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POLISH EMPLOYEES ON THE INTERNET AS A SOURCE OF INFORMATION ABOUT HEALTH AND DISEASE

POLSCY PRACOWNICY O INTERNECIE
JAKO ŹRÓDŁE INFORMACJI O ZDROWIU I CHOROBIĘ

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ABSTRACT

Background: This paper presents the opinions of Polish employees on how they think of and use the Internet in the context of health, including occupational health. The outcomes show the usefulness of this medium in the ongoing activities regarding health education and promotion in this target group. **Material and Methods:** The analysis focuses on the empirical data from the first representative research on the working population in Poland, conducted in 2012 among 1012 respondents, using the structured interview method. **Results:** Employees believe that the Internet plays a positive role in helping employees stay healthy. They appreciate its importance as a tool to support people with similar health problems and the alternative source of information on health issues. Workers are mostly unhappy with information overload about health and difficulty in identifying the reliable ones. Significant number of employees expect the websites expert control and even perpetrators' punishment. Around half of the workers look for the needed information on the Internet and the same number get acquainted with it, if they come across it by chance. The study shows that there was a small employees' interest regarding data on occupational health hazards, how to counteract them and legal regulations on health at work. If it was a case though, they used the web. Employees expect greater use of the Internet in their workplaces regarding occupational health issues than ever before. **Conclusions:** It was found that there are necessary foundations to treat the Internet as an influencing tool in health education and promotion campaigns aimed at employees. *Med Pr* 2014;65(1):1–13

Key words: Internet, health education, workplace health promotion

STRESZCZENIE

Wstęp: Artykuł prezentuje opinie pracowników w Polsce o Internecie i informację o sposobie korzystania z niego w zakresie pozyskiwania wiedzy dotyczącej sfery zdrowia i choroby, w tym zdrowia zawodowego. Ustalenia są punktem wyjścia do odpowiedzi na pytanie o użyteczność tego medium w bieżących działaniach z zakresu edukacji zdrowotnej i promocji zdrowia dla takiej grupy docelowej. **Materiał i metody:** W analizie skoncentrowano się na danych empirycznych. Pochodzą one z pierwszego reprezentatywnego badania populacji zatrudnionych w Polsce, przeprowadzonego w 2012 r. wśród 1012 respondentów metodą wywiadu kwestionariuszowego. **Wyniki:** Pracownicy uważają, że Internet spełnia pozytywną rolę, pomagając ludziom dbać o zdrowie. Szczególnie doceniają jego znaczenie jako narzędzia wsparcia dla osób, które mają podobne problemy zdrowotne, oraz alternatywnego źródła informacji o sprawach zdrowia. Najbardziej pracownicy są niezadowoleni z nadmiaru w sieci informacji o zdrowiu i chorobie oraz z trudności z rozpoznaniem wiarygodnych danych. Znaczący odsetek respondentów oczekuje kontrolowania przez ekspertów treści zamieszczanych w Internecie, a nawet karania nadawców szkodliwych wiadomości. Około połowa pracowników poszukuje w sieci potrzebnych im informacji i taka sama część zapoznaje się z nimi, jeśli trafia na nie przypadkowo. W ostatnim roku respondenci wykazywali niskie zainteresowanie danymi na temat zagrożeń zdrowia w pracy i sposobów przeciwdziałania im czy rozwiązań prawnych dotyczących zdrowia w pracy. Jeśli jednak byli tym zainteresowani, to najczęściej korzystali z Internetu jako źródła informacji. Jednocześnie pracownicy oczekują od zatrudniających ich zakładów pracy większego wykorzystania Internetu w sprawach zdrowia zawodowego niż dotychczas. **Wnioski:** Stwierdzono, że istnieją niezbędne podstawy, żeby traktować Internet jako jedno z narzędzi oddziaływania w kampaniach edukacji zdrowotnej i projektach promocji zdrowia adresowanych do pracowników. *Med. Pr.* 2014;65(1):1–13

Słowa kluczowe: Internet, edukacja zdrowotna, promocja zdrowia w miejscu pracy

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INTRODUCTION

The structure of diseases with the highest morbidity and mortality rates among the residents of the developed countries continues to demonstrate just how important a healthy lifestyle is for the prevention of these diseases (1,2). By extension, it is essential to implement health policies in the area of health education and health promotion in order to support awareness, motivation and healthy behaviour, and also to create conditions that facilitate such behaviour (3,4).

Most importantly, these policies should be aimed at the working population. The well-being of working people is not only a matter of the quality of their lives, but also a major indicator of both the macroeconomic growth of a country and the success of an individual company (5).

The emergence and the subsequent spread of the so-called new media, most prominently the Internet, have generated new opportunities for health education and health promotion measures, both from the perspective of the target population and in terms of the methodologies of such measures. Among other things, the Internet has provided the general public with substantially greater access to health information (in the past, a similar exponential change was credited to radio and television) and has diversified the nature of such information (for example, by introducing self-evaluation and self-diagnosis health tests). It also caused the disappearance or the diminishing of the clear distinction between the sender and the receiver of information, and also of the delay in communication and the unilateral communication between them (6).

