

Lifestyle and Migration as a Risk Factor Among Adult Foreigners in Vilnius and Kaunas Cities

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– Essay –

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Over the last decade the pattern of the world-wide migration has changed dramatically. There were no studies carried on lifestyle and migration as a risk factor in itself among well-off foreigners who came to Lithuania on basis of long term business or studies. **Purpose.** The purpose of the survey was to assess lifestyle (smoking, alcohol consumption and physical activities) and migration as a risk factor in itself among adult well-off foreigners in Vilnius and Kaunas cities. **Object.** The well-off foreigners from Europe and Israel were investigated. Age of the foreigners was 18 years and over. **Method.** The survey was based on convenience sampling. A self developed questionnaire was used for sampling information from 50 well-off foreigners. A “real life” convenience sample was used. **Results.** Results about every parameter were gained from data in home country and in Lithuania. 1. Results which were not influenced by migration process were smoking, alcohol consumption and physical activities. Among foreigners 77 percent were non smokers neither in Lithuania nor in home country. We revealed that 34 percent of foreigners were not drinking beer at all, 68 percent of respondents were not using strong drinks. 2. Results under the impact of migration were the following: assessment of own health, incidence of diseases and foreigners opinion about factors affecting their health after migration. The rate of subjective health of foreigners was higher in home country than in Lithuania after migration. We pointed out that 70 percent of foreigners were exposed to long lasting stress after migration. **Discussions.** The results of our study increased understanding of motivations for health hazard behaviour i.e. smoking, alcohol consumption and physical inactivity. Though all foreigners assessed their health status as reasonably good, nearly all of them mentioned deterioration of it after migration. We revealed that the impairment in their own health status was due to long-lasting stress and instability in surroundings. **Conclusions.** The study showed that positive behaviour habits (scarce smoking, moderate alcohol, and dynamic physical activity) of well-off foreigners could act as an example of a healthier lifestyle for Lithuanian people although migration to Lithuania decreased the migrants’ subjective health. Migration by itself appeared to be an important risk factor for health status of foreigners and further investigations are needed in this field.

Key words: well-off foreigners, migration as a risk factor, lifestyle, Lithuania

Contents

1. Background

1.1. Public health policy in the European Union	5
1.2. Lithuania in enlarged European Union	5
1.3. Health behaviour and risk factors – a global public health problem	5
1.4. Lifestyle and changes in health behaviour in Lithuania during the transitional period	6
1.5. Stress and coping with new environment	8
1.6. Sense of coherence and lifestyle in the context of public health	8

2. Purpose of the survey	9
---------------------------------	----------

3. Hypothesis	9
----------------------	----------

4. Materials and methods	9
---------------------------------	----------

4.1. Questionnaire	10
4.2. Data collection	11
4.3. Data analysis	12
4.4. Ethical considerations	12

5. Results	13
-------------------	-----------

6. Discussions	24
-----------------------	-----------

7. Conclusions	27
-----------------------	-----------

8. Acknowledgement	27
---------------------------	-----------

9. References	28
----------------------	-----------

10. Attachment: questionnaire	33
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1. Background

1.1. Public health policy in the European Union (EU)

Health is an important priority for Europeans (Council of European Union. Communication from the Commission of 15 April 1998). Everybody expect to be protected against illness and disease and to bring their children in a healthy environment (European Commission. The European Environment & Health Action Plan 2004-2010). When traveling within the European Union, people need access to reliable and high-quality health advice and assistance. A coherent and coordinated approach to health policy was set out in European Commission health strategy in May 2000 (http://ec.europa.eu/health/ph_overview/strategy/health_strategy_en.htm). As a key component of the strategy, the Commission proposed a new public health programme for the European Community which runs from 1 January 2003 until 31 December 2008. One of the priority objectives of the on-going public health programme is to promote health and prevent disease through addressing health determinants across all EU polices and activities (Decision No 1786/2002/EC). Tackling major health determinants is of great potential for reducing the burden of disease and promoting the health of the general population. Health determinants can be categorized as: personal behaviour and lifestyle, influences within communities which can sustain or damage health living and working conditions and access to health services, and general socio-economic, cultural and environmental conditions (European Commission. The Health Status of the European Union narrowing the gap. 2003).

The improvement of information and knowledge on lifestyle related aspects in regards to migration of people and the promotion of positive lifestyles will contribute to the main goal of public health (Operating the health information and knowledge advisory system in the Programme of Community action in the field of public health 2003-2008).

1.2. Lithuania in enlarged European Union

Lithuania became new member state in the European Union on May 1, 2004. The internal market in the EU has been based on four main principles: the free movement of goods, the freedom of establishment and provision of services, the free movements of capital and the free movements of persons. Especially important with regard to the last action is the free movements of workers within EU. Accession of our country required implementation of European Treaties, regulations and other legal instruments which guaranteed equal treatment for member states citizens within enlarged European Union. Non-discrimination and guarantee of acquired social rights has been the main principle applied for migrant workers (Council Regulation No.1408/71/EEC; Council Regulation No. 574/72/EEC). Free movement of persons required to satisfy social and health needs of EU citizens - whoever they may be. Public health issue was still open. One of the main World Health Organisation (WHO) strategic directions - promoting healthy lifestyles was applied to migrant workers and examined in this study.

1.3. Health behaviour and risk factors of diseases linked to migrant workers– a global public health problem

One group of risk factors was related to poverty - such as underweight, unsafe water, poor sanitation and hygiene, unsafe sex, iron deficiency and indoor smoke from solid

fuels. The second group - included risk factors that were more commonly associated with wealthy societies, such as high blood pressure, obesity and high blood cholesterol (Dregval *et al.* 1998). The latter ones were conditioned by lifestyle such as smoking, excessive alcohol consumption, physical inactivity, stress. These risks, and the diseases linked to them, were dominant in all middle and high income countries.

In the past, there was a so-called north-south divide with respect to the prevalence of specific risk factors. In the 1960s, smoking was more prevalent in north than south Europe. High-saturated-fat diets were more common in northern Europe in contrast to low-saturated-fat diets in the Mediterranean countries at that time. Alcohol consumption was much more customary in southern Europe than in northern Europe a couple of decades ago (Gronbek *et al.* 1995).

The new Public Health Action Programme was adopted in 2002 by European Parliament and has three main areas of activity: improving health information, responding rapidly to health threats and tackling health determinants. The European Commission realizes the importance of the development of health indicators, data collection and comparability issues. EU trends in lifestyle related risk factors have a well-known negative impact on health. Smoking, alcohol consumption, physical activity, obesity all has relation with non-communicable diseases (Stankunas 2004; Wilk and Jansen 2005).

Therefore monitoring, research studies of health behaviour and related risk factors is essential for evaluation of health promotion and disease prevention programmes (Bridges 2003).

Over the last decade the pattern of the world-wide migration has changed dramatically and until recently little attention has been paid to foreigners' special needs for health and health promotion (Appleyard 1992; Bollini 1992; Ginsburg 1994). The main studies carried on migrants in Europe were mainly focused on HIV/AIDS and tuberculosis problems, stressed induced disorders, psychological traumas (Ackerhans 1999). To my knowledge there were no studies carried on health behaviour and migration as risks factors in itself among well-off foreigners from industrialized societies who came to Lithuania on basis of short or long term business, work or studies. It is not known to which extent migration by itself has health implications. The reasons might be that foreigners live in host country temporary, they represent only a small part of the majority population and is not a stable group for epidemiological studies.

1.4. Lifestyle and changes in health behaviour in Lithuania during the transitional period

Since 1994 Lithuania together with Finland, Estonia and Latvia has been participating in the international project Finbalt health monitor programme (Finbalt) and has been monitoring health promotion and disease prevention activities in Lithuania (http://www.ktl.fi/portal/english/osiot/research_people_programs/epidemiology_and_health_promotion/projects/finbalt/). In 2001-2002 health behaviour surveys were conducted in other countries, members to Countrywide Integrated Non-communicable Disease Intervention (CINDI) Programme, coordinated by World Health Organisation (WHO). The last report was carried out in 2002 (Grabauskas *et al.* 2002). Though the main health determinants has been studied in many public health surveys, but migration as a risk factor in itself has not been studied yet. Individual lifestyle is very dependent on other health determinants such as culture, employment, education, income and social

and community networks which become very influential for their health in migration process.

