Health-related behaviours and mental health among Hong Kong employees

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Abstract

Background: Poor physical and mental health among employees can result in a serious loss of productivity. Early detection and management of their unhealthy behaviours and mental health symptoms can prevent productivity loss and foster healthy workplaces.

Aims: To examine health-related behaviours, mental health status, and respective help-seeking patterns in employees, across different industries in Hong Kong.

Methods: 1,031 participants were telephone-interviewed and assessed using the Case-finding and Help Assessment Tool (CHAT) with employee lifestyle risk factors, mental health issues and help-seeking intentions screened across eight industries. Subsequent data analysis involved descriptive statistics and chi-square tests.

Results: Key stressors were work (30%), family (19%), money (14%) and interpersonal issues (5%). Approximately 18%, 9%, and 9% of participants were smokers, drinkers, and gamblers, respectively, and only 51% exercised regularly. Depressive and anxiety symptoms were reported by 24% and 31% of employees, respectively. Issues for which they wanted immediate help were interpersonal abuse (16%), anxiety (15%), anger control (14%), and depression (14%). Employees with higher education levels were less likely to smoke, drink and gamble than those with lower levels. Lifestyle and mental health status was not associated with income. Employees in construction and hotel industries smoked more and those in manufacturing drank more than those in other industries.

Conclusions: Physical and mental health of Hong Kong employees is concerning. Although Employee Assistance Programs are common among large companies, initiation of proactive engagement approaches, reaching out to employees-in-need unlikely to seek help for mental health issues, will be useful.

Key words: Health promotion; Mental health; Lifestyle; Occupational health; Substance disorder; Risk reduction behaviour; Help-seeking behaviour

Key Points

- The most frequently reported mental health issues are depression and anxiety; and most commonly sought help are for interpersonal abuse, anxiety, anger control and depression.
- The positive reply of smoking, drinking and gambling among employees with lower education level are higher, while there is no significant difference between income levels.
- The pattern of lifestyle risks, mental health symptoms, and help-seeking behaviours among different industries appeared to be comparable in Hong Kong, except smoking and drinking.
- Proactive engagement approaches to reach out to employees-in-need who are unlikely to seek help for their mental health issues are much needed in Hong Kong.

Introduction

Poor health conditions lead to absenteeism, presenteeism, and productivity losses among the working population [1]. Goetzel and colleagues estimated that the overall economic burden of illnesses could be as high as USD392 per eligible employee per year for hypertension, USD327 for arthritis, and USD348 for depression and other mental illnesses. They also found that presenteeism costs were higher than medical costs [2].

The World Health Organization (WHO) reports that mental illnesses are the leading cause of disability adjusted life years (DALYs) worldwide [3]. The World Economic Forum report *The Global Economic Burden of Non-communicable Diseases* estimates that the global cost of mental illness reached nearly USD2.5 trillion (two-thirds in indirect costs) in 2010, with a projected increase to over USD6 trillion by 2030 [4]. In other words, health-related work losses are costly to companies. Hence, examining the physical and mental health status of the working population can provide objective indicators for the development of health promotion and illness prevention strategies.

The Hong Kong's labour force participation rate in 2015 was 3.90 million, which was about 69% of the total population aged 15 and over in Hong Kong [5]. There is a paucity of information pertaining to employees' lifestyle risk behaviours and mental health status in Hong Kong. According to the Behavioural Risk Factor Survey (2014) of the Department of Health in Hong Kong [6], about 40% of people aged 18-64 were overweight or obese; about 50% and about 60% had not engaged in any moderate or vigorous physical activity for at least 10 minutes a day, respectively; 11% were smokers and 5% drank daily. The Hong Kong Mental Morbidity Survey 2010-2013 found that 362 (15%) of the 2,500 respondents were classified as having significant levels of neurotic symptoms, including 6% had anxiety and 4% with depressive symptoms. However, less than 25% wished to seek help [7]. If there is a

high prevalence of poor health-related behaviours and mental health issues in the workplace, it is logical to suspect that a large proportion of the general population is affected. However, the working population is often understudied, mostly because they are usually considered less vulnerable than other populations, such as children, the elderly, and people with disabilities. Further, being occupied by their jobs, employees may have insufficient time and energy to seek help for their psychological needs [8], while some may choose not to disclose their mental health symptoms in order to avoid stigmatization or job loss, hence their deterioration may go undetected until their condition becomes severe [9]. Early identification of unhealthy lifestyles and mental health symptoms therefore has the potential to prevent chronic and serious physical and mental health problems in the workplace.

