

THE USE OF HERBAL MEDICINE BY U.S. IMMIGRANTS
FROM THE FORMER SOVIET UNION

By

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The members of the Committee appointed to examine the thesis of Taisiya Y. Tagintseva find it satisfactory and recommend that it be accepted.

Chair

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Abstract

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While safety issues associated with herbal medicine use are increasingly the subject of scientific study, comparatively little is presently known about the specific patterns of herbal medicine use by the large numbers of recent Russian-speaking immigrants from the former Soviet Union. The purpose of this study was to determine how herbal medicine is used by adult Russian-speaking and Russian-literate immigrants from the former Soviet Union residing in the city of Vancouver, WA.

Based on a descriptive/exploratory study design, the investigator developed and used a self-administered questionnaire for gathering data relating to the study's objectives. A convenience sample consisting of 108 participants was recruited from different community settings frequented by these immigrants. Frequencies and correlations were generated in the course of data analysis.

Nearly all (91.4%) of the respondents used an herbal medicine at least once in their lifetime, while 85.6% reported herbal medicine use in the year prior to the survey. Chamomile, Valerian, and St. John's wort were the three most commonly used herbs, which mainly were

used for gastrointestinal, heart, and anxiety/stress related problems, respectively. Respondents had highly positive views of both the efficacy and safety of herbs. About half reported taking herbal remedies concurrently with medications. The majority of immigrants using herbal medicine did not inform their U.S. health care providers of their use of herbal remedies. Moreover, almost half of the subjects did not appreciate that the concurrent use of medications and herbal remedies may be problematic.

No statistically significant association was found between the use of herbal medicine and specific factors related to the participants' sociodemographic and/or health-related backgrounds. The U.S. health care providers should question all Russian-speaking immigrants from the former Soviet Union about their use of herbal remedies, in order to be aware of self-help remedies and possible interactions.

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*This work is affectionately dedicated to my dear mother,
Valentina, who gave me so much.*

CHAPTER I

INTRODUCTION AND BACKGROUND

Since the beginning of recorded history, people have believed in the “healing power” of nature and have used herbs to treat or prevent illnesses. Even in this modern age, herbal medicines continue to be popular and widely used worldwide. According to the latest report from the World Health Organization (WHO) (2003), up to 80% of the population in Africa uses traditional medicine, which includes herbs, for primary health care. In China, traditional herbal preparations account for 30-50% of total medicinal consumption. The use of herbs and herbal products is rapidly spreading in industrialized countries as well. For instance, 90% of the German population has used a natural remedy at some point in their life. The global market for herbal medicines currently stands at over US \$60 billion annually and is growing steadily (WHO, 2003).

The popularity of herbal medicine in the United States has also grown remarkably in recent years. According to one national survey, herbal medicine use has increased from 2.5% in 1990 to 12.1% in 1997, an estimated 380% increase, and was found to be the second most frequently used method of alternative therapy (Eisenberg, Davis, Ettner, Appel, Wilkey, Rompay & Kessler, 1998). Most recent studies have showed a continued growth in herbal medicine use in the United States (Gunther, Patterson, Kristal, Stratton & White, 2004; Harnack, Rydell & Stang, 2001; Rafferty, McGee, Miller & Reyes, 2002; Zeilmann, Dole, Sipper, McCabe, Dog & Rhyne, 2003).

Unfortunately, U.S. healthcare professionals have limited knowledge of herbs and herbal

use by the public (Brolinson, Price, Dimyer & Reis, 2001; Bucco, 1998; Corns, 2003; Domarew, Holt & Goodman-Snitkoff, 2002; Hayes & Alexander, 2000; Kemper, Amata-Kynvi, Dvorkin, Whelan, Samuels & Hibberd, 2003). In accordance with the Dietary Supplement Health and Education Act [DSHEA] of 1994, which deemed herbs to be dietary supplements, the Food and Drug Administration (FDA) decided not to regulate herbal products in the same way it regulates pharmaceutical drugs (1994). Under this deregulated regime, the manufacturers of herbal products become responsible for the efficacy and safety of herbal products (FDA, 1994). However, serious safety and public health concerns arise based on the following data:

1. Herb-drug and herb-herb interactions exist and are well documented (Ang-Lee, Moss & Yuan, 2001; Barone, Gurley, Ketel & Abul-Ezz, 2001; Corns, 2003; Fugh-Berman, 2000; Izzo & Ernst, 2001; Miller, Liebowitz & Newby, 2004; Obach, 2000; Pharand, Ackman, Jackevicius, Paradiso-Hardy & Pearson, 2003).
2. Multiple dangerous, and even lethal, side effects from the use of herbal products have been reported (Bent & Ko, 2004; Corns, 2003; Ernst, 2002; Favreau, Ryu, Braunstein, Orshansky, Park, Coody, Love & Fong, 2002; Haller & Benowitz, 2004; Miller et al., 2004).
3. An estimated 16-18% of U.S. adults taking prescription drugs also take at least one herb or supplement preparation (Eisenberg et al., 1998; Kaufman, Kelly, Rosenberg, Anderson & Mitchell, 2002).

The above safety concerns are exacerbated when health care professionals address the health issues of culturally diverse clients. The patterns, correlations, and prevalence of herbal remedy use by different ethnic groups in the U.S. is poorly researched and documented (Dole, Rhyne, Zeilmann, Skipper, McCabe & Dog, 2000). Nevertheless, several recent studies have

indicated that certain ethnic groups tend to use herbs and herbal products much more frequently than the general American public (Dole et al., 2000; Gunther et al., 2004; Hunt, Arar & Akana, 2000; Ivanov & Buck, 2002; Zeilmann et al., 2003). Some studies have demonstrated that herbal remedies were concurrently used with over-the-counter and prescribed medications (Hunt et al., 2000; Lipson, Weinstein, Gladstone & Sarnoff, 2003; Loera, Black, Markides, Espino & Goodwin, 2001). One study noted that such use was not reported to primary health care providers (Loera et al., 2001).

Since various ethnic groups differ in their beliefs about health and health care practices, the definition of herbal medicine and its use also differ by ethnicity (Bharucha, Morling & Niesenbaum, 2003; Davis, 1997; Dole et al., 2000; Zeilmann et al., 2003). Most of the existing research on the use of herbs by minority groups in the U.S. appears to address Hispanic groups (Bharucha et al., 2003; Dole, 1997; Zeilmann et al., 2003). However, little is known about herbal medicine use by a very large group of recent U.S. immigrants from the former Soviet Union (Domarew et al., 2002).

Statement of the Problem

While safety issues associated with herbal medicine use are increasingly the subject of scientific study, comparatively little is presently known about the specific patterns of herbal medicine use among ethnic groups. In particular, U.S. clinicians have little reliable information about the patterns of herbal medicine use by the large numbers of recent Russian-speaking immigrants from the former Soviet Union.

Significance of the Problem

Without readily available, evidence-based information on herbal remedy use by

immigrants from the former Soviet Union, it is difficult for health care professionals to provide safe, high-quality, and culturally-sensitive care to this group of clients. Since the U.S. population is so diverse, health care professionals should go to extra lengths to understand the cultural health beliefs and practices of their clients. As previously discussed, failure to do so may lead to public health risks.

Purpose and Specific Objectives of the Study

The purpose of the present study was to determine how herbal medicine is used by adult Russian-speaking and Russian-literate immigrants from the former Soviet Union residing in the city of Vancouver, WA. The study's specific objectives were to:

1. determine the prevalence of herbal remedy use by sociodemographic characteristics;
2. determine the prevalence of herbal remedy use by health-related factors;
3. identify the ten most frequently used herbs and the reported reasons for use;
4. explore the beliefs and practices of this group regarding the use of herbs.

Review of the Literature

Background: History and Context

Since the breakup of the former Soviet Union in 1991, large numbers of immigrants from this region have come to the United States (U.S. Census, 2000). While these immigrants are often informally referred to as "Russians", in fact, they represent many ethnic and national origins. Although Russia was the largest and most dominant republic both politically and economically, it was just one of the fifteen republics of the Union of Soviet Socialist Republics (U.S.S.R.). Some of the other well-known republics included Ukraine, Belarus, Moldova, and

Kazakhstan. Each of the republics was ethnically and culturally different and had its own history and language. Nevertheless, the Russian language was the first language taught in all public schools throughout the former U.S.S.R. Over a period of almost seventy years, from 1922 to 1991, several generations of people were raised speaking this language and sharing a common life experience under the Soviet system. It is not surprising that immigrants from the former Soviet Union tend to share a common culture and common health beliefs.

Indeed, the use of herbal medicine by Russian-speaking immigrants is greatly influenced by their background experience and health beliefs. Folk medicine and home remedies abounded in the former Soviet Union, having many regional variations and originating from Arabic, Mongolian, Persian, Scandinavian, and Chinese medicine (Grabbe, 2000; Toorova, 1974; Zevin, Altman & Zevin, 1997). The traditional use of herbal remedies as part of folk medicine has existed in that part of the world for centuries. However, it was not until after World War II that the Soviet government subsidized widespread medical research in herbal medicine, and a large number of now widely known and used herbs were subjected to exhaustive laboratory research and clinical trials (Zevin et al., 1997; Hammerman, 1964; Toorova, 1974). This body of scientific data is not widely known in the West, in part due to political and language barriers, and in part due to a lack of interest (Zevin et al., 1997). As one writer put it: “Russia has one of the greatest traditions of herbal medicine and one that is also the least known beyond its borders” (Zevin et al., 1997, p. 2).

Brief Overview of Herbal Medicine Use and

Regulation in the Former Soviet Union

Since the break-up of the Soviet Union in 1991, research in herbal medicine has continued in Russia and other parts of the former Soviet Union, and herbs are used both as

adjuncts and alternatives to pharmaceutical or allopathic drugs (Domarew et al., 2002; Krilov & Marchenko, 2000; Zevin et al., 1997; Federal Guide for Physicians on Medicinal Products Use [FGPMPU], 2000). An estimated 30% of all medicines used in the former Soviet Union are derived from medicinal plants, which is slightly more than the 25% derived from plants in the U.S. (Zevin et al., 1997). However, in contrast to the U.S., herbal remedies in Russia and other former Soviet Union republics are tested and approved for safety and efficacy by government institutions in the same manner as pharmaceutical drugs (Domarew et al, 2002; FGPMPU, 2000). According to Domarew et al. (2002), “a laboratory analysis of each herbal is performed by the Ministry of Health’s Quality and Efficacy Committee,” after which “the analyzed products are given special codes concerning dosage form, origin, and a passport number, which designate how each preparation may or may not be sold” (p. 34-35). The remedies are further grouped and classified using a tri-class system specifically implemented to group common herbal medicines according to their safety and efficacy. Most of these remedies have been used in Russia for over 200 years, and literature regarding their efficacy dates as far back as the late 19th century (Domarew et al., 2002).

Since herbs in the former Soviet Union are regulated like drugs, they are distributed through pharmacies and used by patients under the supervision of a physician who specializes in herbal medicine (i.e., phytotherapy). When sold by pharmacies, detailed directions accompany each herbal medicine to insure proper application of the medicinal elements. Finally, contraindications and drug interactions are required information that must be shown on the package of each herbal product (Domarew et al., 2002; FGPMPU, 2000).

*Current Research on Herbal Medicine Use by
U.S. Immigrants from the Former Soviet Union*

Existing knowledge about the use of herbal medicine by Russian-speaking immigrants to the U.S. from the former Soviet Union is very limited. Only four sources addressing this topic were found, of which three were research articles.

The first source, a very complete and well-conducted study by Domarew and colleagues (2002), provides a description of the most commonly used Russian herbs, indications for their use, and Latin and English translations of each plant's name. In the study's findings, researchers also provide an in-depth overview of regulations and control of herbals in Russia, forms of herbals sold, the practice of phytotherapy, and herbal remedy use in clinical practice in Russia. This study, however, was conducted in Russia, not in the United States. Although the results of their study are relevant to understanding the patterns of herbal use among recent Russian-speaking immigrants by illuminating which herbs this population was accustomed to using prior to immigrating to the U.S., the results do not provide any data on how these immigrants presently use herbs in the context of the U.S. health care system (Domarew et al., 2002).

Lipson et al. (2003) studied the U.S. health care experiences of 35 Jewish refugees from Bosnia and the former Soviet Union. The study provided some ethnographic findings based on participant observation, semi-structured interviews, and focus groups, and focused on people's experiences with health care, health risk behaviors, and self-care. The study reported that the majority of the participants used home remedies (i.e., traditional treatments) in addition to pharmaceuticals, and listed several home remedies used for the treatment of cough, flu, and common upper-respiratory infections. However, the use of herbs by participants was not analyzed either by demographic or health-related measures and the types of herbs and indications for use were not specifically identified. In fact, only four plant-derived herbs, garlic, onion, dry

mustard, and raspberry tea, were mentioned among the remedies described.

Ivanov and Buck (2002) studied immigrant women from three former Soviet Republics: Belarus, Russia, and Ukraine. The researchers conducted three focus groups with women of different ages to learn about their health care experiences. These immigrant women accessed health care services based on the patterns of health care utilization in their countries of origin. In particular, therapies such as massage, teas, and herbal remedies were used prior to seeking health care services, and then only for episodic and acute conditions. As a result of the high cost of medications and health care in the U.S., the women relied more on alternative therapies and medications, many of which were brought into the U.S. by visitors (Ivanov & Buck, 2002). The study did not evaluate the use of herbs by either demographic or health-related measures, nor did it investigate the types of herbs used and the reasons why.