The most remarkable changes have been estimated in nutrition habits of Lithuanian population (Grabauskas *et al.* 1999; Dregval *et al.* 1997). Since 1994 the proportion of persons using mostly vegetable oil for cooking has increased among males from 31.1 percent in 1994 to 83.2 percent in 2002, and among females – from 47.7 percent to 92.6 percent respectively. In 2002 the survey showed that 11.2 percent of males and 4.8 percent of females still used lard for cooking (Grabauskas *et al.* 2002). The decreasing trend in usage of butter on bread has halved: among males from 71.2 percent in 1994 to 37.6 percent in 2002 and among females from 66.3 percent to 38.2 percent respectively. However, data of the year 2002 showed that use of butter had again increased up to 46.7 percent in males and 48.9 percent in females. Elderly people spread butter on bread more often than younger do. The increase usage of butter could be explained by increasing availability of various spreads based on butter. People usually name them as butter. In 2002 consumption of whole milk was lower compared to year 2000: 28.6 percent and 45.1 percent respectively (Grabauskas *et al.* 2002). Lithuanians have started eating fresh vegetables more frequently. In 1996 18.1 percent of males and 24.8 percent of females consumed fresh vegetables at least three days during the last week. In the year 2002 this proportion was 45.7 percent in males and 55.8 percent in females (Grabauskas *et al.* 2002). Fresh fruits and berries were eaten at least three days a week by 29.0 percent of males and 41.3 percent of females.

The respondents were asked how often they had taken leisure time physical activity for at least 30 minutes making their breathing rate increased and sweating began. In 1994 21.0 percent of males and 14.5 percent of females reported having such physical activity at least four times a week. In 2002 this proportion of persons walking to and from their work was continuously decreasing (Grabauskas *et al.* 2002).

The largest proportion of persons drinking strong alcohol at least once a week was observed in males (33.9 percent) as well as in females (11.5 percent) in the year 2000. The frequency of beer drinking is constantly increasing. In the year 2002 this survey revealed that 58.8 percent of males and 18.4 percent of females were drinking beer at least once a week. Females more often than males drank wine: 35 percent of females and 26 percent of males consumed wine at least twice a month. The respondents were inquired on frequency of consuming six or more portions of alcohol (60 g pure alcohol) on a single occasion. The consumption of such amount of alcohol at least once a week was reported by 19.4 percent of males and 2.5 percent of females.

Since 1994 the prevalence of smoking has increased among females in Lithuania (Dregval *et al.* 1996). The proportion of daily smoking females has increased from 6.3 percent to 12.8 percent over eight years. The prevalence of smoking among males has been increasing until the year 2000. The data of the last survey showed that the prevalence of smoking was almost the same as in 1994 i.e. 43.7 percent. The greatest increase in the prevalence of smoking was observed in the youngest groups of population.

Following the above mentioned surveys carried out in Lithuania, the lifestyle of the majority of Lithuanians can not be considered as very healthy due to national habits of nutrition, smoking, alcohol consumption, physical activities and long lasting stress situations in unstable surrounding. The respondents were asked to indicate who advised them to change their lifestyle habits during the last year. Every fifth (21.4 percent) smoking male and 6 percent of smoking females were advised to quit by a doctor. More

than half (69 percent) of males and 37.3 percent of females reported that they had been advised to stop smoking by family members. Only 4.8 percent of males and 2.7 percent of females got the recommendation to decrease consumption of alcohol. Such advice from family members was received by 42 percent of males. The family members were also more active than health care specialists in advising to change nutrition and physical activity habits (Klumbiene *et al.*1997). Therefore health professionals should be encouraged to intensify their activities in health promotion and disease prevention.

1.5. Stress and coping with new environment

Foreigners coming from abroad to other countries on the basis of business, work or studies are exposed to long lasting stress, unstable surrounding, new people with their habits, tradition, culture, language, their way of thinking and working. Also they have language problems and they need to cope with new problems and adopt themselves to new circumstances. The stress from workload, relations and time pressure presented everyday coping tasks for foreigners.

The transactional model of stress explains the nature of stress and coping in terms of transactions between a person and the environment. It is not stress in itself that is important in adaptation outcomes, but the way we cope with it (Frenz *et al.* 1993). The stress occurs only when some circumstances overwhelm a person's ability to adjust or cope.

The appraisal of a situation is influenced by the individual's understanding of the situation and his/her mood at the time. The importance of positive psychological states in processes related to coping – interpreting the situation, fostering the sense of purpose and control and restoring psychological resources in coping efforts is essential (Debruyen 2002).

However, constitutional predisposition, health practices, coping capacity, personality and social support were moderating factors of stress for the foreigners.

1.6. Sense of coherence and lifestyle in the context of public health

Coping with new environment is to be found in a sense of coherence. Antonovsky explained the process of coping in salutogenesis theory of Origins (genesis) of health (saluto). The origins of health are in a sense of coherence (Antonovsky 1979).

According to Antonovsky, coping with stress is associated with a person's dispositional orientation – the sense of coherence. The sense of coherence expresses the extent to which a person perceives the world as comprehensible, manageable and meaningful (Antonovsky 1979).

A foreigner with a strong sense of coherence, confronting a stressor, is a person who feels that he/she understands the nature of the problem, that the difficulties are manageable, and that it is worth tackling. People with a strong sense of coherence use more effective coping strategies, and are motivated to move from a state of tension to non-tension.

Antonovsky argued that a strong sense of coherence is related to realistic interpretation of symptoms and readiness to follow the treatment regimen, and is negatively correlated with health-demanding behaviour such as smoking and alcohol consumption.

The sense of coherence can be interpreted as an autonomous internal resource contributing to the favourable development of the subjective state of health in men and women. A strong sense of coherence and a good subjective state of health are associated when adjusted for age and health-promoting resources such as the level of occupational

training, number of close friends and leisure time activities (Suominen *et al.* 2001). It has also been found that the sense of coherence is negatively correlated with physical and mental distress independently of cultural and socio-economical differences.

The sense of coherence-related lifestyle aspects have been studied less than the sense of coherence-related health indicators, and the findings are contradictory. One reason for this may be connected with differences between the investigated samples. For example, some investigators found that the sense of coherence was not related to alcohol consumption in their university students (Frenz *et al.* 1993). Others found that the strength of a student's sense of coherence played a weak but significant role in ameliorating binge drinking and the perception of stress (Debruyn 2002). In a study of older members of a health maintenance organization it was found that sense of coherence was a significant negative predictor of alcohol problems such as alcohol consumption level and frequency of drunkenness, and sense of coherence scores were significantly higher in subgroup of lighter drinkers as compared to heavier drinkers (Midanik *et al.* 1992).

Several studies suggested that the sense of coherence is shaped and reshaped in accordance with people's interaction with their environment (Lundberg 1997). They have stressed the importance of the influence of situational variability on sense of coherence. Among university students it was found that the higher the experienced distress, the higher the trait anxiety and the lower the sense of coherence. Virtanen and Koivisto (2001) carried out a survey in which they follow graduating Finnish physicians and architects over five years. The physicians' sense of coherence score improved during the period, while the architects' sense of coherence remained unchanged. The authors connect this result to the hypothesis that good employment prospects (in case of physicians) are important to an employee's well-being and those of insecure employment (in the case of architects) in young adulthood may inhibit the development of the sense of coherence to the optimum level.

2. Purpose of the survey

To analyse lifestyle (smoking, alcohol consumption and physical activities) and migration as a risk factor in itself among adult well-off foreigners in Vilnius and Kaunas cities.

In this survey foreigners were defined as foreign born persons with another cultural, religious and linguistic background, having lived in Lithuania more than three months according the Law on status of foreigners in Lithuania. Only well-off foreigners from industrialized countries of Europe were investigated. Comers from former Soviet Union countries were not included.

3. Hypothesis

Foreigners came from different culture, another religious, another linguistic background with different lifestyle and meet new factors related to migration which could change their health status in a negative way. On the other hand their lifestyle in their home country could be an example for Lithuanians of a better health and healthier lifestyle.

4. Material and Methods

We conducted a nationwide survey to determine lifestyle of well-off foreigners, who came from industrialized countries of Europe and Israel, and migration as a risk factor that could change their behaviour and influence their health status. A self developed questionnaire was used for sampling information from 50 well-off foreigners.

4.1. Questionnaire

The tool for survey was a self developed questionnaire about health behaviour (lifestyle) and migration as a risk factor among adult well-off foreigners in Vilnius and Kaunas cities. We were inspired by the Finbalt health monitor programme questionnaire (Finbalt questionnaire), which has been used in health behaviour survey in Finland, Lithuania, Latvia and Estonia (http://www.ktl.fi/portal/english/osiot/research,_people___programs/epidemiology_and_health_promotion/projects/finbalt/questionnaire/).