Therefore, the target audience of health education and health promotion lives in a world where it is relatively easy to obtain information on health and diseases, with every individual having the opportunity not only to use this information, but also to create it, and by doing so, to have an impact on real-life events. There exist, however, risks of cognitive overload, caused by the vast quantities of data, being overexposed to simplified or even unreliable information that are often designed to cause a sensation and the illusion that what they describe is in fact a widespread phenomenon. Together, these phenomena can indirectly affect a number of parameters of how an individual actually functions in society (7–9). It is also important to mention the only-recently-identified problem of Internet addiction, which is a disorder that manifests itself in the inability to control one's need to go online (10,11).

Policymakers in the field of health education and health promotion are facing the question and the challenge of whether and how to use the Internet as a means of impact. The spread of the Internet is a relatively new phenomenon that has only developed in the last dozen-odd years. Consequently, the research into its usefulness in health education and health promotion has been undertaken only recently. The analysis of the studies published in the leading magazines dedicated to this subject revealed that, in 2003–2005, only 56 of 1352 studies addressed the use of ICT in health promotion (12). There have been discussions regarding the nature of this medium, including its advantages and disadvantages in the area of health education, and also regarding some of the specific goals of this education, such as improving awareness and increasing the empowerment of those who receive it (13,14).

There has also been some research into how effective Internet is in health promotion programmes designed to change health behaviour (15–17). This remains, however, a still largely unexplored field that has not seen much empirical research (14). Clearly, the subject needs more reflection and a stronger theoretical framework – this is essential for the efforts towards promoting more sound use of the Internet by way of professional projects designed to foster positive health behaviour and health awareness among the general public. Irrespective of how this process will develop in the future, however, a large number of people already use the Internet to search for health-related information. In 2013, 70% and 66.9% households in Poland had a computer and Internet access, respectively (18). The Internet users have been demonstrating a growing interest in health-related websites (the number of the users of these websites grew from 1.8 million in 2005 to 8.2 million in 2010). Almost each surveyed Internet user (93%) admitted to having at least once, since he/she started to go online, searched the Internet for information related to health, healthy nutrition, prevention and therapy (19).

Indeed, it is a social fact that requires a thorough analysis focussed on how the Internet is used and what people think of it. In analysing these issues, one needs to address the question of how to make the best use of the Internet for the purpose of health-promotion projects by taking into consideration the experiences and preferences of the public (20,21).

The aforementioned question is central to the considerations in this paper, which focus on health education and health promotion and the target group for these measures, which consists of the working popu-

lation in Poland. The analysis undertaken is based on empirical findings. The paper will demonstrate what the working population in Poland thinks of and how it uses the Internet to gain information on health – and disease-related issues (including the ones related to occupational health). The study draws heavily on data gathered in the first Polish sample survey that addressed the issue at hand. The survey was conducted by a team of researchers from Krajowe Centrum Promocji Zdrowia w Miejscu Pracy (the National Centre for Workplace Health Promotion) under the auspices of the Nofer Institute of Occupational Medicine in Łódź, Poland.

MATERIAL AND METHODS

The data discussed in this paper comes from a sample survey that employed the questionnaire-based, undisguised, personal interview method. The representative sample consisted of 1012 individuals working in companies or institutions with at least 50 employees, and was obtained using two-stage sampling.

First, business entities operating across Poland were sampled from a set of companies and institutions with at least 50 employees. Then, the sample of respondents was drawn directly from the selected entities. To provide a representative picture of the demographic structure of the professionally-active population in Poland, sampling criteria including gender, age, education, and place of residence (subdivided into urban and rural areas) were taken under consideration (22). Moreover, the sampling was made for individuals who had been employed in a given company for over a year. Empirical materials were collected in November 2012 by the BBS Obserwator research company.

Fifty one percentage of the surveyed population were women, while 49% were men. As far as educational attainment was concerned, 7% of the respondents had primary education, 24% of them reported having had basic vocational education, while secondary education and higher education were recorded for 39% and 30% of respondents, respectively. 84% of the interviewees worked in companies with a staff of 50 to 249 people, and 13% of them were employed in entities with 250 to 999 employees, with only 2% of the respondents working for companies with a staff of over 1000 individuals.

The analysis focusses on the opinions of Polish employees on the Internet and on the ways in which they use the Internet to gather information and cope with health problems, including occupational health. The investigated opinions were proffered on such issues as

a) whether and how public access of the Internet facilitates healthy behaviour, and what the advantages and disadvantages of this tool as a source of health- and disease-related information are, and also b) to what extent employers should make use of the Web as a means of communicating with their personnel on health-related issues.

The Internet usage patterns were investigated in terms of whether and how the employees a) searched the Internet for health- and disease-related information, including occupational-health-related information, and how they reacted to the information they had found, b) engaged in more advanced forms of Internet activity, in that they acted as the senders of health-related messages, joined online communities dedicated to the field of health and diseases, or sought online medical advice or treatment. It was also investigated whether these opinions and behaviour were differentiated by the gender, age, and the education of the respondents. Moreover, this Internet behaviour was put into the context of to what extent the Internet was used in the studied population and of the experiences resulting from the use of the Internet by employers for communicating with the staff on health-related issues.