Immigrants coming to the U.S. from the former Soviet Republics bring with them their traditions, beliefs and practices. Many immigrants from the former Soviet Union are so accustomed to using herbal medicines that they actively seek them when they come to the U.S. (Domarew et al., 2002). Domarew et al. (2002) observed that: “Pharmacies located in New York’s Brighton Beach, Brooklyn, have adapted to the large Russian population by offering herbals packaged in Russia, recommended by pharmacists who are fluent in Russian” (p.32).

In Vancouver, Washington alone there are at least three “Russian” grocery stores and at least one “Russian” pharmacy offering herbs, herbal remedies and pharmaceutical medicines packaged in Russia and other former Soviet Union republics, and imported to the U.S. In addition, a great variety of literature in Russian about herbs and medicine is available to the local Russian-speaking population, both through the aforesaid stores and also by mail order. This suggests that the popularity of herbal products packaged in Russia and other former Soviet Republics is high among Russian-speaking immigrants, and that they continue to use such

products after resettling in the U.S.

Gaps in the Current Research

There is a dearth of information on the use of herbs and herbal remedies by Russian-speaking immigrants, and thus the need for research in this area is significant. Multiple studies have recommended further research addressing the use of herbal medicine among ethnic groups in general (Bent & Ko, 2004; Bharucha et al., 2003; Corns, 2003; Dole et al., 2000; Ernst, 2002; Hays & Alexander, 2000; Hunt et al., 2000; Zeilmann et al., 2003), and some have specifically identified Russian-speaking immigrants for further study (Domarew et al., 2002; Ivanov & Buck, 2002; Lipson et al., 2003). The present study provides U.S. health care professionals with reliable, evidence-based information on herbal medicine use by immigrants from the former Soviet Union.

Conceptual Framework

The conceptual framework of this study was based on the Health Belief Model (HBM) which postulates that “health-seeking behavior is influenced by a person’s perception of a threat posed by a health problem and the value associated with actions aimed at reducing the threat” (Becker, 1978). In this model, the ultimate outcomes—“health-seeking behavior” and “the likelihood of taking recommended preventive health action”—include the following components:

1. “Individual perceptions”, which, in turn, are composed of perceived susceptibility to threat (i.e., illness, disease) and perceived seriousness or severity of the threat;
2. “Likelihood of action”, composed of perceived benefits of preventative action minus perceived barriers to preventive action;

3. “Cues to action”, which include motivations to avoid threat; and
4. “Modifying factors”, composed of demographic, psychosocial, and structural variables.

Becker (1978) defines “perceived susceptibility” as a person’s perception that a health problem is personally relevant or that an illness or disease is accurately diagnosed or defined. “Perceived severity” refers to the degree of a person’s concern with a perceived health problem. Generally, susceptibility and severity are perceived simultaneously and tend to be linked. But even when one recognizes personal susceptibility, action will not occur unless the person perceives the severity to be high enough to cause serious physiological or psychosocial problems. With regard to the present study, this model appeared to predict that new immigrants, for example, would not start using herbs for a certain (perceived) problem unless their level of concern about the problem was sufficiently high.

Further, in Becker’s model, the phrase “perceived benefits” refers to a person’s belief that a given herbal treatment will cure the illness or help to prevent it. The phrase “perceived barriers” alludes to factors such as accessibility, cost, complexity, duration of the treatment, and so on. These two elements are interdependent since perceived barriers significantly decrease the likelihood of action even if the person’s beliefs in the efficacy of the herbal treatment are strong. For instance, some immigrants may believe that an herb may treat their illnesses, but if they lack the information, transportation or finances necessary to utilize the herb, the likelihood of these people actually using the herb decreases significantly.

Another important factor influencing the ultimate likelihood of “health-seeking behavior” includes “cues to action,” which include a person’s motivation(s) to avoid illness through preventative measures and preservation of their present state of health. As applied to the present study, “cues to action” would include motivations or stimuli tending to influence immigrants to

use herbal remedies. Examples of such “cues” or motivations may include mass media, illness of a family member or friend, and advice from others such as your mother, grandmother, or friend.

The final component of Becker’s model, “modifying factors,” refers to multiple demographic variables (e.g., age, sex, race, ethnicity, etc.), psychosocial variables (i.e., personality, social class, peer and reference-group pressure, etc.), and structural variables (i.e., knowledge about the disease, prior contact with the disease, etc.). These factors, which may vary greatly between individuals, influence health-seeking outcomes, both alone and in combination with each other.

Consistent with the HBM, this study examined whether health-seeking behavior with respect to herbal use among Russian-speaking immigrants is affected by such factors as: age, gender, marital status, years of immigration, educational and social background, knowledge about herbs, previous experience with herbs, reasons to use herbs, perceptions of Western medicine and health care in the U.S., and the like.

Significance to Nursing

Culturally sensitive care is an important aspect of the holistic approach to care that is strongly encouraged among all health care professionals and especially encouraged among nursing professionals. In addition, culturally sensitive care greatly reduces health disparities and improves communication. An open and knowledgeable approach to clients’ traditional health beliefs and practices will not only enhance the relationship of the health care provider and client, but will allow the health care provider to be aware of and responsive to the potential risks and dangers posed by particular cultural health practices, such as the use of herbal medicines.

Nurses and nurse practitioners need to be aware of more than the mere fact of herbal use

by immigrants from the former Soviet Union. They need to understand the health implications of such use in order to provide high-quality, safe and appropriate care to this group of clients. This study's ultimate goal was to provide nurses, nurse practitioners, and other health care professionals with reliable and accessible information on herbal remedy use by Russian-speaking immigrants in the U.S.

Definitions and Terms

Herb (erb) [L. *herba*, grass] An annual, biannual, or perennial plant with a soft stem containing little wood, esp. an aromatic plant used in medicine or seasoning. The plant usually produces seeds and then dies back at the end of the growing season (Taber's Cyclopedic Medical Dictionary, 2005).

Herbal medicine – medicine containing herbs. May be referred to as vegetable remedy, natural remedy, folk remedy, home remedy, herbal remedy, galenical, herb, medicinal herb (Encarta '98 Desk Encyclopedia, .1998).

Herbal remedy – same as herbal medicine (see above). Terms *remedy*, *herb*, and *medicine* may be used interchangeably.

CHAPTER II

METHODOLOGY

This chapter outlines the study's methods and how these were employed to collect, analyze and present accurate data on the use of herbal medicine by adult Russian-speaking and Russian-literate immigrants.

Study Design

The type of design chosen for this study was a non-experimental, descriptive/exploratory inquiry. Description and exploration of phenomena are some of the most important purposes of research, and may be accomplished by quantitative methods, qualitative methods, or both. The present study was quantitative with respect to both description and exploration.

Quantitative description first begins with selection of a subject or phenomenon of interest and then focuses on the prevalence, incidence, size, and measurable attributes of that phenomenon. (Polit & Beck, 2004). Some of the questions commonly asked in quantitative descriptive studies include: how prevalent the phenomenon is, how often the phenomenon occurs, and what are the characteristics of the phenomenon. Quantitative exploration similarly begins with a phenomenon of interest; however, rather than simply observing and describing the phenomenon, exploratory research investigates “the full nature of the phenomenon, the manner in which it is manifested, and the other factors to which it is related” (Polit & Beck, 2004, p. 20). Quantitative exploratory studies are usually interested in identifying what factors are related to the phenomenon, and what the antecedents of the phenomenon are.

A descriptive/exploratory study design was apt for the present study. The phenomenon to be described and explored in this study was the decisions of Russian-speaking immigrants with respect to herbal remedy use. Specific components of the HBM applicable to the present study were investigated using a quantitative descriptive/exploratory research design.

Based on the HBM and a descriptive/exploratory study design, the investigator developed a questionnaire consisting of 26 items for gathering self-reported data relating to the study's objectives (Appendix A). Questions were deliberately constructed to elicit both descriptive and exploratory information with respect to the phenomenon of herbal remedy use by Russian-speaking immigrants in the U.S.

Sampling and Setting

This study's target population consisted of recent Russian-speaking and Russian-literate immigrants from the former Soviet Union residing in the city of Vancouver, WA at the time the survey was administered. According to the latest report from the U.S. Census Bureau, more than 10,000 Russian-speaking immigrants came to Vancouver, WA from 1990 to 2000 (U.S. Census Bureau, 2000). Although this study attempted to recruit a non-probability, convenience sample of between 150 to 300 persons from this population to participate in the study, the actual number of participants was 108—fewer than desired. Convenience sampling—also called accidental sampling—uses the most readily available or most convenient group of people for the sample (Polit & Beck, 2004).

Power analysis of the proposed minimal sample size of 150 was performed and estimated to be statistically significant. Of importance, however, is the fact that in quantitative studies the larger the sample, the more representative of the population it is likely to be (Polit & Beck, 2004). Therefore, a sample size range of 150 to 300 was introduced to increase the possibility of

attaining a higher power and a greater statistical significance of the study findings. The fact that study participation was lower than expected with a sample of only 108 considerably decreased the statistical significance of the study findings.

Different community settings frequented by the Russian-speaking population were accessed to obtain the sample group for administering the survey. In the Vancouver area, these community settings included a Russian-community church, English as a Second Language (ESL) classes at the local community college, and U.S. citizenship classes. Since the investigator is a Russian-speaking immigrant herself and part of the local Russian-speaking community, access and entry into the above-mentioned settings for her was relatively straightforward. In addition, since the investigator is fluent in Russian, interpreting services or a native (i.e., Russian-speaking) co-researcher's assistance was unnecessary.

Finally, specific subject inclusion criteria were employed by the investigator. Namely, the participants were asked to participate only if they were over 18 years of age, identified themselves as Russian-speaking and Russian-literate immigrants, had come to the U.S. after 1991, and resided in the city of Vancouver, WA at the time of data collection.

Instrumentation and Trustworthiness

The instrumentation for data collection in the present study consisted of a self-administered questionnaire developed by the investigator. The questionnaire consisted of 26 dichotomous and multiple-choice questions, most of which were close-ended (Appendix A). Although careful attention to the wording of questions and to the content, wording, and formatting of response options is hard to sustain, the analytic advantages of closed-ended questions are considered to be compelling (Polit & Beck, 2004).

Constructs relating to data needs identified by the investigator were grouped into three separate modules or areas of questioning, namely: 1) demographic information; 2) health-related information; and 3) herb-related information, respectively. The modules, and the questions within them, were arranged or sequenced in an order that was psychologically meaningful, encouraged openness and cooperation, and minimized bias. To minimize bias, particular attention was paid to the clarity of the questions and to the possibility of earlier questions influencing responses to subsequent questions. Finally, the questionnaires were administered entirely in Russian and a larger, 14-point font size was used to enhance the readability of the questions for people with vision problems, such as the elderly. The questionnaires were translated into Russian by a certified Russian-English/English-Russian translator and then translated back into English by the investigator. The translated questionnaire was then revised as necessary based on expert review and pre-testing, as described below.

The questionnaire was reviewed by various experts capable of detecting technical and methodological problems, and a revised questionnaire was prepared based on feedback received. An ongoing revision of the translated version of the questionnaire was performed by the investigator as needed. The revised questionnaire was pretested by being administered to 10 individuals who were similar to actual participants, but who were not part of the survey. Ordinarily, 10 pretests are sufficient (Polit & Beck, 2004). Revision of the questionnaire and pre-testing allowed the investigator to assess the reliability and validity of the questionnaire—in particular, its stability, consistency, accuracy, and the degree to which this instrument measured what it was supposed to measure.

Finally, since every instrument should be prefaced by introductory comments about the nature and purpose of the study, a cover letter was also developed as the first page of the questionnaire (Appendix A). The cover letter was constructed to provide introductory

information regarding the study's purpose, significance and anticipated benefits, and listed the study's inclusion criteria and the investigator's contact information. The letter further explained that completion of the questionnaire would indicate consent to participate in the study. Approval of the present study by the WSU Institutional Review Board (IRB) was received on April 04, 2005 (No. 8486) (Appendix B).

Data Collection Procedure

Upon receiving IRB approval for this study, data collection was initiated. Distributing questionnaires to a group of people who complete them at the same time is known to be one of the most convenient, inexpensive and expedient methods of data collection. This approach not only maximizes the number of completed questionnaires, but also ensures complete anonymity, which is crucial to obtaining candid responses and ensuring participants' confidentiality. Lastly, this approach greatly reduces the likelihood of the kind of biases usually present with interviews. Respondents and interviewers interact as human beings, and this personal interaction can skew responses. The absence of an interviewer ensures that it is less likely that there will be interviewer bias (Polit & Beck, 2004).

Whenever possible, the investigator sought to announce and distribute the questionnaires in Russian-speaking group settings so that questions could be addressed immediately and the return of completed questionnaires could be expedited. Potential participants were reminded in the announcement that participation was voluntary and that they could elect not to complete the questionnaire.

