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WORKSITE HEALTH PROMOTION – A HUNGARIAN EXPERIMENT INTRODUCTION

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Abstract

The paper presented the concept and the first data of a two-year workplace health promotion programme. The published data gave an insight into the current health status, actual lifestyle, occupational stress, coping and workplace circumstances of the experimental and the control group of the research. Analysis of the internal correlations between the indicators can help in understanding the causes of the actual problems and symptoms, thus enabling the future interventions to be more appropriate and effective.

The practical importance of this study lies in drawing our attention on the principal problems in the workplace environment, work organization and employees' lifestyle which may be connected to current or future physical and mental health problems of the workforce, thus enabling the formulation of a preventive intervention programme fitted to the target population's needs.

Keywords: worksite health promotion, health, workplace stress.

'Health promotion is any event, process or activity which facilitates the protection or improvement of the health status of individuals, groups, communities or populations.' (MARKS et al., [6], 325.p.). Health promotion is the process of enabling people to increase control over and to improve their own health, in contrast to traditional medical services (The Ottawa Charter, [8]). Health promotion can be a successful method of promoting the health status and life quality of individuals, groups, communities. Health promotion makes people to be able to take care of their own health (MARKS et al., [6]). For achieving its aim of preventing the occurrence of illnesses, reaching a better general life quality, health promotion can use as diverse methods as financial regulations, laws, education, promotion of communal life, organizational changes, etc. (The Ottawa Charter, [8]). Workplaces quickly became an outstanding venue for health promotion programmes for several reasons ([9], 1991): First, at the workplace the target population is easily attainable as we spend most of our wakeful hours at our worksites. Especially the layer of employees is the one which uses the traditional health services less often, and at the same time they are at the highest risk of several chronic illnesses, thus forming an important target population of preventive interventions. Last but not least work and workplace itself can affect the health of the employees both in positive and in negative way.

Workplace health promotion programmes originated in the U.S., where the company managements wanted to reduce the high medical costs by offering health promotion programmes to their employees since the mid-1970s. Soon workplace health promotion programmes became popular in Western European countries too, as the company management recognized its efficiency in cutting cost by preventing employees from becoming ill. Besides illness prevention, workplace health promotion programmes have other beneficial effects, all contributing to the increase of the company's success (improvement of the company's image, the productivity, decrease in the costs of employees absenteeism, improvement of workplace climate, workers attitudes toward the organization (PENCAK, [9], SANDERS and CROWE, [10])). The incidence of such programmes is continuously increasing in the U.S., and in Western Europe. In 1992 eighty-one percent of the worksites in the U.S. offered at least one health promotion programme (STOKOLS et al., [11]), in the United Kingdom in 1996 69% of the big companies, and 40% of the small ones offered such programmes (SANDERS and CROWE, [10]).

Applying worksite health promotion as a practice and an approach has not become common in Hungary to date. Yet there would be an urgent need for that given the catastrophic public health indexes: Life expectancy at birth in males in Hungary was 68,3 years in 2002, the same indicator in Sweden was almost ten years higher (77,5). Life expectancy in Europe is only lower in the post Soviet countries, and in Rumania (WHO, 2003). Health behaviour indicators are not better: Forty four percent of adult men, and 23% of adult women smoke in Hungary. Yearly pure alcohol consumption per capita is 9.9 litres. Number of alcoholics is around 860 thousand. The actual lifestyle of the Hungarians is not suitable for protecting and promoting health (BARABÁS, [1]). The main potential reasons for these indicators could reside in the recent radical political and - even more important - social changes, and in their consequences, as the lower standard of living, the bad conditions in health policy, the communal and moral crisis, and the very common overwork (MAKARA, [5]).

Money is one of the commonly cited reasons for the absence of workplace health promotion programmes in Hungary. However, correctly managed and introduced worksite health promotion programmes can also be cost effective besides and through their positive effects on worker health, satisfaction, commitment, etc. A more important reason for company leaders' not introducing worksite health promotion programmes in Hungary could be the absence of well controlled successful researches carried out in local companies, which could serve as evidence and argument for and in support of the effectiveness of such programmes. The current research would like to fill this gap by carrying out a two-year longitudinal controlled research on worksite health promotion in a Hungarian company[1].

