EUROCHIP-II
FINAL SCIENTIFIC REPORT
ANNEX 12

REPORT OF
EUROCHIP-2 ACTION
IN LITHUANIA

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Introduction

Today cancer, next to vascular diseases, is the most prevalent health problem in many countries and the western world. Cancer ranks as the second most frequent cause of death in Europe; following circulatory system illnesses.

Cancer does not only concern those afflicted, but concerns the system as a whole; thus, representing a heavy burden on existing resources. Cancer treatment frequently requires interdisciplinary cooperation among experts from various fields as well as specific, and often costly, treatment. Even after their primary medical care and intervention, many patients still need out patient care and far more regular check ups for many years to come. This makes cancer treatment into a lengthy and complex task, while exerting a huge demand on available resources.

There are several projects in Europe aimed to provide information to European Commission, WHO, IARC and other institutions responsible for health care management.

EUROCHIP-1 (European Cancer Health Indicators Project), a public health project funded by the European Commission, developed a list of health indicators designed to provide comparable information about the burden, risk factors, management and outcome of cancer, in order to facilitate cancer control across Europe. The indicators will contribute to a European Health Information system. It was be noted that concerning the situation in Europe, a fully comprehensive cancer monitoring system is not yet possible with regard to the cancer indicator list suggested by EUROCHIP-1. Comparable information in various fields at the European level are still missing; for example, data on the nutrition aspects of prevention. Also in other areas, the database would have to be broadened; for example, to increase the population covered by the cancer registries in the sectors of epidemiology/cancer registration. With some other indicators, ongoing methodical work should still be achieved: such as in the area screening.

Following EUROCHIP-1 experience, EUROCHIP-2 aimed to define an organisational network of collaboration that will effectively fight inequalities in cancer in Europe through improved information and knowledge on cancer. Each of the EUROCHIP National Specialist Groups indicated specific deficiencies in cancer control that should be addressed. Arising from this analysis, each of the National Specialist Groups put forward project/s or action/s that would address one or two of these specific deficiencies. Common actions promoted by EUROCHIP-2 in various countries were: promotion of cancer registration (both in terms of new cancer registries and in terms of increasing the cancer registry role in the cancer control field), promotion of studies on collection at population level of care and treatment indicators (delay of cancer treatment and compliance with guidelines), promotion of cervical cancer screening in Eastern Europe.
EUROCHIP activities and actions in Lithuania

In Lithuania a list of actions was defined to be promoted in the EUROCHIP-2 context:

<table>
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<th>Summary of activity</th>
</tr>
</thead>
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<td>ACTION 1</td>
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<td>Evaluation of the knowledge on cervical cancer risk among high school students</td>
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<td>Assessing the barriers in the invitation system to attend the cervical cancer screening program</td>
<td>ACTION 3</td>
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<td>Estimation of the diagnosis delay in breast cancer patients</td>
<td>ACTION 4</td>
</tr>
</tbody>
</table>
ACTION 1
Collection and analysis of available data on cervical cancer in Lithuania

The Lithuania cervical cancer mortality rates within European Union in year 2004 were the highest among 25 countries.

In Lithuania a national wide cervical cancer screening programme started in July 2004. 750 000 women at age 30-60 are on the target with interval of 3 years. The goal of the prevention programme in Lithuania is to reduce the incidence and mortality rates in the country. The programme started along the routine health care system – this is a new experience on organizing the cervical cancer screening programmes.

It has advantages that the programme coverage is high – the PAP smear is offered to every woman. The primary health centers (more than 350 around the country) are responsible to join the screening programme and to implement the screening procedures. The visit of the woman to health care center in Lithuania is free of charge if she is registered on the list of the center. The system is followed by the help of State Patient Foundation and does not allow simultaneous registrations of a woman at different centers. The funds for the cervical cancer screening were allocated at State patient Fundation which is responsible to provide the reimbursement for the service. The implementation of nation wide organized cervical screening along the state insurance-based health
care system was the new and reasonable approach to setup the cervical cancer screening in the country having low health economy resources.