The core Finbalt questionnaire - common to all participating countries - had about 100 questions. The questions were classified into "obligatory" and "highly recommended". The obligatory questions dealt with socio-demographic background, health (health services, diseases, and subjective health), smoking, food habits, height, weight and physical activity. Following the Finbalt core questionnaire we used only obligatory questions which were relevant to foreigners coming to Lithuania for work and studies. Criteria for choosing the questions were: the relevance for public health and health policy, measurability, nature of the phenomenon. From the section "background information" we used sex, year of birth and monthly income. We simplified subparagraph "marital status" to married, divorced, single and widow/widower. The subparagraph "what kind of job do you do" we changed to "what is your profession" and instead of farming, industrial type of work, housewife, studying and unemployed we included managerial position, servant position, service position, student, worker, retired and other. We deleted information about children, education and added new questions about purpose of stay in Lithuania, about length of stay and from which country you came. The questions in the section "health services and health status" were reduced from fourteen to four: frequency of visits to doctor, absence days during last six months, conditions of illness and subjective health in Lithuania and in home country. In order to evaluate the self-assessment of health, we used a five grade scale. The lowest scale indicated poor health and the fifth – highest scale showed good assessment of health. We excluded detailed questions about specific diseases. In the section "smoking" we used only three questions of twelve which were relevant to migrant workers. We wanted to know if a person was a smoker, how long he was exposed to work place where somebody smoked and who induced him/her to stop smoking. These questions included habits in home country and after migration to Lithuania. Section "food habits" remained very similar to the original questions. In the section "alcohol" we used three original questions of seven, in order to get general comparable information about drinking habits: sort, amount and frequency of the use of alcohol. In the section "height, weight and physical activity" we used seven main questions of the original nine, excluded person's opinion about weight and how physically strenuous his/her job was.

Summarizing the changes and the usage of the Finbalt questionnaire, we would like to emphasise, that we used only obligatory questions and 34 percent of all questions,

which were relevant for foreigners before and after coming to Lithuania. We developed original questionnaire for this study relevant for public health and migration as a risk factor in itself (see attachment). Our original questionnaire included thirty four questions: 10 main questions related to basic socio-demographic information, explaining professional skills, family status, country of origin, age and sex and 23 sub-questions, concerning health status, smoking, drinking and physical activity and the last one, indicating risk factors which were sensitive and related to migration.

4.2. Data collection

Our survey was carried out involving people in “real life” situations using a so called non-probability sampling. Following C. Robson (Robson 2002) the “real life” situation referred to where whatever we were interested in occurs, whether it was an office, school, hospital, home, street or sport stadium. We found volunteers in State Patient Fund, in Vilnius and Kaunas Universities, in French and German cultural centres, during Vilnius VIC monthly meetings. Before data collection we printed out questionnaire and prepared five questionnaire files. In September-December 2004 the first five volunteers, who visited State Patient Fund of the Republic of Lithuania occasionally, were invited to the International Affairs Department of the State Patient Fund and were asked to participate in the survey. We explained the survey’s purpose, methods and ethical considerations. We asked them to fill the questionnaire; also we answered unclear questions, explained concepts and gave instructions how to fill in the questionnaire file.

One female student, who had experience with interviewing people before in University’s student research circles, observed my face-to-face interviews and later she participated in data collection interviewing foreigners. After the first five interviews we tested the answered questionnaires in order to avoid risk of misunderstandings. Then we printed out questionnaire and prepared fifty questionnaire files. We interviewed only well-off foreigners in a randomized way but involved the selection of them according to demographic characteristics such as age and sex. We interviewed foreigners in State Patient Fund, Vilnius VIC monthly meetings and Kaunas University, which we purposeful visited in November 2004. The mentioned female student interviewed foreign students, who studied together with her according to ERAMUS exchange programmes in Vilnius University; she also interviewed their foreign friends from other University faculties during the breaks in conferences, seminars or lectures. She asked the foreign students as well as teachers from French and German cultural centres in Vilnius to answer the questionnaire. All questions were filled in by foreigners using face-to-face interview. All foreigners from Europe responded. We evaluated foreigners health behaviour (smoking, alcohol consumption, physical activities) also in discussions we compared it with Lithuanian population in general.

The Ministry of Social Affairs and Labour and the Department of Statistics provided us with the number of foreigners, who worked and lived in Lithuania in 2004 year and their distribution according to age and sex. As the target population was small and it was impossible to get a list of well-off foreigners with personal data, we used non-probability (convenience) sampling (Hair *et al.* 2003). The degree to which the sample could be representative of the defined target population depended on sampling approach and how well the researcher executed and controlled the selection activities (Drano and Brewer 1986). As this essay was about public health and usually health behaviour factors were distributed according age and sex, in our sample we applied the same

proportion of sex and age, which we received from the Department of Statistics. This method involved the selection of foreigners in a randomised way but according to demographic characteristics such as age and sex. An element in our study was an adult (aged 18-65) well-off foreigner, man or woman, who came from the west part of Europe or Israel and lived or worked in Lithuania for minimum three months. The sample size was calculated using non-probability sampling method, which said that the calculated sample size should be from two to five percent of the population. Since the population size was rather small, this method required to use a finite correction factor for final determination of sample size. This formula for the finite correction factor was: $\sqrt{(N-n)/(N-1)}$,

where: N = Known (or given) defined target population size

n = Calculated sample size using the original sample size formula.

Initially we knew that in 2004 in Lithuania there were two thousand foreigners from the west part of Europe and Israel. As the target population was rather low, the determination of sample size was based on experience and judgement from past studies on lifestyle, carried out by V. Grabauskas and co. in Lithuania and amount of available resources as well. Sample size was 50 foreigners (2.5 percent of a population), target population was 2000 well-off foreigners. We took sample size and divided it by population size. So, $(2000 - 50) / (2000 - 1) = 0.9754877$, we extracted the square root of this number = 0.9876678. Now multiplying the initial sample size estimate (50 foreigners) by the correction factor 0.988, we realized that the number of elements needed in our study was from 49 foreigners. We rounded it up to nearest number and received final sample size of 50 foreigners. In those cases where it is determined that the defined target population size is 500 elements or less, we strongly advocate that the researcher do a census of the population elements rather than worry about estimating correct sample size (Hair *et al.* 2003).

The determination of the final necessary sample size was usually a subjective, intuitive judgment made by the researcher based on either past studies, industry standards, or the amount of resources available. Regardless of the method used, the sampling results cannot be used to make statistical inferences about the true population parameters of interest. The best that can be offered are preliminary insights into the defined target population parameters (Hair *et al.* 2003). This method is widely used in marketing research in USA.

4.3. Data analysis

Data entry and analysis was done using Microsoft Office Excel 2003 software available at Lithuanian State Patient Fund and Vilnius University Faculty of Economics. Data was analysed using computer graphics (Robson 2002). Comparison was made with data received in Health Behaviour survey carried out in 2002 (Grabauskas *et al.* 2002).

4.4. Ethical considerations

Every participant was introduced to the survey purpose and methods. Volunteers were involved in the survey. Instruments sustaining threat to people health or life were not used. Agreement from the Ethical committee was not required.

5. Results

We studied 50 adult foreigners who lived and worked more than three months in Vilnius and Kaunas cities. The main socioeconomic characteristics of foreigners were investigated by sex, age, marital status, occupation and country of origin characteristics. In our sample we found 53 percent of females and 47 percent of males. (Diagram 1. Distribution by sex). Figure 2 shows that 60 percent of all investigated foreigners were young persons 18-24 years old, 20 percent of the group were middle aged foreigners of 25-44 years and the rest 20 percent of foreigners were 45 years old and more (Diagram 2. Distribution by age). Figure 3 revealed that 72 percent of respondents were single, 19 percent of foreigners were married and the rest nine percent of the group were divorced (Diagram 3. Distribution by marital status). Figure 4 indicated that 40 percent of investigated foreigners were students, 32 percent of all respondents came for business purposes and other kind of work and other 28 percent of comers were voluntary workers in health care and social sectors (Diagram 4. Distribution by occupation and purpose for migration to Lithuania). Figure 5 demonstrated that 35 percent of the sample group came from the Netherlands, 28 percent of foreigners arrived from Germany, 11 percent were from England and 11 percent came from Israel (Diagram 5. Distribution by country of origin).

Fig. 1. Health behaviour and migration as risk factor among adult foreigners in Vilnius and Kaunas cities. Distribution by sex.