FINDINGS

As for the extent of Internet use by the target population, and the base on which their opinions about it and ways of its use in relation to health and disease are founded, it was observed that as few as one in ten respondents did not belong to the group of Internet users, 12% did not use the Internet at home at all, and 45% did not have such an opportunity at their workplaces. Gender did not influence whether or not respondents used the Internet in their private lives, and as far as its use at workplaces is concerned, this was more often the case with men – about every second man – whereas it concerned as few as one in three women ($p < 0.001$, $\chi^2 = 25.18$, $df = 15$). Internet non-users differed by education in both spheres of life. While, on average, one in three primary school or junior vocational-school leavers did not use the Web at their homes, this was the case with as few as one in twenty better-educated users ($p < 0.0001$, $\chi^2 = 140.45$, $df = 15$). In workplaces, for both groups, it was three in four and one in three employees, respectively ($p < 0.0001$, $\chi^2 = 284.59$, $df = 15$). Generally, the vast majority of respondents proved to be Internet users, and using the Web was a norm for university graduates. Nonetheless, one should take into

consideration the fact that nearly one in three employees without higher education does not use the Internet.

The use of the Internet as a means of communication between workplaces and their employees on occupational health issues was experienced by 18% of respondents. If one takes as an indicator of this phenomenon the exchange of information concerning medical check-ups or OHS training courses, it was 6% respondents to whom their employers made available information about the impact of work on their health, about occupational diseases, about the risk of accidents at their workplace; and there were groups totalling 4% of all of the respondents who were informed about: regulations and legal solutions concerning pregnant women, juvenile delinquents, mobbing, etc., and also about reconciling occupational duties and their private lives; and 3% respondents were provided by their employer with a company-owned website concerned with the issues of health and disease, intended for employees.

Thus, there is no more than an insignificant share of respondents who had the chance to use the Internet as a tool of communication with their employer as regards occupational-health issues. One may, therefore, conclude that the opinions given by respondents and their behaviour analysed in the research were to a very insignificant extent grounded in their actual experience concerning the Web as an element of activities within the scope of healthcare, health education or health promotion focussed on occupational health issues and conducted by their employers. To a larger extent, they originated from their private Web activity related to health and disease.

Opinions about the Internet as a source of information

Attitude towards the Internet as a new method of health problem solving was determined using the following question: "What is your opinion: is it easier or more difficult for people to take care of their health now that they can use the Internet?". It was found that more than half the employees answered in the affirmative (57%), one in four claimed that it was neither easier nor more difficult (24%). Only 3% assessed the influence of the Internet as negative. 16% respondents held no opinion about it. Women were not different from men in their opinions. The extent to which the Internet was perceived as helpful in caring for one's health grew in proportion to the level of education (from 46% of primary-school leavers to 61% of university graduates $p < 0.001$, $\chi^2 = 28.43$, $df = 9$). Therefore, in the opinion of the vast

majority of employers, the Internet plays a positive role, as it helps people look after their health, or at least it does not have any influence on this issue. The proportion of opinions that it is harmful was marginal.

To obtain detailed information about the beliefs and expectations of employees as regards the Internet as a mass-media source concerned with health and disease, the respondents were presented with a list of statements and asked to express their opinion about them. The answers that they provided are illustrated in Table 1.

One of the most evident conclusions, in the light of the findings obtained, is the fact that a considerable share of employees does not hold an unambiguous opinion as to the identified opinions concerning the Web. We are, therefore, at the stage where beliefs concerning it as the tool of health and disease problem solving have just started to crystallise in the analysed population. Another conclusion is that the respondents accepted the positive aspect of the Internet more frequently than they agreed with negative statements concerning it. An especially-large group (about three quarters of the respondents) appreciated the fact that, thanks to it, people facing similar health problems were able to communicate, and half the respondents perceived the Internet as an alternative mass media channel of knowledge about health, as a means of exerting influence on doctors so as to prompt them to treat their patients better or believed that, through the Internet, one can check whether or not the doctor uses the right mode of treatment. In this context, it could be claimed that many employees perceive the Internet as a method of coping with problems generated by the existing healthcare system and as a source of information concerning health and diseases, as an alternative to the official sources of information.

An interesting fact is that only 17% of respondents agreed that, in most cases, the Internet could replace a doctor and provide both the diagnosis and match the method of treatment. This may attest to the good common sense of most of the respondents, although the interpretation of the reasons for such an attitude definitely requires further analyses. As regards negative opinions, the most common view (shared by more than half the employees) was that, on the Internet, there was such an abundance of health information that it was hard to recognise which of the data was true.