10 pathology laboratories around the country were certified to assess the PAP smears. According to the guidelines, the primary health care center is responsible to organize the PAP smear taking. The procedure suggested that GPs or a member of team is to be responsible to provide information to the woman about the screening programme during visits to center or at home.

An invitation system was not included in the organised screening programme for ethical and economic reasons. In the first three years almost 400 000 woman (53% target population) has been informed by GPs about the programme and 330 000 (44%) PAP smears were taken first time. As a result of the initial activity the number of the new cases has peaked-up in the year 2004. At the same time the number of cases of the preinvasive cancer started to grow. This is a very positive indicator that points out the success of the programme. Despite of positive changes of the trend in preinvasive cancer, the slow-down of new invasive cases still is not acceptable (Figure 2a and 2b).

Despite of state support of cervical cancer screening, the barriers in implementation of the screening programme still exits. The main barriers are:

a. Patient related – the lack of knowledge among Lithuanian girls on existing prevention programme and risk factors [see ACTION 2]

b. System related - the lack of centralized invitation system [see ACTION 3]
ACTION 2

High school student knowledge of cervical cancer risk factors

A link between HPV infections and cervical cancers was first demonstrated in the early 1980s. Human papillomavirus (HPV) is the most prevalent sexually transmitted infection in the world, occurring at some point in up to 75% of sexually active women (1). Although most genital HPV infections are transient and resolve without symptoms or signs of disease, a small proportion persists as chronic infection, some of which ultimately cause anogenital cancers. Several types of HPV can lead to genital warts, the most recognizable sign of genital HPV infection.

In particular, the role of oncogenic genotypes of HPV infection in causing cervical cancer (both adeno and squamous-cell cancers), the second most common cause of cancer in women worldwide, is now undisputed (2). Even less well known is that nearly all cervical cancers (99.7%) are directly linked to previous infection with one or more of the oncogenic (cancer-including) types of HPV (3,4). Evidence from molecular studies have identified mechanisms by which high risk types of HPV contribute carcinogenesis. For high-risk HPV types prevalence rates are around 8-12% in women over the age of 18-24 and decline to 2-5% in women over the age of 35 (5).

Findings in Lithuania demonstrate that the majority (31.3%) of the infected by high risk oncogenic HPV were women of 20-24 years of age (6). Despite the high prevalence and serious complications associated with HPV infection, most young women know very little about HPV (7-10). Relatively few studies have examined knowledge of HPV. Almost all are US-based surveys and most sample were only American university students.

No studies have been carried out to examine student knowledge of HPV and cervical cancer risk factors in Lithuania so far. Woman in Lithuania are more often widely informed about HIV and other sexually transmitted diseases (STD) than about HPV. Public opinion poll indicate that women in Lithuania are not well enough informed about the causes of cervical cancer. According to the results of Lithuanian residents’ survey carried out by RAIT in December of 2006, covering 1524 people, only 22% respondents knew that the cause of cervical cancer is HPV. The majority of respondents indicated that cervical cancer was caused by inappropriate life style (54.5%), others indicated that it was caused by environmental factors and inheritance (39.9%). The survey results show that about 78% of inhabitants are not aware of the causes of cervical cancer. Furthermore, not all the doctors know the reasons of this disease. More than half of Lithuanian women (51.9%) would like to have a vaccination from the cervical cancer.

The results of students’ survey covering 600 respondents from 10 Lithuanian universities showed that they are not avoiding risks in their sexual life, however they are fairly well aware of the ways of HIV is spreading. Therefore, fairly good knowledge of the sexually transmitted diseases is not
yet a motive for safer sexual behaviour, and consequently the youth is also a target group with higher risk of STD.
On the other hand, young people are more receptive to information, and they are not indifferent to their future perspectives, thus, by working with them, we can expect better results (11). Awareness and education are important prerequisites to efforts aimed at preventing the spread of HPV. Education about sexually transmitted diseases might be an effective primary prevention strategy for HPV infection and cervical cancer. It has been suggested that HPV-focused education could be more effective than other education focused on sexually transmitted diseases, because more people have experience with the complications of HPV (i.e., cervical dysplasia) than with other sexually transmitted diseases (12). Thus, this population would be more likely to retain information from an HPV-focused intervention and have a stronger motivation to improve their safe-sex practises. Comprehensive knowledge about this risk factor would allow to reduce the hazard of this disease. Cervical cancer mortality rates in Lithuania are of the highest in Europe, therefore efforts should be strengthened to reduce it. Students are the most active group in society, they are experiencing various environmental exposures, and therefore the level of their knowledge is extremely important for assessing educatory needs of other public groups as well as for playing educative role in society.