The aim of this particular health promotion programme is to increase the health status of the employees of a department in a telecommunication company.

[1]This research was launched within the framework of an extensive Hungarian research project on the helper role models funded by the National Research and Innovation Foundation (Ministry of Education)

The longitudinal research is studying whether this purpose is effected, by comparing the physical and psychological health status, well-being, health behaviours of the employees at the starting point with those at the end of the two-year programme, and also by comparing these variables with the ones measured in the control group. The research is aimed at comparing the efficiency of the two most important approaches of worksite health promotion, namely the individual and the organizational-focused ones. The aim of the *individual focused intervention* is to help employees in achieving a better health by offering skill trainings, health educational programmes, thus improving their coping potential against workplace stress. This approach became widely used in several companies, because they are cheap and easily manageable. However, their efficiency is quite low, as people do not change their lifestyles too easily. The other, *organization-focused intervention* lays the emphasis on the workplace, on the organization, not on the individual. The aim is here to decrease the workplace demands, thus preventing the employees from becoming ill. In order to achieve this aim, this approach carries out organizational, environmental changes, what makes it more expensive, more difficult to manage and to control the results as it is for the individual-focused intervention. Compensating the higher cost, the efficiency of the organization-focused programmes is also higher. Yet because of the above mentioned difficulties, this intervention is much less wide-spread (MERCIER and FRANCOIS, [7]).

The design of the current research makes it possible to compare the efficiency of the individual-focused intervention (in the control group) with the individual+organization-focused intervention (in the experimental group).

The current paper presents in details the results of the initial analysis carried out in the experimental and in the control group, the health problems, needs of the employees identified by this analysis, and the purposes, main methods and first steps of the intervention tailored on the identified needs, problems.

1. Method

1.1. Sample

We used in the study the data of two organizational units of a telecommunication company doing the same work in two different sites. The two sites served as the experimental and the control group for the study. In the current paper we present the data of 174 employees of the experimental group and 200 employees of the control group. The following *demographic variables* of the subjects were investigated: gender, age, profession, educational level, employment (manager or subordinate). Eighty-one percent of the subjects are female, the mean age is 31 years (19-60 years). Eighty-three percent has secondary education, fifteen have higher education. Only five percent of the subjects work in manager position. According to their marital status: 51% of the subjects are living alone, 11% are divorced, 37% are married, 1% are widowed.

1.2. Measures

In the study we used three different measures to investigate the health status, health behaviour, workplace stress, coping style, organizational commitment and satisfaction of the employees, namely: questionnaires, interviews and observations.

A 70-item questionnaire was created to investigate the following variables: attribution of stress and health, subjective health status, health behaviours, lifestyle, stress, job stress, well-being, job satisfaction and commitment. Items investigating stress and health attribution were formulated by using the results of a content analysis carried out on the answers given to open-ended questions in a former, preliminary research (JUHÁSZ, [2]). Health behaviours, lifestyle, subjective health status were investigated by open- and closed-ended questions. Job stress was assessed by a 26-item scale enumerating the most important workplace stressors identified by job stress research. Subjects had to indicate on two 6-point scales whether the stressors were present at their workplace, and what amount of stress did they cause to them (where on the scale one meant: it never occurs and it does not cause any stress, and six meant: it occurs almost always and causes very high stress). According to the analysis, the reliability of the job stress scale was satisfying[2]. Job satisfaction and commitment were investigated by closed-ended questions. Job satisfaction scale consisted of five items. The reliability of the scale was satisfying[3]. Organizational commitment was measured by an 8-item scale, with a good reliability[4].

In order to have more in depth, more qualitative data besides the quantitative data from the questionnaire, we asked volunteers to take part in 30 minute interviews about job stress and coping. Forty-nine employees took part in the interviews.

Besides the above mentioned two measures, four hour structured observations were also carried out on sixteen volunteers in order to have more detailed and objective information on the job tasks, stressors, individual and collective coping style of the employees.

