Education concerning carcinoma of prostate and its early detection

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KEY WORDS

prostate cancer ◗ early detection ◗ health education ◗ state of knowledge ◗ prophylaxis

ABSTRACT

Introduction and objectives. Prostate cancer is the most common male cancer. Insufficient knowledge of PCa among men causes its low detection. Lack of essential actions in health education and widely understood prophylaxis, the need of the latter are maybe responsible for the increasing mortality rate. According to our assumption, educating men increase their awareness on the need of screening tests and results in increasing reporting to physical examinations. This in turn allows for an early detection of the disease.

Material and methods. A research was conducted between the years 2003-2009 on the knowledge of PCa among 260 men. They were divided into two groups. Group A – 63 patients treated for carcinoma of prostate and group B – 197 men reporting spontaneously to screening tests. In order to check the adopted hypothesis, we prepared an educational material and test of knowledge – test with a questionnaire. Knowledge was evaluated before (test I) and after the education process (test II). Until 2009, we were monitoring the number of patients from group B reporting to screening tests and their knowledge was once again checked (test III). Two subgroups C and D were created from group B – 117 healthy men and 80 with diagnosed diseases respectively (70 with benign prostatic hyperplasia, 7 with prostatitis, and 3 with carcinoma of prostate). Patients with prostatitis and PCa and 3 patients from group C not reporting to the tests were excluded from further monitoring. Maths statistics with the use of SPSS 12.0 PL program and Statistica 6.0 constituted the base for working out the results.

Results. We observed a higher knowledge about carcinoma of prostate in group A than in group B ($p < 0.0001$) and it increased after 5 years in group D ($p < 0.0001$) in comparison to group C. Patients aged >40 from groups C and D were interested in health care ($p<0.01$) as much as patients aged 40-49, 50-59 and 60-69. In men >70 a lower level of motivation was observed. The interest was proportional to the level of education, and this was differentiating in an analogical way the motivation to extend knowledge about prostate cancer ($p<0.001$). The place of living was determining the level of motivation for broadening knowledge – in bigger towns in a greater extent ($p < 0.01$). The frequency of reporting to screening tests during a period of 5 years was comparable in groups C and D, regardless of knowledge tests' results. Health risk awareness following the education process was motivating men to undergo screening tests ($p < 0.05$). This confirms our own research hypothesis. Regardless of the age bracket, the obtained result of knowledge test II was higher than test I and the result of test III was lower than test II, respectively: $p < 0.01$; $p < 0.08$; $p < 0.01$; $p < 0.001$. The level of knowledge test III among all examined patients was higher in comparison to test I – $p < 0.01$; $p < 0.001$; $p < 0.001$ respectively. White-collar workers obtained in test I a result higher than blue-collar workers, unemployed or retired people $p < 0.001$ and $p < 0.01$ respectively. Unemployed and retired people obtained more scores than blue-collar workers ($p < 0.05$). Both in professional workers and retired people test III was higher than test I – $p < 0.001$ and $p < 0.001$ respectively. In 7 examined men prostate cancer was diagnosed; in group B in 3 in an advanced state, and during 5 years in group C – in 4 men at an early development stage.

Conclusions

1. In the examined men, we observed an almost complete lack of knowledge about carcinoma of prostate, hence they did not report to screening tests.
2. The education process influenced the level of knowledge about carcinoma of prostate. The examined men >40, inhabitants of bigger towns with higher education, less with secondary education and still less with elementary education showed interest in improving their health knowledge.
3. Due to increasing knowledge about carcinoma of prostate, patients were undertaking systematic tests – on average once a year. It confirmed the fact that education on prostate cancer influences its early detection.
4. Education on carcinoma of prostate on a large scale may lead to decreasing morbidity and mortality rates.