The main objective of the questionnaire survey was to evaluate the knowledge of Vilnius high school girl-students about HPV, cervical cancer risk factors, and the cervical cancer screening program in Lithuania.

**Aim**

To assess the current knowledge degree about cervical cancer risk factors among Vilnius high school students.

**Material and methods**

The self administrative questionnaire of 15 questions about HPV, its relation to cervical cancer, cervical cancer revise programmes, vaccination and their visits to gynaecologists was used for the survey. Students (687 female, 19-24 years) at Vilnius higher education institutions - Vilnius college faculty of Health care, Mykolas Romeris University, Medical and Chemistry faculties at Vilnius University were invited to take part in the survey. No information on HPV or on cervical cancer were provided for the study subjects before the fill of the questionnaire. The questionnaires were distributed in lecture hall after common lectures not related to any topic in questionnaire, 5-10 minutes was needed to fill in.

By the analysis the data was stratified in the two groups – medical and non medical and subsequent comparisons has been carried out using cross tabulated data. Differences between groups were evaluated by chi-square test and the estimates were carried out using odds ratio.
Results

The bigger part of medical students had heard about HPV before (75.2% compared to 47.1%, p<0.05) therefore this difference was statistically significant (table 1). Even more significant difference in knowledge was about oncogenic types of HPV. 57.9% medical students and 21.0% non medical students had heard about them (p<0.05). Similar knowledge level was about HPV and herpes genitalis. 61.5% of medical students and 21.3% non medical students (p<0.05) (table 1) answered positively about their association. There was a difference in students’ knowledge about the causes of cervical cancer. 50.4% of respondents suggest that HPV is the most important cause of the cervical cancer, but this proportion is much greater in the group related to medicine – 63.3% compared to 38.4%. Respondents of the second group more frequently indicated other than HPV causes of cervical cancer. Higher awareness on cervical cancer prevention programme and the vaccination has been seen among medical students also. Table 1 summarizes positive answers obtained in the survey.

Table 1. Analysis of knowledge about HPV and associations

<table>
<thead>
<tr>
<th>No</th>
<th>Question</th>
<th>Group I (related to medicine N=330)</th>
<th>Group II (not related, N=357)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1</td>
<td>Have you heard about HPV before?</td>
<td>248 (75.1%)</td>
<td>168 (47.1%)</td>
<td>416 (60.6%)</td>
</tr>
<tr>
<td>Q2</td>
<td>Have you heard about oncogenic types?</td>
<td>191 (57.9%)</td>
<td>75 (21.01%)</td>
<td>266 (38.7%)</td>
</tr>
<tr>
<td>Q3</td>
<td>Have you heard about HPV that causes herpes genitalis?</td>
<td>203 (61.5%)</td>
<td>76 (21.29%)</td>
<td>279 (40.6%)</td>
</tr>
<tr>
<td>Q4</td>
<td>Is HPV the main cause of cervical cancer?</td>
<td>191 (57.9%)</td>
<td>75 (21.01%)</td>
<td>266 (38.7%)</td>
</tr>
<tr>
<td>Q7</td>
<td>Are you aware of prevention programme carried out in Lithuania?</td>
<td>275 (83.3%)</td>
<td>254 (68.63%)</td>
<td>520 (75.7%)</td>
</tr>
<tr>
<td>Q8</td>
<td>Are you aware about vaccination against HPV?</td>
<td>225 (68.2%)</td>
<td>162 (45.38%)</td>
<td>387 (56.3%)</td>
</tr>
</tbody>
</table>
Odds ratios were used to compare the degree of the knowledge between the groups. The estimates show the lower knowledge on main risk factors (mentioned in table 1) in the group not related to medicine (figure 1):

![Odds ratio chart](chart.png)

Figure 1. Knowledge of main risk factors of cervical cancer in the group of students not related to medicine

The medical students has recognized the HPV as main cause of cervical cancer with higher priority (63.3%, table 2).

