



Project Title: Pilot Medical Examination Schemes for Construction Workers
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Subject Area: Construction Safety and Health

Objective

To establish a health profile for the construction workers to achieve the following objectives:

1. to allow early detection of the health problems of construction workers to enable prompt treatment to be taken;
2. to check if there is any association between the health problems of construction workers and working conditions;
3. to analyze the general health conditions of construction workers, in terms of their gender, age, and work trades; and
4. to provide updated information for enhancing the welfare services for construction workers.

Background

The construction workers are aging and in shortage. To relieve this shortage, it is important to retain old workers and to attract young ones. However, work-related health problems could lead to early retirement and loss of workers. It is useful to establish a health profile for the construction workers to allow early detection of their health problems to enable prompt treatment to be taken. This will also help to promote a positive image of the construction industry and hence, may attract more young workers.

Methodology

The research comprises (a) a survey of 941 construction workers drawn from 47 sites, and (b) statistical analyses of the data collected.

Findings

1. Demographic
 - (a) About 87% of the construction workers surveyed were male with 66% aged 40 years or above. About 27% had not received any formal education or had received only primary education. About 61% received secondary education.
 - (b) The common trade categories were general labour (39.8%), followed by electrical labour (16.7%), technicians (8.4%), foremen (5.8%) riggers (4.9%), levelers (4.5%), machine operators (3.8%), plasterers (2.9%), welders (2.8%), and steel workers (2.4%).
2. Health Problems
 - (a) Hypertension and obesity were common for the construction workers surveyed: 38.6% and 62.6% suffered from hypertension and obesity respectively (overweight: 44.5% and obese: 18.1%).
 - (b) About 25% of the construction workers reported pain experience and the most common pain management method was 'ignore the pain' (41.7%). The pain was mostly in the lower back, shoulders and knees.

- (c) The construction workers were more obese than the general population (62.6% vs. 39.0%). This could be due to the limitation in the BMI calculation, which tends to give a higher value for construction workers who are more muscular.

3. Lifestyle Behaviours

- (a) About 2.0%, 69.9%, and 7.9% of the construction workers surveyed consumed sufficient dairy products (2 serves or more), protein (3 serves or more), and fruit and vegetable (5 serves or more) daily respectively. About 41.2% and 5.7% smoked and consumed alcohol exceeding the daily limit guideline respectively. About 25% of the construction workers engaged in sufficient leisure-time exercise (150 min moderate Physical Activities (PA) or 90 min vigorous PA/week) (4 times or more a week: 12.0%). However, they seldom carried out warm-up and cool-down exercises before and after work (50.1% and 14.5%, respectively).
- (b) The construction workers surveyed consumed less fruit and vegetables, and less dairy product than the general population. They also smoked more and consumed more alcohol than the general population.

4. Influences of Demographic Characteristics and Lifestyles on Public Health

- (a) Younger and more educated workers had less cardiovascular problems (e.g. hypertension, high cholesterol, and high blood glucose) than the older and less educated workers.
- (b) In terms of renal and liver functions, higher uric acid level was found in female workers only. More pain symptoms were found in older and less educated female workers than in younger and less educated male workers. Older and less educated female workers were also more susceptible to cardiovascular risk and pain experience.
- (c) Scaffolding workers, waterproofing workers, and welders reported the least pain whereas divers, rebar workers, riggers, and plumbing workers reported the most pain.
- (d) There was some association between lifestyle and the measured health indicators. For example, excessive alcohol consumption was associated with obesity (including both overweight and obese) and hypertension. On the other hand, longer duration of sleep was associated with normal weight status. Workers, who did warm-up exercise before work or engaged in sufficient amount of leisure-time physical activity, were less likely to report pain experience.

Recommendations

1. Health education classes/seminars should be arranged for construction workers to make them aware of the importance of leading a healthy lifestyle (i.e. to reduce alcohol consumption, stop smoking, increase intake of fruit and vegetables and carry out health-enhancing physical activity and warm-up exercise before work). These could lead to a reduced risk of workers contracting cancers and/or cardiovascular diseases (e.g. obesity and hypertension). Classes/seminars to promote proper pain management should also be provided.
2. Tailor-made interventions should be provided for older and less educated female workers, who were more vulnerable to cardiovascular problems and injuries.

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