INTRODUCTION

PCa – carcinoma of prostate, in terms of prevalence, is the third male malignant neoplasm in Poland. It is usually detected late (as it most often asymptomatic) when a radical treatment due to disease severity is impossible [1]. The cause of this cancer low detection, especially in its early phase, may lie in the insufficient amount of knowledge and health awareness in men. An attempt was undertaken to evaluate the knowledge concerning the influence of health education on early PCa detection, and as a consequence to limit this cancer health and social effects. Lack of essential actions in health education and widely understood prophylaxis are most probably responsible for increasing mortality rate. According to our assumption,

Table 1. Values of descriptive statistics of knowledge level indicators created on the basis of the number of points obtained from three knowledge tests taken by 260 examined men

	N	M	Me	SD	S	MIN	MAX
Indicator 1 – result in test I	260	2.77	1.5	3.24	10.52	0	10
Indicator 2 – result in test II	260	8.16	9	1.88	3.56	0	10
Indicator 3 – result in test III	247	6.33	7	2.65	7.04	1	10

N – number of people; M – average value of the indicator; Me – median; SD – standard deviation; S – variance; MIN – minimal value of the indicator; MAX – maximal value of the indicator

Table 2. The values of descriptive statistics of knowledge development created on the basis of the difference in the score between knowledge tests taken by 260 examined men

	N	M	Me	SD	S	MIN.	MAX.
Indicator 1 of knowledge development – difference test II minus test I	260	5.38	6	2.78	7.74	0	10
Indicator 2 of knowledge development – difference test III minus test II	247	-1.97	-1	3.24	10.52	-8	5

N – number of people; M – average value of the indicator; Me – median; SD – standard deviation; S – variance; MIN – minimal value of the indicator; MAX – maximal value of the indicator

educating men increase their awareness on the need of screening tests and results in increasing reporting to physical examinations. This in turn allows for an early detection of the disease.

MATERIAL AND METHODS

In autumn 2003, 260 men underwent evaluation of knowledge on carcinoma of prostate. The patients were divided into 2 groups – group A (63 patients with carcinoma of prostate treated in a specialist urological consulting room Center Attis in Warsaw) and group B (197 men who spontaneously reported to screening tests). In order to verify the adopted assumption, some educational material concerning the prophylaxis and symptoms of carcinoma of prostate was prepared, as well as a test checking patient's knowledge and a patient's questionnaire. The questionnaire included two parts: demographic data and knowledge test, in general eleven closed questions. One had to indicate one of the four variants directly to the educator. The level of knowledge on the carcinoma of prostate was assessed before (I test of knowledge) and soon after the education process (II test of knowledge).

Until 2009, we had been supervising the proportion of men from group B who were reporting to screening tests. In 2009, again the III test of knowledge was carried out among men from group B. After 5 years, the questionnaire was used not only to evaluate the level of PCa knowledge, but also to extend knowledge about pro-health behavior and to confirm the screening tests. During a five-year observation period, two subgroups were singled out from group B: C – (117 men, not requiring treatment), and D (80 men requiring specialist treatment due to moderate or advanced hyperplasia – 70, inflammations – 7 and carcinoma of prostate – 3). Patients with inflammation and carcinoma of prostate were excluded from further tests. Altogether, 3 people from group C did not turn up for the follow-up evaluation (for unexplained reasons) (two after one year and one after two years) and were eliminated from the test.

The obtained results were drawn up with methods of maths statistics after introducing them to electronic spreadsheet EXCEL and using SPSS 12.0 PL and Statistica 6.0 programs. I carried out the variance analysis for factor axis and with repetitive measurement in combined axis; test t for independent samples, analyses of Pearson correlation, non-parametric Mann-Whitney U test and Z. Wilcoxon test.

RESULTS

Results indicators in tests

All results indicators referring to knowledge test I and II were created on the basis of results of examined men from both groups A and B. The results indicators formed on the basis of knowledge test III were created after their analysis, and concerned examined men from groups C and D. This rule refers both to indicators showing the number of points obtained in three knowledge tests, as well as to indicators showing the difference concerning the number of points between these tests.

On the basis of data obtained from three knowledge tests, we formed three indicators by adding the number of appropriate answers. Indicators from test I and II are based on the answers of men from groups A and B, whereas the indicators of test III were formed on the basis of answers from groups C and D. Table 1 contains the values of descriptive statistics of the indicators in question.

The number of points obtained by men is the lowest in the first patient's knowledge test. The diversification of results obtained by the examined men was the highest in test I. The median value shows that in test I at least 50% obtained 1.5 points or less, whereas in test II and III 9 and 7 points respectively.

Indicators of knowledge development

The indicator 1 of knowledge development was created by deducting from the score obtained by men from groups A and B in test II the score from test I. This indicator refers directly to the effect of transmitting information on carcinoma of prostate prophylaxis.

Indicator 2 of knowledge development resulted from the deduction from the score of test III groups C and D the score from their test II. This valuable reflects the level of maintained or extended knowledge on prophylaxis 5 years after the education process.