As far as expectations related to the Internet are concerned, as many as two thirds of the analysed population agreed that restrictive solutions should be employed in order to increase its reliability as a source of information

Table 1. Opinions and expectations of the respondents on the Internet as a source of information on health and disease
Tabela 1. Opinie i oczekiwania badanych dotyczące Internetu jako źródła informacji o zdrowiu i chorobie

Statement Stwierdzenie	I agree Zgadzam się [%]	I do not agree Nie zgadzam się [%]	I do not have an opinion Nie mam zdania [%]	Total Razem	
				n	%
Negative, indicating the drawbacks / Negatywne, ilustrujące wady					
on the Internet, there is so much information about health that it is difficult to recognise which is reliable / w Internecie jest tak dużo informacji o zdrowiu, że trudno rozpoznać, które są prawdziwe	58	16	26	1 008	100
most information on the Internet only serves the pharmaceutical/medical companies to sell their products/services / większość informacji w Internecie służy jedynie temu, by firmy farmaceutyczne/medyczne mogły sprzedawać swoje produkty/usługi	38	23	39	1 008	100
the majority of health information on the Internet is unreliable / większość informacji na temat zdrowia w Internecie jest mało wiarygodna	33	33	34	1 009	100
Positive, indicating the advantages / Pozytywne, wskazujące zalety					
thanks to the Internet, people with a similar health problem can support each other / dzięki Internetowi ludzie z podobnym problemem zdrowotnym mogą się wzajemnie wspierać	70	10	20	1 006	100
one of the best features of the Internet is that it makes it possible to reach other information about health than those officially reported (e.g. in TV) / / jedną z najlepszych cech Internetu jest to, że można dzięki niemu dotrzeć do innych informacji nt. zdrowia niż te podawane oficjalnie (np. w telewizji)	57	17	26	1 012	100
due to the fact that you can assess doctors on the Internet, they have to be more aware about opinions of the patients / dzięki możliwości oceny lekarzy w Internecie muszą się oni liczyć bardziej z opiniami pacjentów	53	16	31	1 008	100
thanks to the Internet, patients finally gained greater opportunity to check whether they are well treated / dzięki Internetowi pacjenci uzyskali w końcu większą możliwość sprawdzania, czy są dobrze leczeni	46	24	30	1 012	100
in most cases, it is enough, using the Internet only, to define what you suffer from and choose the treatment / w większości przypadków wystarczy samemu, bez wizyty u lekarza, określić przy pomocy Internetu, na co się choruje, i dobrać sposób leczenia	17	61	22	1 009	100
Expectations / Oczekiwania					
doctors/experts should point the websites that they tested and found to be reliable / lekarze/ekspersi powinni oznaczać te strony internetowe, które sprawdzili i uznali za zgodne z prawdą	67	11	22	1 008	100
posting advice on the Internet that may endanger health should be punished / / powinno się karać za umieszczanie w Internecie rad, których stosowanie może szkodzić zdrowiu	67	10	23	1 009	100

concerning health. Gender did not influence the analysed opinions, and neither did the age of the respondents. Education did, but only in two cases: in the case of the role of the Internet in giving and receiving support to/from people with similar health problems (the number of people sharing this attitude grew in proportion to their education ($\chi^2 = 21.63$, $df = 8$, $p < 0.01$) and in

the case of the belief that doctors must care about the opinions of patients because they are published on the Internet. Most frequently, though, this view was shared by the least-educated (66%) and the best-educated employees (60% of them), whereas this opinion was the least popular in the group of basic vocational-school leavers (46%, $\chi^2 = 23.51$, $df = 8$, $p < 0.01$).

As regards the opinions of employees concerning the question of whether or not they wished their employers to use the Internet to communicate with the staff on health issues, it was found that as few as, at the best, one in five of them advocated such a solution. What the employees meant was, in particular, organising/financing by the employer individual on-line counselling provided by medical specialists. Approximately one in six respondents wished to obtain information concerning health (in the form of newsletters, on-line brochures, etc.) by means of e-mail, and supported the idea that on-line training courses in the field of health should be organised for employees, that there should be pictures and film materials published concerning the ongoing events in the employer's company that would be related to the health issues of the staff (e.g. contests), publishing tests, and forms that would enable them, basing on the information given, to assess the condition of their health, health risks, diseases and fitness, or publish information/links that would recommend some webpages/Internet materials pertaining to health.

About one in seven employees expected their employer to conduct an Internet-based survey or to gather the opinions of their employees concerning health issues, and one in ten employees would like his or her employer to organise a forum where employees would have a chance to share their comments about health issues. Gender differentiated the needs of the respondents only as far as one of the forms was concerned, receiving health – related information via e-mail. Women declared such an expectation twice as frequently as men (one in five women as compared to one in ten men ($p < 0.001$, $\chi^2 = 13.17$, $df = 1$)). Education influenced expectations concerning several issues, such as sending e-mails with health information to the employees, providing access to on-line medical advice, and also suggesting which online information concerning health is valuable. Better-educated employees expressed the willingness to receive this kind of support from their employers with the use of the Internet about twice as often as those with poor education. Age did not influence the analysed preferences.

The ways in which employees use the Internet

The study analysed both the basic form of using the Internet, which is to obtain information in relation to health and disease (with particular consideration of occupational health), and Polish employees characterised in terms of more advanced ways of using the Internet (such as publishing content or using actual medical ser-

vices with its help). This was aimed at determining to what extent the web is a source of knowledge in respect of the analysed subject matter and how the analysed population is prepared to more fully take advantage of the Internet in the field of health and disease.