In addition, lifestyle patterns and mental health may vary across different industries, such as finance, social services and hospitality. There is increasing evidence that both the content and context of work can play a role in the development of mental health problems in the workplace [10, 11]. Workload (both excessive and insufficient work), lack of participation and control in the workplace, monotonous or unpleasant tasks, role ambiguity or conflict, lack of recognition at work, poor interpersonal relationships, poor working conditions, poor leadership and communication, as well as conflicting home and work demands, are all significant factors that may impact on employees' mental health [11]. The nature of the industries may also have an impact. For instance, research has found that offshore workers in the oil industry demonstrated greater anxiety than those working onshore [12]. However, it is unclear from the empirical literature whether and how the situation across industries may differ in Hong Kong.

The aim of this study was to assess the physical and mental health status of employees across industries in Hong Kong, using the Case-finding and Help Assessment Tool (CHAT). This

validated tool measures nine physical and mental health risk factors, as well as identifying those respondents wanting help [13, 14]. Knowing the lifestyle and mental health status of employees can inform mental health promotion campaigns targeting specific mental health issues, and different industries.

Methods

We conducted a cross-sectional telephone survey in Hong Kong between March and June 2014. The data were collected by researchers from the Social Science Research Centre (SSRC), The University of Hong Kong (HKU), who received two full-day training on the contents of the telephone survey, basic research methodology, usage of research-related computer programs, a coding and rules briefing, and how to conduct the telephone interviews. Quality control was accomplished by supervisors randomly checking recorded phone interviews and calling back interviewees to reconfirm answers. All interviews were conducted in Cantonese (Chinese dialect commonly spoken in Hong Kong). The Human Research Ethics Committee for Non-clinical Faculties at HKU approved this study.

A sample of 50,000 mobile numbers was randomly generated using the mobile numbers prefix data published by the Office of the Telecommunications Authority. The inclusion criteria were 1) aged at least 18 years; 2) fluent in Cantonese; and 3) worked more than 20 hours in the past week. Among the holders of these numbers, 21,585 (43.1%) did not answer the call, 17,103 (34.2%) were disconnected numbers, 6,329 (12.7%) were non-contact numbers, 2,448 (4.9%) declined to participate, and 1,504 (3.0%) were excluded because they did not meet the criteria.

The Case-finding and Help Assessment Tool (CHAT) was developed and validated in New Zealand to identify nine risk factors in lifestyle (problematic smoking, drinking, recreational

drug use, gambling, exposure to abuse, physical inactivity) and mental health issues (depression, anxiety, difficulty with anger control) among primary care patients in the past month [15, 16]. The scale showed good sensitivity, specificity and likelihood ratios when compared to other gold standard instruments [16]. Sample questions are: *How many cigarettes do you smoke on average a day? Do you ever feel the need to cut down or stop your smoking? And if yes, do you want help with this?* The responses include: *No, Yes,* or *Yes but not today.* CHAT has previously been translated into Chinese and used with Chinese students in New Zealand language schools [17]. Addition of the question inquiring if help is needed to the screening questions improves the specificity of the detection of an issue [15, 18]. People screening positive with multiple co-occurring conditions are significantly more likely to want help, and will prioritise the issue which they want to address first [19]. Demographic information, including gender, education level, and monthly income, was collected. The type of industries asked included 1) Community, Social and Personal Services; 2) Import/Export, Wholesale/Retail; 3) Finance, Insurance, Estate and other Commercial Services; 4) Transport, Warehousing and Communication; 5) Hotels and Restaurants; 6) Construction; 7) Manufacturing; and 8) Others.

To enhance the representativeness of our findings, we weighted the collected data for each industry, based on the industry distribution of the Hong Kong 2011 Population Census [20]. Descriptive analyses were used to calculate the number and percentage of responses of each item among eight industries. We used tertiary or above education as the cut-off point for higher education level and median income as cut-off point for income, then used C*hi*-square tests to examine the differences between employees with different education levels, income levels and among industries.