Table 2. Knowledge of causes of cervical cancer

<table>
<thead>
<tr>
<th>What causes the development of cervical cancer?</th>
<th>Group I (related to medicine)</th>
<th>Group II (not related)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Many sexual partners</td>
<td>59 (17,9%)</td>
<td>71 (19,9%)</td>
<td>130 (18,9%)</td>
</tr>
<tr>
<td>HPV</td>
<td>209 (63,3%)</td>
<td>137 (38,4%)</td>
<td>346 (50,4%)</td>
</tr>
<tr>
<td>Familial – genetic predisposition</td>
<td>27 (8,2%)</td>
<td>64 (17,9%)</td>
<td>91 (13,3%)</td>
</tr>
<tr>
<td>Early sexual intercourse</td>
<td>9 (2,7%)</td>
<td>19 (5,3%)</td>
<td>28 (4,1%)</td>
</tr>
<tr>
<td>Other</td>
<td>25 (7,6%)</td>
<td>65 (18,2%)</td>
<td>90 (13,1%)</td>
</tr>
<tr>
<td>Total</td>
<td>330</td>
<td>357</td>
<td>687</td>
</tr>
</tbody>
</table>

Chi-test, p=<0.05
The medical students visited to gynaecologists more frequently, but the difference was not statistically significant \( (p=0.245) \) (Table 3). One in five of students do not pay visits to gynaecologist.

Table 3. Analysis of visits to gynaecologist

<table>
<thead>
<tr>
<th>How often do you pay visits to gynaecologist?</th>
<th>Group I (related to medicine)</th>
<th>Group II (not related)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Once a year</td>
<td>54 (16,36%)</td>
<td>48 (13,45%)</td>
<td>102 (14,85%)</td>
</tr>
<tr>
<td>Twice a year</td>
<td>28 (8,48%)</td>
<td>32 (8,96%)</td>
<td>60 (8,73%)</td>
</tr>
<tr>
<td>When I have gynaecological problems</td>
<td>182 (55,15%)</td>
<td>184 (51,54%)</td>
<td>366 (53,28%)</td>
</tr>
<tr>
<td>I do not pay visits</td>
<td>66 (20,00%)</td>
<td>93 (26,05%)</td>
<td>159 (23,14%)</td>
</tr>
<tr>
<td>Total</td>
<td>330</td>
<td>357</td>
<td>687</td>
</tr>
</tbody>
</table>

Chi-test, \( p = 0.245 \)

In total, almost each of next students (56,3\%) were aware about vaccination – the proportion was higher in the group related to medicine (69,2\% compared to 45,4\%, \( p<0.05 \)). Vaccines are now offered though they are relatively expensive for the Lithuanian population and are not compensated by the government. The point of view of the students on vaccination in both groups was similar – the majority of respondents would like to get vaccinated if expenses will be covered by state, the groups’ opinion about vaccination was not different \( (p=0.350) \).

Recently much attention is paid to vaccination as a new method for cervical cancer prevention. At the moment the vaccination can enhance the success of the efforts against cervical cancer, but the organized programme using conventional Pap smear will remain vital for the future decades. It was important to know whether the knowledge about the prevention programme and vaccination is the same. After comparing the responses it was found out that the knowledge is favour of the programme, thought the students in both groups knew less about vaccination than about the prevention programme \( (OR=0.43 \text{ and } OR = 0.38 \text{ accordingly}) \) (Table 4).