To determine the extent to which the Internet is used by Polish employees as a tool for broadening their knowledge in the field of health and disease, the analysis was applied on two levels. The first level was to determine the extent to which employees used it intentionally, while the second was the extent they used it by accident. It turned out that 45% of the respondents using the Internet never intentionally looked for websites about health, disease prevention, or a healthy lifestyle, and 35% did it infrequently. One in seven respondents declared that they searched for health-related websites as often as they sought websites on other subjects. Only 2% admitted that most websites they visited were dedicated to health or disease subject matter. 4% were unable to provide a clear answer to the question. This means that about a half of the employees deliberately use the Internet to look for health-related subject matter and the other half do not use such websites.

On the other hand, the obtained data demonstrate that the vast majority (80%) of employees in this country do not use the Internet to satisfy their curiosity in this respect, or do it only sporadically. It was also determined that this behaviour differs by gender – men are less active in this respect. More than half of them look for no such websites at all (while this is the case with only one in three women) and if they do use them, they do so less often than women ($\chi^2 = 48.20$, $df = 4$, $p < 0.0001$). This behaviour also differs by education, but the correlation is not strong ($\chi^2 = 41.9$, $df = 16$, $p < 0.001$). The largest number of respondents who did not look for information on health were in the group of basic vocational school leavers (53%), and the smallest – with similar levels – (about one in three) among primary school leavers and higher school graduates. Having a similar interest in health as in other subjects is the category where the greatest differences exist between employees with primary education and those with vocational education (24% and 7% respectively). As for age, it had no influence on searching for information on health, disease prevention, or a healthy lifestyle.

Analysis of the responses to the materials on health found by accident on the Internet demonstrated that 43% of respondents sometimes browsed through them, but only cursorily; 28% usually did not open them, or closed them immediately, and only 7% usually read

them thoroughly. The rest either declared that such situations did not happen to them (20%) or that they were unable to describe how they reacted when they encountered the subject matter of health and disease while surfing the Internet. This means that half of the respondents did use the websites on health and disease that they encountered, but only a few paid adequate attention to them. Others did not even notice that such content was present on the Internet, or they ignored it.

As for the behaviour of men and women, it turned out that it was men who not only encountered such websites less frequently but were also more successful in avoiding them. For example, more than one in three men usually do not open such sites, or they close them immediately, while this is true of only one in five women. In turn, approximately, one in five employed women and only approximately one in three employed men declared that they looked at such sites only briefly. Neither education nor age played any part in the analysed behaviour.

As for the extent to which the Internet is a source of information for employees on matters of health and career, firstly, it was determined that during the previous year only one in five respondents (22%) looked for any information on health risks connected with their professional duties and the ways to protect against the risks, and only one in six found such information on the web. However, when the groups interested in this problem were taken into account, 70% of them used the Internet for this purpose and only 30% chose other sources. This behaviour did not differ by gender or age. With the increase in education, the interest in this subject matter was slightly lower ($p < 0.01$, $\chi^2 = 22.00$, $df = 9$).

Secondly, a similar demand was found in terms of legal issues connected with occupational health protection. 23% of all of the respondents were interested in the obligations of the employer and the rights of employees connected with health. 15% pointed to the Internet as the source which they used in this regard. 66% of people looking for such data used the Internet, while the rest used other sources to obtain such information. Women were twice as likely to look for such information as men ($p < 0.001$, $\chi^2 = 16.90$, $df = 9$). Furthermore, with the increase in education, there was an increase in interest in the rights and responsibilities in the field of protecting the health of parties to an employment contract ($p < 0.0001$, $\chi^2 = 34.08$, $df = 9$). As for age, the oldest respondents (60–64) were more likely to use sources other than the Internet ($\chi^2 = 33.7$, $df = 12$, $p < 0.001$).

It was also determined how many employees during the previous year had been interested in selected content regarding health and disease and the importance of the two occupational health problems discussed above. The extent to which the Internet was used as an information channel was also determined (Table 2).

It turned out that only a few employees were interested in the content relating to health and disease which was analysed in this study. However, where there was such interest, the Internet appeared to be the most frequently chosen source. What is important for education and health promotion campaigns, the study demonstrated that employees were rarely interested in such information, especially if they concerned pro-health behaviour. They focussed on information connected with treatment options (the problem of the availability of medical services, patient opinions and doctors or facilities) or with the health complaints suffered. Gender was a major factor influencing the choice of roughly half the analysed content. Women were more often interested in them and were more likely to find them on the Internet (it was the case with opinions about doctors, medical facilities, dates, addresses, and prices of services, patient rights, and health complaints suffered by themselves or their family). Education differences were only slight, and age did not have any bearing on the answers of the respondents.

The indicated subjects regarding occupational health were of medium interest when compared to other information in the field of health and disease which the respondents sought, including the Internet. For example, the interest was roughly half of that in the case of information about one's own health complaints and those of family members, or about the addresses, opening hours, and prices of medical services. It was also less than the need to seek the opinions of other patients about a given medical facility or doctor, or obtaining information about medical services which are hard to access. Information on occupational health was more relevant for respondents than e.g. offers to join a campaign for quitting smoking, exercise, jogging, alternative treatment methods, the latest medical discoveries or contemporary health risks.