1.3. Procedure

An oral briefing was held in small groups about the study, the aims and the methods before the investigation has started. Questionnaires were filled out in working time on computers (Intranet). Observations and interviews were also carried out in working time at the workplace.

The current paper presents the results of the primary (before intervention) survey on the subjective health status, lifestyle, health behaviours, work stressors, coping strategies, organizational commitment and satisfaction of the employees in the experimental and the control group. The aim of this survey and analysis is to identify the most important health, lifestyle problems, the most important demands,

[2]Cronbach alpha was 0.86, corrected item-total correlations were between 0.3 and 0.76.

[3]Cronbach alpha: 0.82, corrected item-total correlations were between 0.49, and 0.73.

[4]Cronbach alpha: 0,73.

organizational problems of the subjects, on which the future health promotion interventions (individual and organization-focused) should concentrate. In the following part of the paper we will present the results which are the most interesting and important for the future intervention programme, and in the last chapter we will discuss the intervention methods aimed at the identified problems.

As the purpose of this analysis is to present the descriptive data of the investigated sample, no special hypothesis were formed. The presented results are mainly based on investigation of frequencies, central tendencies, dispersion of the answers.

Statistical analysis was made by the programme SPSS 11.0.

2. Results

2.1. Work Tasks – Working Conditions

According to the observations (work analysis), the *main characteristics of the jobs* performed at the investigated organizational unit are: People are employees of a call centre, thus most of them are in almost continuous contact with clients. All the subjects are working with computers, facing with all the strains coming from computer-based work. Call centre employees have to be familiar with all the continuously changing current campaigns of the telecommunication company, as information-giving is one of their main tasks which puts them under high mental load. They have to carry out their tasks under a very high time pressure in relation with their performance assessment also based on mental tasks, politeness with the customer, achieving marketing goals. The work can be characterized in the Karasek terminology (KARASEK and THEORELL, [3]) as high strain job with low control, autonomy and high demand. Workers receive low esteem from management in both financial and moral sense. The company, and the unit in particular goes through very frequent reorganizations, which highly influence the level of in-team social support. The employees all work in a one-room office, with all the physical and psychological demands originating from that fact. High ratio of the employees are working in two or three shifts.

2.2. Subjective Health Status of the Sample

As the main aim of health promotion programmes is to promote the health of the employees, an experimental study has to evaluate the subjects' health status before and after the interventions. We used subjects' self-reports in order to have data more on subjective than on objective health status.

According to the answers given to the questionnaire twenty-three percent of the subjects have illnesses currently under medical treatment. 14.5% have been bed-patient during the last year. The majority of the subjects (53.4%) visited their

doctor once or twice last year. The most common reasons for visiting the doctors were: a special symptom, complaint (47%), and medical check-up (28%).

The questionnaire also listed the eighteen most common symptoms related to psychological stress, and subjects had to mark those they regularly have. The sample reported to have 3.5 symptoms in average (standard deviation: 2.5). The most frequently mentioned symptoms were: fatigue, frequent headache and depression. Fatigue could be connected to shift work.

Table 1 presents the frequencies of the *symptoms* in the sample in percentages of the subjects reporting a particular symptom. (As one subject could report several symptoms, the sum of the percentages exceeds one hundred).

Table 1. Symptoms of the subjects

symptom	Frequency
frequent cold	18.1%
frequent headache	35.6%
allergy	20.9%
fatigue	57.8%
stomach problems	24.0%
constipation	19.2%
joint pain	21.9%
limb pain	16.5%
dizziness	15.3%
depression	31.7%
anxiety	18.3%

Subjects evaluated their *general and current health status* giving answer to questions like: '*How often do you consider yourself to be in good health*?", and "*How would you describe your present health status?*'. Eleven percent of the subjects always, sixty-three percent mostly, twenty-two percent often and three percent rarely consider himself healthy. Six percent of the subjects described their present health status to be bad, thirty-five percent described it to be medium, fifty percent good and ten percent excellent. These results are showing that most of the subjects are in medium or good health.

