated Standards of Reporting Trials) for reporting of randomized controlled trials (Gagnier et al., 2006). Another question is how improved knowledge on the safety of herbal medicines is attained by community pharmacists and forwarded to the patients.

In conclusion, this study demonstrated the popularity of medicinal plants and herbal products in Estonia. Estonians are accustomed to going to the pharmacy and asking for professional advice concerning herbal products and pharmacists are ready to give assistance. This willingness to seek information from professional sources makes possible the use of herbal products on the basis of scientific evidence. In terms of the evidence-based information, more attention should be devoted to the safety of herbal products.

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CONFLICT OF INTEREST

The authors have declared no conflict of interest.

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