OPINIONS OF POLISH OCCUPATIONAL MEDICINE PHYSICIANS ON WORKPLACE HEALTH PROMOTION

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Abstract

Objectives: According to the current Polish legislation on occupational health services, occupational medicine physicians should perform workplace health promotion (WHP) activities as a part of their professional work. The concept of workplace health promotion or health promotion programs, however, has not been defined in this legislation in any way. Therefore, two essential questions arise. First, what is the physicians' attitude towards workplace health issues and second, what is actually carried out under the label of health promotion? The main objective of the research described in this paper was to answer these questions. Materials and Methods: The survey was carried out by the National Center for Workplace Health Promotion in 2002. A questionnaire prepared by the Center for the purpose of this survey was sent to a random sample of occupational medicine physicians. Results: The results of the survey showed that 53% of occupational medicine physicians consider WHP just as a new name for prophylactics. On the other hand almost all of the respondents (94%) agree that occupational medicine physicians should perform WHP activities and find them useful in improving patients' health (78%). The main obstacle for the development of this activity in the perception of physicians is the lack of interest in workplace health promotion among employers (86%). Conclusions: In the modern understanding of workplace health promotion concept this type of intervention includes not only safety measures and health education, but also a profound organizational change that allows employers, employees and social partners to improve wellbeing of people at work. Each of such projects should facilitate changes necessary to create a health promoting workplace. It also needs a skilled leader - well trained and aware of a multidisciplinary dimension of WHP interventions. Occupational medicine specialists should become natural partners of employers and employees. The majority of the occupational medicine physicians, however, are not sufficiently prepared to carry out workplace health promotion programs.

Kev words:

Workplace health promotion, Occupational health services, Occupational medicine physicians, Workplace health promotion programs

INTRODUCTION

According to the documents developed by the World Health Organization (WHO), health promotion is the process of enabling people to increase control over and to improve their health. To reach the state of complete physical, mental and social wellbeing, an individual or a group must be able to identify and to realize aspirations, to satisfy needs, and to change or cope with their environment. Health promotion is not just the responsibility of

the health care sector, but goes beyond healthy life-styles to well-being [1]. Workplace health promotion (WHP) is a concept built on the basis of WHO declarations and stands for the combined efforts of employers, employees and society to improve the health and wellbeing of people at work. This can be achieved through a combination of:

- work organization and work environment improvement;
- promotion of active participation;
- encouraging personal development [2].

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This short description shows that WHP is a philosophy of intervention prepared with the people and for the people that goes beyond traditional health and safety regulations to become a process of social change as well as personal growth in the organization.

The role of WHP is increasing in EU countries. The need to find proper organizational and practical solutions so as to face new health risks and to tackle multiple determinants of workplace health is growing [2–4].

At the European level, the European Network for Workplace Health Promotion (ENWHP) that brings together most of the EU, EEA, and applicant countries deals with those issues. One of the principal priorities of the Network is to support infrastructures for dissemination of WHP at international and national levels.

The concept of workplace health promotion is usually defined on the basis of the ideological grounds developed during international conferences. It is commonly justified by the "theory in action" concept. It highlights that the whole conceptualization should always be adjusted to circumstances of a particular environment, where WHP interventions are to be implemented.

A new stimulus for the development of workplace health promotion was the "setting approach" concept based on the interventions in social environments and encouraging them to become "healthier" [5,6]. In the European Union two approaches (or stages) were distinguished under this concept [7]:

- Health promotion at the workplace, and
- Workplace health promotion.

The first approach highlights that an enterprise is a suitable place to influence health behavior of employees. In the second approach the whole enterprise is targeted (both its material and socio-organizational aspects) and the "health issue" is strongly incorporated into the environment policy. The policy as such has positive impact on employees' wellbeing and their responsible attitude towards health. This approach is similar to the understanding of workplace health promotion presented in the Luxemburg Declaration on the European Network of Workplace Health Promotion. All activities of this Network are based on the principles laid down in the Declar

ration [2]. This approach was also adopted in Poland and in the presented survey.