Initially, the plan was to continue data collection until at least 150 completed questionnaires were obtained. If less than 150 questionnaires were obtained during the first month of data collection, additional visits to other Russian-speaking community settings located

in Vancouver, WA were planned until at least the minimal desired number of questionnaires was collected (i.e., 150). Moreover, if 150 questionnaires were obtained in the first month of data collection, an additional two weeks were going to be allocated for data collection. In the latter case, the investigator was going to stop data collection at the earlier of either when the number of completed questionnaires reached 300 (the maximal desired number), or when total data collection time reached six weeks. However, a decision to stop the data collection was made when the collection time reached six weeks, even though the number of completed questionnaires was less than 150.

Prior to submitting the present research proposal to the IRB, the investigator met with various community leaders, including Clark College ESL teachers, Community Lutheran Services citizenship instructors, and a church pastor. The purpose of these meetings was to obtain their permission to conduct the survey within their respective community settings. The investigator provided them with a letter requesting their permission to conduct the survey (Appendix C). The letter included information about the study's purpose, significance and anticipated benefits. It also included contact information for the investigator and the College of Nursing. Letters providing permission to use the above community setting were secured (Appendix D).

After the permission of the community leaders was obtained, and the study approved by the IRB, flyers describing the study (Appendix E) were distributed to each of the selected research sites. An announcement about the study was then made in each of the community settings in accordance with prior agreement and arrangement with the community leaders. Potential participants were provided with a brief description of the study and the study's inclusion criteria and asked for their participation (Appendix F). They were also informed that the survey was totally voluntary and anonymous, and that by filling out the questionnaire they

would thereby consent to participate in the study. Persons meeting the inclusion criteria and willing to participate were provided with a questionnaire and pencil, and asked to carefully read the instructions before filling it out. The investigator was available to answer questions while the questionnaire was being completed. When finished, participants were asked to put their completed questionnaires into a collection box marked “Questionnaires” (in Russian). As a part of the Russian-speaking community, the investigator was able to address the questions and concerns of participants relating to the distribution and collection of data.

The investigator performed ongoing re-assessment and re-evaluation of the data collection techniques used throughout this phase of the study, and when appropriate, implemented changes or adjustments in accordance with IRB requirements. In particular, based on multiple requests from participants, the investigator decided to allow the participants to take the questionnaires home to be filled out and then be brought back to the next community meeting and put into the collection box marked “Questionnaires.” Respondents’ anonymity was preserved as all the questionnaires were returned and placed into the collection box by the respondents themselves.

Data Analysis

Statistical analysis is essential for making sense of quantitative information. Statistics are either descriptive or inferential. Descriptive statistics, generated in the course of data analysis in the present study, have been used to describe and synthesize the data. A software program called Statistical Package for the Social Sciences (SPSS) was employed for this study’s data analysis. Frequencies for each variable were generated and organized into tables using SPSS. An SPSS specialist was hired to assist with data entry and the accuracy of data analysis. Pearson’s chi-squared test was used to determine if there was any association between the use/non-use of herbs

and herbal products and various socio-demographic factors. Written responses to open ended questions were analyzed according to frequency of occurrence and discussed/presented as narrative findings.

Human Subject Protection Plan

Participants of any scientific study have the right to expect that any information they provide will be kept in strict confidence. This can be accomplished either through anonymity or other confidentiality procedures. “Anonymity occurs when even the researcher cannot link participants to their data” (Polit & Beck, 2004, p. 149). Anonymity should be achieved by researchers whenever possible. When anonymity is impossible, appropriate confidentiality procedures need to be implemented. Since no identifying information (e.g., name, address, social security number, etc.) was elicited from this study’s participants, the participants’ anonymity was guaranteed. Thus, no additional confidentiality procedure such as informed consent was necessary to ensure the participant’s privacy. As explained in the cover letter, a participant’s participation in the survey implied their consent.

Furthermore, because an investigator’s biases or subjectivity in assessing risk/benefit ratios or in developing procedures to protect participants’ rights may inadvertently put participants at risk, the ethical dimensions of a study are normally subjected to external review, usually performed by the IRB (Polit & Beck, 2004). Thus, upon approval of the present research proposal by the WSU Nursing Faculty Research Committee, this research proposal was submitted to the University’s IRB for approval. Data collection was not initiated until the IRB’s approval was received. As required by the WSU Graduate Nursing School requirements, the investigator has successfully completed the online module on Human/Animal Subjects Protection, administered by the National Institute of Health.

Limitations and Contributions and Data Management Issues

One possible limitation of the present research proposal was the investigator's bias. This includes searching out and finding or confirming only what one wants or expects to find. The investigator is from the former Soviet Union and continues to be involved with the Russian-speaking immigrant community and has personal knowledge about common practices with respect to herbal medicine use by such immigrants. As a counterbalance to this possible limitation, however, the study was designed and instrumentation developed so that the closed-ended questionnaire provided minimal or no opportunity for the investigator's interpretation to affect the study's outcomes. The analysis of participants' responses to the questionnaire was strictly objective and based on facts (i.e., participants' answers to yes/no and multiple-choice questions), and has been described and synthesized by means of computer-assisted statistical analysis. In addition, as already mentioned, the questionnaire was reviewed for potential biases and mistakes/ambiguities by external reviewers, and revised accordingly.

A major drawback of the closed-ended questions is the possibility of neglecting or overlooking potentially important responses, thus forcing some participants to choose from response options that do not reflect their opinions precisely. The above-mentioned review of the questionnaire by various research methodology experts addressed this possibility, so that the response options could be appropriately revised. In addition, to avoid unduly restricting answer options, an "other" option was added to some of the survey questions. Furthermore, the investigator pretested the questionnaire to solicit feedback as to the clarity and appropriateness of questions and response options.

One of the most common limitations of quantitative descriptive studies is their sampling method. While most commonly used, convenience sampling is the weakest form of sampling (Polit & Beck, 2004). Generally, non-probability methods, including convenience sampling,

tend to provide unrepresentative samples of a population. “When every element in the population does not have a chance of being included in the sample, it is likely that some segment of it will be systematically underrepresented” (Polit & Beck, 2004, p. 295). Smaller samples produce less accurate estimates of population values than larger ones, which are more likely to be representative of the entire population with a smaller sampling error.

This proposal’s intended sample size of 150-300 participants represented approximately 1.5%-3.0% of all Russian-speaking immigrants currently residing in Vancouver, WA. The actual sample size of the present study was 108 participants, estimated to represent about 1% of the Russian-speaking immigrant population in Vancouver, WA. While this sample size is adequate for this study’s target population, it remains a statistically insignificant sample of the overall Russian-speaking immigrant population throughout the United States. Nevertheless, in view of the previously discussed need for this research, this exploratory study provides health care professionals with useful foundational information regarding the target population’s use of herbal medicine.

Significance to Nursing Practice and Research

Herbal medicine use by Russian-speaking immigrants in the U.S. has garnered little scientific interest. Yet the need for scientific exploration and study of this phenomenon is considerable. Nurse practitioners, nurses, and other health care providers have reported possessing an inadequate knowledge and understanding of the health care practices of this very large group of recent immigrants.

The findings of this study have the potential to appreciably impact nursing practice and research with respect to this group of immigrants. Since no similar study has been previously conducted in the U.S., this study provides nurses, nurse practitioners and other providers with

some essential insights on the patterns and prevalence of herbal medicine use by Russian-speaking immigrants and may alert them to safety issues associated with such use. Information obtained from the findings of this study may therefore contribute to not only increasing the awareness of culturally sensitive care among health care providers, but also to improving the safety and quality of care delivered in general.

CHAPTER III

FINDINGS

This chapter discusses the findings of the descriptive statistical analysis carried out on the collected data and is divided into five main sections. Section one describes sampling and sociodemographic information. Section two describes health-related information. Section three discusses the most commonly used herbs and the reported indications for their use. Section four provides an overview of the reported beliefs and practices of respondents regarding their use of herbs. Section five describes the prevalence of herbal remedy use by specific sociodemographic and health-related factors. The chapter discusses frequencies and correlations, the most significant of which are also summarized and presented in four different tables (Appendix G):

1. Prevalence of herbal use by sociodemographic factors (Table 1);
2. Prevalence of herbal use by health-related factors (Table 2);
3. Ten most commonly used herbs and their indications for use (Table 3); and
4. Herb-related beliefs and practices (Table 4).

Sampling and Sociodemographic Information (Survey Questions 1-8)

The target population of the study consisted of adult (ages 18 and older) Russian-speaking and Russian-literate immigrants from the former Soviet Union, who came to the U.S. after 1991 and resided in the city of Vancouver, WA at the time of data collection. In order to obtain the desired number of participants, the investigator contacted various community settings frequented by this group of people. These included citizenship classes, ESL classes and a

Russian-language church consisting of more than 500 members that respectively accounted for 18.0%, 34.0% and 48.0% of the questionnaires collected.

The questionnaires were administered on dates selected by the leaders of the above mentioned community settings. Four hundred and twenty five (425) questionnaires were distributed in a six-week period. A total of 115 respondents completed and returned the questionnaires. Seven questionnaires with largely missing data (i.e., missing more than two pages out of four pages total) were eliminated from the sample leaving a final number of 108 surveys.

Demographic information gathered in the questionnaire revealed that the majority of respondents, 70.4% (n = 76) were women and only 29.6% (n = 32) were men. The age of the respondents ranged from 19 to 83. There was a relatively equal distribution of ages in the sample with 46.7% (n = 50) of the respondents being under 50 years of age, and 53.3% (n = 58) being 50 years of age or above. The mean age of the overall group was 51 years.

The majority of respondents were married (n = 78; 73.6%), 13.2% (n = 14) were single, 8.5% (n = 9) were widowed, and 4.7% (n = 5) were divorced. The respondents were from different parts of the former Soviet Union, with 32.1% (n = 34) from Ukraine, 24.5 % (n = 26) from Kazakhstan, 18.9% (n = 20) from Russia, 10.4% (n = 11) from Kyrgyzstan, 9.4% (n = 10) from Moldova, and 4.7% (n = 5) from other former U.S.S.R. Republics. The respondents had lived in the United States for periods of time ranging from less than a year to 15 years. The mean duration of U.S. residence was 6.6 years.

The number of years of education in the former Soviet Union ranged from grades 1-8 to “institute” (i.e., the Soviet equivalent to university). The largest cohort of respondents (n = 43; 40.2%) had graduated from grades 9-12 (i.e., high-school) before moving to the U.S. Twenty-nine percent (n = 31) of the respondents graduated from technical school (i.e., college), 24.3% (n

= 26) from grades 1-8, and 6.5 % (n = 7) graduated from an institute (i.e., university) in the former Soviet Union.

Out of 107 people who reported having an education in the former USSR, 37.4% (n = 40) indicated that they had completed some education in the United States as well. The level of education completed in the United States ranged from grades 1-8 to university level. Almost two-thirds (n = 25; 62.5%) of the respondents with a U.S. education had at least some college education, 25.0% (n = 10) were college graduates, 5.0% (n = 2) were university graduates, and the rest, 7.5% (n = 3), had high school education or less in the United States.

The majority of respondents (n = 61; 60.4%) had an annual income of \$15,000 or below; 21.8% (n = 22) had annual income between \$15,001 to \$30,000; 10.9% (n = 11) between \$30,001-\$45,000 per year; 5.0% (n = 5) between \$45,001-\$60,000 per year, and 2.0% (n = 2) had income that was above \$60,000 a year. Three-quarters (n = 81; 75.7%) of the respondents had health insurance.

Health-related Information (Survey questions 9-14)

Participants were asked to rate their health as excellent, good, fair, poor, or very poor. Most (n=38; 36.9%) to this question thought their health was fair, 30.1% (n = 31) thought it was good, 27.2% (n = 28) thought it was poor, and 2.9% (n = 3) believed their health was very poor and another 2.9% (n = 3) rated their health as excellent.

Of the 89 respondents who answered a question about the presence of a chronic illness or condition, 55.1% (n = 49) indicated that they had some kind of chronic illness, and 44.9% (n = 40) did not indicate having any chronic illness. Although 49 respondents indicated having a chronic illness in one question, 79 (73.0%) respondents specifically identified having at least one chronic condition in a subsequent question. Among the chronic illnesses/conditions listed,

headache was the most prevalent (n = 33; 41.8%), followed by hypertension (n = 30; 38.0%), arthritis (n = 27; 34.2%), heart disease (n = 23; 29.1%), gastric disease (n = 22; 27.8%), insomnia (n = 16; 20.3%), high cholesterol (n = 15; 19.0%), renal disease (n = 12; 15.2%), diabetes and anxiety (each n = 10; 12.7%), asthma (n = 4; 5.1%), depression, long-term stress, liver disease, and chronic bronchitis (each n = 3; 3.8%), osteoporosis (n = 2; 1.9%), and 14 other chronic conditions, including cancer, glaucoma, allergies, hepatitis, among the others (each n = 1; 1.3%).

Participants were asked if they took (non-herbal) medications for their chronic illness. Of the 106 responses to this question, 60.4% (n = 64) said that they were taking medications for their chronic illnesses and 39.6% (n = 42) said they were not. When asked how they usually obtain their non-herbal medications, 60.2% (n = 56) of the respondents said they usually buy their medications in a U.S. pharmacy with a prescription, 30.1% (n = 28) bought them in a U.S. pharmacy without a prescription (i.e., over-the-counter), 51.6% (n = 48) bought them in a Russian pharmacy in the U.S., 19.4% (n = 18) said they bought them in a Russian grocery store in the U.S., 17.2% (n = 16) said they obtain medications from persons traveling from the former Soviet Union, and 6.5% (n = 6) obtained medication from other sources.

