

Study of Women's Motivation for Non-Utilization of Cervix Cancer Screening

PhD thesis

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Introduction

My chosen field of research is related to gynaecological screenings, which are remarkably significant in terms of general health care and public health politics. Considering the frequency of cervical cancer, it is the second most typical malignant tumour among women in the world, in Europe it takes the first place, in developing countries it takes the third place. In Hungary there have been efforts made in order to improve cervical cancer screenings for about fifty years. Although, there has been a success to decrease mortality rates in developed countries, this positive shift has not happened in Hungary yet. Every year nearly the same number of women, that is about 500, die of this gynaecological disease, thus in 2004 439 women lost their lives, which is almost the same number (484 women) as it was 33 years ago, in 1971 (Central Statistical Office 2008).

The age-related optional cervical screening was made possible by the number 51/1997. (XII. 18.) ministry order, which allowed women between the ages of 25 and 55 to attend a cervical screening annually, and for women between the ages of 55 and 65 to attend it every second year. The screening procedure was defined by the legislator as “a gynaecological, oncological screening, with special consideration towards the screening of any cervix deformation”, and gynaecological surgeries were entitled to accomplish such screenings. These screenings were ratified into national health related, organised screenings by law from 24th July, 2003. The frequency of screening was changed from 1 year to 3 years, however, the procedure remained unvaried, i.e.: *”starting from the first screening with negative results, the gynaecological, oncological cervical screening must be repeated every third year with special consideration towards the cytological study of any cervix deformation and the colposcopic study.”*(National Audit Office 2008).

My dissertation begins with presenting the conceptual schemes of health and attitudes towards health, besides discussing the most important psychological models related to screenings and introducing the international and the national cervical cancer mortality rates. Thereafter it is followed by a review of the foreign and the Hungarian cervical cancer screening programmes, and also there is a short summary about the economic rates of the Hungarian screenings. The technical literature summary is finished with the

discussion of the social, social-psychological and health-cultural factors, which influence the appearance on cervical screenings at a population and communal level.

The second part of my dissertation introduces the results of my own research related to motivation and the reasons for non-attendance on cervical screenings, which research was carried out on the basis of gynaecological screenings among women living in Zalaegerszeg and in its region from 2007 to 2008. On behalf of the comparison between the Hungarian and the international circumstances, by means of my professional contacts, I am able to present the results of the West-Australian and the German samples, where the researches were completed in a parallel way. Finally, I will make proposals on the possible fields where my results may be adopted, also considering their utilization in a preventive function.

Objectives

The most important objectives of the cross-sectional studies were as follows:

1. Analysing the social-demographic factors, which influence the frequency of participation at cervical screenings among the inexperienced female population in Zalaegerszeg, Hungary.
2. Revealing the subjective state of health of women living in Zalaegerszeg and in its region, also finding out to what extent they take an advantage of the public health services.
3. Examining the reasons for the low participation in cervical screenings and the reasons for non-attendance on organised screenings.
4. Getting to know those who do attend screenings and becoming familiar with their motivational factors that influence them to participate in screenings.
5. Collecting and comparing the social-demographic data in order to analyse the attitude towards screenings among the nurses working in the county-town (Zalaegerszeg) opposed to the Australian and German nurses.
6. Unveiling the cause and effect relations, which influence the appearance on screenings.
7. Our aim was to identify those devices that may be applied to increase the effectiveness of organised cervical screenings for the population, also offering solutions to decrease the differences in participation rates and the inequalities among the particular layers within the screened population so as to improve the

overall participation rate. Based on the results of our motivational research, our aim was to contribute to the general health and the health-economic researches and to the international comparative analyses.

Hypotheses

1. The main social-demographic indices differ significantly between women who attend and those who do not attend screenings. Women with a university degree or with a secondary school-leaving certificate have a more favourable motivational attitude compared to women with lower school qualifications.
2. The 30-49 age-group has a significantly unfavourable attitude towards cervical screenings and towards the influential motivational factors compared to either the younger or the elder age-groups.
3. Certain family-factors (marital status, more children) have negative effects on screening participation.
4. Women from the screened population, who have a private specialist, tend to appear on a screening significantly more frequently.
5. Fear, a sense of shame and the assumed or experienced pain keep away women from the screenings.
6. It is assumed that a prize-winning game or a reward does not function as a motivational factor, the major share of women refuses such kind of initiatives.
7. Not only the nurses' attitude towards their own state of health, but their regular participation in screenings can be exemplary as well, thus having an authentic health-maintaining social role.
8. The Australian nurses have a more favourable attitude towards cancer screenings than the Hungarian and the German nurses.