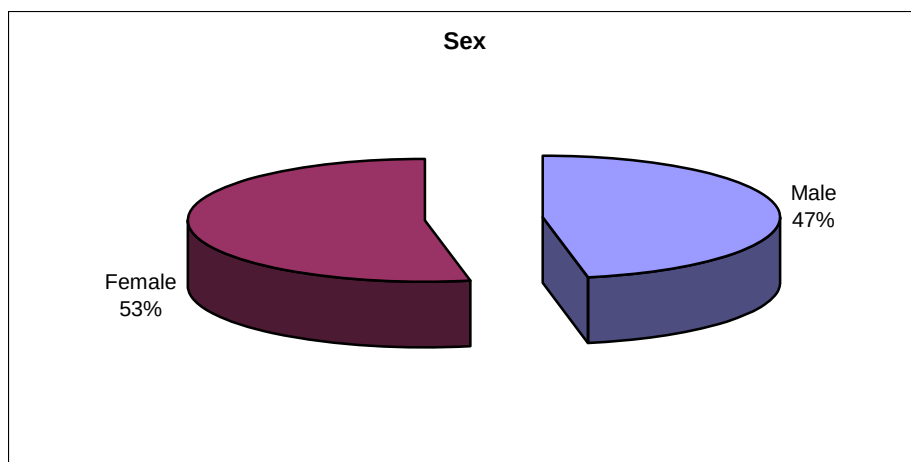


Figure 1 showed that there were 53 percent of females and 47 percent of males among investigated foreigners.

Fig. 2. Health behaviour and migration as risk factor among adult foreigners in Vilnius and Kaunas cities. Distribution by age.

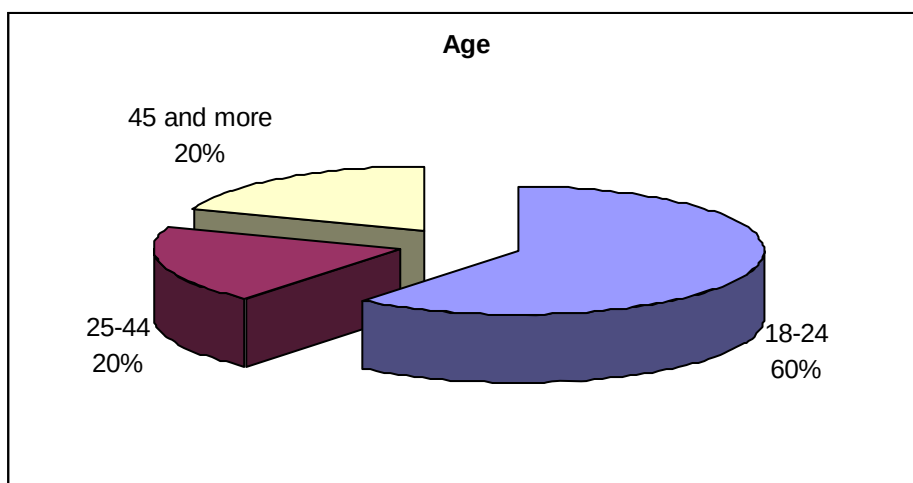


Figure 2 showed that 60 percent of all investigated foreigners were young persons from eighteen to twenty four years old, 20 percent of the group were middle aged foreigners of age from twenty five to forty four years and the rest 20 percent of foreigners were forty five years old and more.

Fig. 3. Health behaviour and migration as risk factor among adult foreigners in Vilnius and Kaunas cities. Distribution by marital status.

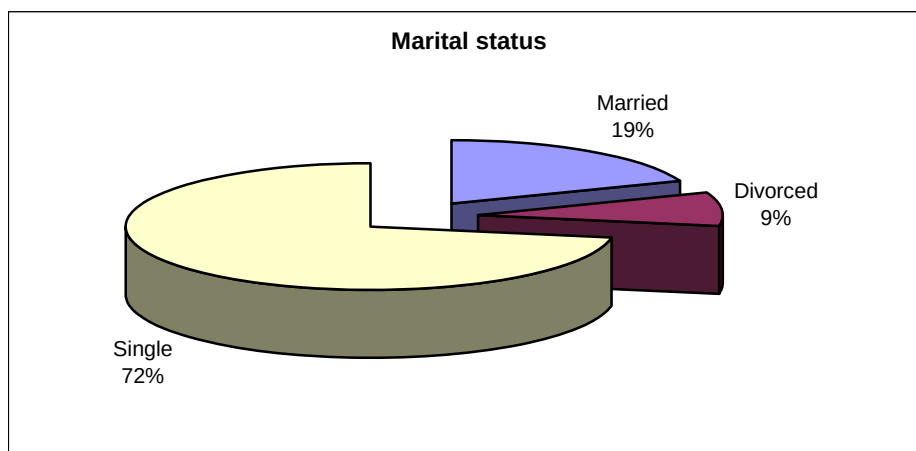


Figure 3 revealed that 72 percent of respondents were single, 19 percent of foreigners were married and the rest 9 percent of the group were divorced.

Fig. 4. Health and migration as risk factor among adult foreigners in Vilnius and Kaunas cities. Distribution by occupation and purpose for migration to Lithuania.

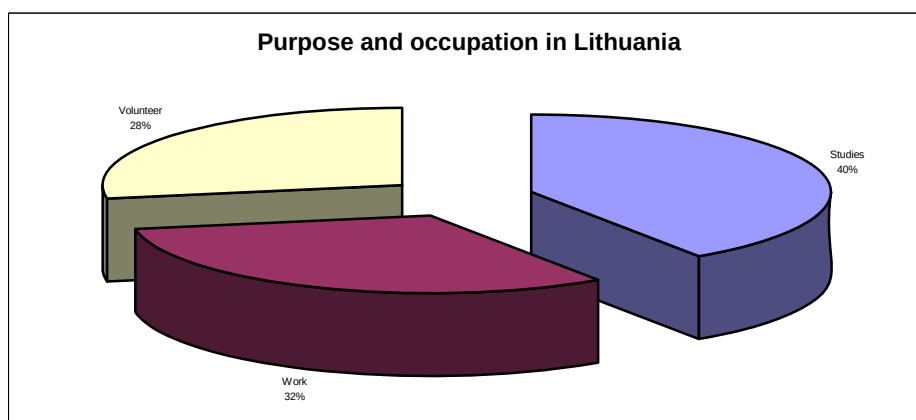


Figure 4 indicated that 40 percent of investigated foreigners were students, 32 percent of all respondents came for business purposes and other kind of work and other 28 percent of comers were voluntary workers in health care and social sectors.

Fig. 5. Health behaviour and migration as risk factor among adult foreigners in Vilnius and Kaunas cities. Distribution by country of origin.

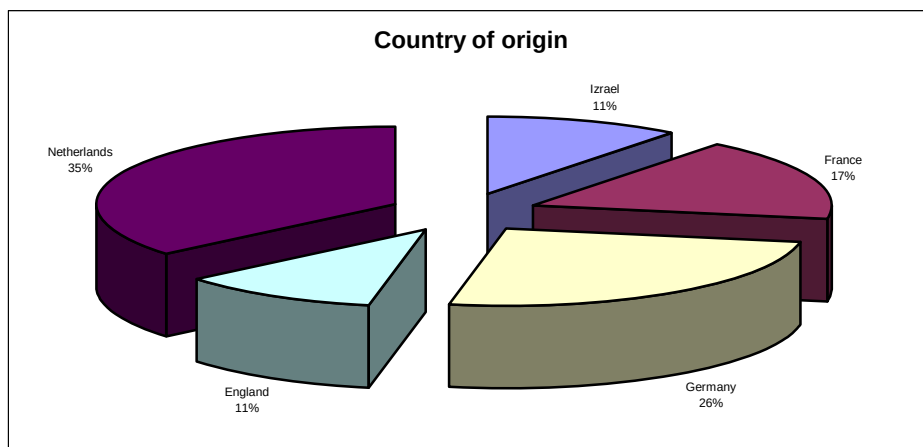


Figure 5 demonstrated that 35 percent of sample group came from the Netherlands, 28 percent of foreigners arrived from Germany, 11 percent came from England and 11 percent were from Israel.

Fig. 6. Health behaviour and migration as risk factor among adult foreigners in Vilnius and Kaunas cities. Assessment of own health status.