Eighty people responded with a “yes” or “no” answer to a question regarding whether they considered that medications had helped them in the past. Of these, an overwhelming majority (n = 74; 92.5%) thought that medications had helped them in the past; 7.5% (n = 6) said medications had not helped them. An additional 18 respondents did not know if medications had helped them.

Most Commonly Used Herbs and Indications for Their Use (Survey question #18)

Participants who reported having used at least one herb or herbal product in the last year were asked to indicate which of the 16 listed herbs they used and the reason(s) why they used

them. Blank spaces were also provided on the survey to enable the participants to list other herbs and/or herbal products not listed in the question.

The four most commonly used herbs were chamomile (n = 49; 58.3%), valerian (n = 42; 50.0%), St. John's wort (n = 41; 48.8%) and calendula (n = 36; 42.9%). Respondents indicated that they typically used chamomile for stomach/gastrointestinal (GI) problems; valerian for heart problems and for anxiety and stress; St. John's wort for GI problems and general prophylaxis; and calendula for skin inflammations, perceived liver problems, and GI problems. Other popular herbs included (in order of decreasing frequency): peppermint, rose hips, yarrow, aloe vera, coltsfoot leaf, motherwort, oregano, hawthorn, sandy everlasting, ginseng, dichorisandra mikan, pheasant's eye. The least popular herbs listed by the respondents included: celandine, nettle, plantain, dandelion, blueberry, raspberry, garlic, onion, lemon, teucrium polium, and parsley. Finally, several other herbal products were mentioned, including honey, an herbal product called "Swiss bitter", and various homespun herb recipes or mixtures. Table 3 in Appendix G details the frequency of usage for the ten most common herbs and their reported indications for use.

Herbal use-related Information (Survey questions #15, 16, 17, 19-26)

Nearly all of the study's participants, 91.4% (n = 96), indicated that they had used an herb or herbal product at least once in their lifetime. Only 8.6% (n = 9) said they had never used any herbal product. Most people (n = 60; 67.4%) used herbs when needed for short periods of time. A much smaller number, 16.9% (n = 15), indicated that they used herbs several times a week, followed by 12.4% (n = 11) who used herbs daily, and 3.4% (n = 3)—several times per month.

Eighty-three (n = 83; 85.6%) respondents indicated that they had used at least one herb or herbal product in the past year, while 14.4% (n = 14) denied any herbal use in the past year. An

equal number (n = 66 each; 68.8%) of respondents learned about herbs from family members or from literature; 43.8% (n = 42) from a friend; 25.0% (n = 24) from their doctors or other health care providers in the former Soviet Union; 12.5% (n = 12) from the media; 6.3% (n = 6) from a U.S. doctor or other health care provider; and 2.1% (n = 2) from other sources.

While the most common (n = 55; 57.9%) place to buy herbs or herbal products was a Russian pharmacy located in the U.S., 38.9% (n = 37) said that they pick their own herbs in the woods or fields. Another 29.5% (n = 28) indicated that they grow their own herbs (i.e., in their own yard or garden, or inside their place of residence), 26.3% (n = 25) indicated that their herbs were imported from the former Soviet Union, 26.3% (n = 25) indicated that they usually buy their herbs in a Russian grocery store in the U.S., 22.1% (n = 21) obtained herbs from a pharmacy or store in the U.S. Only 6.3% (n = 6) indicated that they obtained herbs from some other source.

Just over half of individuals (n = 42; 51.9%) indicated that they do not usually take herbs at the same time as they take their medications; however, an almost equal number, 48.1 % (n = 39), said they do. Twenty-six surveys had invalid or uninformative responses, of which 10 were “do not know,” 14 were “do not take medicine,” and three were left blank. Of those taking herbs along with their medications, 20 (37.0%) reported their concurrent use of herbs and medications to their U.S. health care provider, while a total of 34 (63.0%) respondents to this question said that they do not.

About half (n = 34; 51.5%) thought that there might be a problem if they took herbs concurrently with their medications; 48.5% (n = 32) did not consider such simultaneous use to be problematic. Among a total of 42 missing responses to this question, 30 were “do not know.” Most people believed that herbs are “sometimes” (n = 37; 39.4%) more effective than medications, followed by “almost always” (n = 32; 34.0%), “always” (n = 23; 24.5%), and

“almost never” (n = 2; 2.1%). None of the respondents (n = 0; 0%) considered that herbs were “never” more effective than medications.

Most respondents believed that herbs are “always” (n = 38; 40.4%) much safer than medications, followed by “almost always” (n = 35; 37.2%), and “sometimes” (n = 17; 18.1%). Three people (4; 4.3%) thought that herbs were “never” safer than medications. Finally, an overwhelming majority (n = 91; 92.9%) of the respondents believed that herbs have helped them in the past. None of the respondents (n = 0; 0%) indicated that herbs had not helped them in the past, although there were seven (7.1%) who marked “do not know.” Table 4 in Appendix G summarizes the health-related beliefs and practices identified in the survey.

Prevalence of Herbal Use by Sociodemographic and Health-related Factors

Pearson’s chi-squared test was used to determine if there was any association between the use/non-use of herbs and herbal products and various sociodemographic factors, including gender, age, marital status, point of origin in the former USSR, income, and so forth. No statistically significant association ($p \leq 0.05$) was found for herbal use for any of these variables. However, certain associations were between the 0.06 and 0.16 level of significance: women (n = 71; 94.7%; $p = .061$), people who had some college education in the U.S. (n = 22; 88.0%; $p = .120$), and people with the USSR grades 9-12 level of education (n = 42; 97.6%; $p = .145$). Please refer to Table 1 of Appendix G for more information.

Pearson’s chi-squared test was also used to determine if there was any association between herbal medicine use/non-use and specific health-related factors. While, again, no statistically significant association ($p \leq 0.05$) was determined, variables with significance between the 0.06 and 0.16 level of significance included: people with chronic illnesses/conditions (n = 47; 95.9%; $p = .067$), who obtain their non-herbal medications in

Russian pharmacy in the U.S. ($n = 45$; 97.8%; $p = .160$), and who take non-herbal medications for their illnesses ($n = 62$; 93.5%; $p = .312$). Findings on the prevalence of herbal medicine use by health-related factor are summarized in Table 2 (Appendix G).

CHAPTER IV

CONCLUSIONS AND RECOMMENDATIONS

This chapter summarizes the findings presented in Chapter III and discusses them in relation to the four specific research objectives identified for this study. The four objectives are discussed below in their original order as follows:

1. To determine prevalence of herbal remedy use by sociodemographic characteristics;
2. To determine prevalence of herbal remedy use by health-related measures;
3. To identify the ten most frequently used herbs and the reported reasons for use; and
4. To explore the beliefs and practices of this group regarding the use of herbs.

This is followed by a discussion of the limitations of the study, the implications of the study, and some recommendations for further investigation.

Discussion

Part I - Herbal Remedy Use By Sociodemographic Characteristics

The use/non-use of herbal remedies was calculated for various sociodemographic factors, including gender, age, current marital status, point of origin in the former USSR, and so forth. Due to the small sample size of the survey, it was difficult to determine a statistically significant degree of prevalence of herbal remedy use by any of these factors. Future research with a larger sample size is therefore highly suggested.

According to the frequencies obtained, a majority of the survey respondents consisted of married women from Ukraine, ranging in age from 19 to 83 (mean = 51 years of age), who had lived in the United States for an average of seven years. Most had received their high-school education in the former Soviet Union and had at least some college education in the U.S. This particular demographic group reported earning an annual income of \$15,000 or less and usually had some form of health insurance.

The finding that the study's sample consisted of substantially more women ($n = 75$; 71.4%) than men ($n = 30$; 28.6%) may possibly be due to the fact that, according to the investigator's observations, women appeared to predominate in several community settings that were surveyed.

When the results were divided into four equal quartiles ($n = 26$) for age ranges as shown in Table 1 of Appendix G, the age band of 52-68 years appeared to have the highest incidence of herbal use (96.2%), compared to the lowest incidence of herbal use (84.6%) for the age band of 69-83. However, given the small size of the quartiles ($n = 26$) (p -value was not obtained for this specific variable), this inference is not statistically reliable and needs to be further investigated. Moreover, even if lower herbal use by those in the oldest age band were confirmed, further investigation as to the specific reasons why persons in the oldest age band tend to use fewer herbal remedies would also be required. Such research would be of a particular interest because the finding that older people use fewer herbs would contradict with the findings revealed in the study by Loera et. al. (2001), which determined that Mexican Americans, who were 75 years of age and older had significantly higher herbal remedy use than those in the age range of 65 – 74 (71.0%). Though such contradiction could probably be explained by the difference in these immigrants' ethnic backgrounds.

Persons who had lived in the U.S. for more than six years demonstrated a higher (n = 50; 96.0%) incidence of herbal remedy use than persons who immigrated within the past six years (n = 57; 84.4%). Though very likely to be significant due to almost equal numeric distribution of the sample, this incidence too was not proven to be a statistically significant finding as no *p*-value was obtained for this variable. In addition, the questionnaire did not collect data that allows for interpretation of this finding.

No statistically significant correlations were obtained from the data regarding the relationship of herbal use to U.S. or former USSR educational levels, age marital status, income, USSR republic of origin of the participants, or availability of health insurance.

Despite the limited statistical reliability of the data for performing hypothesis testing in respect of variations in herbal use by sociodemographic characteristics, these results are nonetheless sufficient to demonstrate that herbal use is widespread in the study population across all the sociodemographic categories considered (see Table 1 in Appendix G). Herbal use was found to be consistently high among participants regardless of gender, age, marital status, point of origin within the former USSR, number of years lived in the U.S., years of education, income level, and the availability of health insurance.

Part II – Herbal Remedy Use by Health-Related Measures

The use/non-use of herbal remedies was also calculated in relation to various health-related factors, including current health, presence of chronic illnesses, whether persons were taking medications for illnesses, by the source of their medications, and whether persons believed that medications were helping them. Similarly, due to the small sample size, no statistically significant correlations between herbal uses by specific health-related factors were revealed.

Based on frequencies, the number of individuals with chronic conditions was rather high. This however appeared to be somewhat relevant to the participants' perception of their health, which was predominantly rated as fair. The presence of even one chronic health problem may have supported the participants' perception of their health. In fact, there were only three out of 103 people who believed that they were in an excellent health, which is rather surprising, given the fact that nearly half of the participants were below 50 years of age. It is beyond the scope of this study as to why so few reported excellent health. It is possible that the participants' cultural and health backgrounds in the former USSR may be somehow related to their current perceived health state. For example, many of the participants may have had a particularly hard life in the former USSR, which could have had some harmful affect on their health. Additional research in this area would be useful.

The above results are consistent with the HBM, which predicts that new immigrants would not start using herbs for a certain (perceived) problem unless their level of concern about the problem was sufficiently high. In effect, the participants' perceived poor health and/or perceived or actual presence of chronic illness or condition may act as a "cue to action", motivating them to seek an herbal remedy either as a treatment option or as a preventative measure for the preservation of their state of health. Further, alone or in combination with certain demographic and psychosocial variables, the participants' knowledge about the chronic illness or condition may also act as a "modifying factor" influencing health-seeking outcomes, viz., the use of herbal or non-herbal medicine. Thus, such factors as cultural/demographic backgrounds, past personal experiences with herbal medicine, and level of knowledge about certain illnesses or conditions, may play a substantial role in their decision-making process in regard to herbal medicine use.

A large number (30 out of 79; 38%) of the respondents did not initially report themselves as having a chronic disease or condition, but when presented with a specific list of chronic conditions the number of responses increased. It is possible that some respondents did not understand the definition of a chronic condition. The response to the question with the list of specific conditions was used to evaluate the presence or absence of chronic conditions. It is also possible that the actual list of illnesses and conditions might have caught the participants' attention before they responded to the more general question

Of the 14 chronic illnesses and conditions listed, headache was the most common, closely followed by hypertension and arthritis followed by less common illnesses. However, none of the chronic illnesses had any significant association with herbal medicine use (see Table 2 in Appendix G).

Interestingly, prevalence of herbal medicine use among those respondents taking non-herbal medications for their illnesses ($n = 62$; 93.5%) was higher than for those who were not ($n = 41$; 87.8%). This however was not a statistically significant finding ($p = 0.312$), and thus no conclusions can be made in regard to this finding. Future research would be necessary to confirm this observation.

While much future study is needed, there are several reasons to be concerned about the concurrent use of herbs and non-herbal medications. The origin of non-herbal medications obtained in Russian pharmacies/stores located in the U.S. is unknown. While most ($n = 56$; 60.2%) of the participants indicated that they usually buy their medications in a U.S. pharmacy, slightly more than one half ($n = 48$; 51.6%) said that they bought them in a Russian pharmacy or grocery store in the U.S. Some ($n = 16$; 17.2%) also had them imported from the former USSR. The lack of standardization of the herbs and potential contaminants are possible safety issues.