Results

There were 1,031 participants (561 males and 470 females) who were employees working at

least twenty hours per week in the eight industry categories at the times of the interviews. The distribution of the participants over different industries was similar to that of the general Hong Kong population for those industries (Table 1). Around 53% of participants' education level were at tertiary or above, 34% high school, 9% matriculation, and 3% primary school. Their monthly income ranged from below HKD5,999 (USD800) to HKD30,000 (USD4,000) or above. The median income was approximately HKD15,000 to 19,999 (USD1,900-2,500). The participants' common stressors were work (30%), family (19%), money (14%), interpersonal circumstances (5%), study (4%), and health (2%). One-third (345 participants) of the participants did not identify any stressor at the time of the interview.

(Table 1 to be inserted here)

Among those who reported drinking, 57% were casual drinkers (less than four times a month) and about 9% indicated drinking 2 to 3 times a week. Sixteen percent indicated the need of cutting down their drinking. About half of the participants lived an inactive life, with 49% (503) indicating that they did not get 30 minutes of moderate or vigorous exercise five days per week (Table 2).

(Table 2 to be inserted here)

Overall, 31% (317) reported feeling anxious, 24% (251) were down, depressed or hopeless; 17% (176) found it difficult to control their anger; and 10% (106) were afraid of being hurt by someone else (Table 2). Among those reported lifestyle and mental health risks, 35% indicated that they had requested help for drug use, 24% for smoking, 29% for depression, 26% for anger control and 23% for anxiety. Some participants indicated that they wanted help on the day of the interview for the following issues: 16% for abuse, 15% for anxiety, 14% for

anger, 14% for depression. Only a small proportion (4%) indicated help for drinking. Overall, 300 participants (30%) indicated that they wanted help with at least for one issue, with 196 participants (20%) wanting help on the day of the interview.

The rates of positive responses to questions about mental health and lifestyle risks appeared to be quite similar between industries (Table 3). Statistically significant differences only exist in the positive reply in smoking ($\chi^2 = 82.97$, $p < .001$) and drinking ($\chi^2 = 38.24$, $p < .001$). Employees in the construction industry reported the highest rates of smoking (35%), anxiety (35%), followed by depression (31%), gambling (13%) and using drugs (7%). However, their help-seeking rates were relatively low, especially for depression (12%) and gambling (0%). Similarly, 32% of respondents in the hotel and restaurant industry reported anxiety, but only 8% wanted help. About 22% of respondents in manufacturing and 18% of those in the hotel and restaurant industry reported drinking 2 to 3 times a week but none of them indicated the intention of help-seeking. In the import/export and wholesale/retail industry, 30% reported feeling depressed, and expressed more help-seeking: 29% for smoking, 25% for drug use and 24% for depression, 23% for anxiety, and 15% for gambling. It is worth noting that participants in the finance-related industry indicated relatively low intention of seeking help, except for anger control, even though they reported medium rates of mental health and lifestyle risks. There is no significant difference identified between employees with salary below and above median. Employees with higher education levels were less likely to indicate positive responses in smoking ($\chi^2 = 71.02$, $p <.001$), drinking ($\chi^2 = 4.54$, $p < .05$) and gambling ($\chi^2 = 22.43$, $p <.001$) than those with lower education levels (Table 2).

(Table 3 to be inserted here)

Discussion

This study presents the lifestyle risk patterns, mental health status, and help-seeking intention of employees in Hong Kong. A strength of this study is that it is the first to systematically investigate mental health and lifestyle across different industries and compare the mental health situation and help-seeking in those industries in Hong Kong. This will serve as baseline and provide valuable information for local employers, policymakers and mental health practitioners. A limitation of this study is that it is a self-reported telephone survey, and hence may not engage the participants in answering the questions as thoughtfully as through face-to-face interviews. Although we followed a strict process to recruit participants, telephone surveys may not reach those who were too busy to undertake a phone survey, and those experiencing depression may not be willing to answer such questions over the phone. Therefore, there may be a selection bias against the busiest of the employee population, who may be more at risk of mental health issues. However, we had a reasonable sample size and weighted the data for each industry to maintain the representativeness of the results.

Employees in Hong Kong experience considerable pressure from work. This finding is consistent with previous studies, showing that the effects of work stress on the development of common mental health disorders have increased over the past decade [21]. Work stress, including job strain or effort-reward imbalance, and low levels of social support, are risk factors for mental health disorders among employees.

