

Health Status and Health Promoting Behaviors among Aging Workers in Thailand

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Objective: To examine health status, health promoting behaviors and predictors of health promoting behaviors of Thai aging workers.

Material and Method: The subjects of this descriptive study were 2,312 aging workers (45-60 years) working in large, medium and small-sized industry in all regions of Thailand selected by multi-stage random sampling. Data was collected by using the self-administered questionnaire.

Results: About 59.3% of aging workers had perceived health status at good level, while 41.9% had underlying diseases and 15.4% had experienced work-related accidents. Health promoting behaviors were mostly at fair and good level (49.8% and 47.6%, respectively). More than half of aging workers had health promoting behaviors related to self-actualization, exercise, and stress management at good level (63.6%, 58.7% and 53.1% respectively). Health responsibility, Nutrition and interpersonal relationship at fair level (51.2, 49.6 and 51.5 respectively). Support from co-workers, attitude toward health promotion, health risk behaviors, support from media, accessibility to health promotion activities, support from family members, workplace health promotion policy, perceived health status and support from supervisors altogether could explain 25.1% of variance in health promoting behaviors of aging workers.

Conclusion: To promote health promoting behaviors of aging workers, workplace should have health promotion policy in place, facilities and schedule of health promotion activities should also be arranged to encourage participation. In addition, co-workers and family members should be encouraged to motivate the involvement of aging workers in health promotion activities.

Keywords: Health status, Health promoting behaviors, Aging workers

J Med Assoc Thai 2012; 95 (Suppl. 6): S16-S20

Full text. e-Journal: <http://jmat.mat.or.th>

The current demographic structure leads to an increasingly trend of aging workforce in industrial sectors. The International Labor Organization estimated that by 2025, people aged over 55 years would increase by 32%; approximately 30% of the population in Europe and North America, 21% in Asia and 17% in Latin America⁽¹⁾. In Thailand, it is estimated that elderly ratio will be increased to 15% 2010 and that would make Thailand part of the aging society⁽²⁾.

Although the definition of aging workers is not universally agreed upon, aging workers was defined by WHO as persons aged 45 years and above⁽³⁾. In Thailand, there were 12,601,400 workers aged 40-59

years accounting for 35.9% of all workers aged 15 years and above⁽⁴⁾. This group of workers is at risk of health problems due to physiological changes and hormone deficiency. Long-term health risk behaviors and risk factors from workplace environment would increase possible morbidity⁽⁵⁾. This indicated that aging workers were in a group that deserved to be provided with health care, emphasizing health promotion for minimizing physical disorders and enhancing well-being.

The present study therefore aimed to explore health status and health promoting behaviors of Thai aging workers. According to the PRECEDE-PROCEED Model⁽⁶⁾, relevant factors include predisposing factors, enabling factors and reinforcing factors which can be used to explore predictors of health promoting behaviors of aging workers.

Material and Method

In Thailand there were 1,946,827 industrial workers aged from 45-60 years, registered as social

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security members in 2006⁽⁷⁾. The subjects of the present study were selected from workers in all regions of Thailand using by multi-stage random sampling to include all regions of Thailand. First, Bangkok and ten provinces with industrial estate including Samutprakan, Pathumthani, Prachinburi, Rayong, Lamphoon, Pitsanulok, Nakornratchasima, Khon Kaen, Songkhla and Suratthani were purposively. Next, one industry of large size (> 1,000 workers), one of medium size (500-1,000 workers) and one of small size (< 500 workers) were randomly selected from each province. Then, 100 workers from large size industry, 70 workers from medium size industry and 50 workers from small size industry were randomly selected from the name list of workers aged from 45-60 years in each factory. The total of 2,640 workers were obtained to be subjects in the present study.

Instrument

A self-administered questionnaire was used. Subjects were asked about their demographic characteristics and working information. Knowledge related to health promotion was measured using the 25-item true/false response. Attitude toward health promotion was assessed by 20-item rating scale (strongly agree-strongly disagree). Enabling factors including the availability of workplace health promotion and accessibility to health promotion activities/facilities/equipment was assessed by using 23-item yes/no response. Reinforcing factors including support from supervisors, co-workers, health personnel, family members and media were measured by the 6-items rating scale (often/sometimes/rarely/never).

