AWARENESS OF BREAST CANCER AND ITS PREVENTION. A COMPARATIVE SURVEY AMONG FINNISH AND HUNGARIAN WOMEN

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Background

Breast cancer among women is a major public health problem all over the world. It is the most common form of cancer among women both in developed and in developing countries. It is also the principal cause of death from cancer among women globally, approximately 10% of newly diagnosed patients worldwide each year die of the disease. About 55% of the global burden is currently experienced in developed countries. Assuming that current trends in incidence rates stay constant, 2.7 million new cases can be estimated in the world by 2030.

Health care statistics suggest huge differences between the characteristics of the two countries regarding breast cancer: Among detected and treated cancer patients the share of early cases are significantly higher in Finland compared to Hungary. Participation in organized screening examinations in Finland is approximately two-times higher (almost 100%) compared to Hungary, reflecting that Finland has a much longer history and more effective public health activities in prevention than Hungary.

These favourable results are not just the consequence of higher GDP-related expenditures on health care, rather, due to better organized patients-path system within the health care system and a well-managed implementation of prevention strategies, e.g. supporting risk factor lowering possibilities; progressive primary and secondary prevention, direct and indirect health promotion and lifestyle programs. Keeping the population informed and aware of the disease characteristics and its risk factors and support publicly the opportunity for a generally healthier lifestyle result in higher participation rates in clinical examinations and screening programs, which makes the chance for an early detection of the malignant carcinomas and avoiding the majority of later stages of the disease.

Currently it is also a hot topic in public health research how people can be provided with the right information and how much their attitude and behaviour can be influenced by social media and the non-traditional ways of information transfer. The impact of information, especially non-formal information are growing rapidly and it has already reached an unexpected level, affecting the effectiveness of public health. This effect is especially remarkable in the field of health promotion and prevention as those success highly correlate with the attitude and adherence of the population.

Methods

A web-based questionnaire survey was developed at the University of Vaasa and validated both in Hungary and Finland by gynaecologists. The survey was carried out in the two countries between September 2013 – May 2014 among adult women (in Finnish[2], English and Hungarian[3] language). Demographic characteristics, lifestyle, general and cancer-specific health status (including personal and family history of breast cancer), knowledge and experience with primary prevention were covered. An internationally utilized medical risk calculator ('Your Disease Risk'[1]) was included in the questionnaire as well, in order to classify responders based on their calculated risk of breast cancer, as well as to compare those to the individual risk of the disease assumed by themselves. As knowledge and information transfer is analysed also, the questionnaire covers assessment of the magnitude of 'new-age' information sources but the traditional ways as well.

After data clearing data analysis was done by SPSS statistical software (version 20).

Results

Altogether 346 women filled in the web-based questionnaires. The Finnish and Hungarian population was similar in their baseline characteristics: mean age, mean BMI, distribution of responders in terms of their education, employment status and residence. Among the underlying medical characteristics (family history with breast cancer, previously occurred carcinomas) the two groups were also comparable.

As the first aim, presence of main breast cancer risk factors were analysed. Based on the results there is significant difference among Hungarian and Finnish population when considering the modifiable risk factors (at $p<0.05$): taking oral contraceptive, having child and breastfeeding below 30, furthermore specially in case of lifestyle-related factors, e.g. healthy nutrition and satisfying physical activity (at least daily 30 min) results showed remarkable differences between the two countries' responders. Both the existence and the awareness were assessed.

As for quality of life, visual analogue scale (VAS) was utilized and results were compared among groups. Data were analysed separately by self-estimated individual breast cancer risk. Presented results (Figure 1) show that in case the perceived individual risk was average or below average, mean VAS results were notably higher within the Finnish population, which suggests that awareness of risk factors influence the quality of life and urge the risk-lowering activities. According to Hungarian results risk self-estimation does not influence VAS results that confirms the hypothesis that lack of information can significantly influence the health-related behaviour of individuals. Self-estimation of leading a healthy life and being at risk of breast cancer also significantly differ among groups. Being at significantly higher share aware of risk factors in case of Finnish population suggests that more information and higher level of awareness has remarkable impact on individual risk perception, which directly and significantly influences the participation in prevention-related examinations.