Rates: 1 – Poor; 2 – Rather poor; 3 – Average; 4 – Reasonably good; 5 – Good

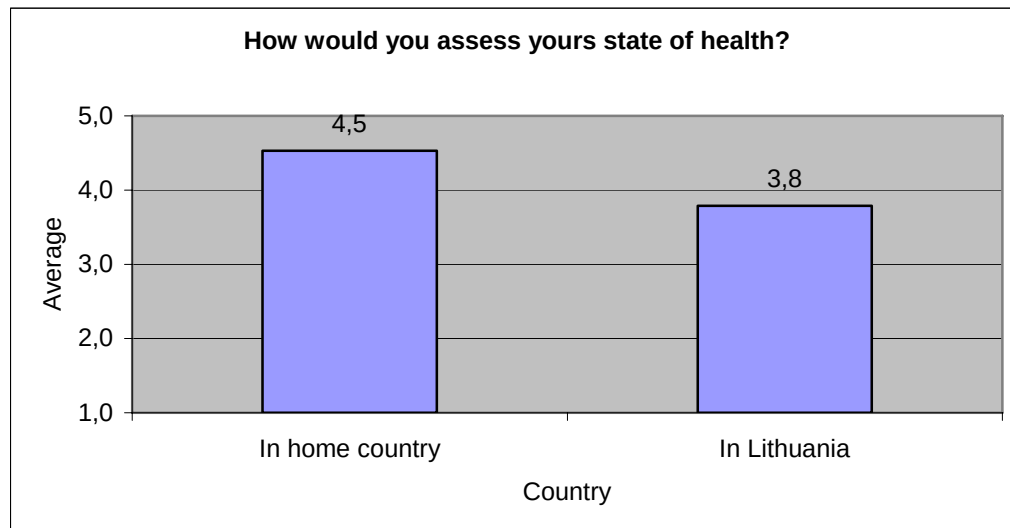


Figure 6 revealed that the rate of subjective health of foreigners from the sample group was high and reached 4.5 in average in home country. In Lithuania foreigners' subjective health was 3.8 in average.

Fig. 7. Health behaviour and migration as risk factor among adult foreigners in Vilnius and Kaunas cities.

Incidence of some diseases (treated or detected by doctor) during the last 6 months.

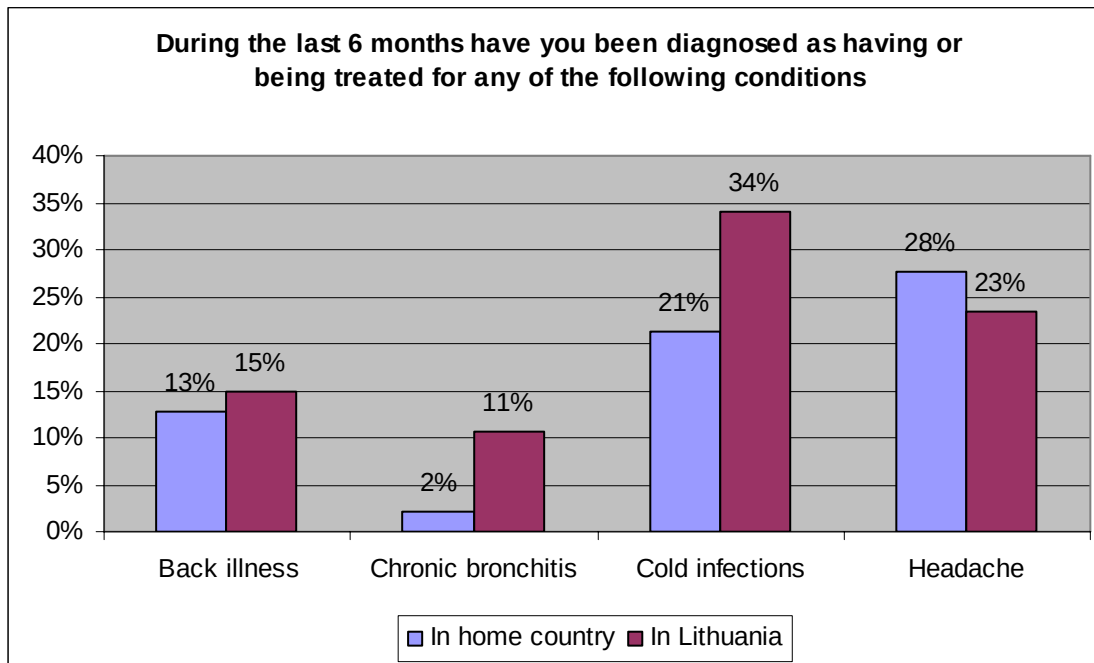


Figure 7 showed that 13 percent of foreigners suffered from back pain in their home country and in Lithuania 15 percent of them got those symptoms. Among respondents 2 percent had chronic bronchitis at home and 11 percent of foreigners became sick with this disease in Lithuania. Among sample group 21 percent had cold infections at home and 34 percent caught cold infections in Lithuania. Among respondents 28 percent had migraine in their home country and in Lithuania 23 percent of investigated foreigners developed migraine.

Fig. 8. Health and migration as risk factor among adult foreigners in Vilnius and Kaunas cities. Proportion of smokers and non smokers.

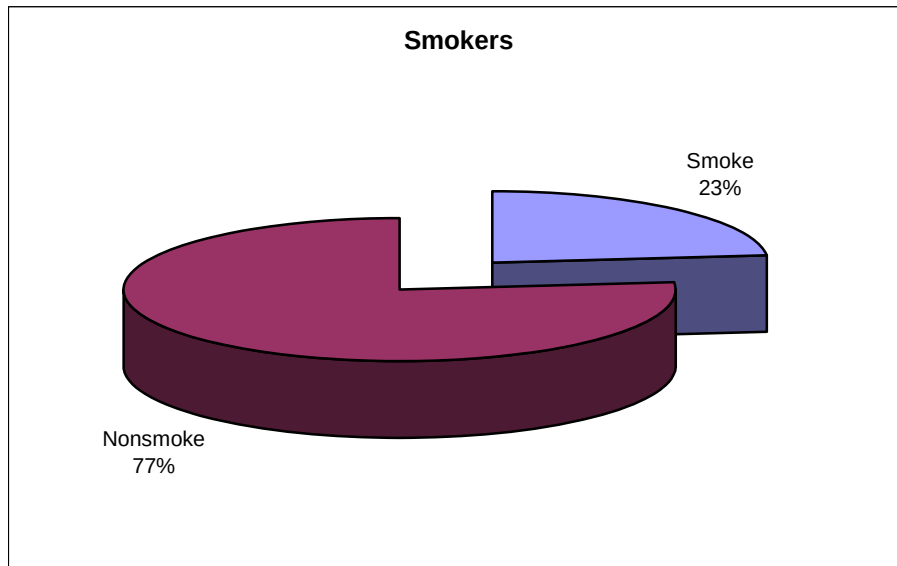


Figure 8 presented that 77 percent of investigated foreigners were non smokers and the rest 23 percent were smokers. There was no difference from the results in home country and in Lithuania (not shown in diagram).

Fig. 9. Health behaviour and migration as risk factor among adult foreigners in Vilnius and Kaunas cities.
Proportion of persons exposed to tobacco smoke at least one hour daily at work.

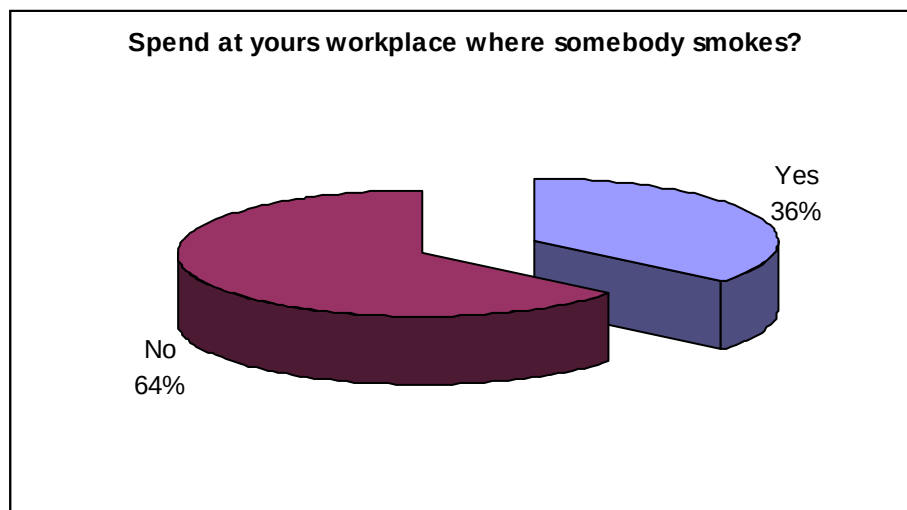


Figure 9 demonstrated that 36 percent of foreigners spent at least one hour at workplace where somebody smoked. The rest 64 percent of foreigners were not exposed to tobacco smoking area at workplace. There was no difference from the results in home country and in Lithuania (not shown in the diagram).