In addition to the safety issues, higher prevalence of herbal use among those having the belief that medications were helpful (n = 72; 93.1%; *p*-value 0.391) raises several questions. If the respondents perceive the herbs to be more helpful or effective than medications, it might have decreased their willingness to seek potentially necessary biomedical care. Additionally, it is unclear what exactly were the medications believed to be helpful—medications bought in a U.S. pharmacy or medications bought in a Russian pharmacy located in the U.S., or yet medications imported from the former USSR by travelers.

Part III – Most Frequently Used Herbs and the Reasons for Use

The overall rate of herbal medicine use among Russian-speaking and Russian-literate immigrants from the former Soviet Union was found to be extremely high. Of the 108 individuals who responded to the questionnaire, 91.4% (n = 96) indicated that they have used herbs at least once in their life, with 85.6% (n = 83) of individuals reporting use within the last year. As a point of comparison, Dole et al. (2000) report in their study that 77.0% of Hispanic subjects had used herbal remedies at some point in their lives, compared to 47.0% of non-Hispanic subjects. The subjects of the present study used herbs at even higher rates. Thus, the present study appears to confirm that herbal may vary significantly by ethnicity.

Among herbs most frequently identified by respondents, chamomile was the most commonly consumed herb. The next most frequently used herbs were valerian, St. John's wort and calendula. Table 3 in Appendix G summarizes the 10 most frequently used herbs and their reported indications for use.

Though the reasons provided by survey respondents for the use of these herbs varied greatly, GI problems appeared to be the most frequently identified reason for herbal use by the respondents. The specific GI problems identified included indigestion, heartburn, as well as

perceived liver and gallbladder problems. However, to the extent that some of these indications of use may depend on the survey subjects' own self-diagnosis (e.g., of liver and gallbladder problems), they may not be completely accurate.

A common reason given for the use of herbs was the perceived anti-anxiety and sedative effects, reported for four out of the 10 most commonly used herbs (valerian, peppermint, motherwort and oregano). Finally, prophylactic or general use for the improvement or maintenance of health was also a frequently reported use (e.g., for St. John's wort, rose hips, and motherwort).

Part IV – Herbal Remedy Beliefs and Practices

The findings of this study revealed some valuable information about the beliefs and practices regarding herbal use by Russian-speaking immigrants from the former Soviet Union (see Table 4 in Appendix G). Herbal remedy use was found to be an extremely common and widespread practice among these immigrants. Two-thirds of the respondents (n = 60; 67.4%) were found to use herbs and herbal products when needed for short periods of time, although a significant minority used herbs several times a week (n = 15; 16.9%) or even daily (n = 11; 12.4%).

Relatively few respondents indicated that they had learned about herbs from medical service providers either in the former USSR or in the U.S. Only 25.0% (n = 24) had learned about herbs from their USSR health providers, and 6.3% (n = 6) from their U.S. health providers. Instead, respondents were most likely to have learned about herbs from reading literature (n = 66; 68.8%), as well as from their family members (n = 66; 68.8%), and friends (n = 42; 43.8%). This reflects a cultural environment in which knowledge of herbal remedies is transmitted both in oral and written form. According to the HBM model, a lack of awareness or knowledge of

herbal remedies would tend to act as a barrier to action. However, for most of the respondents no such barriers appeared to exist increasing the likelihood that the participants used herbal remedies.

The findings regarding the source of herbs indicate that participants are tied to habits of obtaining herbs learned in the former USSR. For example, even after emigrating to the U.S., the largest number (n = 55; 57.9%) of respondents continued to obtain herbs from a “Russian pharmacy” in the U.S. Russian pharmacies are a well-known place to find a great variety of herbs processed and packaged in the former Soviet republics. Although herbal products are readily available from U.S. sources such as U.S. pharmacies, such sources were preferred for prescribed medications. The preference for buying herbs from Russian “pharmacies” may be because pharmacies in the former Soviet Union were a trusted source of *regulated* herbal remedies and preparations, regularly prescribed by Soviet doctors. Also, respondents may have formed the habit of obtaining such herbals from “Russian” pharmacies.

Consistent with the foregoing, a quarter of the participants (n = 24; 25.0%) have continued to import herbal preparations from the former USSR, possibly through travelers who are asked to bring back desired herbal medicines. Some of the reliance on “Russian” sources for herbs may be related to a language barrier, such as not knowing the equivalent English names of herbs known or formerly used. On the other hand, picking herbs in woods and fields or else growing one’s own herbs were popular pastimes in the former Soviet Union, and it is noteworthy that study respondents continue to engage in these behaviors. This finding was also confirmed in the study by Domarew et al. (2002). Additionally, this finding confirms this investigator’s initial observation (stated in Chapter I) that Russian-speaking immigrants tend to obtain their medications (both herbal and non-herbal) from Russian pharmacies and grocery stores located in Vancouver, WA. Overall, this study’s findings strongly suggest that this group of immigrants is

relying on their usual former methods of obtaining herbs, even after living in the United States for some time.

Respondents had an extremely positive view of the efficacy of herbal treatments. Cumulatively, the majority of people thought that herbs were either “always” (n = 37; 39.4%) or “almost always” (n = 32; 34.0%) more effective than medications. In contrast, hardly anyone thought that medications were “never” (n = 0; 0.0%) or “almost never” (n = 2; 2.1%) more effective than herbs. Nearly all participants (n = 91; 92.9%) believed that herbs had helped them in the past.

However, the study findings indicate some safety issues which should be considered by U.S. health care providers when caring for members of this immigrant group. Almost half (n = 39; 48.1%) of the respondents reported taking herbs concurrently with medications, while only 20 out of these 39 respondents reported their concurrent use of herbs and medications to their U.S. health care provider. While it is not possible to know if this finding is generalizable it is an area for further study with great significance because of potential herb-drug interactions. Of interest, however, is the fact that almost half (n = 32; 48.5%) of respondents saw no possible problem arising from the concurrent use of herbs and medications. These responses become even more remarkable when considering that the question which solicited their beliefs about possible problems with the concurrent use of herbs and medications, was a *leading* question (“Do you think there may be a problem if you take medications and herbs together?”) Although the question inherently suggests the possibility that there *may* be a problem, still, almost half of respondents answered otherwise. Respondents may be less aware of herb-drug safety issues than the answers to this question suggested.

Most respondents viewed herbs as being benign, in contrast to medications. Respondents overwhelmingly indicated that, in their view, herbs were “always” or “almost always” safer than

medications. This finding is important because it confirms the presence of a common belief described in Chapter I that herbs are “natural” and therefore safer than medications. Respondents’ view that herbs were extremely safe may explain why health care providers are not proactively informed of such concurrent use by members of this immigrant group. It may be worth investigating other possible reasons for the clients’ decisions to not inform or confer with their provider. It is incumbent on U.S. health care providers to question immigrants about possible herb use and to consider possible herb-drug interactions.

The high incidence of the use of herbs in this survey may be explained with reference to the HBM. In the HBM, the “perceived benefits” refers to a person’s belief that a given herbal treatment will cure the illness or help to prevent it. As seen in the survey results, these immigrants from the former Soviet Union had an overwhelmingly positive view of the efficacy and safety of herbal treatments. In many cases, they appeared to evince more faith in herbal medicine than in allopathic medicine. Accordingly, it is not surprising that persons in this population demonstrate a high incidence of herbal use. On the other hand, “perceived barriers” may reduce a person’s likelihood to act. In the case of herbs, most participants appeared to find herbs and information on their use to be readily accessible from multiple sources. There were few if any perceived barriers to herbal use. This factor may contribute to the high incidence of herbal use among the immigrants.

Limitations of the Study Findings

This study of herbal use by adult Russian-speaking and Russian-literate immigrants from the former USSR surveyed in Vancouver, WA, should be interpreted with an understanding of the limitations in its methodology.

First, the fact that study participation was lower than expected (i.e., a sample of only 108 persons, which was less than the initial goal of 150-300 participants) decreased the statistical power of the study findings. Given the small sample size, it was difficult to reach statistically significant conclusions about the prevalence of herbal use in the target population by sociodemographic factor or by health-related factor. This is because breaking down the overall sample size into sub-categories resulted in very small sub-samples that were very susceptible to statistical error. Thus, no statistically significant conclusions may be made with regard to the above at this point of time. Future studies in this area would be helpful.

Second, survey results may be biased somewhat by the self-selection of participants. For example, in the process of data collection, the researcher encountered a considerable reluctance by individuals to participate in the survey due to a perception that the survey was long and/or difficult. Thus, the sample may be skewed towards persons with more leisure time, interest in the topic or general willingness to participate in surveys.

Another possible limitation is that the sample was predominantly female (75 women versus 30 men). This may be due to a combination of factors. First, it was the investigators' observation that certain of the community settings used for data collection, ESL and citizenship classes, were overwhelmingly composed of women. Second, it may be that women are generally more responsive than men to surveys, or perhaps women were more responsive to the female gender of the researcher.

Finally, since the investigator did not include a question about participants' residency, it is possible that some individuals responded to this survey did not reside in the city of Vancouver, WA at the time of data collection. Such omission should be avoided in future studies.

Implications

There are several implications of this study. Use of herbal remedies among U.S. immigrants from the former Soviet Union may be higher than among some other ethnic groups in the U.S. Respondents to the survey mainly consisted of women, persons in the age range of 52-68 years, those who immigrated to the U.S. more than six years ago, as well as persons not having any health insurance. While herbal use was consistently high among all the socio-demographic categories considered in this study, no certain statistically significant correlations were revealed.

Members of the surveyed population appeared to have overwhelmingly positive views of both the efficacy and safety of herbs. Perhaps due to their positive view of the safety of herbs, about half reported taking herbal remedies concurrently with medications. Of concern is the fact that the majority of such immigrants do not inform their U.S. health care provider of their use of herbal remedies. Moreover, almost half of the subjects did not appreciate that the concurrent use of medications and herbal remedies may be problematic.

Given a relatively small sample size, no statistically significant association was found between the use of herbal medicine and specific factors related to the participants' sociodemographic and/or health-related backgrounds. It is recommended that U.S. health providers question all Russian-speaking immigrants from the former Soviet Union about their use of herbal remedies in order to be aware of self-help remedies and possible drug interactions.

Although many of the most commonly used herbs appear to be harmless, including chamomile, peppermint, and rose hips, among some others, several are known to have strong pharmacological effects and may interact with certain medication (Beckman, Sommi & Switzer, 2000; Cupp, 1999; Ernst, 1998; Izzo & Ernst, 2001). Of the reported 10 most commonly used herbs in this study, St. John's wort, valerian, ginseng, pheasant's eye, and yarrow were found to

have at least one reported herb-drug interaction (Beckman, et al., 2000; Cupp, 1999; Ernst, 1998; Izzo & Ernst, 2001). Based on the same studies' reports, many of these herbs were also found to have known allergic and/or herb-herb interactions. Health care professionals should seriously consider the above implications when addressing health issues of immigrants from the former Soviet Union.

In addition, the contributions and limitations of the present study can be considered by other researchers in developing their own studies. It is hoped that this initial study of herbal medicine use by recent U.S. immigrants from the former Soviet Union will lay the groundwork for further research of this important subject.

Recommendations for Further Research

One of the limitations of this study was that the sample size was not large enough to allow reliable conclusions to be drawn about herbal use in relation to various sociodemographic or health-related factors. For this reason, the investigator recommends that a larger sample of participants from the target population should be surveyed in order to more reliably determine the prevalence of herbal remedy use by sociodemographic characteristics and by health-related measures with greater statistical significance.

In addition, consideration should be given to the method of distributing and administering the survey. One of the major problems faced by the investigator was reluctance by persons to complete the survey due to its perceived length and complexity. Although over 400 surveys were distributed, only 108 were completed and returned. Many persons asked if they could take the survey home to complete it. While the investigator was willing to provide surveys to take home, relatively few were then returned. One idea for increasing the return rate of surveys would be to provide participants with a self-addressed stamped envelope (SASE) in which they

could deposit their survey to return it. In order to reduce participant procrastination, it might also be useful to mark the envelopes with a deadline date by which the surveys should be mailed.

Another idea for improving the recruitment of participants would be to provide a reward to participants for their participation, perhaps in the form of a small monetary payment (e.g., \$5), or a gift card, however this approach may increase the costs of conducting the survey substantially.

Some of the other questions arising from this study, which could be investigated in further studies, include the following.

1. Are there any reasons that these immigrants avoid discussing herbal use (especially concurrent herb-drug use) with their U.S. health care provider, other than their belief that herbs are extremely safe and benign?
2. What, if any, is the relationship between these immigrants' past life in the former Soviet Union and their perceived state of health?
3. What is the prevalence of cardiovascular risks commonly associated with hypertension among members of this group?

Finally, if future studies are based on surveys administered in community settings, it is worth bearing in mind that the characteristics of survey subjects in particular community settings may bias the survey toward certain types of individuals. For example, the relative numbers of women and men from the various community settings were not tracked and analyzed in the present study, however, it was the investigator's observation that ESL classes and citizenship classes were primarily composed of women. Similarly, certain types of community settings may bias the sample in favor of younger or older participants and those having a particular religious background.

