

ORIGINAL REPORT

# Herbal products: behaviors and beliefs among Italian women<sup>†</sup>

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## SUMMARY

**Purpose** The use of phytotherapy is growing worldwide, but the popular perception is that this kind of approach is natural and therefore safer than traditional medicine; for this reason the use is frequently not communicated to the doctor. Instead, even if many herbal remedies are benign in nature, some of these therapies have potentially harmful side effects or adverse interactions with other medications. So, the purpose of our study was to analyze the behavior patterns and decision-making modalities about herbal remedy use among a sample of Italian women.

**Methods** During a 5-month period, interviews to women attending the outpatient ambulatory of an urban university general hospital were made on the basis of a pre-structured 25-item questionnaire.

**Results** Among a random study population of 1044 subsequent patients, 491 women (47.03%) reported to have been taking one or more herbal products in the last year, sometimes used during pregnancy or given to their children (35.23%). The 10 most frequently used herbal products reported were propolis, aloe, valerian root, blueberry, fennel, dandelion, mallow, arnica, thyme, and Echinacea. The major purposes for using these products were to stimulate the immune system and to cure respiratory problems. 47/491 (9.57%) women reported side effects, but only 36% referred to the doctor. In most of the cases, herbal products were taken in combination with drugs (44.61%) or homeopathic treatments (11.81%). The majority of our women did not obtain information about this kind of therapy from a health care provider (72.71%).

**Conclusions** The present survey highlights the general use of phytomedicines by a sample of Italian women, the potential risk of their confidence with the 'natural world,' and the lack of discussion on this argument with doctors and pharmacists. This suggests the importance of training for health care providers and the need of informational programs for consumers. Copyright © 2005 John Wiley & Sons, Ltd.

KEY WORDS — herbal products; behaviors; women

## INTRODUCTION

In recent years, several investigators reported a widespread use of complementary/alternative medicines. In particular, phytotherapy is common among women for a variety of health conditions, overall for chronic,

incurable or recurrent illnesses.<sup>1</sup> The growing use of herbal products has been favored by an increasing exposure to media and by the popular perception that orthodox medicines are overprescribed and often dangerous.<sup>2</sup> Instead, the attitude of the population to herbal remedies is that this kind of therapy is natural and therefore safer than drugs: for this reason the use is frequently not communicated to the doctor.<sup>3</sup> Two aspects could render this kind of therapy potentially dangerous. On one hand, patients may incorrectly take products considered safe, due to a lack of information by health care providers. On the other hand, the manufacturers and distributors are not required to demonstrate safety and efficacy of herbal products before placing on the market: regulation by Food and Drug

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Administration (FDA) occurs only after reports of adverse reactions related to products already in the market. European recent guidelines, based on WHO's Guidelines for the Assessment of Herbal Medicines,<sup>4</sup> state that a substance's historical use is a valid way to document safety and efficacy in the absence of scientific evidence to the contrary. This historical approach either could be insufficient for some herbal products to guarantee their safe use or could strengthen the popular opinion that there is no need to scientifically test the effective therapeutic use of these products. Even if many herbal products are benign in nature, some of these compounds have potentially harmful side-effects as well as adverse interactions with other medications.<sup>5,6</sup>

Taking into account the increased need for information concerning the use of herbal compounds in all its aspects, the purpose of our study was to analyze and discuss, among a sample of Italian women, their behavior patterns and decision-making modalities.

## METHODS

### *Study population*

The study was conducted over a 5-month period in the outpatient ambulatory of an urban university general hospital of Verona, in the northeast of Italy, after the institutional authorization was obtained. Potential participants were informed about the aim of the study and that all information was collected anonymously. The sample population consisted of women who were interviewed, on the basis of a pre-structured questionnaire, face-to-face by a psychologist about herbal products' use in the last year.