Well-being of the subjects was measured by a four-item questionnaire, with a 4 points minimum, and 16 points maximum total. Mean point at the scale was 10.4 (standard deviation: 1.8). According to this, the sample's average well-being is closest to the medium anchor of the scale.

2.3. Health Behaviour

As individual-focused health promotion programmes concentrate mainly on lifestyle changes, it was necessary to investigate the sample's health behaviours at the starting point of the research. All the data on health behaviours are based on self-reports.

As many of the subjects are doing shift work, not getting enough *sleep* can be an important health risk. It appears in the data: the average in sleeping hours on workdays is slightly less than the ideal (6.6 hours), on days off it is 8.5 hours.

Thirty-nine percent of the sample *smoke*, what is much worse than the incidence in the population, especially because in this sample the majority of the subjects were female. (The incidence of smoking in the Hungarian female population is 23%, WHO, 2002).

Alcohol consumption doesn't seem to be an important problem for the sample: most of the subjects (50.3%) consumes alcoholic drinks only few times a year, 16.7% does it monthly, and 17.3% weekly. Compared with the data of the general Hungarian female population, we can declare that in the investigated sample the ratio of teetotallers (13.9%) and heavy drinkers (1.9%) is also lower.

Sedentary lifestyle is a common problem in white-collar jobs. In the current sample only 31.6% of the subjects engage regularly in physical exercise (several times a week or daily). 22.7% never does it, and 45.7% does occasionally. These ratios are similar to the general Hungarian ones (KOPP and SKRABSKI, [4]).

2.4. Attributions for Health Quality

Investigating the common sense views about health, and the attributions given for good health quality can be important in planning health promotion interventions, health education campaigns, as it is practical to know the participants' preliminary theories, notions, beliefs, in order to be able to connect or to contrast them to the new information given by the programme.

Table 2 presents the attributions subjects had for health quality: subjects had to divide 100 points between the answer categories given to the question '*What can be good health status attributed to in your opinion?*'

According to the results, work itself can have a significant role in health promotion. Below we will provide examples on what particular characteristics of the work can be health promoting for the employees, and which are health damaging.

2.5. Stress – Job Stress

Stress is one of the major health risks in our modern society. It also constitutes the focus point of many of the workplace health promotion programmes, especially the organization-focused ones, so it is important to investigate the quantity of the stress subjects are currently experiencing, and the main work-related stressors.

Table 2. Attribution of health

attribution	average answers
lifestyle	38.6
relationships	22.7
harmony	18.9
external factors	9.4
work	20.7
money	10.8

The frequency of answers subject gave to the question: '*How stressful is your work?*' are as follows: Six percent of the subjects found their work to be not at all, twenty-nine percent somewhat, forty-five percent moderately, eighteen percent very much and two percent extremely stressful.

Occupational stress was also investigated by a 26-item questionnaire. Average experienced work stress on the job stress questionnaire was 59.7 (standard deviation: 24.6), where the possible minimum points would be 26, the possible maximum: 156.

The *most common stress factors* for the sample were: low salary, little remuneration, unfavourable physical conditions at the workplace, no possibilities for promotion.

The *most important stressors* for the sample were: low salary, little remuneration, not enough time for completing the tasks, unfavourable physical conditions at the workplace and too much work.

More than fourteen percent of the sample think that many or most of the potential stress factors listed in the questionnaire effect their health in a negative way often, or most of the time.

Non-work factors also have an important role in increasing the general stress level experienced by the subjects. Highest stress apart from work is caused by financial problems (average: 3.58 on a 6-point scale).

Subjects had to evaluate their *general stress level* on a 5-point scale. The frequency of answers is as follows: four percent found their general stress level to be very low, fifteen percent low, fifty-three percent medium, twenty-five percent high and two percent extremely high.

Work seems to have more important role in the experienced stress than family. Dividing 100 percent between the stress inducing potential of work and that of the family, subjects gave fifty-eight percent to the work and forty-two percent to the family in average.

2.6. Organizational Satisfaction and Commitment

As workplace health promotion programmes can have beneficial side effects like increase in job satisfaction and organizational commitment, it is important to investigate these variables at the starting point too.