Conclusion

Though conducted with multiple limitations, this study is the first to examine the patterns and frequency of herbal medicine use by Russian-speaking immigrants from the former Soviet Union, as well as to explore the beliefs of this population group regarding herbs. Information obtained from the findings of this study may therefore contribute to not only increasing the awareness of culturally sensitive care among health care providers, but also to improving the safety and quality of care delivered in general.

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APPENDIX A: SURVEY AND PREFACE THERETO

Dear Participant:*

I am a graduate nursing student at Washington State University. I am conducting a study to learn what herbs and herbal products you and other people from the former Soviet Union use and how you use them for your health. The information you provide will help health care professionals provide safe and effective health care to people like yourself.

Please complete the questionnaire only if you meet all of the following criteria:

1. You are over the age of 18
2. You are a Russian-speaking and Russian-literate immigrant from the former Soviet Union
3. You arrived in the United States of America after 1991
4. You currently live in Vancouver, Washington.

Your participation in this study is completely voluntary. If you wish, you may choose not to answer any question. By filling out and returning your questionnaire to us, you are giving your consent to participate in the study. **This questionnaire is anonymous and your responses are completely confidential. The information will be reported in a way that no one will know your specific answers.**

If you have any questions or concerns, you may contact the researcher, Taisiya Tagintseva at the time you complete the questionnaire, or by phone at (360) 737-9332. You may also contact my advisor, Dr. Louise Kaplan from Washington State University at (360) 546-9618. Thank you for your participation.

Sincerely,

Taisiya Tagintseva, RN, BSN

Washington State University, Master of Nursing Program
Vancouver, Washington

**A 14-point size was used in connection with the surveys actually used for data collection.*

Instructions:

- Read each question carefully and then answer it to the best of your ability.
- Please do not write your name or other identifying information on the survey. This questionnaire is anonymous.
- **Once you have completed the questionnaire, please return it to the box marked “Questionnaires”.**

I. Demographic Information:

1. Your gender: Male Female
2. Your age: _____
3. Your marital status: Single Widowed
 Married Divorced
4. Republic of the former USSR that you came from: _____
5. Number of years you have lived in the United States: _____
6. Number of years of education in the former USSR: Grades 1-8 Technical School
 Grades 9-11 Institute
- 6 a. Number of years of education in the U.S.: Grades 1-8 Some college
 High-school (Grades 9-12) College
 University
7. Your annual income: \$0 - \$15,000 \$60,001-\$75,000
 \$15,001-\$30,000 \$75,001-\$100,000
 \$30,001-\$45,000 \$100,001-\$115,000
 \$45,001-\$60,000 More than \$115,000
8. Do you have health insurance coverage? Yes No

II. Health-related Information:

9. How would you rate your current state of health?

- Excellent Good Fair Poor Very poor

10. Do you have any chronic illnesses or conditions, such as arthritis, diabetes, heart disease, etc.?
 Yes No

11. If yes, which of the below do you have? (*Please check all that apply.*)

- | | | |
|-------------------------------------|--|---|
| <input type="checkbox"/> Diabetes | <input type="checkbox"/> High blood pressure | <input type="checkbox"/> Other (<i>specify below</i>) |
| <input type="checkbox"/> Arthritis | <input type="checkbox"/> High cholesterol | 1 _____ |
| <input type="checkbox"/> Cancer | <input type="checkbox"/> Heart disease | 2 _____ |
| <input type="checkbox"/> Asthma | <input type="checkbox"/> Gastric disease | 3 _____ |
| <input type="checkbox"/> Insomnia | <input type="checkbox"/> Renal disease | 4 _____ |
| <input type="checkbox"/> Anxiety | <input type="checkbox"/> Long-term stress | |
| <input type="checkbox"/> Depression | <input type="checkbox"/> Headaches | |

12. Do you take any medications for the above illnesses? Yes No

13. How do you usually obtain your medications? (*Please check all that apply.*)

- Bought in a U.S. pharmacy **with** a prescription
- Bought in a U.S. store **without** a prescription (i.e., over-the-counter)
- Bought in a Russian pharmacy (in the USA)
- Bought in a Russian grocery store (in the USA)
- Brought by persons traveling from the former Soviet Union
- Other (please specify) _____

14. Do you believe medications have helped you?

- Yes No Do not know

III. Herbal use-related Information:

15. Have you ever used an herb or herbal product?

- Yes (*Go to the next question*)
- No (*Stop now and thank you for participating*)

16. How often do you use herbs or herbal products?

- | | |
|---|--|
| <input type="checkbox"/> Every day | <input type="checkbox"/> Several times per month |
| <input type="checkbox"/> Several times a week | <input type="checkbox"/> When needed for short periods of time |

17. Have you used any herbs over the last year? Yes No

18. If you have used at least one herb or herbal product in the last year, **please indicate which of the herbs listed below you used and specify why you used them.** (Check all that apply)

<u><i>Herbs/ Herbal products:</i></u>	<u><i>Why Did You Use It?</i></u>
<input type="checkbox"/> Valerian.....	_____
<input type="checkbox"/> Motherwort.....	_____
<input type="checkbox"/> Chamomile.....	_____
<input type="checkbox"/> Yarrow.....	_____
<input type="checkbox"/> Coltsfoot leaf.....	_____
<input type="checkbox"/> Oregano.....	_____
<input type="checkbox"/> St. John's wort.....	_____
<input type="checkbox"/> Sandy everlasting.....	_____
<input type="checkbox"/> Calendula.....	_____
<input type="checkbox"/> Rose hips.....	_____
<input type="checkbox"/> Dichorisandra Mikan.....	_____
<input type="checkbox"/> Ginseng.....	_____
<input type="checkbox"/> Aloe.....	_____
<input type="checkbox"/> Peppermint.....	_____
<input type="checkbox"/> Pheasant's Eye.....	_____
<input type="checkbox"/> Hawthorn.....	_____
<input type="checkbox"/> Other (<i>specify below</i>).....	<i>Why did you use it? (specify below)</i>
_1_____	_____
_2_____	_____
_3_____	_____
_4_____	_____
_5_____	_____

19. How did you learn about these herbs? (Check all that apply.)

- From a family member, such as mother, sister, brother, etc.
- From a friend or acquaintance
- From literature, such as books, magazines, etc

- From media, such as television, radio, etc.
- From your doctor or other health care provider in the former Soviet Union
- From your doctor or other health care provider in the United States
- Other (*please specify*) _____

20. How do you usually obtain your herbs/herbal products? (*Check all that apply.*)

- | | |
|--|--|
| <input type="checkbox"/> Buy in an American pharmacy or store | <input type="checkbox"/> Bring from the former Soviet Union |
| <input type="checkbox"/> Buy in a Russian pharmacy in the United States | <input type="checkbox"/> Pick in the woods/fields |
| <input type="checkbox"/> Buy in a Russian grocery store in the United States | <input type="checkbox"/> Grow them in your own yard/garden or inside of your house |
| | <input type="checkbox"/> Other (<i>please specify</i>) _____ |
| | <input type="checkbox"/> _____ |

21. Do you sometimes take herbs at the same time as you take your medications?

- Yes
- No
- I don't take medicine
- Do not know

22. If yes, do you inform your health care provider about it?

- Yes
- No
- I don't take medicine and herbs together

23. Do you think there may be a problem if you take medications and herbs

- together? Yes No Do not know

24. Do you think herbs are more effective than medications?

- Never
- Almost never
- Sometimes
- Almost always
- Always

25. Do you think herbs and herbal products are safer than medications?

- Never
- Almost never
- Sometimes
- Almost always
- Always

26. Do you believe herbs have helped you?

- Yes
- No
- Do not know

Thank you for your participation!

Уважаемый участник:*

Я—аспирант Университета штата Вашингтон по специальности «медсестринское дело». Я провожу исследование с целью определить, какими травами и травяными препаратами пользуетесь Вы и другие люди из бывшего Советского Союза и как Вы их применяете для укрепления здоровья. Предоставленные Вами сведения позволят сотрудникам служб здравоохранения предоставлять безопасный и эффективный медицинский уход таким людям как Вы.

Просим заполнить эту анкету только в том случае, если Вы соответствуете всем перечисленным ниже критериям:

1. Вы старше 18 лет
2. Вы русскоговорящий, пишущий и читающий по Русски иммигрант из бывшего Советского Союза
3. Вы переехали в Соединенные Штаты Америки после 1991-го года
4. Вы проживаете в настоящее время в Ванкувере, штат Вашингтон.

Ваше участие в настоящем исследовании является исключительно добровольным. Если Вы не хотите, Вы можете не отвечать на вопросы. Заполнив анкету и вернув ее нам, Вы выражаете свое согласие на участие в исследовании. **Анкета является анонимной, и Ваши ответы останутся строго конфиденциальными. Информация будет использоваться таким образом, что никто не узнает Ваших конкретных ответов.**

Вы можете по любому вопросу обратиться к исследователю, Таисии Тагинцевой, во время заполнения анкеты или по телефону (360) 737-9332. Вы также можете обратиться к моему консультанту, Луизе Каплан, из Университета штата Вашингтон, по телефону (360) 546-9618. Большое спасибо за участие.

С уважением,

Таисия Тагинцева, RN, BSN

Университет штата Вашингтон, программа Магистра в области медсестринского дела
Ванкувер, штат Вашингтон

**A 14-point size was used in connection with the surveys actually used for data collection.*

Указания к заполнению анкеты:

- Внимательно прочтите каждый вопрос и затем ответьте насколько можно точно.
- Просим не указывать при опросе свою фамилию или другие данные о личности. Эта анкета - анонимная.
- **Заполнив анкету, опустите ее в ящик с пометкой “Анкеты”.**

I. Демографические сведения:

1. Ваш пол: мужской женский
2. Ваш возраст: _____
3. Ваше семейное положение: холостой/незамужняя вдовец/вдова
 женатый/замужняя разведенный (-ая)
4. Из какой республики бывшего СССР Вы приехали: _____
5. Сколько лет Вы живете в Соединенных Штатах: _____
6. Образование, полученное Вами в бывшем Советском Союзе:
 1-8 классов 9-11 классов техникум институт
- 6 а. Образование, полученное в Соединенных Штатах:
 1-8 классов
 средняя школа (9-12 классов)
 неоконченный колледж
 колледж
 университет
7. Ваш годовой доход:
 \$0 - \$15,000 \$45,001-\$60,000 \$100,001-\$115,000
 \$15,001-\$30,000 \$60,001-\$75,000 более \$115,000
 \$30,001-\$45,000 \$75,001-\$100,000
8. Есть ли у Вас медицинская страховка? Да Нет

II. Сведения о здоровье:

9. Как бы Вы оценили нынешнее состояние Вашего здоровья?

- отличное хорошее довольно хорошее плохое очень плохое

10. Страдаете ли Вы хроническими болезнями, например артритом, диабетом, сердечным заболеванием и т.д.?

- Да Нет

11. Если да, то какими? (*Отметьте все подходящие ответы*)

- | | |
|--|--|
| <input type="checkbox"/> Диабет | <input type="checkbox"/> Высокое кровяное давление |
| <input type="checkbox"/> Артрит | <input type="checkbox"/> Высокий уровень холестерина |
| <input type="checkbox"/> Рак | <input type="checkbox"/> Заболевания сердца |
| <input type="checkbox"/> Астма | <input type="checkbox"/> Заболевания желудка |
| <input type="checkbox"/> Бессонница | <input type="checkbox"/> Заболевания почек |
| <input type="checkbox"/> Беспокойство | <input type="checkbox"/> Длительный стресс |
| <input type="checkbox"/> Депрессия | <input type="checkbox"/> Головные боли |
| <input type="checkbox"/> Другие (<i>уточните ниже</i>) | |

- 1 _____
2 _____
3 _____
4 _____

12. Принимаете ли Вы (медицинские) лекарства от перечисленных выше заболеваний?

- Да Нет

13. Где Вы обычно берете лекарства? (*Отметьте все подходящие ответы*)

- Покупаете в аптеке в США *по* рецепту
- Покупаете в магазине в США *без* рецепта (то есть, лекарства, отпускаемые без рецепта)
- Покупаете в русской аптеке (в США)
- Покупаете в русском продуктовом магазине (в США)
- У лиц, приезжающих из бывшего Советского Союза
- Другое (*пожалуйста, уточните*) _____

14. Считаете ли Вы, что лекарства помогают Вам?

- Да Нет Не знаю

III. Сведения о приеме трав:

15. Применяли ли Вы когда-либо травы или травяные препараты?
 Да (Перейдите к следующему вопросу)
 Нет (Остановитесь на этом, благодарим за участие)

16. Как часто Вы пользуетесь травами или травяными препаратами?
 Каждый день
 Несколько раз в неделю
 Несколько раз в месяц
 В течение краткого периода времени, при необходимости

17. Применяли ли Вы какие-либо травы на протяжении последнего года?
 Да Нет

18. Если Вы применяли хоть одну траву или травяной препарат на протяжении последнего года, просим указать, какие из перечисленных ниже трав Вы использовали, а также цель их применения. (Отметьте все подходящие ответы)

Травы/ Травяные препараты:

В каких целях вы их применяли?