For employees engaging in active forms of using the Internet, the study looked for information regarding their participation in Internet communities dealing with health-related topics, questions, and comments on forums, discussion groups, private counselling/treatment by a physician or specialists performed on-line, and joining other users supporting specific pro-health

Table 2. Health information, including occupational health, taken from the Internet by respondents
Tabela 2. Informacje dotyczące zdrowia, w tym zawodowego, pozyskiwane w Internecie przez respondentów

Type of information Rodzaj informacji	I did not look for it because I am not interested in this kind of information Nie szukałem, bo nie interesuję mnie takie informacje [%]	I did not look for it because my own knowledge on this subject is enough Nie szukałem, bo wiem wystarczająco dużo na ten temat [%]	I was interested, the information came mainly from the Internet Interesowałem się, informacje pochodziły głównie z Internetu [%]	I was interested, the information came mainly from other sources Interesowałem się, a informacje głównie z innych źródeł [%]	Total Razem	
					n	%
Addresses, opening hours, the prices of medical/rehabilitation services / Adresy, terminy przyjęć, ceny usług medycznych lub rehabilitacyjnych	47	8	32	13	1 009	100
Information on ailments that workers or their relatives suffer from / Informacje o dolegliwościach, na które cierpią sami pracownicy lub ich bliscy	50	9	30	11	1 007	100
Other patients' reviews of the medical institutions that they visited or wish to visit / Opinie innych pacjentów o placówce medycznej, z usług której skorzystali lub chcieli skorzystać	51	12	25	12	1 010	100
Information on the availability of medical services that are difficult to reach / Informacje o możliwości skorzystania z trudno dostępnych usług medycznych	53	11	25	11	1 009	100
Patients' opinions about a doctor that they visited or wish to visit / Opinie pacjentów o lekarzu, z którego usług skorzystali lub chcieli skorzystać	55	10	23	12	1 009	100
Information about the health risks that occur in the workplace and how to counteract them / Informacje o zagrożeniach zdrowia, które występują w miejscu pracy, oraz sposobach przeciwdziałania im	63	15	15	7	1 007	100
Information on new diseases, health threats in the modern world / Informacje nt. nowych chorób, zagrożeń zdrowia we współczesnym świecie	72	8	15	5	1 009	100
Data about the employers' obligations and employees' rights related to health / Dane na temat obowiązków pracodawcy i uprawnień pracownika związanych ze zdrowiem	61	15	15	9	1 010	100
Information on the latest medical breakthroughs, successes in medicine / Informacje na temat najnowszych odkryć medycznych, sukcesów medycyny	70	11	13	6	1 008	100
Information on non-medical methods of treatment and health (e.g. acupuncture) / Informacje o innych niż medyczne metodach leczenia i dbania o zdrowie (np. akupunktura)	70	12	13	5	1 010	100
Information on preventive actions that can help you be examined, vaccinated / Informacje o akcjach profilaktycznych, w ramach których można się zbadać, zaszczepić	54	12	21	13	1 009	100
Information on patients' rights, medical benefits available, funding claims / Informacje o prawach pacjenta, przysługujących im świadczeniach medycznych, ich finansowaniu, odszkodowaniach	66	13	13	8	1 008	100
Information on the possibility of joining campaigns that, for example, help to stop smoking, exercising, running, etc. / Informacje o możliwości przyłączenia się do kampanii, w których np. rzucasz palenie, biegać, ćwiczyć,	77	10	7	6	1 009	100

campaigns. It was determined that the members of the surveyed population had very little experience in this respect. Only a few percent of respondents (3–6%) had engaged in such activities in the 12-month period preceding the study. This behaviour did not vary by gender, age, or education.

DISCUSSION

The vast majority of the surveyed population were people using the Internet and, similarly to the general population of this country, it was more frequent for people with better education (18). At the same time only a few were the addressees of messages regarding occupational health sent via the Internet by the companies employing them. This means that a considerable proportion of the opinions were gathered from actual Internet users (i.e. employees using the Internet) and were mostly based on private experiences in using it as a source of information on health and disease, including occupational health.

In the light of the gathered data, it may be concluded that employees in Poland are favourably disposed towards the Internet as a phenomenon that influences the way we take care of our health. More than half acknowledged that the Internet makes it easier, and about one in five that it makes no difference. Better-educated employees expressed this opinion more often. However, every sixth respondent did not have an opinion on the matter, so for a substantial part of the employees this issue is still open and will take shape in the future. In a study carried out in 2010¹ as many as three fourths of Polish employees with at least secondary education considered the Internet their preferred source of information on health and it was the second most frequently chosen medium, after radio and TV.

Only one in three employees with primary or basic vocational education expressed the same opinion, and the Internet was one of the three least valued items in this group of sources. It can be said, therefore, that, in general, employees in Poland perceive the Internet as a phenomenon that makes it easier for people in the modern times to take care of their health (or as one possibly neutral in this respect), while well-educated individuals acknowledge that it also plays such a role

for themselves, and those with lower education usually have a different opinion on the matter, much more frequently choosing other sources of information such as TV, radio, leaflets, posters, the press, etc.