In Poland, the Ministry of Health designated the National Center for Workplace Health Promotion at the Nofer Institute of Occupational Medicine, Łódź, as the ENWHP National Contact Office. From 1997, the Center responds to the needs of all the stakeholders interested in promoting employees' health. At the same time the Center coordinates the work of the National Network of Workplace Health Promotion. The National Network was set up to support the implementation of WHP programs and launch local coalitions involving all important WHP stakeholders in each voivodship [8].

One of the most important actors in the field of employees' health promotion, due to long tradition of its activities in Poland, is the occupational health care sector. Also the latest Polish law on occupational health care services [9] provides for setting up and organizing various workplace health promotion activities adjusted to health status and health needs of employees as one of the main assignments to the occupational medicine sector. If we take into account this legal delegation, occupational medicine physicians who, as reported by Wdówik [10], usually tend to limit their activities only to typically medical interventions (e.g., comprehensive check-ups, vaccination, screening) – are becoming potential executors of WHP initiatives.

Like any process of social change, dissemination of workplace health promotion concept sometimes involves resistance and invokes various defence mechanisms, especially in this particular professional group. Some occupational medicine physicians regularly expand their knowledge in the field of WHP and face new challenges to advance their professional skills. On the other hand, a certain number of them would like to perform the traditional activities under a new label of health promotion [7].

The opinions of Polish occupational medicine physicians on WHP has not yet been studied. At the same time, the results of various analyses carried out by the National Centre for Workplace Health Promotion in previous years show a growing number of large Polish enterprises complaining about the lack of WHP professionals on the market. Concurrently medical professionals are often perceived as the

most suitable performers of health promotion initiatives. Moreover, when it comes to a particular WHP program, (e.g., tobacco control at enterprises), physicians declare themselves as being very active and supportive. This opinion is contrary to views of employers who find physicians rather passive [11].

The aforesaid issues were the main reasons for exploring occupational medicine physicians' opinions on the concept of promoting workers' health.

MATERIALS AND METHODS

Study population

For the purpose of this survey a random sample of occupational medicine physicians was drawn from a general population of all Polish physicians who: (a) were specialized in occupational or industrial medicine; (b) submitted a formal annual activity report to the Ministry of Health (MZ 35 A form); and (c) attended in 2001 at least 400 patients.

Measurements

The self-administered questionnaire was developed by the National Center for Workplace Health Promotion and mailed to 800 occupational medicine physicians. The response rate was around 40%, so that 325 questionnaires were taken into account for further analysis.

The main issues concerning occupational medicine physicians included in the questionnaire were as follows:

- (a)understanding of the concept of health promotion (descriptive and normative aspect);
- (b) perceived needs in the field of workplace health promotion;
- (c) perceived advantages of implementing WHP;
- (d) perceived obstacles in implementing WHP;
- (e) perceived one's own expertise in implementing WHP;
- (f) perceived and needed support in WHP activities;
- (g) plans concerning promotion of employees' health;
- (h) educational needs in the field of WHP;
- (i) health promotion activities performed in the past.

The above issues were considered in view of the two following aspects:

- Individual, analyzing personal situation of the respondent
- Corporate, analyzing the respondents' general opinion on the situation of the whole population of occupational medicine physicians.

RESULTS

Understanding of WHP concept by occupational medicine physicians

The answers concerning the opinion of occupational medicine physicians on WHP are presented in Table 1. It turned out that more than a half of the respondents tend to think that WHP is just a new term applied to traditional prophylactics and health education. In this sense, they could not apprehend that the WHP approach is a new concept that presents the problem of employees' health in a quite different way. That approach was not influenced by gender and the workplace of respondents. There is a though relationship between expressed opinions and physicians' seniority (p < 0.004). A traditional medical approach is observed more often in those who have been working for 21 years (62%) than in younger respondents (40%). Fewer respondents (13%) thought health promotion too expensive when compared with possible outcomes. Only one in seven physicians was convinced that WHP programs involve high costs. There was no relationship between this opinion, gender, seniority and workplace of the respondents.

Only 4% of the respondents found health promotion appropriate for children and youngsters, but ineffective in adults. In other words, a great majority of respondents generally think that health promotion is a good way to improve health of adult population.

To sum up, Polish occupational medicine physicians usually perceive health promotion as traditional prophylactic and educational activities, which is a useful and not very expensive tool to improve health among adults.