Fig. 10. Health behaviour and migration as risk factor among adult foreigners in Vilnius and Kaunas cities.
Amount of alcohol consumed per week (%).

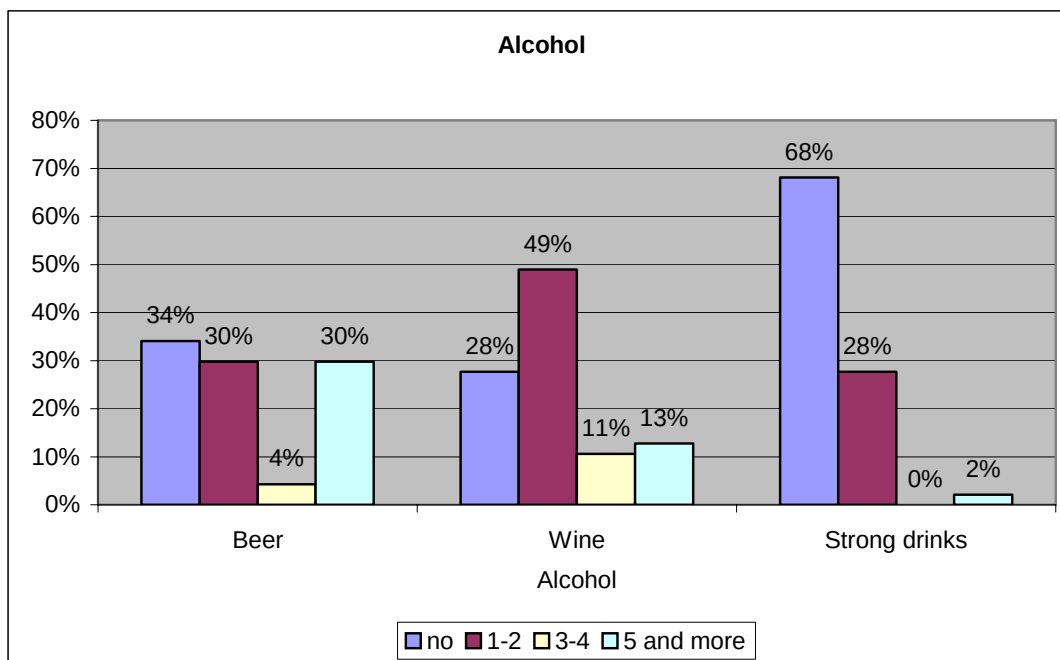


Figure 10 pointed out that 34 percent of investigated foreigners were not drinking beer at all, 30 percent of respondents used one or two bottles of beer per week, 4 percent of foreigners used three or four bottles of beer and the rest 30 percent of comes were drinking more than four bottles of beer per week. We showed that 28 percent of foreigners did not use any wine, 49 percent took one or two glasses of wine per week, 11 percent had from three to four glasses of wine and 13 percent consumed more than five glasses of wine per week. We pointed out that 68 percent of comers did not use strong drinks, 28 percent of foreigners took one or two drinks per week and 2 percent of respondents had more than five drinks per week. There was no difference from the results in home country and in Lithuania (not shown in the diagram).

Fig. 11. Health behaviour and migration as risk factor among adult foreigners in Vilnius and Kaunas cities.

Proportion of persons according time spent on walking or cycling to and from work per day (%).

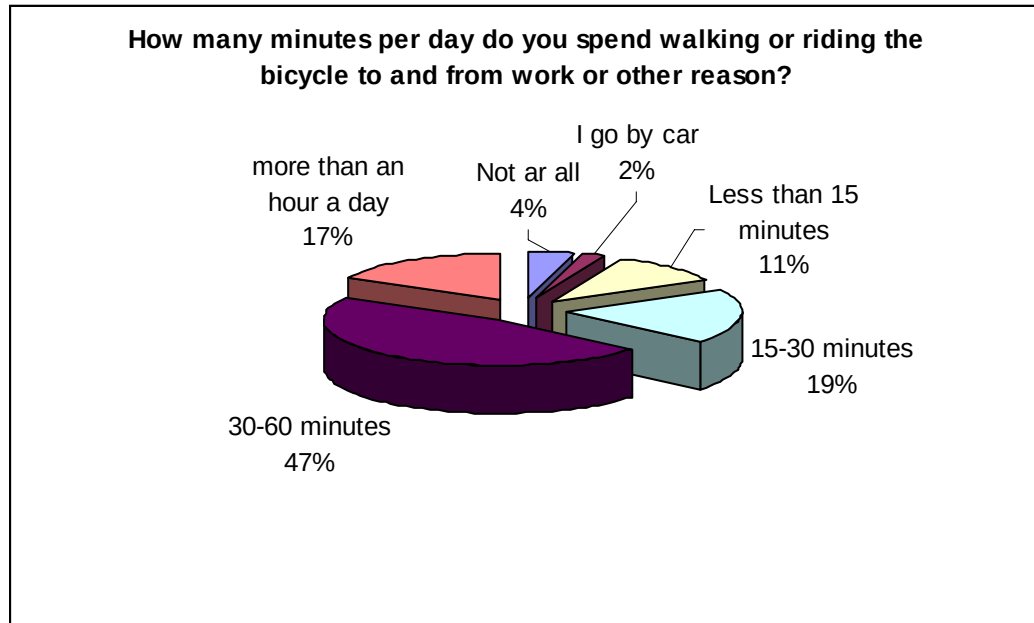


Figure 11 showed that 47 percent of all investigated foreigners were walking from 30 to 60 minutes per day, 19 percent of respondents spent from 15 to 30 minutes per day for walking, 17 percent of people from sample group walked more than an hour per day, 11 percent of rest foreigners used less than 15 minutes per day for walking, only four percent of respondents did not spend any time for walking per day and two percent of foreigners went to and from work by car. There was no difference from the results in home country and in Lithuania (not shown in diagram).

Fig. 12. Health behaviour and migration as risk factor among adult foreigners in Vilnius and Kaunas cities.

Proportion of persons according leisure- time physical exercise lasting at least half an hour (%).

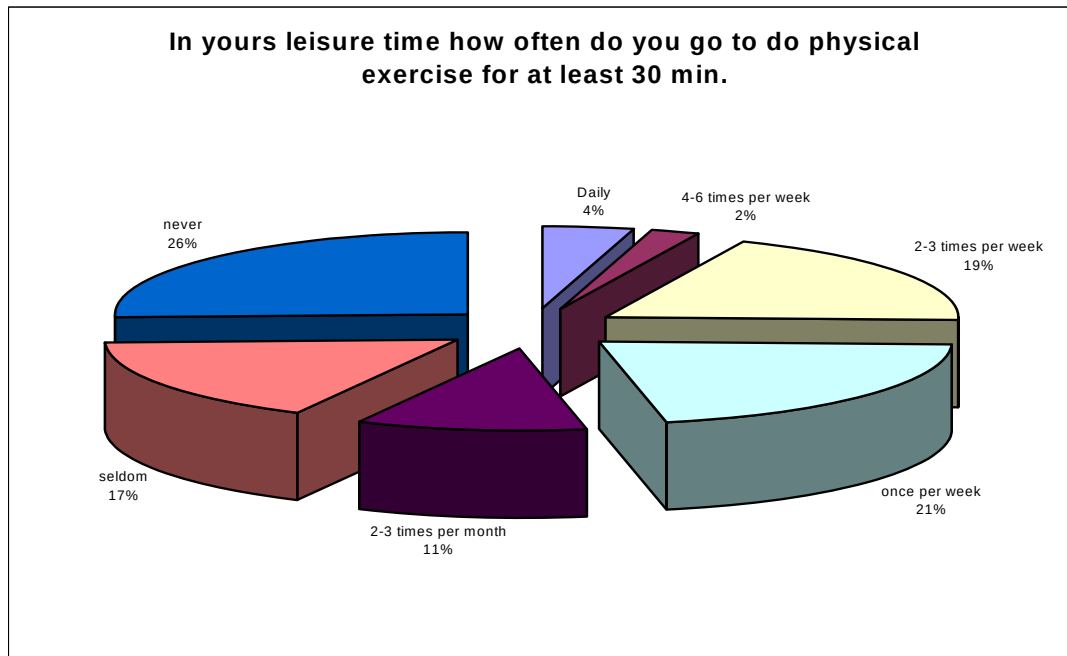


Figure 12 revealed that 4 percent of all questioned foreigners were doing physical exercise for at least half an hour daily, 2 percent of respondents exercised from four to six times per week, 19 percent of comers had physical exercises two or three times per week, 21 percent of foreigners practiced once per week, 11 percent of respondents went into training two or three times per week, 17 percent of migrants seldom had workouts and 26 percent never had taken any exercise. There was no difference from the results in home country and in Lithuania (not shown in diagram).