We think that the data from an interviewer-administered questionnaire could provide more reliable and complete information than a self-administered questionnaire, often resulting in lower adhesion, inappropriate compilation, and misinterpretation of the answers.<sup>7</sup> The choice to interview only female subjects was made on the basis of previous works<sup>8,9</sup> reporting that women are the most frequent users of these therapies. We restricted our survey to the last 12-month period with the purpose to obtain more detailed information.

### *Interview*

The questionnaire was anonymous, pre-tested and included 25 items together with some information about sociodemographic characteristics of the interviewed subjects (see appendix).

### *Statistics*

Data were stored and analyzed using a Delphi TM7 professional study program (database). Statistical analysis was performed using SPSS software (SPSS, Inc., Chicago, IL, USA).  $\chi^2$  test was used for categorical variables. A  $p$ -value  $<0.05$  was considered as significant.

## RESULTS

Over the 5-month period of the study (2-day a week), 1063 women attending the outpatient ambulatory for a variety of problems were contacted randomly and subsequently to be interviewed: 12 women refused to participate and 7 women left the ambulatory without completing the questionnaire. Then, as shown in Table 1, our population comprised 1044 women mainly between 30 and 50 years of age, married with children, with a middle level of education (secondary or high school) and living in a rural area. Among this population, 553 women referred to be non-users, while 491 (47.03%) reported to have been taking one or more herbal products in the 12 months prior to interview, continuously (11.81%), frequently (31.57%), or sometimes (30.96%). In some cases, they referred to take herbal remedies also for their children (173/491, 35.23%) and husbands (54/491, 10.99%), or to have used these kind of therapies also during pregnancy (53/491, 10.79%). Among the 553 non-users, 175/553 (31.65%) considered herbal products potentially useful and 347/553 (62.75%) did not exclude to adopt this kind of therapy in the future. Compared to non-users, the age of the users was quite different, being women mostly in the age group 31–40 years (43.74 vs. 20.91%,  $\chi^2 = 98.233$ ,  $p < 0.001$ ). Moreover, users had a higher level of education (56.29% vs. 34.90% with high school or degree,  $\chi^2 = 89.707$ ,  $p < 0.001$ ) and were employed (58.86% vs. 43.22%,  $\chi^2 = 24.831$ ,  $p < 0.001$ ). In detail, 58.87% of women with a university degree used herbal products compared to 18.13% of women with only primary education. No significant difference was found as regards the area of residence and number of children. A total of 73 different herbal products were used: the 10 most frequently reported were propolis, *aloe*, valerian root, blueberry, fennel, dandelion, mallow, *arnica*, thyme, and *echinacea* (Figure 1). The major purposes for using these kinds of products were to strengthen the immune system (91/491, 18.54%), to cure gastrointestinal (89/491, 18.12%), respiratory (177/491, 36.04%), or cardiovascular problems (69/491, 14.05%), to treat anxiety/sleep disturbances (72/491, 14.66%).

Table 1. Sociodemographic characteristics of women involved in our study (percentages in parenthesis)