The respondents' opinion about the normative aspect of the WHP concept was also analyzed. They were asked to

Table 1. Opinions of occupational medicine physicians on the workplace health promotion concept (N = 309)

Particular opinion	No. of respondents (%)
Workplace health promotion is just a new name for what in the past used to be called prophylactics and health education	163 (53)
The implementation of workplace health promotion is too expensive considering the possible outcomes	41 (13)
Health promotion is effective only in case of children and youth, it is much too late in case of adults	13 (4)

grade three pro-health activities from the most to the least important according to their knowledge, taking into account the modern concept of WHP. The activities listed in the questionnaire were:

- (a) additional check-ups and vaccinations as well as opportunities for treatment,
- (b) health education,
- (c) creation of health-conducive work environment; e.g., non-smoking areas, decreasing the number of situations generating stress.

There was also a possibility to add any extra activities considered by respondents as important in WHP. The model sequence, according to the WHP concept, was as follows: 1st place category "c", 2nd place category "b", and 3rd place category "a".

Such an answer was given by only one fourth of the respondents, which means that only one in four respondents perceived WHP primarily as creating the work environment that encourages and enables employees to make choices beneficial to their health.

In the methodology of WHP programs, the participation in their implementation on a voluntary basis is an important issue that helps to make feel participants responsibile for their own health. The respondents' views on the idea of obligatory participation of employees in WHP programs were nearly evenly divided; 54% of the respondents held that WHP programs should be considered an option for the participants. At the same time, 46% of them stated that participation of employees in such programs should be obligatory. The respondents of longer seniority (more

than 30 years) were more often in favor of this obligation (p < 0.05).

The role of occupational medicine physicians in WHP programs

To recognize the general view of occupational medicine physicians on their role in WHP programs, they were firstly asked whether in their opinion occupational medicine physicians, as a professional group, should undertake WHP activities at enterprises (Table 2).

It appeared that about 90% of the respondents thought that occupational medicine physicians should be "doers" of workplace health promotion; 60% supported this view very strongly.

The respondents were also asked about the type of tasks they personally would like to perform, having undertaken the co-operation with an enterprise in the area of WHP. They had to choose no more than two roles among the following ones:

- Leader/manager of the project responsible for the development of the WHP program and monitoring of its implementation
- Expert providing only the management of the company with practical hints on WHP
- Advisor enhancing knowledge of health issues and health-conducive behavior among employees
- Screening expert that examines employees health on an extended basis (beyond legal obligation)
- Specialist who treats diseases, targeted in a particular WHP program

The respondent could reject all suggested roles or give an individual additional comment/role.

Table 2. Opinions of occupational medicine physicians on whether they as a professional group should take up health promotion (N = 318)

Opinion	The percentage of respondents
Decidedly yes	57
Rather yes	34
Rather not	6
Decidedly not	1
No opinion	2
Total	100

Only 3% of the respondents did not want to take up any role. Most of them wanted to be "advisors" (63%) and "screening experts" (54%). Only one in ten of the respondents expressed their interest in becoming a WHP program "leader".

Benefits of workplace health promotion

One of the most important aspects in developing this type of activities are the benefits of WHP as perceived by the people involved in its implementation. To investigate the respondents' perception of WHP advantages, they were asked: "What benefits do encourage occupational medicine physicians to get engaged in WHP activities?" Maximum three answers could be chosen. The results are shown in Table 3.

It is worth emphasizing that only 8% of the respondents did not see any advantages to the physicians in promoting health at enterprises.

The most important benefit indicated by the physicians was an increased effectiveness of their influence on em-

Table 3. Benefits for occupational medicine physicians resulting from the involvement in workplace health promotion (the respondents could choose no more than three most important benefits from the list below) (N=323)

Possible benefits of health promotion presented in the questionnaire	The percentage of respondents	
Increased possibility of influencing the state of patients' health	78	
Greater work satisfaction	44	
Allows to keep abreast of progress in occupational medicine and public health	32	
Gaining a greater respect by occupational medicine physicians among the managers of companies	31	
Gaining a greater respect by occupational medicine physicians among patients	28	
Increased competitiveness of physicians on the labor market	16	
Increased income due to performance of different medical services	14	
Increased possibility of presenting one's own achievements on the scientific and business arena	3	
Gaining a greater respect by occupational medicine physicians among peers	0	
Other issues	2	
There are no benefits at all	8	

ployees' health (78%). Other advantages of WHP were less acknowledged. Almost half of the respondents (44%) thought that occupational medicine physician who is involved in WHP activities could achieve a greater satisfaction from his or her job. One third of respondents thought that promoting health allows them to keep abreast of progress in occupational medicine and public health. The same proportion of respondents believed that involvement in WHP activities helps gain a greater respect among enterprise managers and patients.