Health promoting behaviors including health responsibility, exercise, interpersonal relationship, self-actualization and stress management was measured by the 46-item scale modified from Health Promotion Lifestyle Profile⁽⁸⁾. Subjects were asked how often they performed their health promoting behaviors with the 4 possible responses (often/sometimes/rarely/never).

Health status was measured through subject's perception and results of annual health check-up. Subjects were asked whether their perceived their health status as very good/good/fair/poor. The past year annual health check-up were also obtained from the Human Resources Division of the factory with subject's permission.

The content validity of the questionnaire was examined by a panel of experts. It was also pre-tested with 49 workers aged from 45-60 years in Chachoengsao Province. The reliability values of knowledge on health

promotion, attitude toward health promotion and health promoting behaviors were acceptable (Cronbach's alpha coefficients of 0.82, 0.82 and 0.92 respectively).

Data collection

After getting approval from Human Research Ethics Committee of Mahidol University, provincial coordinators were asked to collaborate in approaching selected factories. The questionnaires were distributed to the subjects to complete. They were allowed to return questionnaire in the next day to research assistant. After getting permission from each subject, annual health checkup information was obtained from the Human Resources Division of the factory.

Data analysis

Descriptive statistics and stepwise multiple regression was used for data analysis.

Results

Samples characteristics

Of total subjects, 56.1% were from the large-size industry, while 15.8% and 28.1% are from the medium and small-size industry. Subjects were mostly female (63.2%), married (73.2%) and finished primary education (51.7%). Most of them aged between 45-50 years (74.6%). One-third of them had worked for over 20 years ($\bar{x} = 15.1$ $SD = 8.9$). About 33.5% of subjects were on shift work, while 52.8% reported overtime work. Occupational hazards of aging workers include exposure to dust (29.0%), loud noise (22.7%), chemical substances (15.7%), heavy lifting (26.8%), awkward position (35.2%), static posture (29.5%) and regular stress at work (11.4%). About 15.4% of aging workers had work-related accidents in the past year

Most aging workers perceived that their health status was at good level (59.3%), while only 2.6% indicated that they had poor health status. About 41.9% of aging workers had underlying diseases. The most reported conditions were backache (31.2%) and hypertension (24.8%).

According to the record of annual health checkup, 76.8% of aging workers received an annual health checkup. Specific checkups for female included cervical cancer (67.1%), breast self-examination (68.7%). Specific checkup for male included prostate cancer (8.8%), colon cancer (8.8%). Most aging workers were overweight (50.8%), or obese (6.2%). About 62.6% of subjects had hyperlipidemia, while 22.6% were at risk of diabetes. Health screening showed that 22.7% had restrictive lung diseases, 50% had obstructive

Table 1. Number and percentage of aging workers classified by level of health promoting behaviors

Health promoting behaviors	Level of behavior			
	Good Number (%)	Fair Number (%)	Poor Number (%)	Total Number (%)
1) Self-actualization	1,432 (63.6)	757 (33.6)	62 (2.8)	2,251 (100.0)
2) Health responsibility	704 (31.0)	1,161 (51.2)	404 (17.8)	2,269 (100.0)
3) Nutrition	414 (18.3)	1,122 (49.6)	728 (32.2)	2,264 (100.0)
4) Exercise	1,332 (58.7)	852 (37.6)	84 (3.7)	2,268 (100.0)
5) Interpersonal relationship	951 (42.5)	1,153 (51.5)	133 (5.9)	2,237 (100.0)
6) Stress management	1,189 (53.1)	997 (44.5)	54 (2.4)	2,240 (100.0)
Overall health promoting behaviors	1,080 (47.6)	1,129 (49.8)	59 (2.6)	2,268 (100.0)

Table 2. Stepwise-Multiple Regression analysis of aging workers' health promoting behaviors