	Total (n = 1044)	Users (n = 491)	Non-users (n = 553)	p-value
<b>Age</b>				
20–30 years	169 (16.3)	83 (17.04)	86 (15.64)	$\chi^2 = 98.233$ $p < 0.001$
31–40 years	328 (31.63)	213 (43.74)	115 (20.91)	
41–50 years	220 (21.22)	107 (21.97)	113 (20.55)	
>50 years	320 (30.86)	84 (17.25)	236 (42.91)	
<b>Marital status</b>				
Single	206 (19.86)	99 (20.37)	107 (19.42)	$\chi^2 = 22.688$ $p < 0.001$
Married	665 (64.13)	337 (69.34)	328 (59.53)	
Separated/widow	166 (16.01)	50 (10.29)	116 (21.05)	
<b>Level of education</b>				
Primary school	193 (18.59)	35 (7.22)	158 (28.57)	$\chi^2 = 89.707$ $p < 0.001$
Secondary school	379 (36.51)	177 (36.49)	202 (36.53)	
High school	342 (32.95)	200 (41.24)	142 (25.68)	
Degree	124 (11.95)	73 (15.05)	51 (9.22)	
<b>Number of children</b>				
0	276 (26.62)	123 (25.36)	153 (27.72)	$\chi^2 = 0.738$ $p = 0.692$ , NS
1	346 (33.37)	165 (34.02)	181 (32.79)	
>1	415 (40.02)	197 (40.62)	218 (39.49)	
<b>Employed</b>				
Yes	528 (50.57)	289 (58.86)	239 (43.22)	$\chi^2 = 24.831$ $p < 0.001$
No	516 (49.43)	202 (41.14)	314 (56.78)	
<b>Area of residence</b>				
Rural	644 (61.92)	289 (59.22)	355 (64.31)	$\chi^2 = 2.635$ $p = 0.105$ , NS
Metropolitan	396 (38.08)	199 (40.78)	197 (35.69)	
<b>Smoking</b>				
Yes	289 (28.54)	147 (29.94)	151 (27.31)	$\chi^2 = 0.760$ $p = 0.383$ , NS
No	746 (71.46)	344 (70.06)	402 (72.69)	
<b>Alcohol</b>				
Yes	141 (13.51)	70 (14.26)	71 (12.84)	$\chi^2 = 0.334$ $p = 0.563$ , NS
No	903 (86.49)	421 (85.74)	482 (87.16)	

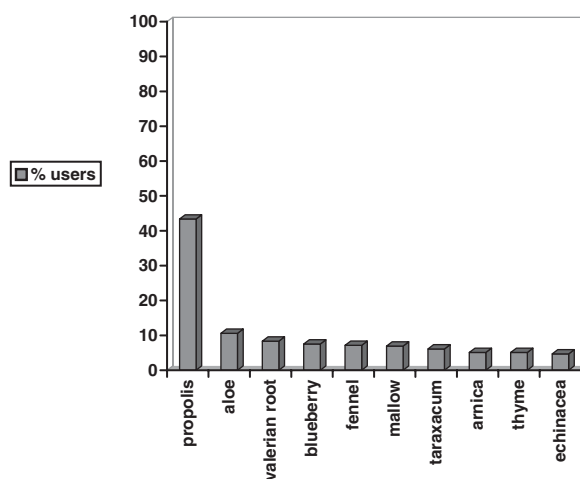


Figure 1. Top ten herbal products most frequently used by our women. Data are expressed as percentages

47/491 (9.57%) women reported side-effects after herbal products use, but only 17/47 subjects (36.17%) referred to the doctor: gastrointestinal symptoms (17/47, 36.17%) after dandelion, propolis or fennel; cardi-

ovascular problems (13/47, 27.7%) after licorice, ginseng or an alcoholic extraction of green tea; allergic reactions (16/47, 34.04%) mainly after propolis; CNS manifestations (2/47, 4.26%) after guarana. In the most of cases, herbal products were taken in combination with orthodox medicines (219/491, 44.61%) or homeopathic treatments (58/491, 11.81%). The most frequently used drugs were contraceptives, antibiotics, NSAIDs/paracetamol, antihypertensives, and oral anticoagulants. In case of a herbal product purchase, only 19.76% of pharmacists asked if the patient was using also a medicine.

The majority of our women purchased herbal products in a pharmacy (252/491, 51.64%) or in a herbal store (187/491, 38.32%), did not obtain information about this kind of therapy from a health care provider (357/491, 72.71%) and did not communicate their choice to their doctor (305/491, 62.12%). The decision to use herbal remedies was mainly based on personal judgement (112/491, 22.8%) or parents/friends/media advises (146/491, 29.74%) and the majority of users considered these therapies without risks and their doctors unskilled and unwilling. The main motivation to use herbal products was the

conviction that these substances are likely safer than medicines because they natural (284/491, 57.84%).