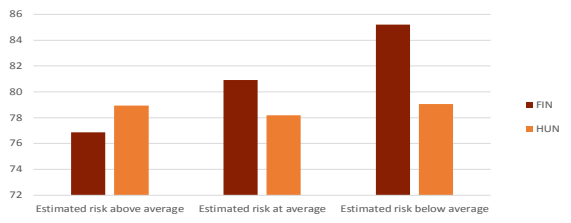

Figure 1. *Mean VAS score by individual risk estimation*

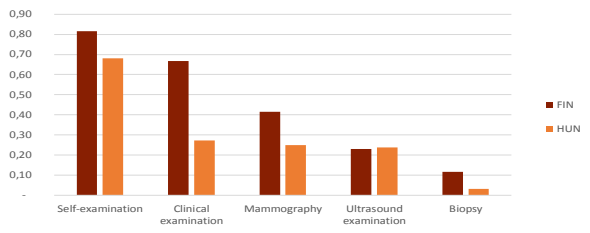

Figure 2. *Participation in examinations by type*

Figure 2 presents responders' participation in each type of examinations. As it can be seen that Finnish women attend examinations in remarkably higher share than Hungarian (statistically significant at $p<0.05$), except ultrasound examination where Hungarians participation is marginally higher.

Responders were also asked about the source of information they receive about breast cancer and its possible primary prevention opportunities in their countries. Table 1 shows that share of informal information sources are remarkably higher in case of prevention opportunities: about importance and recommended frequency of self-examination, as well as information about risk factors, included those being modifiable. Also, a huge information gap ('no information' answer) can be seen in case of modifiable risk factors and clinical examination, however being aware of their importance might increase the awareness and attitude of the possible prevention-related activities. It can be noticed in case of both countries that a notable share of information women get is informal, especially in case of importance and recommended frequency of self-examination the difference among the two countries is almost two-fold.

Source of information	Breast cancer risk factors		Modifiable risk factors		Information about self-examination		Information about clinical examination	
Country	Hungary	Finland	Hungary	Finland	Hungary	Finland	Hungary	Finland
GP office	10%	22%	3%	16%	15%	38%	2%	29%
GP consultation	1%	13%	2%	9%	3%	30%	0%	27%
Gyneacologist office	18%	18%	10%	12%	27%	34%	9%	26%
Gyneacologist consultation	18%	17%	11%	11%	32%	48%	14%	41%
Formal education (school, workplace)	18%	7%	8%	7%	27%	20%	8%	15%
Formal information material (via post, email)	3%	5%	2%	2%	4%	1%	2%	2%
Social media (blogs, forums etc)	37%	38%	25%	26%	45%	29%	15%	17%
Informal consultation (family, friends)	18%	15%	9%	9%	18%	13%	7%	7%
No information	19%	12%	37%	20%	4%	0%	40%	6%

Table 1. Source of information about breast cancer risk factors and prevention opportunities

Conclusions

This web-based questionnaire survey was part of a comparative research conducted in Finland and Hungary among adult women. Responders were similar regarding their base demographic information and medical background. Results show that Finnish women were more aware of risk factors of breast cancer and therefore attended the screening examinations in higher share, as well as conducted healthier lifestyle (assessed by in terms of physical activity, alcohol intake, smoking) that affected their self-estimated and also calculated risk level.

Medical information that women receive is at a high share from informal source in both countries, highlighting a major public health challenge, as source of information means a major impact on prevention-related behaviour. Formal education and informing by medical staff are suggested to be the most effective ways of information transfer, however magnitude of uncontrolled 'self-education' via internet and social media is increasing with a potential biasing impact on knowledge – at the same time it might offer a new and effective method for the decision-makers for influencing women's attitude.

References

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2. http://www.eSurveysPro.com/Survey.aspx?id=8dca1ad3-9b40-4727-ae6c-a01410085b2c
3. http://www.eSurveysPro.com/Survey.aspx?id=13e05d00-8273-40ed-a3f1-00ecaa09f23b

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Notes: The presented survey is part of a doctoral research at the University of Vaasa

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