Job satisfaction was measured on a 5-point scale by a 5-item questionnaire. The maximum total point is: 25. The average of the sample on this scale was: 16.3 (standard deviation: 3.38). It seems that the sample is only a little bit more satisfied than the medium anchor of the scale.

Organizational commitment was measured by a 8-item questionnaire on a 5-point scale. The maximum total points are: 40. The average total point in the sample was: 25.8 (standard deviation: 5.9). The average commitment is slightly higher than the medium anchor of the scale.

2.7. Determinants of Health Status

Correlation statistical analysis has been carried out to investigate what are the possible determinants of health status, by identifying the correlates of subjective health in order to have deeper insight in the phenomena, and to prepare the future interventions.

Stress seems to be an important variable in the sense that there was significant negative correlation between the general health state and *the experienced stress-level* ($r = -0.34^{**}$), and between the actual health state and the experienced stress level ($r = -0.39^{**}$).

Number of symptoms and work stress ($r = 0.22^{**}$, $r = 0.26^{**}$), and the number of symptoms and the experienced stress level ($r = 0.38^{**}$) were also correlated with each other.

However, because of the nature of correlation, no conclusion on causal relationships can be made.

2.8. Coping with Stress

2.8.1. Individual Coping

According to the observations and the interviews, employees besides having adaptive coping strategies like problem-focused coping (32.8%), emotion emptying (31.2%), asking for support (29%), controlling of tension (28.2%), also have coping behaviours with possible adverse effects like: smoking, taking medicines, drugs and other health damaging behaviours (25%) (in the percentage of he total observed and reported coping strategies).

2.8.2. Collective Coping

According to the observations and the interviews, employees tried to cope collectively with workplace stress with the following methods:

- discussion about cases in order to diminish tension (52.2%)
- discussion about cases in order to ask for a colleague's advice (35.8%)
- mobilization of others (33.4%)

(in the percentage of he total observed and reported coping strategies).

2.9. Health Promoting Characteristics of Work

As it was indicated above, more than 20% of the subjects attributed good health to their work, raising the issue of investigating more in depth the potential health promoting factors of work, besides analysing the stressors and health hazards. The questionnaire had two questions about the potential health promoting factors of work. Subjects were asked to enumerate the positive effects of their work. The most commonly mentioned positive elements and effects were the following: twenty-eight percent of the answers referred to the good workplace climate, the good relationship with colleagues, twenty-one percent of the answers were related to challenge and experience of success due to the work, fifteen percent of the answers referred to positive feedbacks coming mostly from clients, fourteen percent referred to the development of intelligence, creativity and concentration due to work, ten percent referred to financial security, six percent referred to development of skills due to work, five percent referred to improvement of communication and insight into character due to work.

3. Discussion

According to this investigation the *subjective health status* of the majority of the sample is acceptable, although 9% were currently in bad health, and 25% had illnesses currently under medical treatment. They could form the principal target group of health promotion interventions. Analysing the symptoms revealed that those related to depression, depressive mood are the most common in the sample. This result can help in shaping the course of the future health promotion interventions.

The *lifestyle* of the sample is worse with regard to its health effects at several points than the national Hungarian average (which is not good either, see above). The ratio of smokers is especially high.

Twenty percent of the investigated employees are experiencing very high or extremely high *work stress* underlining the importance of work-site health promotion interventions. Investigating the most important job stressors can help in

designing the organizational-focused interventions. The importance of stress as a target of future interventions can also be highlighted by the correlations between stress and subjective health status.

In the following section we will present the intervention methods to be introduced in the experimental and the control group. The content of the interventions is and will be elaborated by applying the results of the above presented first survey.

4. Interventions

Preventive health promotion programmes – treating the health and lifestyle problems identified by the primary investigation – have been and will be introduced to the two groups: individual-focused programmes to the control group and individual and organizational focused programmes to the experimental group. Short-term effects of the programme will be evaluated by comparing the results of the primary investigation with the final investigation, and by comparing the data of the experimental group with the control group. In the following sections we will present the aims, the main methods of the intervention programmes and the problems in their focus.

