ASSESSING PRODUCTIVITY AND ACTIVITY IMPAIRMENT DUE TO ILLNESS IN POLAND

Witold Wrona, Tomasz Hermanowski, Dominik Golicki, Michał Jakubczyk, Tomasz Macioch

Department of Pharmacoeconomics, Medical University of Warsaw, Poland.

Correspondence:
Witold Wrona, Department of Pharmacoeconomics, Medical University of Warsaw, Pawinskiego 3A, 02-103, Warsaw, Poland, **E-mail:** witold.wrona@wum.edu.pl

Background and objectives

Indirect costs reflect the reduction in productivity in market and household work due to morbidity and mortality [1]. The inclusion of indirect costs of illness in pharmacoeconomic studies is still a subject of considerable debate and the attitude towards indirect costs is likely to vary in each country [2]. The aim of this study was to quantify the work impairment due to general health status in Poland with the Productivity and Activity Impairment: General Health (WPAI-GH) Questionnaire [3].

Methods

Data were obtained from a survey that incorporated the polish translation of WPAI: GH (General Health, Version 1.0) questionnaire and information on burden of care for a sick family member during computer-assisted personal interview in a representative sample of the Polish general population aged more than 15 years. The 6-question WPAI questionnaire was created as a patient-reported quantitative assessment of the amount of absenteeism, presenteeism and daily activity impairment attributable to general health (WPAI:GH). The questions referred to the last one-week period (7 days):

1. Are you currently employed (working for pay)?
2. During the past seven days, how many hours did you miss from work because of your health problems?
3. During the past seven days, how many hours did you miss from work because of any other reason, such as vacation, holidays, time off to participate in this study?
4. During the past seven days, how many hours did you actually work?
5. During the past seven days, how much did health problems affect your productivity while you were working?
6. During the past seven days, how much did health problems affect your ability to do your regular daily activities, other than work at a job?

In cooperation with Pentor Research International we have conducted study in two waves in January and May 2010. Here we present updated and verified data set.

Population

There were 2019 respondents in total, gathered in two waves in January and May 2010. The target population comprised 795 subjects in paid jobs. Characteristics of the study participants are shown in table 1.

Table 1. Participants characteristics.

Total population, n = 2019	
Participants, n (%):	
- employed (paid job)	932 (46)
- students	401 (20)
- pensioners	398 (20)
- housewives	140 (7)
- unemployed	148 (7)
Target population, n = 795*	
Employed, n (%):	
- in budgetary entities	183 (23)
- in private sector	523 (66)
- employers/farmers	89 (11)
Education, n (%):	
- primary	10 (1)
- basic vocational	209 (26)
- post-secondary and secondary	401 (52)
- tertiary	166 (21)

* employed persons and agreed to participate in the study

Settlement, n (%):	
- rural area	239 (30)
- < 20,000	100 (13)
- ≥ 20,000 - < 49,999PLN	94 (12)
- ≥ 50,000 - ≤ 199,999PLN	168 (21)
- ≥ 200,000	149 (19)
- Warsaw	45 (6)
Household's income*, PLN:	
≤ 1,000	9 (1)
> 1,000 - ≤ 2,000	106 (13)
> 2,000 - ≤ 3,000	220 (28)
> 3,000 - ≤ 4,000	149 (19)
> 4,000 - ≤ 5,000	86 (11)
> 5,000	52 (7)
- refused to answer	173 (22)
Households with Internet access, n (%)	598 (75)
Households with car, n (%)	634 (80)

*1 000 PLN ~ 250 EUR

Based on a study of 795 employees, 39% responders had worked while being unwell, percent impairment while working due to health 9.3%. Working time missed due to health (abseteeism) was 4.6%. Overall work impairment was 10.5% (table 2) – approximately 4 hours in 40-hour working week. No significant differences were seen between I and II wave of the study and between male and female (table 3). All indices increase with increasing age (figure 1).

Results

Table 2. WPAI:GH result (total population, n=795).

Absenteeism (percent work time missed due to health)	Presenteeism (percent impairment while working due to health)	Work productivity loss (percent overall work impairment due to health)	Activity impairment (percent activity impairment due to health other than work in paid job)
4.61%	9.34%	10.53%	10.50%

Table 3. WPAI:GH subgroup result.

Sex	N	Absenteeism	Presenteeism	Work productivity loss	Activity impairment
Male	392	5.05%	9.03%	10.30%	10.10%
Female	371	4.16%	9.68%	10.77%	10.92%

Figure 1. WPAI:GH subgroup result – age (years).