In the context of a favourable attitude towards the Internet as a phenomenon in the field of health and disease, it comes as no surprise that the respondents were more aware of its advantages than its drawbacks. First of all, the majority of them recognised the fact that it was a tool used by people with certain health problems to find help. Moreover, half the respondents saw the Internet as a place in which you could learn something different than from other media, which means that the employees treated it as a way to learn about data and opinions other than those officially presented. A similar proportion considered the Internet as a method of “handling doctors”, as they agreed with the statement that it helped them control whether they were treated properly, and that by publishing opinions about physicians they made them more careful with patients. Fortunately, only very few respondents believed that, for the majority of diseases, the Internet could replace a physician.

It turned out that employees perceived the Internet as a tool for control and for ordinary people to network and support each other in diseases. Such possibilities were also observed in other spheres of life (e.g. in the case of ACTA). The aspect most disliked by respondents (about half of them) was the flood of information about health on the Internet, which made it difficult to tell which ones were true. One in three believed that the majority of such information was unreliable or even used to further the interests of companies who marketed their products or services. This shows a strong crisis of trust, although it is present in a fairly small proportion of employees.

This interpretation is supported by the large proportion of respondents who suggested that publishing advice that can harm somebody should be punishable and that websites about health should be supervised by physicians or experts (67% each). In general, therefore, employees confirmed that the Internet would be useful in the field of health and disease, if the problems of the excess and disputed reliability of the available information were resolved. At the same time, a fairly small proportion of respondents (every fifth-every seventh) had specific expectations towards companies in respect of using the Internet for matters related to personnel health.

On-line health counselling was the most popular (especially among better-educated individuals), and

¹ A study conducted on a population of 1691 workers in Poland, Latvia, Spain, and Slovenia (No. 14222-LLP-1-PL-Grundtvig-GMP: Agreement No. 2008-3466/001-001 titled “Low-skilled workers and healthcare challenges to education”, managed by Elżbieta Korzeniewska, PhD).

training and support in finding valuable materials on health on the Internet were also relatively common. If we take into account the fact that only about one in twenty employees had previously experienced such activities on the part of their employer (23), we can look at this low interest in such future measures from another perspective and treat it as an indicator of a growing need in this field.

On the other hand, the analysis showed that, in the case of every third (or fourth) respondent, a generally positive attitude towards the Internet is not supported by any specific views – at least not the ones analysed. This is a confirmation of the fact that the Internet is still a new phenomenon which employees are still getting familiar with.

As far as the use of the Internet to seek health and disease information in the surveyed population is concerned, both in terms of intentional searching and incidental encounters with this type of content, a dichotomy was observed among those surveyed. Therefore, employees in Poland can be divided into two almost equal parts; those who use the Internet to seek information on health and disease and the ones for whom the Internet is not a way of dealing with these matters. Women use the Internet for this purpose more frequently than men. The data collected through online surveys, with the percentage of individuals seeking information on health-related issues being 90% (24), is evidently different to what was found in the analysis in question. Therefore, the assumption can be made that the online survey overestimates the phenomenon.

The survey is probably participated in by people who use the Internet frequently and extensively, who are used to looking for solutions on the Internet, and exhibit a more active approach to seeking information on the subject matter of health and disease. Taking into consideration the fact that every third employee rarely browses the Internet for such information and nearly half of them, when encountering health-related materials, only sometimes open and read them, the discrepancy seems even more significant. On the other hand, the analysis has shown that nearly half of the employees use the Internet – intentionally or incidentally – as a source of coping with health and disease-related problems, which suggests that Internet has a high potential for becoming a tool for promoting healthy activities among the population.

Passing on to the findings of the survey concerning the use of the Internet for the purpose of obtaining specific information related to occupational health, despite

low interest in this subject matter², the role of the Internet in this respect was evaluated as crucial (approximately 70% of the respondents searched for such information). When it comes to the differences found in the statements of respondents with varying socio-demographic characteristics on seeking information on occupational health, they seem to be related more to the specific nature of the topics under analysis than the attitude of those surveyed to the Internet as a source of information on these matters (e.g. employees with higher education perform jobs involving risk less frequently).

In the year preceding the survey, data on health hazards related to work, employers' obligations and employees' entitlements were searched for (also with the use of the Internet) moderately frequently in comparison to information on other topics analysed in the survey. Moreover, it was found that most employees were not interested in the matters related to health and disease, as specified in the survey. Such data as addresses, appointment dates, medical-service prices and information on symptoms made it possible to divide the surveyed into two almost equal groups (i.e. interested and not-interested respondents). When the given information seemed useful to the respondents, however, they were more likely to search for it on the Internet than in other sources. Unfortunately, little interest was shown in information concerning preventive activities (e.g. vaccinations, examinations) and campaigns promoting a healthy lifestyle. However, Internet was still the source of information on these matters most frequently chosen by employees.

Furthermore, employees turned out to be a group who rarely used Internet in an active way. In the year preceding the survey, only every twentieth respondent posted information on the Internet or was a member of a discussion group or another Internet community, while only every thirtieth person took advantage of individual medical advice or treatment through the Internet. It is difficult to determine whether this was caused by low Internet literacy or low activity in matters of health and disease. Further research in this area is necessary.