The mental health of the working population is of particular concern. Nearly one-third (31%) and one-quarter (24%) of the participants reported suffering from anxiety and depressive symptoms, respectively. This was worse than the findings for patients in general practices screened with CHAT in New Zealand (29% reporting anxiety and 16% depression) [14], although better than among patients in general practice waiting rooms in Canada (41%

reporting anxiety and 50% depression) [22]. Although the populations of employees and patients are not directly comparable, the high percentage of employees in Hong Kong experiencing symptoms of mental health issues is alarming. The figures about anxiety and depressive symptoms are higher than the prevalence of depression (8.4%) among adults aged 18-64 in Hong Kong which used a diagnosis method with DSM-IV [23]. The present findings are much higher than the international rates assessed with screening instruments such as the Center for Epidemiologic Studies Depression (CES-D) scale or the Zung Self-rating Depression Scale (SDS) among farmers or employees in different occupations: anxiety 7%-15% and depression 9%-28% [24].

The current study showed that there is a large proportion of the employees in Hong Kong reported mental health symptoms, however, there were only 4.39 psychiatrists per 100,000 population, which is well below other high-income regions such as England (17.65/100,000) and Japan (10.1/100,000), according to 2011 figures [25]. Another challenge is the unsatisfactory interface between primary care and specialist psychiatric services, which has made the latter overloaded [26]. Help-seeking behaviour was much lower than the rates of problematic issues reported by the participants in the current study, suggesting that mental health literacy should be promoted in workplaces, and help-seeking resources should be made systematic for employees. Increasing mental health understanding among employees would also help to decrease the stigma of mental health disorders, which in turn would increase the help-seeking rate among those suffering from mental health symptoms [27].

Concerning the comparison of mental health status and help-seeking behaviour across industries, only smoking and drinking were found to be significantly different. The percentage of smoking in construction industry is much higher than others, which is consistent with the study in the U.S. [28]. In addition, the employees in the construction

industry reported the highest percentages of drug use, gambling, depressive symptoms and anxiety; nonetheless, they had the lowest rates of help-seeking for smoking, depression, and gambling as compared with employees in other industries. This is consistent with other studies that the construction industry has a relatively high prevalence rate of mental health disorders [24]. However, the general patterns of, and reasons for, unhealthy behaviours and metal health symptoms between different industries remain unclear. Industry factors, such as the nature of the industry, time and business-specific factors, may play an important role and deserve further investigations.

In this study, employees with higher education levels smoked, drank and gambled less than those with lower education levels. Individuals with higher education levels may have more knowledge about the harmful effects of smoking, excessive drinking and gambling, as well as better self-control [29]. Thus, promoting health and mental health knowledge in school and workplace would be helpful to promote healthy lifestyle. We did not find significant difference in lifestyle and mental health status among people with different income levels. Such association appears to be complicated. On the one hand, income levels is a proxy measure of socioeconomic status, where a higher income may be related to more material resources to promote health [30]. One the other hand, a high-income level may be related to longer work hour and more stress at work, which will increase the risk of mental health issues. Further research is needed to examine the relationship between income and mental health.

In conclusion, employees' mental health and lifestyle risks in Hong Kong are alarming, especially given the low help-seeking rates. It is acknowledged that for many employers, providing a mentally healthy workplace can be perceived as a costly investment. However, given the high cost of underperformance among employees due to lifestyle risk behaviours

and mental health problems, the benefits of prevention of, and early intervention into, mental health issues in the workplace certainly outweigh the cost of such an investment. Although Employee Assistance Programs (EAP) are common among large companies in Hong Kong, it will be useful to initiate some proactive engagement approaches to reach out to employees-in-needs who are unlikely to seek help for their mental health issues. More studies on protective and risk factors would improve our knowledge and development of preventive measures.

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Conflicts of interest

The authors have no conflicts of interest to declare. The authors alone are responsible for the content and writing of the paper.