Fig. 13. Health behaviour and migration as risk factor among adult foreigners in Vilnius and Kaunas cities.

Proportion of the most important risk factors, which in foreigners opinion may affect their health after migration to Lithuania (%).

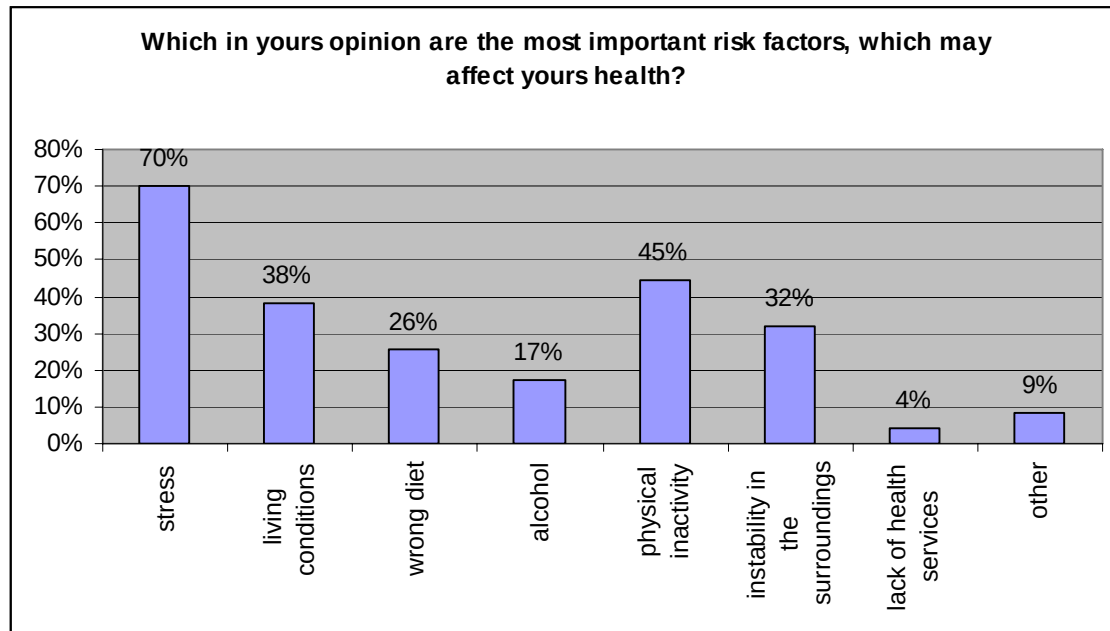


Figure 13 pointed out that 70 percent of all investigated foreigners were exposed to long lasting stress after migration to Lithuania, 45 percent of respondents suffered from physical inactivity, 38 percents of people had worse living conditions, 32 percent of comers confronted with instability in surroundings, 26 percent of migrants suffered from wrong diet and 17 percent of comers developed increase of alcohol consumption. Nearly all foreigners indicated more than one factor which affected their health after the migration to Lithuania.

6. Discussions

The presented study was done by Danute Kucinskiene, MD, the International and EU Integration Department of the State Patient Fund of the Republic of Lithuania under supervisor Ina Borup, DrPH at NHV. The results of our study and the picture of Lithuanian population's life style in 2002, done by Dr. V. Grabauskas (Grabauskas *et al.* 2002) increased the understanding of motivations for health hazard behaviour i.e. smoking, alcohol consumption and physical inactivity.

In this essay the data from 34 questions were analyzed. There was a bit more females than males among migrants in Lithuania. The biggest part of them was young people, single ones, mostly students and voluntary workers in health care and social sectors. A bit more than a third part of the group consisted of "white-collar" workers with a university degree, whose incomes were higher than average income of Lithuanian people and who came to Lithuania for economical reasons and worked as consultants, experts or managers in the international projects or in the international business

enterprises. Foreigners' age and marital status motivated their migration. It was easier to take decision to go to live and work abroad and to change the way of life on basis of better economical reasons when you were alone (single or divorced), young and eager to learn more about unknown countries. Better-off foreigners were from Netherlands, Germany, UK, France and Israel. Although foreigners were found random, the distribution of comers from those countries was unusual and it did not correspond with the population size of the state. Persons from mentioned EU countries were very active and responsive. Our department had business contacts with them in the field of health and social affairs that was why it was easy to collect the data. Israel students studying in Kaunas Medical Academy were very supportive too.

All migrants' subjective health was rather good. None of foreigners suffered from severe chronic diseases, only few of them had back illness and migraine in the past. Their social and health status, education and practical experience underpinned their success in business in Lithuania.

Though all foreigners assessed their health status as reasonably good or good in their own country, nearly all of them mentioned deterioration of it after migration. The worsening in their own health status after migration was due to long-lasting stress, instability in surroundings, worse living conditions, lack of familiar contacts in work and living places. Increased efforts to cope with new situations, to understand new people and their way of living and working, to acquire new language skills and to integrate better and quicker themselves into new society put strains on them and weakened their immune system. Frequency in morbidity with cold infections, exacerbation of migraine and other illnesses worsened their status of health as well. The reason for the increase of incidence of cold infections was period of study. The biggest part of foreigners was examined in Autumn and Winter, when the morbidity of infections were higher than usual.

The greatest part of well-off foreigners was non-smokers. The European Union initiate the anti-smoking strategies with the aim of reducing the impact which tobacco on the health of Europe's citizens (Council of European Union. Communication on the development of public health policy in the European Community). The results from international comparative study show that the prevalence of smoking in most countries is higher in lower educated males and females, except Portugal for males and Spain, Portugal, France and Italy for females (Cavelaars *et al.* 2000). The long lasting prohibition of tobacco advertising in print media and broadcasting (Directive 2003/33/EC) as well as information of maximum yields for cigarettes and compulsory warnings: "smoking kills" (Directive 2001/31/EC) protect the public against the harmful effects of smoking. The greatest part of foreign students in Lithuania was non-smokers as well. It resulted from their habits brought from home country where improved tobacco control, with particular emphasis on the prevention of smoking among children and adolescents, had been implemented (Council Recommendation 2003/54/EC). More than half of better-off foreigners were not exposed to tobacco smoke daily at work neither in Lithuania nor in home country. This showed the contribution to the improvement in the health and quality of life of citizens within the Community by adopting anti-smoking measures and protecting the right to health of non-smokers (Resolution of the Council on 18 July 1989). In our survey this category of foreigners with non-smoking habits was a role model for the Lithuanian population.

The alcohol consumption of the majority of the investigated well-off foreigners and foreign students was low or moderate. There was no difference of consumption of

alcohol in Lithuania and in home country. They kept their drinking habits after migration. It is well- documented, that moderate alcohol consumption decreases the risk of cardiovascular diseases (Rimm *et al.* 1999). One third of the sample group was not drinking alcohol at all. The reason might be because of the foreigner's age and lifestyle habits, as more than half of them were young females. The alcohol consumption habits are set in childhood and adolescent period following countries traditions, which maybe influenced by community information about the dangers of alcohol abuse among young people as well as the different aspects of the problem from irregular binge-drinking to alcohol dependency among young people (Council Recommendation 2001/458/EC). Nearly two third of foreigners did not use strong drinks at all. This may be related to the implementation measures in home country of the Community strategy to reduce alcohol-related harm to health because alcohol consumption increased the risk of all-cause mortality: liver cirrhosis, alcoholism, haemorrhagic stroke, foetal alcohol syndrome, etc. and the level of alcohol-related morbidity in general (Council Conclusions of 5 June 2001). There was no heavy drinkers among respondents. The main difference in drinking habits between better-off foreigners and Lithuanian population was the existence of heavy drinking culture in the workplace of Lithuania. Within this culture, drinking was a normal part of work life, and served to improve social relationships, reduced boredom and dissatisfaction, and expressed solidarity in defiance of management rules and working conditions (Stankunas 2004). Membership in this subculture was most important for those men who has no interest or social involvements outside the workplace. Factors that predict involvement in the heavy drinking subculture according to Dregval *et al* (1997) was: socio-cultural background where male heavy drinking is the normative, lack of extra work social resources, and leisure activities restricted to co-workers and work related contexts. So, the drinking habits of investigated foreigners could serve as role model for Lithuanian population who used more strong drinks and irregular bridge drinking (Dregval *et al.* 1997).