4.1. Individual-Focused Intervention

The aim of this intervention is to promote healthy lifestyle among the employees. The actual programmes will be developed in co-operation with a health fund organization. Health and lifestyle problems – which the programmes should address – discovered so far are: high ratio of smokers, sedentary lifestyle, not enough rest (fatigability), stress, depression and coping strategies with adverse health effects.

Possible elements of the future programme are the following:

- interactive health education programme: employees take part in a contest of knowledge, mastery of health, healthy lifestyle
- community-based health education programmes: contest between the two sites or the teams in giving up smoking, weight loss, physical exercise
- relaxation training, exercise at the workplace, psychological counselling.

4.2. Organizational-Focused Intervention

The aim of the organizational-focused intervention is to decrease or eliminate the potentially harmful workplace demands thus preventing health problems. Work and workplace problems identified by the interviews and observations are: time pressure, low esteem of the employees' work, unfavourable physical conditions at the workplace, not adequate performance appraisal, no support of workplace social relationships and low autonomy in work.

Subjects filling out the questionnaire also formulated some measures they felt necessary to be taken in order to improve workplace climate, to reduce workplace stress. These suggestions were divided into the following groups by content analysis: (The topics are listed in an order of frequency – from the topic raised by the most employees to the one raised by the least)

- improvement of working conditions (cleaning, air-condition, catering)
- moderation of qualitative and quantitative overload (flexible working hours, better division of labour, more realistic requirements, better distribution of breaks)
- recognition, appreciation of employees (more oral praise, feedback)
- higher salary
- trainings, social programmes
- better information transmission
- improvement of workplace climate, workplace relations

4.2.1. Health Promotion Focus Groups

Besides using the questionnaires, the interviews and the observations for assembling the workplace problems and the potential solutions, so called '*health-promotion focus groups*' were formed from employees. The task of these groups is to formulate suggestions for the solution of workplace problems potentially having adverse health effects. The ideology and working principles of these health promotion focus groups originated in the German health circles' concept and practice. Health circles are successfully applied in Germany from the early 90's to analyse the workplace health risks, and to work out solution strategies which are gradually introduced and effectuated by the management (Antje Duckie, 2000 personal communication). In the current research two health promotion focus groups were formed at two different sites of the experimental group. Group A consisted of eight employees, Group B consisted of four employees. The two groups are working parallel. Each group has approximately six sessions, all the sessions are held during working hours. Sessions are run by a mediator outside from the company (the author). No supervisors are invited by the employees to the group until the last session, where employees will present their suggestions to the selected supervisors and occupational health professionals. The supervisors and health professionals will then be asked to discuss the raised issues, suggestions, and to give feedback on their implementation possibilities. The process of the implementation of the suggested changes is checked up by the members of the focus groups.

To date the two groups have completed four sessions, and the following main topics of health-related workplace problems and suggestion for solutions have been raised:

- adverse physical conditions – suggestions: change of flooring, more accurate cleaning

- more efficient and healthy use of the hourly ten-minutes breaks (instead of using it for smoking) – suggestions: physical exercises, games in the break, setting the garden in order, relaxation room
- catering – suggestion: organized, co-ordinated ordering of lunch delivery
- visual disorders – suggestions: teaching of preventive techniques, improvement of lighting
- organizational climate, relationships between colleagues – suggestions: team building parties, management should ask for employees' opinion in case of reorganizations
- stress – suggestions: stress management trainings, individual counselling
- organisation of work – suggestions: enough time for the background work, specialization in work tasks in a 'revolving stage' system
- not motivating motivation system – suggestion: work organization providing equal opportunities
- recognition, appreciation of employees: suggestion: use of positive feedback too.
- shift work – suggestion: rationalization of shift arrangement
- training of new members

5. Conclusion

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The practical importance of this study lies in drawing our attention on the principal problems in the workplace environment, work organization and employees' lifestyle which may be connected to current or future physical and mental health problems of the workforce, thus enabling the formulation of a preventive intervention programme fitted to the target population's needs.

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