On the basis of the statistics values table 2 in groups A and B, the knowledge development in test III in comparison to II was lower (the average increase M= –1.97) than the development in groups C and D, in test II in comparison to I (average increase M=5.38). The values of standard deviation and variance show a bigger diver-

Table 3. The minimal and maximal values of indicators showing the increase of knowledge of examined men in group A and B with lack of/smaller knowledge development or considerable knowledge development in test II in comparison to I, and in the group of examined men from groups C and D with lack of/ decrease of knowledge development or considerable knowledge development in test III in comparison to II, formed on the basis of categorization

	Distinct groups within the indicator	N	MIN	MAX
Indicator 1 of knowledge improvement – test II minus test I	Lack of improvement/ lower improvement	141	0	6
	Knowledge improvement	119	7	10
Indicator 2 of knowledge improvement – test III minus test II	Lack of improvement/ lower improvement	144	-8	-1
	Knowledge improvement	103	0	5

N – number of people; MIN – minimal value of the indicator; MAX – maximal value of the indicator

sification of indicator 2 of knowledge development created on the basis of the results of men from groups C and D.

Both indicators of knowledge development underwent categorization according to the median value. In that way, we obtained variables showing a higher or lower group knowledge development: A and B respectively and C and D in specific tests. We obtained:

- The first variable setting apart two groups differed in terms of knowledge development in test II – one group consisted of men with a big knowledge development in test II in comparison to I, the second group consisted of men whose knowledge in test II increased comparatively less or remained on a similar level in comparison to I;
- the second variable setting apart two groups differed in terms of knowledge development in test III, where one group consisted of men with a considerable knowledge increase in test III in comparison to II, the second group consisted of men whose knowledge in test III was lower or remained on the same level as in test II.

The number of standing out groups with a small and big knowledge improvement, both in case of knowledge improvement indicator in test II, in comparison to I, as in case of knowledge test indicator in test III in comparison to II, groups C and D, was similar.

The examined men from group A were reaching higher results in both tests I and II than men from group B ($F(1.258)=1043.17$; $p<0.001$ and $F(1.258)=57.38$; $p<0.001$ respectively). The result in knowledge test II was higher than in test I, both in group A ($F(1.258)=53.26$; $p<0.001$) as in group B ($F(1.258)=2542.51$; $p<0.001$).

In group A, a higher amount of knowledge was stated on carcinoma of prostate comparing to group B ($p<0.001$). The level of knowledge was also statistically higher after five years in the examined men in group D ($p<0.001$), treated by a specialist urologist due to moderate and advanced growth of carcinoma of prostate than in men from group C, whose only motivation to report to tests was health risk awareness (awareness appeared after educational process). The obtained results confirm the assumed research hypotheses.

It was stated that men from groups C and D aged >40 were interested in health education ($p<0.01$). The average motivation level to extend knowledge on the prophylaxis of carcinoma of prostate in men in the 40-49, 50-59 and 60-69 age brackets was on a similar level and did not differ significantly from each other ($p<0.01$). In men > 70, a lower motivation level was stated than in younger men ($p<0.01$). Research on motivation level to improve knowledge concerning general health prophylaxis showed that the obtained results differ depending on the level of male education. Those men having a higher education were more interested in broadening their knowledge comparing to men with secondary education ($p<0.001$). However, patients with secondary education were more motivated to expand their knowledge comparing to men with elementary education ($p<0.001$).

Education also diversifies the motivation to extend knowledge on prophylaxis concerning carcinoma of prostate. Men with higher education were more motivated than patients with secondary education ($p<0.001$), whereas those patients with secondary education were more motivated than men with elementary education ($p<0.001$).

The place of living was also a factor determining the motivation level to improve knowledge on general health and carcinoma of prostate prophylaxis.

We observed statistically significant relations indicating that patients living in big cities had a stronger motivation to extend knowledge on general health prophylaxis ($p<0.01$) and prophylaxis of carcinoma of prostate ($p = 0.08$) than men living in small cities. The comparison of results obtained in the second test of knowledge with the frequency of men reporting to prophylactic evaluation in a period of 5 years showed that regardless of obtained knowledge test results, the level of reporting to prophylactic evaluation was comparable in both examined groups C and D, which indicated that health risk awareness resulting from the educational process motivates men to taking prophylactic tests ($p<0.05$). The obtained result confirms the assumed research hypotheses.

