

A Short Communication on Analysis of Health Factors Affecting Employees' Absenteeism

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Short Communication

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ABSTRACT

Employees' health condition is very important; it affects not only their well-being but also the firms and society through increased medical costs and productivity losses. The dataset contained both medical checkups and working record information obtained from 1,136 employees was used in the study. Long-term absenteeism was analyzed by the logistic regression models. The results suggested that high-density lipoprotein cholesterol and blood sugar levels were important factors to reduce long-term absenteeism. These factors could be improved by modifying eating habits. Since the corporation has its own company cafeteria, nutritional interventions could be performed at very little cost. Analyses of different types of jobs and working conditions are necessary.

Keywords: Absenteeism; Reduction of absence days; High-density lipoprotein cholesterol; Blood sugar

DESCRIPTION

This article is a short communication of the author's work published in Health [1]. The study analyzed the health factors affecting employee absenteeism. Employee health conditions are important. Thus, employees' well-being is directly affected. Moreover, firms and society would suffer increased medical costs and productivity losses owing to poor employee health conditions [2]. Absenteeism and presenteeism are the major causes of productivity loss. Various studies have been conducted, including those on monetary costs for firms and society [3]. Firms must invest in improving their employees' health conditions [4]. However, some studies have shown that the return on investment is volatile for employers, raising the important question of whether an investment is worthwhile from a managerial perspective [5]. Therefore, it is necessary to identify important health factors related to absenteeism and presenteeism and invest in improvements of these factors. Since presenteeism in the workplace is a complex issue, proper measurement is very difficult. Furthermore, it is pointed out that "absence" is a good proxy for employees' health conditions [6]. Thus, this study focuses on absenteeism.

The study used a dataset containing information on both the health and working records of 1,136 employees at one operational site of a large corporation. Health data were obtained from annual mandatory medical checkups in fiscal year 2020. Work records contain information on employee absences from October to December 2021.

The total working days during the sample period were 63 for most of the employees, 83.2% had no absence days, and the total absence days for all employees were 1604 days. 8.3% of employees had over three absence days, and the total of their absence days accounted for about 90% of all employees' absence days. Hence, the corporation must reduce long-term absenteeism. We considered long-term absenteeism if an employee was absent for more than three days.

A logistic regression model was used for the analysis. One problem was that the number of observations was not very large. No estimates of health factor covariates became significant at the 5% level if all covariates were included in the model. Hence, a procedure based on likelihood ratio statistics and the Akaike information criterion was used to select the covariates. If a variable is not related to long-term absenteeism, it becomes noise in the model.

Using this procedure, the selected model included High-Density Lipoprotein Cholesterol (HDL-C), a female dummy, B_Sugar (Blood Sugar), height, and oxaloacetic transaminase as covariates. Among health factors, the estimates of HDL-C and B_Sugar were negative and positive, respectively, and were significant at the 5% level. This means that a higher HDL-C level reduces long-term absenteeism, whereas a higher B_Sugar level significantly increases it.

The normal HDL-C level in Japan is 40 mg/dL. The percentage of long-term absenteeism with normal HDL was 7.8%; however, for employees with low HDL-C levels (less than 40 mg/dL), this percentage was 15.1%, almost twice as large as that of the normal group. A person is diagnosed with diabetes if B_Sugar \geq 126 mg/dL, prediabetes if B_Sugar is 110-125 mg/dL, and normal if B_Sugar $<$ 110 mg/dL. Among employees with normal B_Sugar levels, the percentage of long-term absenteeism was 7.6%. However, the percentage was 18.2% for prediabetic or diabetic employees (110 mg/dL or higher), which was more than double of the normal group.

The costs of absenteeism for corporations are considerably high because of the replacement and training costs of additional employees required to maintain service. The results of this analysis suggest that HDL-C and B_Sugar levels are two important factors directly related to absenteeism. It has been reported that HDL-C and B_Sugar levels can be improved through lifestyle improvements, such as changing eating and exercise habits.

CONCLUSION

Since the corporation has its own company cafeteria used by most employees, nutritional interventions could be performed at very little cost. Therefore, nutritional interventions should be considered beneficial. The results obtained in this study are based on data obtained from one operational site at a single corporation. Therefore, the results of this study cannot be generalized. However, the method used in this study can be applied to corporations and employees, regardless of their working conditions. One limitation is that the effects of employees' mental health conditions, which are very important, were not evaluated. Therefore, it is necessary to further investigate these topics.

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