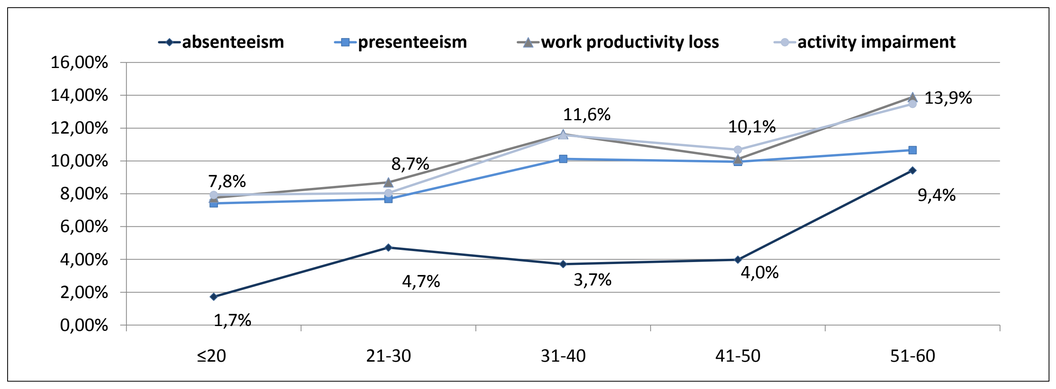


Figure 2. WPAI:GH subgroup result – paid employment.

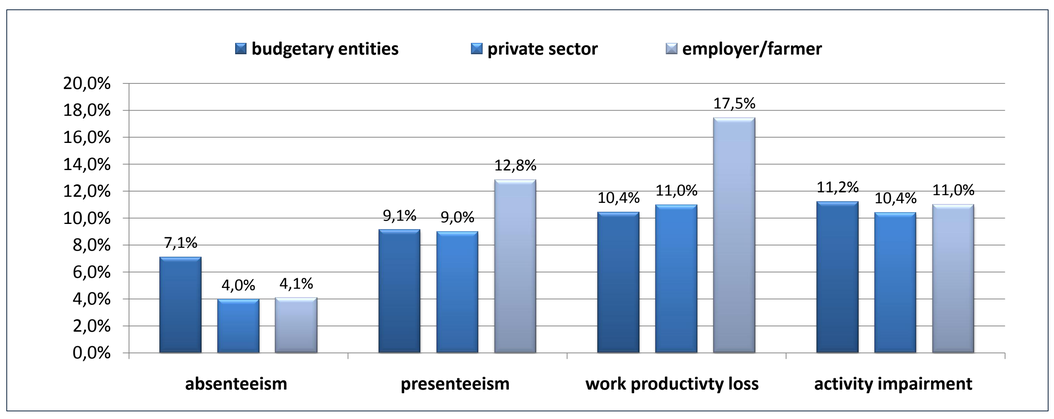
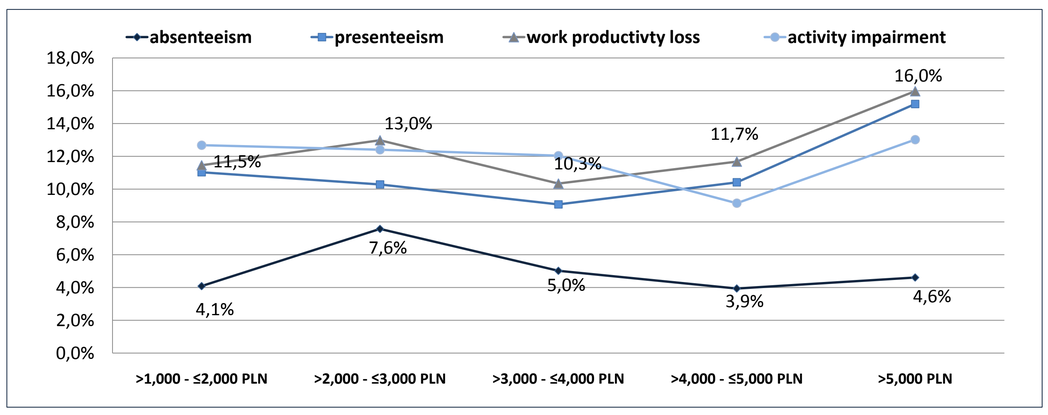


Figure 3. WPAI:GH subgroup result – household's income (PLN).



In the subgroups analysis work time missed was higher in a group of employees in budgetary entities than in private sector or employer/farmer, 7.1% vs 4.0% and 7.1% vs 4.1% respectively, but it did not reach statistical significance. Presenteeism was the highest in the employers/farmers group, and overall work impairment was higher in this group than in people employed in the budgetary entities (17.5% vs 10.4%, p = 0.01) or private sector (17.5% vs 11,0%, p = 0.04).
We observed a trend suggesting more overall work impairment due to health in high-income households (16.0%) than in low-income households (11.5%). Inverted trend was elicited in presenteeism, what implicated the highest work productivity loss in the members of the most wealthy households (figure 3).

Conclusions

Work Productivity and Activity Impairment measured by WPAI-GH in the Polish population is similar to these observed in other European countries and the U.S. - overall work impairment is around 10%.
Work in budgetary entities might be related to higher absenteeism rate, however overall work impairment was higher in employers/farmers group than in people employed in the budgetary entities or private sector. Relation between work impairment and income, education or settlement need further analysis.

References

[1] Gold M, Siegel J, Russell L, Weinstein M. Cost-effectiveness in health and medicine. Oxford University Press. New York 1996
[2] International Society For Pharmacoeconomics and Outcomes Research. Pharmacoeconomic Guidelines Around the World.
[3] http://www.reillyassociates.net/

Acknowledgments

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