Table 4. Comparison of vaccination and prevention

<table>
<thead>
<tr>
<th></th>
<th>Medics</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Are aware</td>
<td>Are not aware</td>
</tr>
<tr>
<td>Vaccination</td>
<td>225</td>
<td>104</td>
</tr>
<tr>
<td>Programme</td>
<td>275</td>
<td>55</td>
</tr>
<tr>
<td>OR= 0.43 (0.29 -0.63)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The bigger part of students were aware of the prevention programme (75.7%), medical students’ knowledge was even greater and reached 83.3%. The understanding of the attitude to the vaccination is essential in order to help to fight the highest in Europe cervical cancer mortality rates. It is extremely important to increase the knowledge of women about HPV and cervical cancer risk factors, and that would facilitate their participation in the screening program.

Table 5. Analysis of the will to get vaccinated against HPV virus

<table>
<thead>
<tr>
<th>Would you like to get vaccinated against HPV virus?</th>
<th>Group I (related with medicine)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>57 (17.27%)</td>
<td>135 (19.65%)</td>
</tr>
<tr>
<td>If it were compensated by the government</td>
<td>235 (71.21%)</td>
<td>473 (68.85%)</td>
</tr>
<tr>
<td>No</td>
<td>38 (11.52%)</td>
<td>78 (11.35%)</td>
</tr>
<tr>
<td>Total</td>
<td>330</td>
<td>687</td>
</tr>
</tbody>
</table>

Chi-test, $p = 0.350$

11% of the respondents would not like to get vaccinated (Table 5).

**Discussion**

This is the first survey on knowledge and attitudes about HPV infection and cervical cancer among young women in Lithuania. Our results show that little is known about these health issues among non medical students. Knowledge on HPV as cervical cancer risk factor (83.3%) and on the cervical cancer screening programme (75.2 %) was good among medical students. In contrary, the group knowledge about the oncogenic HPV types(57.9%) and HPV that causes herpes genitalis (61.5%) is not satisfactory.

Knowledge about HPV was low among non medical students- more than half (52.9%) never heard about HPV before, four in five (78,4%) never heard about genital warts. Knowledge about HPV on cervical cancer risk factors was not sufficient, i.e. 78.9 % respondents were not aware about oncogenic HPV types and only 38.38% of them recognized the HPV as a main cause of cervical cancer, also. The results are similar to those of the survey carried out by Moreira et al (13)- among 204 women aged 16-23 years, attending a public clinic, 67% did not know that HPV can cause cervical cancer . Tiro et al. (14) analyzed cross-sectional data from women ages 18 to 75 years old responding to the 2005 Health Information National Trends Survey ($n = 3,076$). Among the 40% of women who had ever heard about HPV, less than 50% knew it caused cervical cancer; knowledge that HPV was sexually transmitted and caused abnormal Pap tests was higher (64% and 79%, respectively).
Medical student’s knowledge about HPV was quite satisfactory and significantly better than that of non medical students. Fortunately, the majority of study participants (85.3%) realized that HPV could be sexually transmitted. The surveys carried out by Ingledue et al. in 2004 and by T.Denny-Smith et al. in 2006. Ingledue et al. (15) have found that risky behaviour, lack of STD knowledge, and avoidance of preventive care-including a Pap test are responsible for the high incidence of HPV among college women. All these findings suggest that lack of knowledge and education is partly responsible for the spread of STD infections. T.Denny-Smith et al. (16) has demonstrated that study participants who take annual Pap tests possessed higher knowledge of HPV and cervical cancer than the group that had never had a Pap test.

Baer et al. 2000 (17) anonymous survey of all first year students at a private university. Found that 95.4% of females had heard of genital warts, but only 11.6% of them knew that HPV caused genital warts. In our study 40.6% of respondents knew that HPV could cause genital warts. Another previous study by Lambert 2001 (18) was made up of questioning 60 physician assistant and psychology students that were attending a private college in upstate NY. A questionnaire was administered to test the knowledge of HPV and other STD. Participants were given a brief HPV-focused educational intervention, then they were retested 3 months post-intervention. Pre-intervention, 45% of the HPV questions were answered correctly compared with 79% post test. Knowledge of other STD did not change post test. This study showed a lack of knowledge of HPV among college students. However, a brief HPV-focused educational intervention was effective in increasing knowledge of HPV infection.