Factor	B	Std. Error	Beta	R ² change	t	p-value
Support from co-workers	- 0.096	0.020	0.164	0.151	4.711	< 0.001
Attitude toward health promotion	- 0.192	0.026	0.181	0.036	7.476	< 0.001
Health risk behaviors	- 0.029	0.005	- 0.132	0.012	5.904	< 0.001
Support from media	0.062	0.014	0.120	0.017	4.476	< 0.001
Participation convenience	0.123	0.024	0.121	0.011	5.188	< 0.001
Support from family members	0.080	0.018	0.118	0.011	4.469	< 0.001
Health promotion policy	0.012	0.003	0.094	0.006	3.903	< 0.001
Perceived health status	0.034	0.016	0.047	0.002	2.111	0.035
Support from supervisors	0.032	0.016	0.064	0.002	2.044	0.041
Constant = 1.347 R ² = 0.251 Adjusted R ² = 0.251 F = 59.468 p-value < 0.05						

respiratory disorders and 10.2% had impaired hearing. Menopausal symptoms were reported among 65.2% of female workers, while testosterone deficiency was found in 6.0% of male workers. Health risk behaviors reported by aging workers were smoking (12.0%), regular alcohol drinking (21.8%), having extra-marital relationship (9.3%) and sleeping less than 6 hours per day (29.0%).

Health promotion knowledge of aging workers was mostly at good level (86.4%), while the attitude toward health promotion was mostly at fair level (82.6%). About 82.8% of subjects reported that their workplace had health promotion policy in place. Accessibility to health promotion activities and equipment was at fair level (54.8% and 47.8%, respectively), while 53.0% were highly accessible to health promotion facilities. Aging workers received health promotion support from supervisors at low level (38.1%). Support from co-workers/public health personnel/media was fair (41.6%, 38.9% and 44.8% respectively), while support from family members was high (58.3%).

Overall health promoting behaviors of aging workers were at fair level (49.8%) and good level (47.6%) (Table 1). More than half of aging workers had health promoting behaviors related to self-actualization, exercise and stress management at good level (63.6%, 58.7% and 53.1% respectively). Health responsibility, nutrition and interpersonal relationship were reported to be at fair level (51.2%, 49.6% and 51.5% of respondents respectively).

Stepwise multiple regression analysis showed that perceived health status, having health risk behaviors, attitude toward health promotion, workplace health promotion policy, accessibility to health promotion activities, support from co-workers, support from media, support from family members and support from supervisors could altogether predict 25% of variance in health promoting behaviors of aging workers (Table 2).

Discussion

Although aging workers should be considered as important assets of their organizations because

of their skills and experiences, health promotion programs addressing the health needs of aging workers are not widely implemented in Thailand. This may be due to the fact that there is a lack of information on the health of Thai aging workers. The present study illustrates the health status and health promoting behaviors of aging workers working in various sizes of industry located in all regions of Thailand. The finding that most of the aging workers had perceived health status at good levels might be due to the fact that all subjects are actively engaged in industrial jobs where a healthy workforce is required. However, it should be noted that more than one-third of them had underlying diseases. This calls for the need of health surveillance and health promotion among this group of workers. Reducing health risks such as obesity and hyperlipidemia can enhance aging workers' well-being as well as their ability to continue their productive participation in the workforce⁽⁹⁾.

Health promoting behaviors of the aging workforce should be enhanced especially behaviors related to health responsibility, nutrition and interpersonal relationships. Encouraging participation in health promotion activities, having health checked-up, healthy eating and enhancing relationships with others will lead not only to the prevention of chronic diseases, but also to the containment of health care costs.

Consistent with Green and Kreuter⁽⁶⁾, factors that could predict aging workers' health promoting behaviors consisted of predisposing factors including perceived health status and attitude toward health promotion, enabling factors including workplace health promotion policy and accessibility to health promotion activities and reinforcing factors including support from co-workers, media, family members and supervisors could altogether predict health promoting behaviors of aging workers. This reflected that the workplace should launch health promotion policy, facilitate the activities and enhance positive attitude toward health promotion and reducing health risk behavior. Advices should be provided by personnel in the workplace as well as by family members to support health promoting behaviors.