- | | |
|---|-------|
| <input type="checkbox"/> Валерьяна лекарственная..... | _____ |
| <input type="checkbox"/> Пустырник..... | _____ |
| <input type="checkbox"/> Ромашка..... | _____ |
| <input type="checkbox"/> Тысячелистник..... | _____ |
| <input type="checkbox"/> Мать-и-мачеха..... | _____ |
| <input type="checkbox"/> Душица..... | _____ |
| <input type="checkbox"/> Зверобой..... | _____ |
| <input type="checkbox"/> Бессмертник..... | _____ |
| <input type="checkbox"/> Календула..... | _____ |
| <input type="checkbox"/> Шиповник..... | _____ |
| <input type="checkbox"/> Золотой ус..... | _____ |
| <input type="checkbox"/> Женьшень..... | _____ |
| <input type="checkbox"/> Алоэ..... | _____ |
| <input type="checkbox"/> Мята перечная..... | _____ |
| <input type="checkbox"/> Адонис весенний..... | _____ |
| <input type="checkbox"/> Боярышник..... | _____ |
| <input type="checkbox"/> Другие (уточните ниже)..... | _____ |
| 1. _____ | _____ |
| 2. _____ | _____ |
| 3. _____ | _____ |
| 4. _____ | _____ |
| 5. _____ | _____ |

19. Откуда Вы узнали об этих травах? (*Отметьте все подходящие ответы*)
- От члена семьи, например, от матери, сестры, брата и т.д.
 - От друзей или знакомых
 - Из литературы, книг, журналов и т.д.
 - Из средств массовой информации, таких как телевидение, радио и т.д.
 - От своего врача или другого сотрудника органов здравоохранения в бывшем Советском Союзе
 - От своего врача или другого сотрудника органов здравоохранения в Соединенных Штатах
 - Из других источников (*пожалуйста, уточните*) _____
20. Где Вы обычно приобретаете травы/травяные препараты? (*Отметьте все подходящие ответы*)
- Покупаете в американской аптеке или магазине в США
 - Покупаете в русской аптеке в США
 - Покупаете в русском продуктовом магазине в США
 - Привозите из бывшего Советского Союза
 - Собираете в лесу / на лугах
 - Выращиваете сами в огороде, полисаднике или доме
 - Другое (*пожалуйста, уточните*) _____
21. Принимаете ли Вы иногда травы вместе с лекарствами?
- Да Нет Не знаю Не принимаю лекарств
22. Если Вы принимаете травы вместе с лекарствами, сообщаете ли Вы об этом своему врачу? Да Нет Не принимаю
23. По Вашему мнению, от одновременного приема лекарств и трав могут быть проблемы? Да Нет Не знаю
24. Полагаете ли Вы, что травы более эффективны, чем лекарства?
- Никогда Почти никогда Иногда Почти всегда Всегда
25. Полагаете ли Вы, что травы и травяные препараты безопаснее, чем лекарства?
- Никогда Почти никогда Иногда Почти всегда Всегда
26. Полагаете ли Вы, что травы вам помогают?
- Да Нет Не знаю

Большое спасибо за Ваше участие!

APPENDIX B: WSU IRB APPROVAL (No 8486)

MEMORANDUM

TO: Taisiya Y. Tagintseva
Nursing, WSU, Vancouver

FROM: Malathi Jandhyala (for) Cindy Corbett, Chair, WSU Institutional Review Board (3140)

DATE: 4 April 2005

SUBJECT: Approved Human Subjects Protocol - New Protocol

Your Human Subjects Review Summary Form and additional information provided for the proposal titled "*The Use of Herbal Medicine by Immigrants From the Former Soviet Union*," IRB File Number **8486-a** was reviewed for the protection of the subjects participating in the study. Based on the information received from you, the WSU-IRB **approved** your human subjects protocol on **4 April 2005**.

IRB approval indicates that the study protocol as presented in the Human Subjects Form by the investigator, is designed to adequately protect the subjects participating in the study. This approval does not relieve the investigator from the responsibility of providing continuing attention to ethical considerations involved in the utilization of human subjects participating in the study.

This approval expires on 3 April 2006. If any significant changes are made to the study protocol you must notify the IRB before implementation. Request for modification forms are available online at <http://www.ogrd.wsu.edu/Forms.asp>.

In accordance with federal regulations, this approval letter and a copy of the approved protocol must be kept with any copies of signed consent forms by the principal investigator for THREE years after completion of the project.

This institution has a Human Subjects Assurance Number FWA00002946 which is on file with the Office for Human Research Protections. WSU's Assurance of Compliance with the Department of Health and Human Services Regulations Regarding the Use of Human Subjects can be reviewed on OGRD's homepage (<http://www.ogrd.wsu.edu/>) under "Electronic Forms," OGRD Memorandum #6.

If you have questions, please contact the Institutional Review Board at OGRD (509) 335-9661. Any revised materials can be mailed to OGRD (Campus Zip 3140), faxed to (509) 335-1676, or in some cases by electronic mail, to ogrd@mail.wsu.edu.

Review Type: NEW OGRD No.: NF
Review Category: XMT Agency: NA
Date Received: 30 March 2005

APPENDIX C: COMMUNITY RESEARCH REQUEST AND CONSENT LETTER

Name of community leader requested to give access
Name of community organization
Address
Phone number

(Insert date here)

COMMUNITY RESEARCH REQUEST

Dear _____:

I am writing to request your support for scientific research that I am conducting as part of my graduate studies at Washington State University Vancouver in the College of Nursing. The purpose of my research is to collect information about the use of herbs and herbal remedies by adult Russian-speaking immigrants from the former Soviet Union currently living in Vancouver, WA. As your church (or school, class, etc.) consists primarily of such immigrants, it would be an appropriate group of people for participation in my research project. I would be deeply grateful if you would give your permission to conduct a brief survey among members of your congregation (or among your students, etc.) who would be willing to volunteer to participate.

At present, American doctors, nurses and other health care professionals have little reliable information about the patterns of herbal medicine use by the large numbers of recent Russian-speaking immigrants from the former Soviet Union. Without this information, it is difficult for American health care providers to provide safe, high-quality, and culturally-sensitive care to Russian-speaking immigrants. My goal is to provide doctors, nurses and other health care professionals with reliable and accessible information on herbal remedy use by Russian-speaking immigrants in the U.S. It will take participants about 10-15 minutes to complete a self-administered anonymous questionnaire. A copy of the questionnaire is attached for your review.

If you have any questions or concerns about the proposed research, please do not hesitate to contact me at (360) 737-9332 or Dr. Louise Kaplan, my advisor from Washington State University at (360) 546-9618. If you wish to receive a letter of reference about me from either the Washington State University College of Nursing or from the pastor of my own church ("Blagodat" in Vancouver, WA), I would be happy to arrange this for you.

If you are willing to have your church members (or students) participate in this research for the benefit of the Russian-speaking immigrant community, kindly sign the enclosed Consent Letter and return it to me at your earliest convenience. Thank you for considering my request.

Yours very truly,

Taisiya Y. Tagintseva, RN, BSN, WSU FNP student
Intercollegiate College of Nursing
Washington State University College of Nursing
Master of Nursing Program
Vancouver, Washington

Name of community leader agreeing to give access
Name of community organization
Address
Phone number

CONSENT LETTER

To Whom It May Concern:

I, _____, have read the enclosed letter from Taisiya Y. Tagintseva entitled “Community Research Request”. I understand the purpose and benefits of the study she is conducting, and that participation in the study is voluntary. I hereby give my consent to Taisiya Y. Tagintseva to conduct her survey among any members of my congregation (or among my students, etc.) who would be willing to participate voluntarily.

Signature

Date of signature

Name of community leader requested to give access
Name of community organization
Address
Phone number

(Insert date here)

ПРОСЬБА О ПРОВЕДЕНИИ ИССЛЕДОВАНИЯ

Уважаемый(-ая) _____!

Настоящим письмом я обращаюсь к вам за поддержкой научного исследования, которое я провожу в рамках своей учебы в аспирантуре Университета штата Вашингтон, Ванкувер, в Колледже Медсестринского Дела. Цель моего исследования – сбор информации об использовании трав и травяных препаратов взрослыми русскоговорящими иммигрантами из бывшего Советского Союза, проживающими в настоящее время в Ванкувере, штат Вашингтон. Поскольку вашу церковь (или школу, курсы и т.д.) посещают преимущественно такие иммигранты, она представляет собой группу людей, подходящую для участия в моем исследовании. Буду вам глубоко признательна за разрешение провести краткий опрос среди ваших прихожан (или слушателей и т.д.), которые выразят желание принять в нем участие.

В настоящее время американские врачи, медсестры и другие сотрудники служб здравоохранения не располагают в достаточном объеме надежной информацией о характере потребления травяных лекарственных средств многочисленными русскоговорящими иммигрантами последнего времени из бывшего Советского Союза. Не располагая такой информацией, американским сотрудникам органов здравоохранения трудно оказывать безопасный высококачественный уход за русскоговорящими иммигрантами с учетом культурных особенностей. Моя цель – предоставить врачам, медсестрам и другим медработникам надежную и доступную информацию о применении травяных препаратов русскоговорящими иммигрантами в США. Заполнение анонимной анкеты займет примерно 10-15 минут. Прилагаю копию анкеты для ознакомления.

Обращайтесь ко мне с любыми вопросами по поводу предлагаемого исследования по телефону (360) 737-9332. Вы также можете обратиться к моему консультанту, Луизе Каплан, из Университета штата Вашингтон, по телефону (360) 546-9618. Если вам необходим отзыв обо мне из Колледжа Медсестринского Дела Университета штата Вашингтон, или от духовного наставника моей церкви (“Благодать” в Ванкувере, штат Вашингтон), я с удовольствием его предоставлю.

Если вы сочтете, что участие ваших прихожан (или слушателей) в этом исследовании пойдет на пользу русскоговорящей иммигрантской общины, пожалуйста, подпишите прилагаемое письмо-согласие и верните его мне при первой возможности. Благодарю за рассмотрение моей просьбы.

С искренним уважением,

Таисия Тагинцева, RN, BSN

Университет Штата Вашингтон, слушатель программы медсестринского дела
Межуниверситетский Колледж Медсестринского Дела
Колледж Медсестринского Дела при Университете штата Вашингтон
Программа Магистра в области медсестринского дела
Ванкувер, штат Вашингтон

Name of community leader agreeing to give access
Name of community organization
Address
Phone number

ПИСЬМО-СОГЛАСИЕ

Всем заинтересованным лицам:

Я, _____, прочел(прочла) прилагаемое письмо от Таисии Тагинцевой под названием «Просьба о проведении исследования». Меня уведомили о целях и пользе проводимого ею исследования, а также о том, что участие в исследовании носит добровольный характер. Настоящим я даю согласие на проведение Таисией И. Тагинцевой опроса среди моих прихожан (или слушателей и т.д.), которые изъявят желание принять в нем участие.

Подпись

Дата подписания

APPENDIX D: LETTERS OF PERMISSION

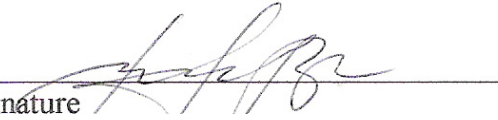
Tatyana Bobrik
Lutheran Community Services
2600 Main St. 2nd floor
Vancouver, WA 98663
(360) 694-5624

CONSENT LETTER

To Whom It May Concern:

I, Tatyana Bobrik, have read the enclosed letter from Taisiya Y. Tagintseva entitled "Community Research Request". I understand the purpose and benefits of the study she is conducting, and that participation in the study is voluntary. I hereby give my consent to Taisiya Y. Tagintseva to conduct her survey among students attending our citizenship classes who would be willing to participate voluntarily.

Signature



Date of signature

4/29/05

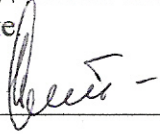
Pastor Aleksandr Kochenkov
Slavic Grace Baptist Church
800 N Andresen Rd.
Vancouver, WA 98661
(360) 910 - 2391

ПИСЬМО-СОГЛАСИЕ

Всем заинтересованным лицам:

Я, Александр Коченков прочел прилагаемое письмо от Таисии Тагинцевой под названием «Просьба о проведении исследования». Меня уведомили о целях и пользе проводимого ею исследования, а также о том, что участие в исследовании носит добровольный характер. Настоящим я даю согласие на проведение Таисией Тагинцевой опроса среди моих членов церкви и других прихожан, которые изъявят желание принять в нем участие.

Подпись



4-27-05
Дата подписания

Mark McLean
Director of Basic Education
Clark College, Town Plaza Center, MS #36
1800 E. McLoughlin Blvd.
Vancouver, WA 98663
(360) 992-2725

CONSENT LETTER

To Whom It May Concern:

I, Mark McLean, have read the enclosed letter from Taisiya Y. Tagintseva entitled "Community Research Request". I understand the purpose and benefits of the study she is conducting, and that participation in the study is voluntary. I hereby give my consent to Taisiya Y. Tagintseva to conduct her survey among any Russian-speaking students attending our ESL classes who would be willing to participate voluntarily.

Mark McLean
Signature

02/20/05
Date of signature

APPENDIX E: RESEARCH ADVERTISEMENT FLYER



Do you use herbs or herbal products?

If yes... You are invited to take part in a research project about herbs.

The goal of this project is to learn about how Russian-speaking immigrants from the former Soviet Union use herbs for treatment and prevention of their illnesses.

To help with this project you will spend about 10 to 15 minutes answering questions on a questionnaire. This questionnaire is anonymous and your information will be completely confidential.