Methods

Sampling

Inexpert survey

Our quantitative, cross-sectional, health science, partly diagnostic, partly descriptive, partly explanatory research was carried out in Zalaegerszeg among 18-60 years old women not having any medical qualifications. Our representative survey was carried out from January 2007 to December 2008. The representative sample, containing 1000 women, which was formed on the basis of age choosing women between the ages of 15

and 60 living in Hungary while using a stratified sampling procedure. 1000 out of the 1116 questionnaires were suitable for statistical treatment, which meant 90% of the motivational questionnaires. The chosen sample was the female population from the ages of 15 to 60 years old, living in Zalaegerszeg and its region, not having any medical qualifications.

Nursing survey

The selection among the nurses was accomplished with a limited, convenience sampling method. The final sample contained 314 female workers, all having a nursing qualification ($N_{\text{Australian}}=104$, $N_{\text{German}}=99$, $N_{\text{Hungarian}}=111$).

Our survey was conducted among the Hungarian nurses in the Zala County Hospital from November to December in 2007, involving the following hospital wards: Medical Department, Surgical Department, Traumatology, Oncology, Cardiosurgery, Cardiology, Children's Surgery, Ophthalmology, Oto Rhinal Laryngology. We applied the self-administered questionnaire approach and we distributed 120 questionnaires. 111 questionnaires were returned and went under data processing, so the filling in rate was 92,5%.

The sample taking in Germany was carried out in an East-German territory (the former Democratic Republic of Germany) and in a West-German territory (the former Federal Republic of Germany) from January to December in 2008. The former sampling occurred among the nurses working for the "Stralsund Nursing Services" in the regional town of Stralsund in Mecklenburg-Vorpommern territory, while the latter sampling took place at the Frankfurt Diaconia Clinic and Bethania Hospital in Hessen territory. 120 questionnaires were posted and sent to Germany. 30 questionnaires were sent back from the Stralsund Nursing Services and 69 from the Cardiology and the Medical Departments of the Frankfurt Diaconia Clinic, which we could evaluate. Thus the rate of refusal was 17,5%. 99 questionnaires were found to be appropriate for statistical treatment.

The survey among the Australian nurses was carried out in the local hospital of North Arm (Commonwealth of Australia. Queensland territory) involving the Medical. Surgical. Maternity and Gynaecological Departments. It lasted from September to December in 2007. 120 questionnaires were sent via post. from which 104 were sent back that were also valuable statistically so the refusal rate was 13.3%.

In all three health institutes only those female workers were chosen who had a middle or higher degree of nursing qualification. The sample did not include any doctors, physiotherapists, dieticians or the administrative workers and auxiliary employees at any of the institutes.

Data Collection Methods and Materials

The questionnaires handed out to the women from Zalaegerszeg, was completed independently and anonymously. Closed and semi-open questions were applied in the sub-groups of the questionnaire containing 51 questions, also providing an opportunity for expressing individual opinions.

The different items of the questionnaire were assembled around the following question groups: social-demographic data, state of health, knowledge about the National Programme, gynaecological screenings, motivation, letter of invitation, request for informative lectures, place and atmosphere of screenings, personal opinion.

After clarifying the data received from the Hungarian, German and Australian questionnaires, there remained 42 identical questions which were evaluated in order to provide a total comparison, emphasising again the fact that the knowledge about the National Programme was only discussed in case of the Hungarian nurses.

Method of the Statistical Analysis

The data and variable tables of the SPSS for Windows 17.0 statistical programme was used for recording the data. The data analysis was completed with the help of the SPSS 17.0 statistical programme. We calculated average, deviation, frequency, odds ratio with applying a descriptive method and in cases of quantitative variables we calculated correlation. The Chi-square test was used to evaluate the connection of the categorical variables. The Cramer V contingency coefficient was applied to measure the strength of connections in cases of discrete variables. The Spearman correlation calculation was used to analyse the non-normal distributional variables. We relied on the two-tailed t test when calculating the difference between the averages of the two variables within the motivational question group. The concordance of deviation was checked with the help of Levene's F test. If the deviation was concordant in the two groups ($p > 0.05$) then the results of the two-tailed t test were considered to be relevant. In cases of differing deviations ($p < 0.05$), the results of the Welch d test were taken into account. The one-way analysis of variance (ANOVA) was also used with more groups. In order to be able

to evaluate validity, a varimax rotational (an angle of 90 degrees), main component factor analysis was accomplished. The definition of the Cronbach reliability coefficient was used to check reliability. The linear connection between the dichotomic dependent variable and the explanatory variables were examined with the help of logistic regression.

