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AN INVESTIGATION INTO THE USE OF PHYTOTHERAPEUTICS BY OLDER PATIENTS FREQUENTING FAMILY PLANNING CLINICS

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ABSTRACT

We sought to examine the use of medicinal plants among older members of the population at family clinics in Nova Iguaçu, Rio de Janeiro State, Brazil. Interviews were held in the family clinics themselves, allowing us to identify the levels of knowledge of older citizens concerning phytotherapeutics and to determine their familiarity with the correct use of natural remedies. We found that 88% of the elderly patients used medicinal plants; 52% use them frequently, while only 12% did not use them at all. The medicinal plants most cited were: lemon balm ("Ervacideira", *Melissa officinalis*), boldo (*Plectranthus barbatus*), and lemongrass ("Capimlimão" *Cymbopogon citratus*). When asked if the use of medicinal plants was strictly beneficial to one's health, 72% of the interviewees stated that medicinal plants did not have any negative effects. As such, we identified the necessity of orienting health workers to inform their patients about the correct uses and possible side effects of phytotherapeutics.

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INTRODUCTION

Plants with any type of pharmacological action can be considered phytotherapeutics. Incentives for public investments in medicinal plants administered in any form to humans have been promoted since 1978 by the WHO, and a growing acceptance of the use of phytotherapeutics by health practitioners has been observed throughout the world for attending the basic health needs of human populations (Fogleo & Queiroga, 2006; Homar, 2005). The secure use of phytotherapeutics must, however, be linked to a firm knowledge of their correct usage and dosages by health professionals. Informed orientations concerning the adequate use of medicinal plants, without any loss of effectiveness of their active principles, and without risks of intoxication, is fundamental (Ribeiro & Bittencourt, 2011). The use of medicinal plants in Brazil has increased due to the economic crises that have affected that country, problems of access to

medical and pharmaceutical assistance by large sectors of the population, the high costs of industrialized medicines, and a traditional tendency of many consumers to prefer natural products (SIMÕES *et al.*, 1998). It is estimated that 80% of the world's population depends on medicinal plants for primary health care, and that most use home remedies as their sole source of medicinal treatments (oms, 1979; Moreira *et al.*, 2002; Tomazzoni *et al.*, 2006; Brasileiro *et al.*, 2008; Veiga Junior, 2008). As a large fraction of primary health care in Brazil is channeled through Family Health Programs (PHP) at Basic Care Centers, many of the phytotherapeutic programs developed within the public health system are currently linked to those PHP. (SILVA. *et al.*, 2006). The observed increases in the numbers of adverse reactions to folk medicines can be, at least partially, explained by the increased use of medicinal plants by the general population (GALLO *et al.*, 2000). More than 5000 suspected adverse reactions to phytotherapeutics were reported to the WHO before 1996. People often use natural products based on information gathered from the popular media or from friends and relatives, and therefore believe that they offer no possible collateral effects— thus increasing their risks of intoxication by the incorrect use of medicinal plants.

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There is now a National List of Medicinal Plants of Interest to the Brazilian Uniform Health Service (RENISUS) that includes "barbatimão" (*Stryphnodendron adstringens*), the cashew tree, "cajueiro", (*Anacardium occidentale*), "cáscara-sagrada" (*Rhamnus purshiana*), and "mulungu" (*Erythrina verna*). The National Program of Medicinal Plants and Phytotherapeutics was instituted in 2008 and has, as one of its objectives, to stimulate the efficient and quality use of medicinal plants and phytotherapeutics in the Brazilian Uniform Health Service (SUS). That program also seeks to promote and officially recognize popular practices and traditions of medicinal plant and home remedy uses (ENGEL *et al.*, 2008). The use of medicinal plants has traditional significance and is usually maintained by family relationships, with younger generations learning about medicinal plant uses from their older relatives – principally mothers and grandmothers in their caretaker roles. Older people are considered the most knowledgeable, and share their accumulated experiences with younger members of their families (VerLat Am Enfermagem, 2012).

The use of medicinal plants has its base in family traditions but has become a general practice in popular medicine, and phytotherapeutics are considered useful for complementary or alternative therapies (Loya *et al.*, 2009). Knowledge concerning therapeutic recommendations of medicinal plants is normally held by older members of the communities, and those plants are principally used to treat lesser illnesses (Dergal *et al.*, 2002; Veiga, 2008; Feijó *et al.*, 2012; Lima *et al.*, 2012; Oliveira & Menini Neto, 2012). As such, the present study sought to identify the profiles of the health workers belonging to the Family Health teams in Nova Iguaçu, Rio de Janeiro State, Brazil, and help guarantee that those health services can offer guidance to their patients on the use of phytotherapeutic-based on both popular knowledge and sound scientific principles.

Objectives: We sought to identify the profiles of the focal community and verify the correct use of medicinal plants by older patients in public primary health care centers. Based on those results, workshops will be initiated to orient health workers and patients about the correct use of phytotherapeutics and their principal collateral effects, as a large fraction of the local population considers home remedies as strictly secure and effective.