In spite of recognizing a benefit only for small complaints (290/491, 59.79%), the observed side-effects and the high costs (271/491, 55.76%), our women generally were willing to continue to purchase and use herbal products (448/491, 91.24%) perceiving these substances as not harmful (275/491, 56.82%) and potentially beneficial (396/491, 80.65%), also if combined with regular medicines (317/491, 65.63%).

## DISCUSSION

This preliminary survey highlights the therapeutic use of herbal products in a sample of women of the North-east of Italy. We performed our research in this geographical area because, as reported by a National Research project coordinated by the National Institute of Health,<sup>9</sup> in the North-East of Italy one subject of four had used at least one type of unconventional therapy during the previous 3 years, compared to one of six in the center and 1 of 15 in the south of the country. The reasons for this different geographical trend could be various, comprised economical differences (north of Italy is richer and this kind of therapies are not covered by the National Health Service) and type of diseases (chronic illnesses are more frequent in the north).

In our survey, the use of herbal remedies resulted more frequently among highly educated women, aged 31–40 years and employed, confirming the results of other authors in an Italian setting,<sup>9</sup> but also in other countries.<sup>10</sup> This could be explained by the fact that these women might have access to various sources of information and to choose additional treatments. This not necessarily means, however, that they are able to seek the proof of efficacy and safety of this kind of therapy, it appears essential to underline the potential risk of this confidence in the 'natural world.'

If we consider the herbs more frequently taken by our women and their children, some interesting aspects emerge. Propolis, sometimes considered as 'dietary supplement,' is by far the most appreciated compound: frequently administered to relieve symptoms associated to respiratory pathologies, such as common cold for its antibacterial<sup>11</sup> and anti-inflammatory<sup>12</sup> properties, its efficacy remains controversial.<sup>13</sup> Also the use of other herbs, such as *Aloe*, valerian root, and *Echinacea*, is consistent with previous reports in the west,<sup>14,15</sup> even though not always supported by scientific evidence of efficacy. *Aloe vera* is claimed to have a anti-inflammatory and immunostimulant<sup>16</sup>

potential, but the mechanism by which it may act is unclear and the studies available report only a modest therapeutic effect.<sup>17</sup> Valerian root is beneficial for insomnia, but long-term safety data are not available.<sup>15</sup> *Echinacea* is often used to stimulate the immune system, even though a Cochrane review found no evidence to recommend this product for the treatment or prevention of a common cold.<sup>18</sup> Some herbs taken more frequently in our survey were less frequently used in other studies, but it is generally accepted that these kinds of therapies show geographical differences. Blueberry has been variously used for the treatment of diarrhea, circulatory diseases, and inflammation.<sup>19</sup> Fennel is often used in herbal tea mixtures or as essential oil to control primary dysmenorrhea.<sup>20</sup> Dandelion is used as a remedy for liver and gallbladder disorders and may have a beneficial effect on tumor growth.<sup>21</sup> Mallow is generally used as a poultice for arthritis.<sup>22</sup> Preparations from *Arnica* flowers have been used for the treatment of inflammatory diseases; sesquiterpene lactones are considered to be their main active compounds.<sup>23</sup> Thyme has expectorant and antiseptic effects.<sup>24</sup>

Generally, the most of our women did not use phytotherapy for an acute or serious illness, in accordance with other Italian studies,<sup>25</sup> but to prevent some conditions, to support other traditional therapies, or to promote well being.

The most striking observation emerging from our data is the common belief that herbal remedies are natural and therefore safe, confirming what previously reported by other authors.<sup>26</sup> The emotional perception that herbal products are safe lead to the conviction that there is no need for the same rules of evidence and the same methods of evaluation that have to be held with medicines. So, our women do not initiate discussions with their physicians about herbal remedies, viewing them as irrelevant, of no interest to their clinician or beyond the clinician's expertise. It seems crucial to underline that clinicians have the responsibility to routinely and explicitly inquire their patients about the use of herbal products, in order to satisfy patients' asking, to dissuade if the alternative method is unsafe and/or ineffective or to recommend it if safe and effective. Moreover, physicians need to acquire counseling strategies, giving greater attention and time to permit that patients feel comfortable in approaching this argument.