Findings

Findings of the Inexpert Survey

The average age of the observed sample is 37.72 years ($SD\pm 12.59$) in the scope of 16-59 year-olds. In terms of marital status the married status is typical (50.7%). Single women have a high rate (25.9%) as well. The common-law marriage status is the most frequent in the age group of 20-39 years old women. The rate of the divorced was 9.3% and as expected the rate of the widows increased among the 50-59 years old women. Considering the fact that the number of underage children living in a family may be influential whether to attend a screening, one of the questions was devoted to this topic. 39.4% of the respondents raise a child or children under the age of 18, however, it was also noticed that between the ages of 20 and 29 there was a high rate (72.2%) of childless women. When examining the educational background, it is noticeable that there is a high rate (56.8%) of those having a secondary grammar school or a technical school qualification. 11.6% of the women questioned have a vocational school certificate. The rate of those having a university degree is also significant (25.7%). The number of those women having only a primary school certificate is infinitesimal.

The National Programme puts great emphasis on organising the prevention and screening of malignant tumours. 84.1% of the respondents heard about the organised screening of the National Programme through television programmes (20.6%), radio programmes (20.6%) or through newspaper articles (37%). It is worth noticing that the information about the Programme given by health care workers is low, as only 22.6% of the respondents were informed about the Programme by her gynaecologist, 13.7% by a health care worker and 8.6% by her family doctor. The total lack of knowledge was present in 7.8% of the cases and 6.6% confessed that they only heard something about it but did not have any further information. On the basis of the correspondences proved by the Chi-square test ($p < 0.05$): divorced women (95%), women between the ages of 50-59 (91.4%), women between the ages of 40-49 (89.3%), active workers (87.2%), women

having a university degree (91.3%) and women having a good state of health (86.7%) heard about the National Programme at a greater percentage. On their own admission, 17.4% of the young women between the ages of 15-19, 16.4% of those having a primary school certificate and 12.7% of the single women did not hear anything about the National Programme.

85.5% of the respondents have been on a cytological screening at least once in their lives (N=855). Women having a vocational school certificate, women having a university degree, women between the ages of 30-59 (more than 90%), and the active workers have appeared on a gynaecological cancer screening at least once in their lives at a more significant percentage ($p < 0.05$).

13.8% of the responding women have stayed away from the gynaecological cancer screening so far. In this regard there is a greater attention on women between the ages of 15-19, women having only a primary school certificate, single women and women not having a labour relation (pensioners, students, women on maternity leave).

The frequency of the screening is observed by more than 90% among the women aged from 20 to 29 and from 40 to 49, by 82% among the women aged from 30 to 39, by 76.2% among the women aged from 15 to 19 and by 72.7% among the women aged from 50 to 59. Considering the marital status, women living in a common-law marriage or who are married or single tend to appear on a screening at a greater percentage within a 1 to 3 years of interval compared to divorced women (76.2%) and widows (78.9%). 14.3% of the divorced women attend less frequently than three years and 8.3% of them puts their gynaecologist's opinion forward.

A high rate of appearance can be experienced among women having a university degree (86.1%) and having a school leaving certificate (84.5%). 69.4% of women having a primary school certificate appear on the screening within the appropriate interval, but 22.2% decide on their appearance based on their gynaecologist's advice. 74.8% of women having a vocational school certificate attend a screening at least annually, but 15.5% admitted to appear less frequently.

The presence of an underage child in the family did not show a significant difference at any of the variables ($p > 0.05$). Therefore the fourth hypothesis was partly disapproved.

The average age of the first gynaecological screening is 25.79 years ($SD \pm 8.71$). The majority of the respondents (N=801) appeared under the age of 30 for the first time

(71.9%). It was surprising to find a woman in the sample who first went to a screening after the age of 50.

