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Effects of a 55+ program on sickness absence in the food industry

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Abstract

The aim of the 6-year follow-up study was to analyze the effects of the senior program on sickness absence. In all 129 employees aged 55 years and above participated in the program and 229 employees of the same age in the control group. Sickness absence days and short (≤7 days) and long (>7 days) spells were calculated. After the program the odds ratio for days was 0.834 (0.67–1.04) in the intervention group vs. control group. The OR for short spells was 1.200 (1.11–1.30) and for long spells 0.799 (0.70–0.91). The study suggests that the intervention decreased the risk for long sickness spells.

Key terms: sickness absence, ageing/senior worker, intervention

Introduction

The association between sickness absence and age is a quite widely studied subject. We already know that younger workers have more short sickness absence spells than older ones and, on the contrary, that older workers have more long spells than younger ones. (1–4) Increased sickness absence rates predict worker's early retirement (5). Due to the aging of the population and due to the decrease in the number of younger in relation to older employees it is essential to keep people longer in working life.

In companies many kinds of pilot programs related to health and work ability promotion have been addressed to the older workers, but scientific publications about them are rare. One of the few interventions related to age management is the Vattenfall Age Management Program in Sweden focused on both individual and organizational attributes. At the core of the program was the age management leadership 80-90-100 schedule offered to the employee. The program allowed the participants to work 80 % of his/her working hours while receiving 90 % salary and earning 100 % pension points. This program increased the average retirement age in the company from 58 to 62.5 years over six years. In addition sick leave rates were lower among workers in the 80-90-100 program compared to the company on average. (6) In Finland Abloy Age Master program aimed at extending the working life of the personnel, reducing sickness absence and increasing the appreciation of senior workers and transferring tacit knowledge. The program included supervisory work, work conditions and content, functional capacity, rehabilitation age master holidays, functional events and communication. The aims were achieved; the retirement age increased by three years, sickness absence decreased evenly (especially due to musculoskeletal diseases) and appreciation of aging workers increased. (7)

Objective

Prompted by the outcomes of earlier studies on age management the aim of this study was to examine the effects of a senior program (meant for employees 55 years of age or above) on sickness absence among blue-collar workers in a food industry company.

Methods

The study was based on the data from a sickness absence register in a large Finnish food industry company (total personnel over 2,000) from 2003 to 2008. The information about the workers who participated in the senior program was obtained from the human resources management of the company. The subjects of the study were production personnel (blue-collar workers) 55 years of age or above. These blue-collar workers' work in the food factory is physically demanding including lifting and carrying, repetitive and monotonous movements, complicated working positions, heat, coldness, noisiness, etc. In all 129 employees participated in the program (intervention) and 229 employees of the same age in the control group. About 80 % (n=103) were women in the intervention group and respectively 68 % (n=155) in the control group. The mean age of the study subjects at the beginning of follow-up was 57 years in both groups. The mean of the follow-up was almost 3 years in both groups. The study was approved by the ethics committee of the Pirkanmaa University Hospital District.

Sickness absence was expressed as days and spells with different duration (1–7 days or more than 7 days) in relation to person-years. They were calculated individually one year before joining the program (baseline) and for the time in the program (follow-up). The same factors for the same time were calculated for the control group. The comparison inside the groups was made by comparing sickness absence rates during the follow-up time to baseline absence rates in the year before joining the program (see Figure 1).

Joining year and number of participants in the groups		Year of baseline and follow-up years					
Intervention N=129	Control N=229	2003	2004	2005	2006	2007	2008
2004 n=35	n=129	base-line	follow-up				
2005 n=17	n=21	---------	base-line	follow-up			
2006 n=27	n=27	--------	----- ---	base-line	follow-up		
2007 n=30	n=28	--------	----- ---	------	base-line	follow-up	
2008 n=20	n=24	--------	----- ---	-------	------ ---	base-line	follow-up

Figure 1. Study design

Baseline consisted of the sickness absence rate from one year before joining the program, and the follow-up years range from 1 to 5 (mean was 3 years).

Senior program

The senior program was implemented in part of the company in the year 2004 and was meant for employees 55 years of age or above. Other criteria were voluntary participation and working at least five years in the company. If the criteria were fulfilled, the employee had an appraisal with her/his supervisor and the manager of the unit. The decision of approval was made by the production manager or managing director. The program was part of an internal function and was not organized outside the concern by outside consultants.

The program aimed to pay attention to the specific needs of the worker. Also, it included some special benefits (e.g. extra holidays, discussion with a supervisor about work demands and work ability and options to change the content of work and need for rehabilitation or education). There was also wage security, which meant that the wage does not fall lower even if the demands of the work decreased. The

participants of the senior program were also relieved of three-shift work and their circulating in different work posts was minimized. In addition the participants of the program were able to change their holiday pay or extra pay based on a year in service to days off. The option for free or partially free physical therapy with the company doctor's certificate was also one of the benefits included in the senior program.