Moreover, our women frequently choose this kind of therapy also for their children or take these compounds also during pregnancy, despite the fact that contraindication to their use during pregnancy is clearly specified on the products sold in pharmacy.

About the use of herbal remedies in children, despite their widespread and increasing use for treating different pediatric problems,<sup>27</sup> the questions related to efficacy and safety are largely unanswered, but some reports of severe adverse reactions in children after administration of herbal products are available.<sup>28</sup> The use of herbal compounds during pregnancy has been previously observed by other authors of different countries. Nordeng et al.<sup>29</sup> found that 36% of a sample of 400 Norwegian women used herbal treatments during pregnancy and among these 39% used compounds considered possibly harmful or herbs without any information about safety in pregnancy. Rosseaux et al.,<sup>30</sup> reported that the most of the potential deleterious effects of natural products on the unborn fetus may be related to hormonal effects (e.g., presence of phytoestrogens) and nutraceutical interactions (e.g., St. John's Wort and antidepressant) rather than a direct embryotoxicity.

Another important aspect that has to be underlined is that often our women do not inform health care providers, either the pharmacist or the physician, on the co-use of drugs for other symptoms/diseases, mostly chronic conditions such as cardiovascular or gastrointestinal problems. So, health professionals, particularly the pharmacists, should clearly inquire the purchasers of herbals about drugs they may already be using for the potential interactions.

Moreover, other authors referred that the most of women do not inform the doctor about the adverse reactions to herbal products.<sup>31</sup> so, many adverse reactions due to herbal remedies may go unmonitored.<sup>31</sup>

Although our study was performed in a restricted geographical area of Italy, it may have implications for the future approach of health-care providers, in particular physicians and pharmacists. Particularly the physicians have to learn as much as possible about phytomedicine and different therapeutic options, because it could be possible that their patients use them. With our study, we would highlight the importance of training for health-care providers to improve their communicative attitudes. Moreover, since consumers are actually likely to self-administer herbal remedies, it appears essential to offer informational programs for consumers about benefits and risks of natural remedies. Education is particularly important in our country, where until now a standardized scientific testing on natural remedies is not requested before marketing and business operators promote a pervasive advertising, with effects on the public opinion and therapeutic choices.

## Appendix: Items included in the pre-structured questionnaire

1. Have you taken any herbal remedies in the past 12 months?
2. If no, do you consider herbal remedies as useful? Do you think to approach this kind of therapy in the future?
3. If yes, how frequently did you use this kind of therapy?
4. Did you use a herbal product during pregnancy?
5. Has your child or husband used any herbal remedy?
6. Which plant/herb have you taken (see list)?
7. For which health problem or symptom?
8. Where did you purchase the herbal product?
9. Who introduced you to the herbal therapy?
10. In case of choice without a medical prescription/advice, did you communicate to your physician afterwards?
11. If no, why not?
12. Did you perceive benefits from taking this kind of therapy?
13. Why did you choose an herbal product rather than a drug?
14. Did you receive information about quality, risks, and instructions about the use of a herbal product?
15. If yes, who provided them?
16. Did you observe side effects ?
17. If yes, which?
18. If yes, did you communicate to your physician?
19. Have you taken the herbal product in association to a drug and/or another conventional therapy?
20. If yes, which?
21. Have the provider (pharmacist, herb seller..) asked if you used also a drug?
22. What do you think about the efficacy and the dangerousness of herbal remedies?
23. How do you consider herbal products: A placebo, a substitutive, or something to assume in association to drugs?
24. In your opinion, the cost of these products is appropriate?
25. Do you believe to continue to use this kind of therapy in the future?

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