Physical activity is an integral part of a healthy lifestyle (European Commission. Health strategy 2000). For this reason, learning to enjoy sport and physical activity at school and during leisure time, as well as starting education about healthy living at an early age, is of the utmost importance. The data from Harvard Alumni Health Study shows that total physical activity and vigorous activities strongly reduce cardiovascular diseases risk and this risk decreases with increasing time per episode spent on sports or recreational activity (Lee *et al.* 2000). In our study more than half of foreigners were spending nearly an hour on walking or cycling to and from work per day. It could be like a role model for Lithuanian population because walking or cycling to and from work was unusual habit for Lithuanian population (Klumbiene *et al.* 1997). Our study showed that only a few well-off foreigners spent their leisure time doing physical exercises for at least 30 minutes daily and nearly half of them on regular basis per week. The situation in Lithuania was worse: more than a half of adult population was not physically active on regular basis (Grabauskas *et al.* 2002). The reason could be that gyms and fitness clubs were too expensive for Lithuanian persons whose incomes were much lower than the foreigners. Otherwise, there were many physical activity forms free of charge. Discussing about physical activity was necessary to stress the influence of cultural factors, Lithuanians were rather passive. The increased physical inactivity throughout Europe, which is associated with the rise of obesity prevalence rates, becomes a worrying phenomenon. To fight against this danger, the Commission set up

an EU platform on Diet, Physical Activity and Health (Commission Green Paper on promoting healthy diets and physical activity 2005).

Nearly all better-off foreigners in Lithuania were exposed to long lasting stress, physical inactivity and instability in surroundings after migration. They assessed decrease in their subjective health as well as increase in frequency of infection diseases after migration to Lithuania. Coping with risk factors related to migration was one of main tasks for foreigners as well as one of the main tasks in our study. According to Antonovsky (1997) coping with stress is associated with a person's dispositional orientation – the sense of coherence. The sense of coherence expresses the extent to which a person perceive the world as comprehensible, manageable and meaningful (Antonovsky 1979). The healthier lifestyle, the stronger was the sense of coherence. Aaron Antonovsky's salutogenetic concept states that sense of coherence is one of the main phenomenons of the maintenance of health. It helped comers to understand the risks for their health, to find out how to avoid them and living within long lasting stress to understand the conditions leading to the problems and to find out the ways of solving problems in the most effective and efficient way. Knowing, watching, confronting the health risks for a better health was the essence of maintenance of health in Lithuania. Our study of foreigners health determinants and migration as risk factors in itself, contributed to our understanding of the promotion and maintenance of better health in public health context.

7. Conclusions

The study showed that positive behaviour habits (scarce smoking, moderate alcohol, and dynamic physical activity) of well-off foreigners having come from wealthy society to Lithuania on basis for business, work or study purposes could act as an example of a healthier lifestyle for Lithuanian people although migration to Lithuania decreased the migrants subjective health. The proportion of smoking and alcohol consumption in Lithuanian society was higher, while physical activities lower in comparison with those of foreigners. Migration by itself appeared to be an important risk factor for health status of foreigners. The main factor related to migration to Lithuania was a long lasting stress.

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10. ATTACHMENT: Questionnaire

1. What is your gender?

- Male
- Female

2. What is your age?

3. How many times have you been in Lithuania?

- 3 months
- 6 months
- More than 6 months

4. What is your profession?

- Delegated employment from country in a managerial position
- Delegated employment from country in a servant position
- Delegated employment from country in a service position
- Representative
- Manager
- Student
- Worker
- Self-employed
- Retired
- Other

5. What is your purpose of stay in Lithuania?

- Work
- Studies
- Family/personal
- Tourism
- Other

6. What is yours family status?

- Married
- Divorced
- Single
- Widow/widower

7. Which country are you from?

8. What is your monthly income after tax per person and per family after coming to Lithuania?

		In home country in average	In Lithuania
9.	How would you assess your state of health? 1. Poor; 2. Rather poor; 3. Average; 4. Rather good; 5. Good		
10.	How many times did you visit a doctor during the last 6 months (include hospitalisation and visits to outpatient departments, do not include visits to dentists)?		
11.	During the last 6 months how many days were you absent from work or did not carry out your normal duties because of illness?		
12.	During the last 6 months have you been diagnosed as having for any of the following conditions? yes/no 1. Blood pressure; 2. Blood cholesterol; 3. Diabetes; 4. Heart attack; 5. Heat failure; 6. Angina; 7. Rheumatic arthritis; 8. Back illness; 9. Chronic bronchitis; 10. Bronchial asthma; 11. Gastritis; 12. Cold infection, 13. Headache; 14. Stress/panic attack; 15. Depression or neurosis; 16. Other		
13.	Do you smoke? yes/no		
14.	How many hours a day do you spend at your workplace where somebody smokes? Indicate categories? 1. More 5 hours;		

	2. 1-5 hours; 3. Less than 1 hour; 4. Almost never		
15.	During the last 6 months have you been advised to stop smoking by any of the following? 1. Doctor; 2. Dentist; 3. Other health care personnel; 4. Family member; 5. Other		
16.	What sort of food do you usually use for food preparation at home? 1. Vegetable oil; 2. Margarine; 3. Butter; 4. Animal fat;		
17.	How often do you prepare food at home? 1. Never; 2. A few times per year; 3. A few times per month; 4. Once a week; 5. 2-3 times per week; 6. Daily		
18.	What kind of milk do you usually use? 1. Whole milk; 2. Consumer milk (ordinary shop milk, containing about 2-3% fat); 3. Low-fat milk; 4. Skim milk; 5. No milk at all		
19.	How many cups of coffee do you usually drink per day? 1. No coffee at all 2. 1-2 cups of coffee 3. More than 2 cups of coffee		
20.	How many lumps of sugar or spoonfuls of granulated sugar do you use per one cup of coffee or tea? 1. No sugar at all 2. 1-2 spoonfuls of granulated sugar 3. More than 2 spoonfuls of granulated sugar		
21.	How many slices of bread do you usually eat per day?		
22.	How many days per week do you consume the		

	following food or drinks? 0 / 1-2 / more 3 1. Boiled potatoes 2. Fried potatoes; 3. Rise/pasta; 4. Cereals (cornflakes, porridge) 5. Cheese 6. Chicken; 7. Fish; 8. Meat; 9. Meat products (sausages, etc.); 10. Fresh vegetables; 11. Other vegetables; 12. Fresh fruit/berries; 13. Other fruit/berries; 14. Sweets; 15. Eggs; 16. Soft drinks; 17. Juice; 18. Mineral water; 19. Wine (if not relevant per week, indicate the relevant frequency); 20. Beer (if not relevant per week, indicate the relevant frequency); 21. Strong drinks (if not relevant per week, indicate the relevant frequency)		
23.	During the last 6 months have you been advised to change your dietary habits for health reasons by any of the following? 1. Doctor; 2. Other health care personnel; 3. Family member; 4. Others		
24.	How many glasses (200 ml) of the following drinks do you usually drink per week? 1. Beer; 2. Wine; 3. Strong alcohol		
25.	How often do you drink six or more portions of alcohol at once (one portion consists of one bottle of beer, a glass of wine or a restaurant-portion of strong drinks)? 1. Never; 2. Once per week; 3. Once per month; 4. Daily		
26.	During the last 6 months have you been advised to drink less for health reasons by any		

	of the following? 1. Doctor; 2. Other health care personnel; 3. Family member; 4. Others		
27.	What is your height?		
28.	What is your weight?		
29.	During the last 6 months have you been advised to reduce weight by any of the followings? 1. Doctor; 2. Other health care personnel; 3. Family member; 4. Others		
30.	How much time do you spend walking or riding a bicycle to and from work or other reason per day? 1. No time at all; 2. I go by car; 3. Less than 15 minutes; 4. 15-30 minutes; 5. 30-60 min.; 6. More than one hour a day		
31.	In your leisure time how often do you go to do physical exercises for at least 30 min? 1. Daily; 2. 4-6 times per week; 3. 2-3 times per week; 4. Once per week; 5. 2-3 times per month; 6. Seldom; 7. Never		
32.	How would you rate your fitness status at home country and in Lithuania? 1. Very good; 2. Fairly good; 3. Satisfactory; 4. Fairly poor; 5. Very poor		
33.	During the last 6 months have you been advised to increase your physical activity by any of the following? 1. Doctor; 2. Other health care personnel; 3. Family member; 4. Others		

34.	Which in your opinion are the most important risk factors, which may affect your health? 1. Stress, 2. Living conditions, 3. Wrong diet, 4. Alcohol, 5. Physical inactivity, 6. Instability in the surroundings, 7. Lack of health services, 8. Other		
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