In view of the data presented, it is interesting to note that only few physicians (15%) believed that WHP increases their competitiveness on the labor market and can increase their income. None of the respondents stated that involvement in WHP activities could improve their image among other occupational medicine physicians.

General obstacles encountered in developing WHP initiatives (with regard to physicians as a professional group)

Nearly 80% of respondents estimated that occupational medicine physicians do not have comfortable conditions to promote health in the workplace (Table 4). One fourth of all the physicians expressed a firm negative opinion on opportunities to promote health and only 3% were positive. Many factors were perceived by physicians as obstacles.

Lack of interest in WHP among managers was indicated by 86% of respondents as the most important barrier; 5% could not evaluate the impact of that factor. Therefore, it is not surprising that 88% of physicians thought that WHP should be obligatory for enterprises.

The second most important factor (75%) was unsatisfactory financial gratification for workplace health promotion activities.

Other issues concerned reasons for low activity of occupational medicine physicians in promoting health in enterprises. They included lack of competence in fund raising, poor competence in the field of WHP methodology and insufficient opportunities to develop qualifications and skills in WHP. Each of the aforesaid factors was indicated by about 60% of respondents, whereas 25% of physicians found them irrelevant.

Table 4. Factors indicated as main obstacles encountered by occupational medicine physicians in health promotion (in %). Respondents evaluated each factor as to whether it presented an important issue (Yes/No) (N = 325)

Factors	It is an important obstacle	It is not an obstacle	No evaluation given
Lack of interest in health promotion among employers	86	9	5
Unsatisfying gratification for health promotion activity	76	13	11
Little skills to apply for funds on health promotion	64	20	16
Limited possibilities of further education in the field of health promotion	59	27	14
Lack of interest in health promotion among employees	57	31	12
Lack of training of occupational medicine physicians in methods applied in health promotion	56	30	14
Limited access to educational materials useful in health promotion	54	30	16
Lack of incentives for implementing health promotion from medical institutions such as regional occupational medicine centers or health insurance	54	31	15
Health promotion does not give any prestige, it is not appreciated among occupational medicine physicians	51	33	16
Lack of time, other professional responsibilities	50	36	14
Difficulty in determining tangible effects of workplace health promotion	42	41	17
Lack of appropriate law that would place occupational medicine physicians under an obligation to conduct health promotion	36	43	21
Reluctance to perform services beyond the traditional occupational medicine	32	49	19

The respondents disagreed with an opinion that the lack of specific legal regulations imposing an obligation on physicians to ensure health promotion at workplace and to be more active in this area impeded the WHP development. As to this particular factor one fifth of the respondents were unable to decide whether the issue is important or

not? One third found it to be an important obstacle and 40% of them thought just the opposite.

Many physicians also perceived the reluctance of employees to take part in WHP activities as another hindrance. Therefore, it is not surprising that almost half of the physicians were convinced that WHP should be obligatory for the participants. It is worth stressing that this barrier was often mentioned by the managers trying to explain why their companies were not involved in WHP [12].

Over a half of the respondents were of the opinion that occupational medicine physicians mostly encounter the following obstacles: shortage of information materials (e.g., brochures) that could be used in WHP programs, lack of support from the health care system, too many other professional duties and responsibilities, lack of respect among colleagues for being involved in WHP.

Similar outcomes were revealed when considering the reluctance of occupational medicine physicians to go beyond their traditional role and professional duties. Only one third of the respondents found it an important obstacle while a half of the study group declared that it was not an issue of great importance. On the other hand, the survey proved that in most cases respondents were stuck to their traditional activities. They took up education of individual patients, vaccination, and additional comprehensive checkups. Although around 55–85% of the study group carried out some of the mentioned activities, only a few percent took part in a program concerning employees' health-related behavior in the two years prior to the study.