MATERIALS AND METHODS

We undertook this research in the city of Nova Iguaçu (population of approximately 800,000) in the metropolitan region of Rio de Janeiro State, Brazil. Data were collected during the period between January and May/2019 by way of individual interviews using standardized questionnaires designed to evaluate the interviewees' knowledge and use of phytotherapeutics and medicinal plants in basic health care situations. The exclusion criteria used for participation was that the individuals should be older than 60 and accept participation after receiving explanations regarding the nature and aims of the research and a request to sign a Free Consent and Understanding form. The selection of potential participants was based on non-probabilistic sampling (random sampling by convenience), in which individuals were approached and invited to participate in the survey but only be identified by a number (Martins & Domingues, 2011).

The study was therefore transversal, with an explorative and descriptive character, and also involving health professionals with at least a university degree that worked in Family Health Centers in urban areas and the countryside of the municipality of Nova Iguaçu. The questionnaires were administered by three academics from the School of Medicine and one from the Nursing School. This study was approved by the Ethics Committee in human research of the Iguaçu University with CAAE 90474718.2.0000.8044

RESULTS AND DISCUSSION

Fifty questionnaires were responded to by citizens 60 years old and older. The data revealed that 8% of that population had family incomes between three and five minimum wages - MW (minimum wage = approximately US\$400), 26% had incomes between one and two MW, 2% between six and nine MW, 48% receive up to one MW, 4% did not know, and 12% declined to respond. In terms of the use of medicinal plants, 52% (26) used those remedies frequently, 36% (18) used them sporadically, and 12% (6) did not use them at all. Among those that used medicinal plants (n= 44), 56% stated that they learned about their use from family members (Figure 1). The medicinal plant most cited was lemon balm (*Melissa officinalis*) (28 citations), as can be seen in Table 1. Table 2 lists the situations in which the research participants utilized medicinal plants. In relation to the sources of those home remedies, most stated that they acquired the medicinal plants from their own backyard gardens, or from those of their neighbors (68%), followed by purchasing them in pharmacies or in stores selling natural products (24%). Table 3 presents a complete list of the manners of preparing home remedies.

Among the interviewees that used medicinal plants, nine (18%) reported experiencing some adverse reaction, 37 (74%) did not confide to their doctors that they used some plant-based products (mostly because they did not consider that information relevant), seven (14%) had abandoned an allopatric treatment and only used medicinal plants. Among all of the interviewees (who used, or did not use, medicinal plants), 19 (38%) first sought a medical doctor's advice to treat some health condition, 25 (50%) used some home remedy first, five (10%) sought the opinion of a pharmacist, and one (2%) sought another form of treatment. When asked whether medicinal plants had strictly beneficial effects on health, 36 (72%) replied that medicinal plants, or medicines based on natural plant products, did not present any health risks at all.

The prevalence of medicinal plant use detected in the present survey (88%) was considerably higher than reported in other such studies. The fact that a great majority of the interviewees had received recommendations for the use of medicinal plants from older relatives indicates their conviction that older generations possess that specialized knowledge, and that if younger generations do not maintain interest in acquiring that knowledge it could be lost. The plants most cited in the present study were: lemon balm, boldo, lemongrass, mint, and "pata de vaca". The most cited treatment situation for those medicinal plants was as a calming agent; treatments for pain, gastrointestinal problems, and diabetes also received numerous mentions. Most of the population harvested medicinal plants from their own backyard gardens, as has been reported by other workers (Cortez *et al.*, 1999; Mendonça Filho & Menezes, 2003; Pereira *et al.*, 2004; Souza & Felfili, 2006;

Arnous *et al.*, 2005; Veiga Junior, 2008; Brasileiro *et al.*, 2008;). Those results indicate significant familiarity of local populations with medicinal plants, and low indices of acquisition of commercially certified products – exposing a certain risk of erroneous identifications of correct plants and the possibility of adverse side effects or intoxication. Health professionals could aid in orienting the general public about the best ways of utilizing home remedies and also alert them to possible collateral effects. Teas prepared from infusions of plant material represent the most popular manner of consumption of medicinal plants. The popularity of that process has likewise been reported in earlier studies (Arnous *et al.*, 2005; Veiga Junior, 2008; Brasileiro *et al.*, 2008). Correct orientations concerning the best techniques for preparing medicinal plants will be extremely important, not only to guarantee the maintenance of their active principles, but also to certify the low toxicity of the material being consumed. The fact that 72% of the participants in the survey believed that medicinal plants could not be detrimental to one's health is worrisome, as many such plants, when used excessively or inadequately, can be quite toxic or cause diverse adverse health effects and sometimes even interact with allopathic medicines. Previous researchers have published percentage usages equivalent to or greater than those reported here (88%), including Oliveira & Gonçalves (2006) –60%, and Veiga Junior (2008) –87.4%.