² Little interest in matters related to healthy behaviours among Polish employees was also found in the previously-cited survey carried out on a population of 1691 employees from Poland, Latvia, Spain, Slovenia (No. 14222-LLP-1-PL-Grundtvig-Gmp: Agreement No. 2008-3466/001-001 entitled "Low-educated employees versus health – challenges to health education", managed by Elżbieta Korzeniowska, PhD). Only every twelfth employee in Poland would like health education to include such information, which is the lowest value among the surveyed countries.

CONCLUSIONS

The gathered information including opinions and Internet use patterns displayed by employees in Poland allow cautious optimism on the issue of whether Internet can be regarded as a tool of health education and promotion campaigns aimed at the discussed population.

The surveyed individuals are not against the Internet, i.e. they do not present an opinion that its availability makes caring for one's health more difficult. Far more often they display the opposite view. They have, therefore, the awareness that preconditions them to use the Internet for this purpose. The problem of education level should also be taken into consideration. Low-educated employees have a more sceptical attitude to the Internet and use it less often, so caution should be applied in order to prevent perpetuating health inequalities between this group and well-educated people. It is worth informing low-educated employees on the benefits of the Internet and enhancing their skills in this respect.

Such activities seem reasonable in relation to the group of people uncertain about the significance of the Internet in the process of caring for one's health in today's society. Undoubtedly, the main aspect of the usefulness of this medium in improving the wellbeing of Polish employees (including the campaigns and programmes focussing on this issue) is associated with measures oriented towards providing easy access to reliable information and services related to health and disease on the web.

The members of the analysed population get lost in the abundance of information, which they often do not find reliable or even regard as manipulative. This is probably the reason why they declare support for monitoring the Internet content or even penalising people posting information which can cause actions detrimental to health. These opinions may mean that some employees would welcome activities involving the promoting and establishing of Internet portals reliable from the perspective of the existing medical knowledge (i.e. recommended).

The findings allow for the conclusion that most employees would approve of such portals being prepared by doctors, or doctors' recommendations of such portals. Some employees recognise the role of workplaces in solving the problem and expect employers to recommend valuable websites/information by providing specific links. The gathered data indicate that employees in Poland would welcome the proposition put forward by experts involving a combination of Internet material

with measures taken in the employees' environment, i.e. the workplace (25). Such solutions, if they were to be accepted, should be considered temporary, and simultaneously, a complementary goal should be pursued, i.e., developing a reflexive and critical approach towards Internet content, which is recommended by some theoreticians dealing with Internet use in health promoting activities (13). Even more so that half the employees have a positive attitude to the fact that the Internet contains information other than, e.g. on TV, valuing the freedom of access to varied information and views.

As far as the role of workplaces is concerned, employees have, in general, a quite open approach to the increased use of the Internet by employers in matters related to health and disease in comparison to the previous degree of Internet use in contacts with employees.

Moreover, the function of the Internet most appreciated by staff in Poland is the possibility of contacting and providing support for persons with similar health problems. Maybe over time this will serve as an inspiration to launch educational campaigns for personnel employing Internet tools. This obviously requires a creative approach by specialists in the field and developing employees' Internet skills so as not to perpetuate the exclusion of less advanced Internet users (26).

As far as the use of Internet is concerned, the precondition for using it for health education and promotion among employees is being fulfilled, as 90% of the population have access to it (at home or at work). Furthermore, approximately half of the employees browse the Internet for information on health and disease, and a similar proportion reads the information when they approach it on the Internet. This is a potential which is worth embracing, but simultaneously it should be borne in mind that the level of involvement of employees in this type of activities is low, which is demonstrated by the low frequency and low quality of the discussed behaviour.

Addressing this issue is a great challenge, associated with the necessity of the proper positioning of health-promoting information and making it appealing and easily comprehensible. It should also be remembered that such behaviour (i.e. seeking or reading incidentally-encountered health information) is more frequently exhibited by women, which means that there is a higher probability of reaching women through the Internet than men. This may be one of the factors conducive to health inequalities between the genders. At the same time, the analysis performed makes it possible to formulate a claim that, in order to find information about their symptoms, treatment options, opinions about

doctors or healthcare centres, the newest developments in medicine or new health risks in the contemporary world, over half of the employees seek such information on the Internet. The generally low demand for such information is yet another problem.

A very important aspect of health education and the promotion of employees is that Internet is an increasingly more often selected information channel in comparison to other sources of information on preventive actions providing the possibility of getting examined or vaccinated, stopping smoking, running, exercising, etc., also including patients' rights. The problem is that only approximately 20% of the employees are interested in such actions, and the remaining majority shows no interest in health-promoting or preventive actions. For these people, it is necessary to develop other methods and solutions than the Internet.

With regard to employees' interest in health risks in the workplace and the methods for counteracting them, and also legal solutions in this area, Internet is most often used to seek information on these matters. However, the challenge for health education addressed to the discussed population lies in the fact that only every fifth person pays attention to these issues, which seem much less appealing than other topics related to health and disease.

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