Obstacles in implementing WHP encountered by the respondents

The respondents were asked (in an open question) to list the obstacles encountered by them in their daily work (Table 5).

One fifth of all respondents did not see any obstacles to promote health in the workplace; about a half of the respondents listed one obstacle, 37% – two and 13% – three obstacles.

The lack of interest in health promotion among employers was reported as a major problem. This was followed

Table 5. Factors chosen by occupational medicine physicians as main obstacles in their activity in the field of health promotion (in %). Each respondent could indicate up to three most important issues (hence the percents do not add up) (N = 309)

Obstacle	%
Lack of interest in health promotion among the employers	54
Lack of financial resources for health promotion in the companies	25
Lack of interest in health promotion among the employed and the patients	21
Lack of time, other professional responsibilities	11
Lack of educational materials useful in health promotion and "off-the-peg" health promotion programs	5
Poor training in the field of health promotion and/or limited access to training in this field	3
Deep-rooted, difficult to change unhealthy habits among the patients	3
Lack of financial incentives to undertake health promotion	2
Other obstacles	5
There are no obstacles	18

by shortage of financial resources in companies (25%); and the lack of interest in WHP among employees (20%). A large group of respondents stressed difficulties in modifying bad health habits among employees.

A small group of respondents thought that lack of "off-thepeg" WHP programs and educational materials was an important barrier. Only few physicians complained about lack of financial incentives or lack of training for implementing WHP. In another part of the questionnaire, occupational medicine physicians evaluated their own competences in WHP; 8% of respondents evaluated them as good, 56% as rather good, 32% as rather poor, and 4% as poor.

DISCUSSION

The opinion of occupational medicine physicians on WHP is a very important factor that influences their activity in this field. Various aspects of this attitude were presented in this paper. The analysis of the opinions disclosed varied inconsistencies in understanding of and giving value to health promotion. Some of them could be

incentives and some deterrents when it comes to WHP implementation.

One of the encouraging observations is the fact that almost all the respondents consider health promotion as an important component of their professional role. The underlying reason for this is the belief that health promotion is an efficient method of influencing patients' health and a source of a greater work satisfaction and respect amongst employers and employees.

The weakness lies in the fact that the majority of the physicians were not able to properly define the concept of WHP. About a half of them were not familiar with basic principles of WHP implementation and only one in ten expressed an intention to become a leader of a WHP program.

Moreover, occupational medicine physicians did not perceive activities in the field of WHP as a factor that could contribute to building their more positive image among their peers. They also not think that WHP could be an additional source of income, or that it could strengthen their competitiveness on the labor market. This opinion is backed up by the feeling that there are no convenient conditions for developing WHP in Poland. The main obstacle indicated by the respondents was lack of interest in WHP among employers and employees. At the same time, they thought that a legal obligation to participate in health promotion at the enterprise imposed on both employers and employees seemed to be the only way to overcome the reluctance of the stakeholders to introduce WHP activities. Such an approach combined with the belief that all these complicated issues could be solved by regulations results in the lack of the sense of responsibility for the poor dissemination of the concept. They hold employers responsible for lack of WHP program implementation instead of their own reluctance.

When justifying the passive approach towards WHP there is a gap between reasons given to explain the position of the whole occupational group and those chosen to excuse the lack of self-involvement of individual respondents. In the first case physicians usually give internal attributions, such as lack of competences to raise funds or the belief that their colleagues are not well prepared for this type

of activity. When it comes to the explanation of their own lack of activity in this field, they usually point out external reasons, e.g., insufficient funds for WHP at enterprises.

The situation is similar when it comes to the evaluation of their own competences versus the expertise of their peers. The respondents did not highly appraise the knowledge of their colleagues, emphasizing in particular the lack of know-how concerning WHP methods and poor opportunity for training of occupational medicine physicians, but on the other hand when talking about personal situation, they considered themselves as skilled experts and rarely found the lack of courses on WHP a problem. This statement suggests that in fact they do not want to seek for additional training and professional development in the field of WHP.

The issue of insufficient financial gratification for performing WHP activities is also perceived in two ways – when talking about other physicians, the respondents saw it as a major deterrent, but in the case of self–assessment they were reluctant to admit that it was an important problem. Knowledge of WHP among occupational medicine physicians was in many areas compatible with awareness common among all physicians. This suggests that the WHP concept has not yet been firmly embedded in the way of thinking of physicians and can be relatively easily altered. It also means that physicians' attitude towards WHP can be shaped intentionally for the purpose of widespread dissemination and efficient implementation of such programs.