Considerably, more HPV education is needed in Lithuania, particularly among young adults, HPV-focused educational interventions could therefore be effective for primary prevention of all sexually transmitted diseases, as well as cervical dysplasia and cervical cancer.

Women need to understand the link between human papillomavirus (HPV) and cervical cancer in order to make appropriate, evidence-based choices among existing prevention strategies (Pap test, HPV DNA test, and HPV vaccine). Assessment of the public’s knowledge in nationally representative samples is a high priority for cervical cancer control (14). Caution must be exercised when drawing conclusions beyond our sample, as it was not representative of Lithuania population, being younger and more educated.
Conclusions

1. The bigger part of medical students had heard about HPV before (75.2% compared to 47.1% of non-medical, p<0.05). The knowledge about HPV of Lithuanian students is similar to those studying in other countries, nevertheless the knowledge about HPV infection among the students of non-medical faculty is not satisfactory.

2. 50.4% of respondents suggest that HPV is the most important cause of the cervical cancer, but this proportion is much greater in the group related to medicine – 63.3% compared to 38.4%. HPV-focused educational interventions are needed for the primary prevention of all sexually transmitted diseases, as well as cervical dysplasia and cervical cancer. Students need to be educated for better understanding the links between human papillomavirus (HPV) and cervical cancer.

3. The point of view of the students on vaccination in both groups was similar – the majority of respondents would like to get vaccinated if expenses will be covered by state - the groups’ opinion about vaccination was not different (p=0.350). 11% of the respondents would not like to get vaccinated. Strategies for communicating accurate information about HPV transmission, prevention, and detection as well as risk of cervical cancer are needed in Lithuania, particularly among young adults in order to make appropriate, evidence-based choices among existing or planned prevention strategies (Pap test, HPV test, HPV vaccines).

Authors are very grateful for Eurochip-2 support for this study.

References


ACTION 3
Assessing the barriers in the invitation system
to attend the cervical cancer screening program

The EUROCHIP Lithuanian study group suggested that the lack of centralized invitation system should be one of the main barriers to reach the higher attendance rates in the cervical cancer screening programme. Two surveys were organized to study the evidence and the benefits of the centralized invitation system.

Two municipalities has been selected to test the possibilities of introduction of centralized invitation system:

- Municipality A: Invitation mailed to the woman with information to visit the primary health care center (approx. 3500 woman are on the target).
- Municipality B: Invitation mailed to the woman with detailed information on cervical cancer and the major risk factors. The mailing was supported by the information campaign by volunteers. More than 800 invitations were distributed by mail and help of nurses in February – March, 2007:
  - woman who not participated in the program since June 2004 were on the target
  - 560 women living in the main town of the municipality were invited by mail
  - 286 woman residing in rural area were invited by the help of local nurses

Example of the invitation letters is given below (in Lithuanian language):

**KVIE TIMAS**

Kreipiamas į jus, norėdami pranešti, jog tėsiai iš 2003 metų spalio 1 dienos pradėtų Širvintų rajono moterų sveikatos patikrai, kurių gimdomasakas patologiškos išaiškinimo 2004 m. liepos mėn. Lietuvos Vyriausybės sprendimu leisti patikrai skyrė ir Valstybinę ligoninę kasa

Kviečiamo jus atvykti patikrai į Širvintų pirminės sveikatos priežiūros centrą, iš moterių konsultacijų, kabinetas 10

**Tyrimas**

Jums bus atliktas nemokamai.

*Ką patikros atlikame, koks jos tikslas ir kodėl ji reikalinga?*

Patikros metu bus laikoma tyrinėtoja, (tepinelė) nuo gimdomasakos asmeninių ir iš kiekvieno kaukalo. Tai nesudėtinga, neskubeninga ir nekraujingo procedūra.

Municipality A invitation letter
Results

There were 700 invitations sent in Municipality A in 2006 September-December. We do not know exact number of positive response, because of lost of the team support.

For municipality B, matching the results of the year 2007 with those of the year 2006, we can see that the number of women attending the programme has increased almost twice (362 compare to 614) after the introduction of the centralized invitation system.