Statistical analysis

Sickness absence rates of the individual follow-up time were calculated together in both the intervention and the control group. Person-years were also summed up for each individual. From the summed sickness absence rates and person-years we calculated indicators of sickness absence rates by person-year. These variables were used to describe the frequencies and to examine the changes inside the groups (Wilcoxon's test). Sickness absence rates were described by medians and ranges. The investigation of sickness absence between the groups was made using Poisson regression (generalized linear model). Sickness absence days were studied with negative binomial distribution. All the statistical analyses were performed by SPSS for Windows version 15.0.

Results

Basic factors

The study subjects in the intervention group (N=129) had higher sickness absence rates already before the follow-up. In all 19 % (n=25) of the intervention group had no sickness absence days before the follow-up. In the control group (N=229) the proportion was 31% (n=70). During the follow-up these zero values decreased in both groups being 8 % (n=10) and 15 % (n=35) respectively.

Changes in sickness absence inside the groups

The sickness absence days and the short spells increased statistically significantly during the follow-up in the intervention group (N=129).

In the year before joining the intervention (baseline) there were 14 sickness absence days, but during follow-up 24 days (p=0.013). In the control group (N=229) sickness absence spells did not increase as clearly as in the intervention group although sickness absence days increased statistically significantly (p=0.003). (Table 1)

Table 1. Sickness absence of the intervention and the control group presented as medians and ranges. The change inside the groups was measured by Wilcoxon's test[1]. All sickness absence is measured per person-year.

Variable of sickness absence	Intervention group (N=129)					Control group (N=229)				
	Baseline		Follow-up		change[1]	Baseline		Follow-up		change[1]
	Md	(range)	Md	(range)	p	Md	(range)	Md	(range)	p
Days	14.0	(0-264)	24.0	(0-197)	0.013	9.0	(0-296)	12.8	(0-292)	0.003
The number of 1-7 days spells	2.0	(0-16)	3.0	(0-19)	<0.001	1.0	(0-11)	1.4	(0-9)	0.043
The number of more than 7 days spells	0	(0-6)	0.9	(0-6)	0.179	0	(0-6)	0.4	(0-8)	0.023

Differences in sickness absence between the groups

The results indicate that the intervention group had a statistically significant decreased risk (OR 0.80 [0.70–0.91]) in over 7 days' sickness absence spells compared to the control group (Table 2). On the contrary in short spells (1–7 days) the susceptibility to risk was increased in the intervention group, in which it was 1.20-fold (OR 1.20 [1.11–1.30]) compared to the control group. There was no statistically significant difference between the groups in sickness absence days.

Table 2. Baseline sickness absence spells[1] adjusted associations with sickness absence spells between the intervention group and the control group during follow-up (presented as OR and confidence intervals) analyzed by Poisson regression model. A person-year is in the model as an offset variable.

Variable of sickness absence	Workers not in the senior program / Control group N=229		Workers in the senior program / Intervention group N=129	
	OR	[95 %CI]	OR	[95 %CI]
Different lengths of sickness absence spells				
1-7 days	1		1.200	[1.11-1.30]
>7 days	1		0.799	[0.70-0.91]
Sickness absence days*	1		0.834	[0.67-1.04]

[1]baseline meant sickness absence spells in the year before joining the program
*studied using negative binomial distribution

Discussion

The main result was that workers in the senior group had lower risk for long sickness absence spells (>7 days) than those in the control group. On the contrary they had higher risk for short sickness absence spells (1–7 days).

The senior workers in the intervention group had higher sickness absence rates before the intervention than those in the control group.

Also, their rates increased more than in the control group. It is possible that workers in the intervention group had more impaired health or work ability which means a healthy worker effect in the control group. On the other hand it is positive that the workers with impaired health or work ability were willing to promote their work ability. It is also evident that if these workers had not joined the program their sickness absence rates would have increased even more. It seems that that the workers in the intervention group did not need so many long sickness absence spells if they had enough short spells. On the other hand in the control group short spells also increased and despite that their risk for long sickness absence spells was higher than in the intervention group. However, it could be positive if increased short spells reduced the need for long sickness absence spells.

Criticism has been leveled at wide-ranging age discrimination in practice, which our studied senior program also partly represents. The criticism points out differences between age groups (in terms of health, well-being, overall performance, personal initiative etc.) are usually much smaller than differences between individuals belonging to the age groups concerned. (8) Programs like the senior program at hand may also yield social identity as an "older worker", which is found to be related to negative attitudes towards work and on the contrary the organizations which not use age as a criterion for distinguishing between workers enhance positive attitudes towards work. (9) On the other hand, programs directed at older workers may increase positive attitudes towards aging workers, which was also an aim of the human resources management of the company.

The weakness of this study can be found in the inaccuracy in point of time of the year when a worker joined the intervention. We checked that most of the workers joined the program in the early months of the year. Also, the baseline sickness absence adjusted in the statistical model may be skewed by exceptional sickness absence rates. This is quite marginal, but possible if a worker had much more or less sickness absence days than normally in the baseline year. Actually, the strength of the present study was the study design including a control group, which is rarely available in studies based on workplace programs.

Conclusion

The study suggests that long sickness absence spells could be reduced by taking into account individual needs of aging workers.

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