CONCLUSIONS

The results of the survey show that Polish occupational medicine physicians are not fully prepared to become active members or even managers of multidisciplinary occupational health care teams operating in a particular company as a part of occupational health services system that integrates medical, technical, hygiene and psychosocial approaches into advisory strategy as recommended in the paper by Weel and Mikulski [13].

Considering the discussed observations and the outcomes of the survey it should be stated that despite a general opinion prevailing among occupational medicine physicians that they are well prepared to implement health promoting activities at enterprises, almost all respondents express their interest in additional courses on WHP and almost 50% of them are willing to pay for particular training courses. The National Center for Workplace Health Promotion has developed a project of such trainings adjusted to the needs of occupational medicine physicians in Poland. The curriculum takes into account the perceived obstacles and know-how concerning effective ways of overcoming them as well as methods of gaining additional benefits when introducing this kind of initiatives. The workshops have been designed in order to present methodology of WHP, but also to involve trainees at one of the stages into practical implementation of a program and providing support for this type of intervention.

Regional Occupational Medicine Centers can also play an important role. They are obliged by law to design and carry out activities in the field of workplace health promotion and prophylactics [9]. Some of them successfully develop their activity in the field (e.g., voivodeships: kujawsko-pomorskie; świętokrzyskie; lubuskie or podkarpackie). Through creating local alliances they activate physicians to introduce workplace health promotion programs, they coordinate cooperation between them and other institutions involved in WHP.

On the other hand vital actions focused on the environment in which the Nofer Institute of Occupational Medicine operates are needed. They should be mainly addressed to:

- (a) local governments that finance WHP activities in the region; and
- (b) employers whose decisions are a prerequisite for enhancing the demand for WHP services delivered by occupational medicine physicians.

Unfortunately, the support from local governments and employers is still very limited because it is not backed up by the national health policy that is still focused on assuring medical treatment.

REFERENCES

 Ottawa Charter for Health Promotion. First International Conference on Health Promotion, Ottawa, 21 November 1986. Ottawa: World Health Organization; 1986.

- Luxemburg Declaration on Workplace Health Promotion in the European Union. Luxemburg: European Network for Workplace Health Promotion; 1997.
- Treaty on European Union. Off J C191 29/07/1992. Luxembourg; Office for Official Publications of the European Communities; 1992.
- Barcelona Declaration on Developing Good Workplace Health Practice in Europe. Barcelona: European Network for Workplace Health Promotion; 2002.
- Gniazdowski A. Health Promotion at Workplace. Theory and Practical Issues. Łódź: Nofer Institute of Occupational Medicine; 1994 [in Polish].
- 6. Grossman R, Scalla K. *Health Promotion and Organizational Development*. Warszawa: Mother and Child Institute; 1993 [in Polish].
- Schroer A. Quality managment and workplace health promotion.
 Proceedings of the Workshop Quality of Health Promotion in the Workplace; 1996 Nov 27–29; Berlin, Germany. Dortmund, Berlin: Schriftenreihe der Bunderstalt fur Arbeitsschutz und Arbeitzmedizin; 1997. pp. 7–22.

- 8. Korzeniowska E, Puchalski K, Pyżalski J, Wojtaszczyk P. *Workplace health promotion in Poland*. Gohnet Newsletter 2003;6:4–5.
- 9. Occupational Health Services Act. Off J Law 1997, 97, 593 [in Polish].
- 10. Wdówik P. Attitudes of occupational medicine physicians towards health promotion. Med Pr 1999;50(4):459–64 [in Polish].
- 11. Puchalski K, Korzeniowska E. *How to solve the problem of smoking at workplaces*. Med Pr 2001;52(6):459–64 [in Polish].
- 12. Puchalski K. Workplace health promotion in big enterprises in Poland.

 The current situation and selected circumstances. Promocja Zdrow Nauki Społ Med 2000;19(7):66–8 [in Polish].
- Weel A, Mikulski M. Occupational health from the perspective of future accession of Poland to the European Union. Int J Occup Med Environ Health 2000;13:247–9.