Figure 1: Running sum of women attending the programme
Moreover, action helped to discover more cervical pathology: the findings in selected series show the higher pathology rates (ASCUS, HSIL) among the invited woman compared to self referral (Table 1).

Table 1: Cervical pathology rates

<table>
<thead>
<tr>
<th></th>
<th>Action Yes</th>
<th>No action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>109 (93.2%)</td>
<td>358 (95.5%)</td>
</tr>
<tr>
<td>ASCUS</td>
<td>5 (4.3%)</td>
<td>13 (3.5%)</td>
</tr>
<tr>
<td>HSIL</td>
<td>3 (2.6%)</td>
<td>4 (1.1%)</td>
</tr>
<tr>
<td>Total</td>
<td>117</td>
<td>375</td>
</tr>
</tbody>
</table>

Normal- No Pathologic Change
ASCUS- Atypical Cells of Undetermined Significance
HSIL- High-Grade Squamous Intraepithelial Lesion
ACTION 4
Patient delay and associated factors in women with breast cancer

Background
In Lithuania in 2004, 24.5% (321 on 1308) of women diagnosed with breast cancer were up to 49 years old. 33.9% of breast cancer cases were diagnosed at late stage III-IV. This percentage becomes 43% when we consider patients at age before 35 [data from the Lithuanian Cancer Registry].

Study aim
We performed a survey in order to study if the patient diagnostic delay is one of the reasons why breast cancer in Lithuania is diagnosed in advanced stages.

Sample
We considered data of breast cancer cases treated at Kaunas Oncology Departments from year 1995 to 2004. Patient characteristics were:

- Age:
  - < 35 yr: 12
  - 35-49 yr: 166
  - 50 yr and more: 100
- Stage at diagnosis (cases before 50):
  - stage I: 33
  - stage II: 105
  - stage III: 27
  - stage IV: 13

We interviewed 178 patients up to 50 years.

Methods
Women were interviewed by a standardized questionnaire. The questionnaire includes questions for evaluating the effect of possible reasons of diagnosis delay, such as: residence, circumstances of cancer diagnosis, stage of a disease, comorbid conditions, family position, reproductive factors, psychosocial factors, particularities of way of life (stress at home and at work, self-assessment of level of living).
Results
- up to 1 month after personal lump detection: 26% of patients,
- between 2 and 5 months: 37% of patients
- 6 or more months: 32% of patients.
- 5% of women indicated that were not aware of the tumor in the breast [breast cancer was diagnosed on screening].

Characteristics of time periods of patient delay in presentation of breast cancer are given in the picture below (information on all study cases).

![Figure 1. Patient delay time in the study group](image)

Women up to 50 years old presented later to the physician than older women. Women who did not presented for 1 – 2 months, were more likely to delay their presentation to the physician.

Distribution of women up to 50 years of age with delay to presentation by age groups is given in the table below:

<table>
<thead>
<tr>
<th>Table. Patient delay median test.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Delay median test</strong></td>
</tr>
<tr>
<td>Less than median</td>
</tr>
<tr>
<td>More than median</td>
</tr>
</tbody>
</table>

Median test $p = 0.044$
Fig. 2. Patient delay time by age before 50 years
Many patients upon detection of the lump in the breast presented for tests in 1 – 2 months. Young patients, up to 35 years of age, delayed their presentation to GP
Factors affecting delay of the diagnosis are given in the table below.

Table 2. Factors influencing the patient delay

<table>
<thead>
<tr>
<th>Question</th>
<th>Reference</th>
<th>IRR [95% CI]</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residence</td>
<td>ural vs urban areas</td>
<td>1.48 [1.33 - 1.65]</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Symptoms</td>
<td>advanced disease vs local</td>
<td>1.35 [1.21 - 1.51]</td>
<td>0.035</td>
</tr>
<tr>
<td>Stage of the disease</td>
<td>Stage IV vs I</td>
<td>1.13 [1.09 - 1.16]</td>
<td>0.049</td>
</tr>
<tr>
<td>Contraception</td>
<td>used vs not used</td>
<td>1.63 [1.42 - 1.87]</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Endocrine disease</td>
<td>diagnosed vs not diagnosed</td>
<td>0.75 [0.65 - 0.87]</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Social status (self rated)</td>
<td>Fare vs good</td>
<td>1.13 [1.03 - 1.24]</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Income per months</td>
<td>&gt;1000 vs 500 Litas</td>
<td>0.56 [0.49- 0.65]</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Smoking</td>
<td>yes vs no</td>
<td>1.13 [0.99 - 1.28]</td>
<td>0.728</td>
</tr>
<tr>
<td>Alcohol</td>
<td>yes vs no</td>
<td>1.15 [1.08-1.21]</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Physical activity</td>
<td>yes vs no</td>
<td>0.89 [0.84 - 0.94]</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>