63.2% of the women who were questioned have a private gynaecologist, which means that they do not resort this service under the scope of governmental support. After examining the connections, it can be stated that certain groups are to choose a private gynaecologist at a greater percentage, namely these are married women (70.4%), women living in a common-law relationship (75.9%), women living in cities (67.3%), women aged from 30 to 39 (76.9%), women aged from 40 to 49 (73.5%), active workers (67.4%), and those who do "a lot" for their health (83%) and women having an underage child (70.8%). It must be emphasised that women having a private gynaecologist attend an annual screening at a more significant percentage (68.4%) ($p < 0.05$). 31.6% of women living in a village, 43.5% of women aged between 15 and 19, 48.9% of women belonging to the category of those who "do very little for their health", 50.4% of single women, 51.2% of widows do not resort a private medical attendance.

Based on the age differences, women aged between 15 and 19 have a more than six times greater possibility and women aged between 20 and 29 have a more than twofold possibility not to have been on a gynaecological screening compared to the elder generation. In terms of educational background, women having a primary school certificate have a more than fivefold possibility to stay away from a cervical screening, and women having a secondary school leaving certificate have a 2.39 times greater chance of keeping away from a cervical screening. The chance of non-appearance decreases among those women who meet their family doctor terminally compared to those who appear less frequently than every second year.

Those women, who agree with the statement that they do not appear on a cervical cancer screening because they are afraid of the discovery of some kind of an illness, have a 3.48 times greater chance of non-appearance on a screening at all during their lifetimes. Those women, who believe that they do not participate in a screening because they are not given a specific appointment, have a 4.5 times greater chance of non-appearance on a cervical cancer screening.

Certain groups of women have a smaller chance of attending an annual screening, namely those who, on their own admission, do not pay attention to their own status of

health; those who state that they do not attend the screenings because they are not given a specific appointment; those who are not interested in a reward; those who do not want to encourage their other female acquaintances to participate together in a screening and those who are not sure about or do not agree with the statement that women must attend a gynaecological screening annually.

Findings of the Nursing Surveys

89.4% of the nurses have been on a cytological screening at least once in their lives. There is a significant difference between the nursing groups and their frequency of appearance. 99% of the Australian nurses and more than 90% of the Hungarian nurses have appeared on a screening at least once in their lives. 26.5% of the German nurses, however, have never appeared on a screening.

Those who have already participated in a screening: 50.9% of them appear annually, 28.4% participates every second year, 5.8% attends every third year. The majority of the Hungarian and German nurses appear on a screening every year, and more than 50% of the Australian nurses participate every second year. This latter attitude corresponds with the requirements defined in the Australian National Programme. All three nursing groups appear on their first gynaecological cancer screening between the ages of 21 and 22.

The results of the average scores on the motivational scales appoint that the Australian sample has more significantly favourable scores in terms of the psychological factors, which indicates that fear and shyness cannot be reasons for non-appearance for them ($p < 0.05$). It is reassuring that all three nursing groups appear on a screening because they have an interest in their own status of health. None of the nursing groups are forced not to appear because of the lack of time, which is one of the factors for non-appearance, and they are willing to participate in the screening even for the inconvenience in their leisure time ($p > 0.05$). The Australian nursing sample put a greater emphasis on encouraging others for participation ($p < 0.05$). While the Australian sample would be disturbed by arranging the appointment via telephone, in this respect the Hungarian and the German nurses still prefer being informed in a letter. Both the Australian and the German sample would participate in the screening with pleasure at their workplaces, opposed to the German sample for whom the location is not important ($p < 0.05$). Although, based on the averages there is a significant difference, still for all

three nursing groups it is indifferent who is doing the screening. All three groups show an indifferent attitude towards the health care workers, it does not matter to them who does the screening.

Conclusions

I. As far as we are concerned, in Hungary there has not been carried out such type of a research, which observed the motivational appearance on screenings in a direct way among inexperienced women. In similar researches the authors have only concerned the frequency of consulting the doctor. Our research allowed us to introspect into the women's appearance on screenings and their attitude towards the screening. We have not found either an international or a national, comparative type of quantitative research, which would have observed the motivational attitudes in connection with cervical cancer screenings using the same variables, carrying the research out in different countries simultaneously. It is inevitable to continue carrying out researches in this field because of the importance of the topic. Although, the more detailed clarification is not an epidemiological problem, but rather belongs to other fields researching motivation, including special fields such as sociology, behaviourism and social sciences.