Your information will give important information to doctors, nurses and other health care professionals about your use of herbs to stay healthy, and also what herbs have worked for you to take care of health problems.

I am doing this research as part of my graduate studies at Washington State University, Vancouver. I will be coming to *(Insert Location)* on *(Insert Date)*. If you have questions:

Please contact Taisiya Tagintseva, RN, BSN

Phone: (360) 737-9332

E-mail: taisiyat@yahoo.com



Вы пользуетесь травами или продуктами из трав?

Если да... То Вы приглашены принять участие в научной работе о травах.

Цель этой работы – определить как русскоговорящие иммигранты с бывшего Советского Союза используют травы для лечения и профилактики.

Ваша помощь в этой работе будет состоять в том, чтобы уделить около 10- 15 минут на то чтобы ответить на анкетные вопросы. Анкета будет анонимной и вся ваша информация останется строго конфиденциальной.

Информация, которой Вы поделитесь, поможет докторам, медсёстрам и другим медработникам больше узнать о том, как Вы используете травы для поддержки Вашего здоровья, а также для лечения Ваших заболеваний.

Это исследование я провожу как часть своей учёбы в аспирантуре Университета штата Вашингтон, Ванкувер. Я буду в (*Указать Место*) в (*Указать Время*). Если у Вас есть вопросы, то:

Обращайтесь к Таисии Тагинцевой, RN, BSN

Телефон - (360) 737-9332

Е- почта taisiyat@yahoo.com

APPENDIX F: ANNOUNCEMENT SCRIPT

Dear _____:

My name is Taisiya Tagintseva and I am a graduate student at Washington State University. The reason I am here today is to request your support for scientific research that I am conducting as part of my graduate studies. The purpose of my research is to collect information about the use of herbs and herbal remedies by adult Russian-speaking immigrants from the former Soviet Union currently living in Vancouver, WA.

At present, American doctors, nurses and other health care professionals have little reliable information about the patterns of herbal medicine use by the large numbers of recent Russian-speaking immigrants from the former Soviet Union. Without this information, it is difficult for American health care providers to provide safe, high-quality, and culturally-sensitive care to Russian-speaking immigrants. The information you provide will help health care professionals provide you with a better health care.

It will take you about 10-15 minutes to complete the questionnaire. Please complete it only if you meet all of the following criteria:

- 1 You are over the age of 18
- 2 You are a Russian-speaking and Russian-literate immigrant from the former Soviet Union
- 3 You arrived in the United States of America after 1991
- 4 You currently live in Vancouver, Washington.

Your participation in this study is completely voluntary. If you wish, you may choose not to answer any question. By filling out and returning your questionnaire, you are giving your consent to participate in the study. This questionnaire is anonymous and your responses are completely confidential. The information will be reported in a way that no one will know your specific answers.

When filling out the questionnaire, read each question carefully and then answer it to the best of your ability. Please do not write your name or other identifying information on the survey. This questionnaire is anonymous. Once you have completed the questionnaire, return it to the box marked "Questionnaires". I will be glad to answer any questions you may have. So, please don't hesitate to let me know if you have any questions or concerns.

I sincerely thank you for your participation.

Уважаемые _____:

Меня зовут Таисия Тагинцева. Я - аспирант Университета штата Вашингтон по специальности «медсестринское дело». Причиной моего присутствия сегодня здесь является необходимость обратиться к вам за поддержкой научного исследования, которое я провожу в рамках своей учебы в аспирантуре Университета штата Вашингтон, Ванкувер, в Колледже Медсестринского Дела. Цель моего исследования – сбор информации об использовании трав и травяных препаратов взрослыми русскоговорящими иммигрантами из бывшего Советского Союза, проживающими в настоящее время в Ванкувере, штат Вашингтон.

В настоящее время американские врачи, медсестры и другие сотрудники служб здравоохранения не располагают в достаточном объеме надежной информацией о характере потребления травяных лекарственных средств многочисленными русскоговорящими иммигрантами последнего времени из бывшего Советского Союза. Не располагая такой информацией, американским сотрудникам органов здравоохранения трудно оказывать безопасный высококачественный уход за русскоговорящими иммигрантами с учетом культурных особенностей. Предоставленные вами сведения позволят сотрудникам служб здравоохранения обеспечить вас более лучшим медицинским уходом.

Заполнение анкеты займет примерно 10-15 минут. Просьба заполнить эту анкету только в том случае, если вы соответствуете всем перечисленным ниже критериям:

- 1 Вы старше 18 лет
- 2 Вы русскоговорящий, пишущий и читающий по Русски иммигрант из бывшего Советского Союза, который может читать и писать по Русски.
- 3 Вы переехали в Соединенные Штаты Америки после 1991 года
- 4 Вы проживаете в настоящее время в Ванкувере, штат Вашингтон.

Ваше участие в настоящем исследовании является исключительно добровольным. Если вы не хотите, вы можете не отвечать на вопросы. Заполнив анкету и вернув ее, вы выражаете свое согласие на участие в исследовании. Анкета является анонимной, и ваши ответы останутся строго конфиденциальными. Информация будет использоваться таким образом, что никто не узнает ваших конкретных ответов.

Во время заполнения анкеты, внимательно прочтите каждый вопрос и затем ответьте по возможности точно. Просьба, при заполнении, не указывать свою фамилию, имя или другие личные данные. Эта анкета - анонимная. Заполнив анкету, опустите ее в ящик с пометкой “Анкеты”. Я буду рада ответить на любые ваши вопросы. Так, что пожалуйста чувствуйте себя свободно обращаться ко мне с любыми вопросами или беспокойствами.

Я искренне благодарю вас за ваше участие.

APPENDIX G: TABLES SUMMARIZING RESULTS OF SURVEY

Table 1. Prevalence of herbal use by sociodemographic factors.

Sociodemographic Factor	n	Weighted %	Use of Herbs (n = 96)
Overall	105*	100%	91.4%
Gender (<i>p</i> = .061)			
Men	30	28.6%	83.3%
Women	75	71.4%	94.7%
Age			
19-35	26	25%	92.3%
36-51	26	25%	92.3%
52-68	26	25%	96.2%
69-83	26	25%	84.6%
Current Marital Status (<i>p</i> = .556)			
Single	13	12.6%	84.6%
Married	76	73.8%	90.8%
Widowed	9	8.7%	100%
Divorced	5	4.9%	100%
Former USSR Republic (<i>p</i> = .717)			
Ukraine	33	31.7%	84.8%
Moldova	10	9.6%	90%
Russia	19	18.3%	100%
Belarus	2	1.9%	100%
Kazakhstan	26	25%	88.5%
Kyrgyzstan	11	10.6%	100%
Uzbekistan	1	1.0%	100%
Estonia	1	1.0%	100%
Georgia	1	1.0%	100%
Years Lived in the U.S.			
0-6 years	57	54.8%	84.4%
> 6-15 years	50	45.2%	96.0%
Years of Education (USSR) (<i>p</i> = .145)			
Grades 1-8	24	23.1%	87.5%
Grades 9-12	42	40.4%	97.6%
Technical School	31	29.8%	83.9%
Institute/University	7	6.7%	100%
Years of Education (U.S.) (<i>p</i> = .120)			
Grades 1-8	1	2.6%	100%
Grades 9-12	1	2.6%	0%
Some College	25	64.1%	88%
College	10	25.6%	90%
University	2	5.1%	100%
Income (<i>p</i> = .789)			
\$0-\$15,000	59	60.2%	88.1%
\$15,001-\$30,000	21	21.4%	95.2%
\$30,001-\$45,000	11	11.2%	90.9%
\$45,001-\$60,000	5	5.1%	100%
\$60,001-\$75,000	2	2%	100%
Health Insurance (<i>p</i> = .342)			
Yes	79	76%	89.9%
No	25	24%	96%

* In the categories below, the sum of *n* may not equal 105 due to invalid responses being omitted.

Table 2. Prevalence of herbal use by health-related factors.

Health-Related Factor	n	Weighted %	Use of Herbs (n = 96)
Overall	105*	100%	91.4%
Current Health (p = .604)			
Excellent	3	3.0%	66.7%
Good	29	28.7%	89.7%
Fair	38	37.6%	92.1%
Poor	28	27.7%	92.9%
Very Poor	3	3.0%	100%
Presence of Chronic Illnesses (p = .067)			
Yes	49	55.7%	95.9%
No	39	44.3%	84.9%
Diabetes (p = .455)			
Yes	9	11.7%	100%
No	68	88.3%	94.1%
Arthritis (p = .520)			
Yes	27	35.1%	92.6%
No	50	64.9%	96%
Cancer (p = .814)			
Yes	1	1.3%	100%
No	76	98.7%	94.7%
Asthma (p = .067)			
Yes	4	5.2%	75%
No	73	94.8%	95.9%
Insomnia (p = .293)			
Yes	16	20.8%	100%
No	61	79.2%	93.4%
Anxiety (p = .427)			
Yes	10	13%	100%
No	67	87%	94%
Depression (p = .679)			
Yes	3	3.9%	100%
No	74	96.1%	94.6%
Blood pressure (p = .591)			
Yes	29	37.7%	96.6%
No	48	62.3%	93.8%
High cholesterol (p = .333)			
Yes	14	18.2%	100%
No	63	81.8%	93.7%
Heart disease (p = .330)			
Yes	22	28.6%	90.9%
No	55	71.4%	96.4%
Gastric disease (p = .208)			
Yes	21	27.3%	100%
No	56	72.7%	92.9%
Renal disease (p = .402)			
Yes	11	14.3%	100%
No	66	85.7%	93.9%
Long-term stress (p = .679)			
Yes	3	3.9%	100%
No	74	96.1%	94.6%
Headaches (p = .490)			

Yes	32	41.6%	96.9%
No	45	58.4%	93.3%
Taking Medications for Illness ($p = .312$)			
Yes	62	60.2%	93.5%
No	41	39.8%	87.8%
Source for Medications			
U.S. Pharmacy w/ Rx ($p = .358$)	55	60.4%	92.7%
U.S. Pharmacy w/o Rx ($p = .125$)	28	30.8%	100%
Russian pharmacy ($p = .160$)	46	50.5%	87.8%
Russian grocery store ($p = .270$)	17	18.7%	100%
Imported from USSR ($p = .288$)	16	17.6%	100%
Others ($p = .541$)	6	6.6%	100%
Believe Medications Help ($p = .391$)			
Yes	72	92.3%	93.1%
No	6	7.7%	83.3%

* In the categories below, the sum of n may not equal 105 due to invalid responses being omitted.

Table 3. Ten most commonly used herbs and their reported indications for use.

Rank	Herb	n (%)*	Indications for use
1	chamomile	49 (58.3%)	Stomach/gastrointestinal (GI) problems
2	valerian	42 (50.0%)	heart and anxiety/stress problems
3	St. John's wort	41 (48.8%)	GI problems and prophylaxis
4	calendula	36 (42.9%)	skin/inflammation, liver and GI problems
5	peppermint	29 (34.5%)	GI and anxiety/sleep problems
5	rose hips	29 (34.5%)	As a tea for general prophylaxis/Vitamin C
6	yarrow	22 (26.2%)	GI problems and for cough
7	aloe vera	21 (25.0%)	skin/inflammation problems
8	coltsfoot leaf	20 (23.8%)	cough/upper respiratory infections
8	motherwort	20 (23.8%)	stress/anxiety and for prophylaxis
9	oregano	16 (19.0%)	GI and anxiety/sleep problems
10	hawthorn	14 (16.7%)	heart problems and hypertension

* Percentages are based on the total number of valid responses to question #18, which was 84.

Table 4. Herb-related beliefs and practices.

Beliefs and Practices	n	Weighted %
Have used herbs at least once in lifetime		
Yes	96	91.4%
No	9	8.6%
Frequency of herbal use		
When needed for short periods of time	60	67.4%
Several times a week	15	16.9%
Every day	11	12.4%
Several times per month	3	3.4%
Used herbs over the last year		
Yes	83	85.6%
No	14	14.4%
Learned about herbs from		
Family members	66	68.8%
Literature	66	68.8%
Friends	42	43.8%
Health care providers (USSR)	24	25.0%
Media	12	12.5%
Health care providers (US)	6	6.3%
Other sources	2	2.1%
Source of herbs		
Russian pharmacy	55	57.9%
Pick their own in fields/woods	37	38.9%
Grow their own	28	29.5%
Imported from USSR	25	26.3%
Russian grocery store	25	26.3%
U.S. pharmacy/store	21	22.1%
Other	6	6.3%
Taking herbs concurrently with medications		
Yes	39	48.1%
No	42	51.9%
Informed health care providers of concurrent use		
Yes	20	37.0%
No	34	63.0%
Think there may be a problem with concurrent use		
Yes	34	51.5%
No	32	48.5%
Think herbs are more effective than medications		
Sometimes	37	39.4%
Almost always	32	34.0%
Always	23	24.5%
Almost never	2	2.1%
Never	0	0%
Think herbs are safer than medications		
Always	38	40.4%
Almost always	35	37.2%
Sometimes	17	18.1%
Almost never	0	0%
Never	4	4.3%
Believe herbs have helped health		
Yes	91	92.9%
No	0	0%
Do not know	7	7.1%