Non dependent prognostic factors for delay in breast cancer diagnosis were residence, education, visit to a physician, comorbidity conditions, family history of cancer. Young women (up to 35 years) living in urban areas and aware about the lump in a breast in comparison to older women of ages 35 – 39 and 40 – 49 more frequently delayed the visit to a physician. Breast cancer was more early diagnosed in women with co morbidity conditions. This indicates that more attention should be paid to asymptomatic patients and gynecologists should be more active in early breast cancer diagnosis.
Summary

Compared to developed countries, breast cancer in Lithuania is more often diagnosed in advanced stages. 1/3 of patients delay in the presentation of breast cancer for six or more months. In this group of patients lymph node metastases are also more frequently diagnosed upon the diagnosis than in other groups of patients (64% to 27-30%) and these patients have a worse prognosis. Univariate analysis indicated that more often women delayed for presentation for a lump in the breast if they were from rural areas, had local symptoms, used contraception, had no or short history of breast feeding; women who were smoke and used alcohol. Patient delay was also more often observed in women who rarely visited a physician or a gynecologist.
Multivariate analysis indicated that rare visits to the physician and gynecologist had impact on patient delay for presentation of breast. Time of delay in diagnosis of breast cancer in young women, up to 50 years of age, was 24.5 percent higher than in older women (50 years or more). In a group of women up to 50 years of age, more often delayed to present for diagnosis women of higher education, women who smoke, have higher stress at work, rarely visit the physician, have no comorbidity, and women with a family history of breast cancer. In a group of patients up to 50 years of age median time to delay is 3 months (95 proc. PI 2 – 4), but for women up to 35 years of age median time to delay was 9 months.
Time to delay was statistically significantly different in women up to 35 years of age than in goups of women of older ages: 35 – 39 years and 40 - 49 years of age (p=0,017) Time to delay was statistically significantly longer in young women with no comorbidity than in groups of women with no comorbidity of older ages: 35 – 39 years and 40 - 49 years of age (p=0.036).
Practical recommendations. Young women of reproductive age most often come to see gynecologist. Gynecologists-obstetricians must be better aware of breast cancer in young women and early diagnosis breast cancer.
SUMMARY OF EUROCHIP ACTIVITIES IN LITHUANIA

1. The national group, involved in the Eurochip, collected and analysed information on available data on cervical cancer screening programme.

2. The knowledge on cervical cancer risk among high school students was estimated. The knowledge about HPV of Lithuanian students is similar to those studying in other countries. 50,4% of respondents suggest that HPV is the most important cause of the cervical cancer. The bigger part of students were aware of the cervical cancer prevention programme (75,7%).

3. The action to show the importance of the centralized invitation system was carried out. The action demonstrated that the lack of centralized invitation system can be a barrier to attend the cervical cancer screening programme. The action has helped to discover more cervical pathology: the findings in selected series show the higher pathology rates (ASCUS, HSIL) among the invited woman compared to self referral.

4. The diagnostic delay in breast cancer patients at age before 50 years was estimated. The findings indicated that more often women delayed for presentation for a lump in the breast if they were from rural areas, had local symptoms, used contraception, had no or short history of breast feeding; women who were smoke and used alcohol. Patient delay was also more often observed in women who rarely visited a physician or a gynecologist.

5. The EUROCHIP activity was useful to analyze the cancer control indicators in the country and convert the obtained knowledge to actions.