In both groups C and D, it was stated that in all age brackets the result obtained on test II of knowledge was significantly higher than in test I – in the 40-49 age bracket – $p<0.001$; in the 50-59 age bracket – $p<0.001$; in the 60-69 age bracket – $p<0.001$; 70 and above – $p<0.00$ respectively. Also in all age brackets, the result in test III was lower than the result in test II ($p<0.01$; $p=0.08$; $p<0.01$; $p<0.001$ respectively).

The examined men from groups C and D with higher education obtained better results in knowledge tests I and II comparing to men with secondary education [($p<0.001$) and ($p<0.001$) respectively]. The examined men with secondary education got more points that the examined men with elementary education ($p<0.01$ and $p<0.001$).

The results of test III on the knowledge of patients with higher and secondary education did not differ ($p>0.05$), whereas men with elementary education obtained less points than those having secondary and higher education ($p = 0.05$ and $p = 0.08$). The result of test II was higher than the result from test I both in examined men with higher education, secondary education and elementary education (respectively: $p<0.001$; $p<0.001$ and $p<0.001$). In comparison to test II result, the number of points in test III fell in men with higher and secondary education ($p<0.001$ and $p<0.001$ respectively).

In the group of patients with vocational education, the level of knowledge in test II and III was similar ($p>0.05$). The level of knowledge test III of all patients was higher in comparison to test I ($p<0.01$; $p<0.001$; $p<0.001$ respectively).

The nature of the carried out work distinguished the results obtained by men in group C and D. White-collar workers obtained in test I a higher result both in comparison to blue-collar workers

and people who constituted a group of unemployed and pensioners ($p < 0.001$ and $p < 0.01$ respectively). Unemployed and retired men received a higher score than blue-collar workers ($p = 0.07$). Results from test II are analogous – white-collar workers obtained a higher score than blue-collar workers and unemployed and retired people ($p < 0.001$ and $p < 0.01$ respectively). Unemployed men and retired people had a higher score than blue-collar workers ($p < 0.05$). Male patients who were white-collar workers obtained a higher score than blue-collar workers in test III ($p < 0.001$), but similar to those obtained by unemployed men and retired people ($p > 0.05$). Blue-collar workers had a lower score than unemployed men ($p < 0.001$).

In test III, retired people obtained a higher score than those working professionally ($p < 0.001$). In test II, they obtained more points than in test I ($p < 0.001$ and $p < 0.001$ respectively). The results in knowledge test III were lower than in test II, in the group of those men working professionally, whereas among retired people they remained at the same level ($p < 0.001$ and $p > 0.05$ respectively). Both in the group of men working professionally and among retired men, the level of knowledge in test III was higher than in test I ($p < 0.001$ and $p < 0.001$ respectively).

In 7 men, carcinoma of prostate was detected, in group B – a severe cancer in 3 men, and during 5 years in group C – 4 carcinoma of prostate in the beginning phase.

DISCUSSION

Prostate cancer (PCa) is the most commonly diagnosed male cancer and is an important and increasingly more significant health issue. International differences in the morbidity and mortality rates between ethnically similar groups suggest that it is possible to prevent this disease. Certainly early screening tests constitute a prevention element [2]. PCa occurrence constantly increases. Between 1963 and 1996, the yearly increase pace of the registered morbidity rate for this tumor exceeded slightly 2 >5% [3]. According to Centre of Oncology in Warsaw epidemiological data, the morbidity rate due to PCa (2008) increased to 11.2%, and the mortality rate to 7.1% in Poland [1].

Prophylaxis measures play a key role in decreasing health and social effects of prostate cancer occurrence. The scientifically substantiated big effectiveness of secondary prophylaxis proves the efficacy of conducting intensive actions encompassing both patients' education and screening tests promotion after reaching the age of 40 [4, 5].

The probable reason of the low detection of prostate cancer, especially in its early symptom stage, is the insufficient knowledge and health awareness among patients in terms of risks and chances of treating the tumor [6]. There exist prerequisites according to which cognitive reluctance linked with fear of cancers form the basis of limited knowledge about cancer. In many societies, cancers are considered to be an incurable disease and a prevalent threat to health [7]. One inherent condition of treatment efficacy is good cooperation on the patients' side, and this in its biggest part depends on the education level. According to Chojnacka –Szabłowska, oncological education specialists should turn to the issue of the limited knowledge on cancer symptoms in Polish society regarding its consequences to health [8].