We have shown that a large percentage of the local population uses medicinal plants and home remedies, often as substitutes for allopathic medicines. As most of the interviewees stated that they use medicinal plants according to knowledge held by older generations in their families, or friends and neighbors, and most people believe that plants or remedies "based on plants" cannot in any way negatively impact one's health, there is a great need for health professionals to supply critical information about phytotherapeutics. Another questionnaire, specifically directed at health professionals, indicated that they had little or no contact with phytotherapeutic usage during their professional training, and did not view they had sufficient knowledge to correctly inform their patients about their use within a clinical environment. Similar situations have been reported in other studies (Lopes *et al.*, 2012). As such, health professionals should receive training and become more informed about phytotherapeutics so that they can not only recommend their use (as they are usually less expensive and very well accepted by patients), but also inform and advise about avoiding problems related to self-medication. That training would help stimulate the use of alternative therapeutic and complementary treatments based on scientific information and well-defined therapeutic results, and those folk remedies could be offered to patients using the Brazilian public health system and improve the quality of life of their patients (LOPES, M.A., NOGUEIRA, I.S., OBICI, S., ALBIERO, A.L.M., 2012).

Conclusion

We observed during this study that while large numbers of elderly citizens use phytotherapeutics, many were not aware of their ideal dosages or possible collateral effects – in fact, the great majority of the population was certain that no collateral effects were possible using plant remedies. Our results indicate the necessity of an interventionist study that would provide precise information about the adequate therapeutic uses of plant remedies based on RENISUS and the Brazilian Pharmacopeia.

Declaration of Conflicting Interests: The Authors declares that there is no conflict of interest

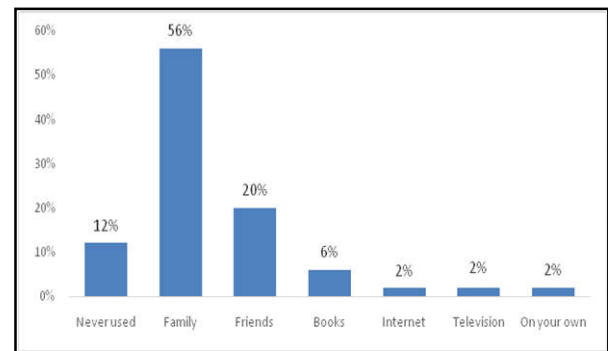


Figure 1. Way of learning the use of medicinal plants

Table 1. Plants used by the researched population.

Popular name / Scientific name	Number of citations (%)
Erva cidreira (<i>Melissa officinalis</i>)	28 (19%)
Boldo (<i>Plectranthus barbatus</i>)	21 (14%)
Capim limão (<i>Cymbopogon citratus</i>)	14 (9%)
Hortelã (<i>Mentha sp.</i>)	9 (6%)
Pata de vaca (<i>Bauhinia forficata</i>)	7 (5%)
Canela de velho (<i>Miconia albicans</i>)	6 (4%)
Assa peixe (<i>Vernonia polyschaera</i>)	6 (4%)
Camomila (<i>Matricaria recutita</i>)	5 (3%)
Carqueja (<i>Baccharis trimera</i>)	5 (3%)
Capim santo (<i>Cymbopogon citratus</i>)	5 (3%)
Cana do brejo (<i>Costus spicatus</i>)	4 (2,5%)
Babosa (<i>Aloe vera</i>)	4 (2,5%)
Saião (<i>Kalanchoe</i>)	3 (2%)
Erva doce (<i>Pimpinella anisum</i>)	3 (2%)
Folha de goiaba (<i>Psidium guajava</i>)	3 (2%)
Agrião (<i>Rorippa nasturtium-aquaticum</i>)	3 (2%)
Folha de laranja (<i>Citrus sinensis</i>)	3 (2%)
Graviola (<i>Annona muricata</i>)	3 (2%)
Folha de louro (<i>Laurus nobilis</i>)	3 (2%)
Quebra-pedra (<i>Phyllanthus niruri</i>)	2 (1%)

*Each individual could name more than one medicinal plant

Table 2. Situations where medicinal plants are used

Afections	Number of citations (%)
Soothing	26 (22%)
Gastric malaise	13 (11%)
Pain	12 (10%)
The flu	11 (9%)
Diabetes	9 (8%)
Liver	8 (7%)
Cough	6 (5%)
Kidney	5 (4%)
Nausea	5 (4%)
Inflammation	4 (3%)
Intestinal problems	4 (3%)
Diarrhea	3 (2,5%)
Wounds	2 (2%)
Uninfected infection	2 (2%)
Edema	1 (1%)
Indigestion	1 (1%)
Others	5 (4%)

*Each individual could name more than one affections

Table 3. Mode of preparation of medicinal plants

Method of preparation	Number of citations (%)
Infusion	41 (79%)
Syrup	4 (7%)
Milk shake	3 (6%)
Juice	2 (4%)
Extraction of plant oil	2 (4%)

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