In addition, the present study reported that support from co-workers was the strongest predictor of aging workers' health promoting behaviors. Consistently with the concept of social support⁽¹⁰⁾ and previous studies^(11,12) which indicates that co-workers is a source of interpersonal influence leading to an increase in health promoting behaviors. Increasing health promotion behaviors could therefore be encour-

aged in the workplace through the support from coworkers.

The present study focused only on individual factors and organizational factors, therefore community factors that might be related to health promoting behaviors of aging workers should then be explored in the future study. Interventions to increase worker health promoting behaviors could be designed based on findings from the present study and tested for effectiveness using these variables. The policy studies on the guideline for providing appropriate health & safety services for aging workers should also be conducted in order to prepare health care and health promotion for these workers in the future.

Acknowledgement

The present study was funded by the Workmen's Compensation Fund of Social Security Office.

Potential conflicts of interest

None.

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ภาวะสุขภาพและพฤติกรรมสร้างเสริมสุขภาพของแรงงานสูงอายุในประเทศไทย

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วัตถุประสงค์: ศึกษาภาวะสุขภาพพฤติกรรมสร้างเสริมสุขภาพ และวิเคราะห์ปัจจัยทำนายพฤติกรรมสร้างเสริมสุขภาพของแรงงานสูงอายุ

วัสดุและวิธีการ: กลุ่มตัวอย่างของการศึกษาเชิงสำรวจนี้เป็นแรงงานสูงอายุ (อายุ 45-60 ปี) ที่ทำงานในโรงงานขนาดใหญ่ขนาดกลาง และขนาดเล็กจำนวน 2,312 คน ซึ่งสุ่มโดยวิธีการสุ่มแบบหลายขั้นตอนเก็บรวบรวมข้อมูลโดยใช้แบบสอบถามตอบด้วยตนเอง

ผลการศึกษา: ร้อยละ 59.3 ของแรงงานสูงอายุมีการรับรู้ภาวะสุขภาพอยู่ในระดับดี มีโรคประจำตัว ร้อยละ 41.9 เคยประสบอุบัติเหตุจากการทำงาน ร้อยละ 15.4 พฤติกรรมสร้างเสริมสุขภาพส่วนใหญ่อยู่ในระดับปานกลางและดี ร้อยละ 49.8 และ 47.6 ตามลำดับ แรงงานสูงอายุมากกว่าครึ่งมีพฤติกรรมด้านความสำเร็จสมบูรณ์ในชีวิต การออกกำลังกายการจัดการความเครียดอยู่ในระดับดีร้อยละ 63.6, 58.7 และ 53.1 ตามลำดับ ความรับผิดชอบต่อสุขภาพ โภชนาการและสัมพันธ์ภาพระหว่างบุคคลอยู่ในระดับปานกลางร้อยละ 51.2, 49.6 และ 51.5 ตามลำดับ การได้รับสนับสนุนจากเพื่อนร่วมงานทัศนคติเกี่ยวกับการสร้างเสริมสุขภาพ พฤติกรรมเลี้ยงทางสุขภาพ การได้รับสนับสนุนข้อมูลข่าวสารจากสื่อ ความสะดวกในการเข้าร่วมกิจกรรม การได้รับสนับสนุนจากบุคคลในครอบครัว นโยบายการสร้างเสริมสุขภาพ การรับรู้ภาวะสุขภาพและการได้รับสนับสนุนจากหัวหน้างาน สามารถร่วมกันทำนายพฤติกรรมสร้างเสริมสุขภาพของแรงงานสูงอายุได้ร้อยละ 25.1

สรุป: การส่งเสริมให้แรงงานสูงอายุมีพฤติกรรมสร้างเสริมสุขภาพดีขึ้น ควรสนับสนุนให้สถานประกอบการจัดทำนโยบายการสร้างเสริมสุขภาพ จัดสถานที่และเวลาที่เหมาะสมในการร่วมกิจกรรม จัดโครงการสร้างเสริมสุขภาพรวมทั้งบุคลากรในสถานที่ทำงาน และคนในครอบครัวควรจูงใจให้แรงงานสูงอายุเข้าร่วมกิจกรรม