According to Smith, health education includes mainly knowledge, but also beliefs, pattern of behavior, ways and styles of life, whose aim is to preserve health on a certain level. Control and limitation of negative influence on health requires implementation of social wise program of fighting off prostate cancer. Such program should rely on a widely understood education of patients. One main aim of educating patients threatened with prostate cancer is providing them with appropriate knowledge and skills on taking care of their own health [9]. Research have shown that only 18% men possess a rudimentary knowledge on prostate gland and the significance of screening tests on detecting this organ cancer – 22% and 24% patients respectively reporting to a urological clinic. According to the authors, one cannot count on general carrying out of screening tests if social belief on prostate cancer incurability does not change. Among questioned patients, as many as 54% consider prostate cancer as an incurable disease [10]. Such belief results certainly from an insufficient knowledge on PCa. Results obtained in Chudek and Prajsner research [9] confirm the need to carry out educational programs. They are to influence false beliefs and change them. They are also to influence the carrying out of screening tests, and in this way prostate cancer detection in its early stage. This fact constitutes a point of departure for individual research.

As the society is ageing, so the number of prostate cancer morbidity rate increases. It holds a third place in terms of occurrence in developed countries [2]. Detection in follow-up evaluation of a benign prostatic hypertrophy (BPH) and its treatment is also a way of preventing cancer. The frequently applied preparation finasteride, belonging to the group of inhibitors 5-alfa-reductase type 2, decreases prostate cancer occurrence [11, 12]. Why do we observe in Poland a systematic increase of morbidity rate indicator due to prostate cancer? – this question still remains without reliable answer. Is it caused by a limited number of educational actions in health education and widely understood prophylaxis? Or perhaps men are not interested in extending their knowledge on their own health state? In our own research, we analyzed by means of statistic methods the research outcomes on the level of knowledge of men participating voluntarily in the education action concerning prostate cancer since 2003. We examined the level of knowledge of 260 men before and after the education process on prostate cancer. These were 64 patients suffering from advanced prostate cancer /aged 40-85 (group A) and 197 men in analogical age, participants of urological- andrological screening test (group B). Patients from group A reached higher results both in the first and second test of knowledge in comparison to men from group B. Knowledge increase among patients from group B, after the education process, was higher in comparison to an analogical increase in group A. However, group A also turned out better in the second test ($p < 0.0001$).

The level of knowledge among men from group A was higher, because the disease was motivating them to an independent supplementing of knowledge on PCa. Regular seeing with the attending physician was a factor reinforcing the need to develop knowledge and acquire information about the disease. Until 2009, we were monitoring men reporting to follow-up evaluations and their observance of pro-health behaviors. That year, we also conducted another examination of men from group B. We evaluated the level of their knowledge in terms of prophylaxis and prostate cancer development after 5 years. The obtained results were co-related with men's pro-health behaviors, which were measured with the number of carried out screening tests directed at the early detection of prostate cancer. The screening test in group B allowed for the detection of different prostate gland disorders, which became the basis for setting apart two subgroups from group B: C (117 men, not requiring treatment), and D (80 requiring specialist treatment due to inflammation and prostate cancer). Regarding treatment specificity and the related necessity of seeing an urologist, we did not include into the results the evaluation of patients diagnosed with inflammation and PCa. It was assumed that these patients main motivation was the treatment process. Subgroup C is formed by men who were driven by awareness of health risks, formed after the educational process and took the tests. Patients from subgroup D, similarly to group A 5 years earlier, due to existing disorders, were forced to take regular medical visits.

In the I and II test of knowledge, patients from both groups did not differ in terms of results. In the III test, after 5 years, patients from group D obtained a significantly higher result than patients from group C ($p < 0.0001$). The results show that education influenced the level of knowledge of all patients, but only in group D there was a systematical increase of knowledge lasting for 5 years. The conviction that health education is the most effective prostate cancer prophylaxis increased with the level of patients' knowledge. Such results were obtained in both examined groups ($p < 0.01$ – $p < 0.001$). We did not state any similar materials and results in the available literature. The analysis of data obtained in the examined male population allows for setting apart the following features: patients with greater knowledge improvement obtained in the II test in comparison to the first one were more eager for further active gathering of information on prostate cancer prophylaxis ($p < 0.05$). Probably, this group of men characterized itself with a bigger inner motivation. In inner motivation, a given activity (acquiring of knowledge) is an aim in itself. Together with the broadening of knowledge on general health prophylaxis of men aged >40, motivation to extend knowledge was increasing as well as the motivation to search information on prostate cancer prophylaxis ($p < 0.01$ – $p < 0.001$).