II. After having reviewed the theoretical technical literature, it can be assessed that the introduction of the organised cervical cancer screenings in the 1960s led to a notable decrease in mortality in European countries, however, the organisation of the screening programmes is different in every country. Unfortunately, the efforts made in Hungary in the last decades do not reflect in the mortality rates: 500 women lose their lives because of cervical cancer annually. At present the screening is completed on the basis of the National Public Health programme and is organised with personal invitation. Unfortunately, the programme, which was launched in September, 2003, shows an unfavourable picture. About 2 million invitational letters were posted from September, 2003 to September, 2006, however, barely 96.000 women, which is about 5% of the invited women, appeared on a screening. On the grounds of the regional data the appearance provided significant deviations (2.26-18.26%) in the counties (Kovács et al. 2007.b). In our observed population sample the appearance on cervical screenings is not so low as it is shown by the national screening coordinational data. According to our results, although not annually but 69.4% of the observed sample appeared on a gynaecological consultation within a 3-year period. Unfortunately, 13.8% has not

appeared at all. Based on social-demographic data, it can be pointed out that women from the ages of 15 to 19, women having a primary school qualification, single women and those not having a labour relation stay away from cervical screenings.

III. Our questionnaire contained 51 questions, and based on the results it can be assessed that the motivated and continuous completion of cancer screenings is still necessary to provide further improvement of the Hungarian mortality rates. Appearing on a gynaecological consultation is one of the most intimate ways in the doctor-patient relationship. The women filling in the questionnaire decide with difficulty to appear on a screening because of fear, the harm of their intimacy, the experience or the assumption of an unpleasant examination and the long waiting period. It cannot be forgotten that the majority of women participate in the screenings as they feel responsible for their own status of health. If the reports are only treated mechanically then it is clear that 24.5% of the observed population received a notice and only 18.8% of this group appeared. It is not too convincing. It is worth considering the differences in choosing the location of the screening, more precisely the forms of institutional attendances that are given a priority. One third of the sample (306 people), who were questioned, turn to their private doctor even in case of a preventive routine medical examination.

There is a large-scale rejection against smear taking at the family doctor's surgery.

IV. The nursing profession demands an exemplary behaviour as "Showing an example is one of the most efficient masters, although it is able to teach wordlessly" (Samuel Smiles). Nurses, through their health educational function, have a chance to support the individual in accepting a health protective and risk reducing behaviour. The most effective way of doing this is to produce an exemplary behaviour. The aim of our research was to present the differences among the nurses of Hungary, Germany and Australia concerning their health attitudes, their willingness to participate in screenings and their motivation towards screenings. Australia, regarding its geographical features, its health culture, its health services and attitudes towards appearing on screenings, differs from the two European countries, which was partly proved by our results as well.

V. On the whole, it can be said that when comparing the averages of self-estimation related to one's own state of health, the highest scale was provided through the Australian sample and the lowest through the Hungarian sample. The majority of the Hungarian and German nurses appear on a screening annually, whereas more than 50%

of the Australian sample appears every second year. This latter attitude corresponds to the requirements defined in the Australian National Programme. The Australian sample shows a partly more favourable motivational attitude, although it is assumed that this fact can be explained by the existence of the Organised Cervical Cancer Screening Programme, which has been functioning successfully in Australia since 1991 (for nearly 20 years).

VI. All in all, the screening of the population can only be effective if the population itself has a demand for the screening. There are several crucial steps that can be taken to increase the participation rate: spreading a wider range of knowledge, introducing the risk factors, banishing the fear of cancer screenings, refuting misconceptions (cancer is still considered to be an incurable disease among inexpert women) and motivating women (they should accept the invitation for the free screening). It is to be remarked that the role of the prize-winning game claims further consideration. Although, it is important to restrain from such pretences that the Hungarian women can only be encouraged to appear on a screening if they are offered a prize-winning game. All women must be made aware of the process, the possible benefits and risks and the incidental side-effects of the screening, as well as identifying the risks that may appear if the participation is neglected. In the long run, however, it is inevitable to establish the responsible health attitude systematically. It must be started at an early stage of life (at school) with the enlargement of knowledge about health prevention. This way the problem of spreading gynaecological cancer screenings, which at present is not a settled issue at all, may be solved in Hungary (Kovács et al. 2007.a; Karamánné et al. 2008).

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