Preliminary Evaluation of the “Eat, Sleep, Walk” Health Literacy Development Project Using ICT and Nudges

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Summary Health and Productivity Management has been promoted in Japan since 2014. Certification criteria for Health and Productivity Management include the improvement of employee health literacy. This report provides an overview of the “Eat, Sleep, Walk” health literacy development project using ICT+incentives+nudges developed for companies, and describes its preliminary evaluation and challenges.

Key Words health literacy, NCD (non-communicable disease), workplace health promotion, nudge

In Japan, the Ministry of Economy, Trade, and Industry began certifying Health and Productivity Management brands in 2014 (1), causing significant occupational health promotion. One of the certification criteria adopted is “improvement of health literacy”, which is expected to be an effective intervention. Many ICT-based tools have been developed to enhance employee health literacy, but few studies have described their effectiveness. The purpose of this report is to outline and conduct a preliminary evaluation of the “Eat, Sleep, Walk” health literacy development project using ICT+nudge+incentive.

Materials and methods
This project was selected and subsidized by the Ministry of Health, Labour and Welfare’s FY2018 and a consortium was established by 15 health insurance unions and Value HR Corporation. Monthly meetings were held to create an overall atmosphere of collaboration, share know-how, provide information from experts, and hold workshops to advocate this program. On the portal site accessible by PCs and smartphones, useful content that enhances health literacy was provided, including: a daily e-newsletter with single-frame cartoons; a daily activity record; distribution of videos on health concepts such as diet, exercise, and sleep; an online walking competition among companies; and a health cafeteria. The main content is on-demand videos, presented by engaging lecturers and of an easy-to-watch length of 10–20 min. The e-newsletter includes funny single-frame cartoons by professional cartoonists to increase the opening rate.

Incentives were given for watching videos, opening newsletters, and participating in walks for a total of about 2,000–3,000 points that could be redeemed for Amazon gift cards and health-related items. Preliminary evaluation was conducted using the Lifestyle and Health Literacy Scale (CCHL, Ishikawa 2008) (2) in a pre/post comparison design.

Results
Participant recruitment was conducted in October and December 2018, and 14,075 people participated (male/female ratio 6:4, most in their 50s). The content usage rate was about 60% for the online walking competition; 39–45%, video distribution; and 28%, newsletter opening. Evaluating lifestyle habits using a before-and-after comparison design, improvements were seen in the following areas: eating breakfast, avoiding overeating, eating dinner at least two hours before bedtime, thinking about nutritional balance, avoiding soft drinks and snacks, eating slowly, sleeping longer, working less, exercising over 30 min, and increasing the number of walking steps. In health literacy, the subscales of judgment, communication, and self-determination improved by 5–10%.

Discussion
These results suggested a relation between acquiring desirable lifestyle habits and the improvement of health literacy in the insurance project using ICT and nudges. Overall, the results were generally favorable in terms of lifestyle and health literacy indicators. However, there were large differences in participation rates among health insurance associations, suggesting that there are various factors affecting the effectiveness of the program, such as the ingenuity of the methods used to recruit participants and the enthusiasm of those in charge. This report is a preliminary evaluation based on a before-and-after comparative design, and a more detailed analysis based on a research design with a higher level of evidence is needed. The study provides valuable insights into the paucity of empirical studies on ICT-based health literacy interventions in Japan.

Nudge technology was utilized in this program. Through the intentional use of nudges, improvements

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In output indicators (e.g., increased participation in events on the application and web service, and increased viewing of video and newsletter content) were observed. This can be organized using Nudge’s EAST framework: Easy (a simple worldview was presented so that no individual content appeared complex), Attractive (a fun atmosphere was created by illustrating the characters, Kuneru-kun and his wife, and utilizing them in a cartoon), and Social (a walking competition with internal and external users), and Timely (a daily e-newsletter with a single-frame cartoon was distributed to keep up with the latest information and frequently updated con-
The project continues as “Eat, Sleep, Walk+Prevent” with additional content on infection prevention during the COVID-19 pandemic, starting in 2020. Occupational health has been greatly affected by the pandemic, especially with regard to the latest infection trends, infection prevention in the workplace, and the health effects of telecommuting. Employees are experiencing increased challenges due to the lockdown and expanded telecommuting, including lack of exercise, decreased daily steps, disrupted diets, increased VDT syndrome, and corona-related mental health disorders, which need to be addressed in the workplace. The three management practices (work environment management, work management, and health management) that have been implemented in occupational health need to be expanded to the home, and health promotion programs that can be done at home, such as this program, are likely to be useful in With Corona.

The goal of Health and Productivity Management is said to be improving the health literacy of employees and organizations. In Japan, an increasing number of companies is acquiring Health and Productivity Management brands and their subordinate standards, such as White 500 and Bright 500. At the same time, there is a need for effective health literacy interventions in the context of Health and Productivity Management. The relationship between health literacy and productivity has also been pointed out, and specific and effective interventions such as this program are needed in the future.

Improving the health literacy of individual employees and organizations is a key factor in workplace health promotion; we will continue to improve the program and conduct more detailed evaluations.

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REFERENCES