- The motivation of patients suffering from prostate gland disorders to undergo screening tests was bigger not only due to the increase of knowledge, but also due to fighting against the disease. Similar evaluations are published by other authors [13].
- Patients suffering from a chronic disease other than urological disorders had a slightly smaller motivation for an active search of information on the increase of knowledge and its lower decrease as the time went by, than people on the prostate cancer prophylaxis ($p = 0.05$).
- Chronic patients were characterized by a higher increase of knowledge and lower decrease of knowledge as time went by in comparison to people not suffering from such disorders ($p < 0.001$).

Results obtained in the four age brackets 40 - 49, 50 – 59, 60 – 69 and >70 were interested in extending their knowledge concerning their general health state and knowledge concerning prostate disorders ($p < 0.01$ – $p < 0.001$). The results are confirmed in literature [14]. We also observed that the awareness increase of examined men about prostate cancer risks factors and existing risks, obtained through education, led to an increase in motivation of men for broadening knowledge ($p < 0.01$ – $p < 0.001$).

The education of patients on prostate cancer affects also the increasing number of men reporting to screening tests ($p < 0.05$). It is proved correct in the works of other authors [15-22]. The popularization of local programs of early detection and screening tests caused that in the Tyrol region, after 5 years, prostate cancer morbidity rate decreased by 42% [23]. Similarly in the Quebec province, in Canada, prostate cancer health risk lowered by 67% in the group undergoing screening tests in comparison to the control group [24]. It was also stated that the age of examined men was not a differentiating factor as for motivation for extending knowledge on general health prophylaxis ($p > 0.05$). The prostate cancer was, however, a motivating factor for extending knowledge. The group of patients aged 70 and above was characterized by a significantly lower motivation than the remaining three analyzed groups [40-49, 50-59, 60-69]. The age of examined men may be a possible cause: at that stage they have less interests and their intellectual functioning is smaller due to the cortical cortex functional state and the reduced level of androgens. This result is confirmed in available literature [25-27].

The analysis of results of patients with higher education showed that they are in a bigger extent willing to develop their knowledge on general health and prostate cancer prophylaxis than patients with secondary education ($p < 0.05$). Men with secondary education were, on their part, more motivated to extend their knowledge in comparison to men with elementary education ($p < 0.001$). Our own research prove that the place of living differentiate patients' motivation. Inhabitants of big towns are characterized with greater motivation to extend their knowledge on general health prophylaxis than patients from a small city ($p < 0.01$). We established also a tendency ($p = 0.08$) following which patients from a big city possess a greater motivation to extend their knowledge on prostate cancer prophylaxis. These results are confirmed by other researchers [9, 13, 28-31]. Health education should equip a man in knowledge and skills of positive effect on one's own health and encourage taking responsibility for it. Between 2004 and 2009, in a group of 197 healthy men, 7 men were diagnosed with prostate cancer. This is a positive effect of education and this confirms that education may lead to early prostate cancer detection.

Here below are the conclusions of our research.

CONCLUSIONS

1. During screening test directed at carcinoma of prostrate detection, men presented an almost total lack of knowledge, concerning the etiology, symptoms and principles of prophylaxis of this cancer as well as a lack of awareness on the disease risks. That is why some men did not report to prophylaxis tests. In consequence, this fact influences this carcinoma low detection rate, especially when it is not in the advanced phase and can still be treated.

2. The process of male education significantly increased the level of knowledge concerning carcinoma of prostate and influenced risks awareness on the disease, as well as someone's life. My own researches prove that men aged 40-69, dwellers of big cities and with higher education, at a smaller extent with secondary education, and the least with elementary education, are interested in expanding their knowledge on health.

3. Due to increasing knowledge, men were undertaking systematic, prophylactic routine tests, on average once a year. The obtained results confirm that male education on carcinoma of prostate influences its early detection.

4. Providing education on carcinoma of prostate may contribute to a reduction of incidence and male mortality rate.

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