Table 1. Participants' distribution across industries compared with the Hong Kong population

Industry	**Participants** ***n*** **(%)**	**HK Census 2011 data** [20] %
1. Community, Social and Personal Services	*272* (26)	26
2. Import/ Export, Wholesale/ Retail	*149* (15)	23
3. Finance, Insurance, Estate & Other Commercial Services	*183* (18)	19
4. Transport, Warehousing and Communication	*115* (11)	9
5. Hotels & Restaurants	*70* (7)	8
6. Construction	*97* (9)	8
7. Manufacturing	*68* (7)	4
8. Others	*77* (8)	3

Table 2. CHAT response rates

CHAT Domains	Responses *N*	Positive Replies *n* (%)	Help question responses			Education level			Monthly income		
			No	Yes, but not today	Yes	Lower [c] Positive %	Higher Positive %	χ^2	Lower [d] Positive %	Higher Positive %	χ^2
Smoking	1029	181 (18)[a]	134	28	15	27	9	71.02***	17	19	3.47
Drinking	1013	95 (9) [b]	89	1	3	11	7	4.54*	8	9	0.25
Drugs	1031	46 (5)	28	7	9	5	4	0.87	4	5	0.01
Gambling	1026	94 (9)	72	7	11	14	5	22.43***	12	8	3.11
Depressed	1031	251 (24)	173	38	36	24	24	0.02	26	23	1.48
Anxiety	1031	317 (31)	237	27	46	31	31	0.01	32	31	0.13
Abuse	1031	106 (10)	83	4	17	10	10	0.04	11	10	0.46
Anger	1027	176 (17)	126	22	24	18	16	0.46	16	18	0.77
Exercise	1031	528 (51)	481	15	20	50	51	0.05	48	51	1.16

Note:
[a] Smoking one or more on an average day (range was 1 to >30 a day) was considered a positive response.
[b] Drinking twice a week or above was considered a positive reply.
[c] Higher education level includes participants who received tertiary or above education; lower education level includes participants with no schooling/kindergarten, primary, secondary or matriculation education.
[d] Lower monthly income range from no income to HK$1,4999 (about median) ; higher monthly income refers to HK$15,000 or above.

Table 3. Positive responses to mental health, lifestyle and help questions among employees in different industries

CHAT Domains	Positive replies	1[a] Community *n* (%)	2 Import *n* (%)	3 Finance *n* (%)	4 Transport *n* (%)	5 Hotel *n* (%)	6 Construction *n* (%)	7 Manufacturing *n* (%)	8 Others *n* (%)	χ^2
Smoking	181	36 (14)	28 (12)	26 (13)	24 (26)	23 (28)	28 (35)	11 (22)	4 (13)	82.97***
Drinking	95	16 (6)	11 (5)	19 (10)	11 (12)	14 (18)	10 (13)	11 (22)	3 (9)	38.24***
Drugs	46	12 (5)	13 (6)	9 (5)	0 (0)	2 (3)	6 (7)	2 (4)	2 (6)	7.58
Gambling	94	22 (8)	22 (10)	14 (7)	9 (10)	9 (11)	10 (13)	7 (14)	1 (3)	5.67
Depressed	251	58 (22)	69 (30)	42 (21)	13 (14)	23 (28)	25 (31)	12 (24)	9 (27)	13.13
Anxiety	317	72 (28)	74 (32)	68 (34)	25 (27)	26 (32)	28 (35)	16 (33)	8 (24)	4.60
Abuse	106	34 (13)	28 (12)	19 (10)	6 (7)	6 (7)	7 (9)	2 (4)	4 (12)	7.35
Anger	176	54 (21)	28 (12)	36 (19)	13 (14)	15 (19)	12 (15)	12 (24)	6 (18)	9.43
Exercise	523	140 (53)	121 (52)	97 (49)	47 (51)	35 (43)	41 (51)	25 (50)	17 (52)	3.14
Help seeking: "Yes, but not today"[b]										
Smoking	28	5 (14)	8 (29)	3 (12)	4 (17)	3 (13)	2 (7)	2 (18)	1 (25)	5.92
Drinking	1	1 (7)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	5.12
Drugs	7	1 (8)	3 (25)	2 (25)	0 (0)	0 (0)	1 (17)	0 (0)	0 (0)	2.65
Gambling	7	6 (27)	0(0)	1 (8)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	16.05*
Depressed	38	7 (12)	11 (16)	8 (19)	0 (0)	6 (26)	3 (12)	2 (18)	1 (11)	5.79
Anxiety	27	9 (13)	8 (11)	4 (6)	0 (0)	2 (8)	2 (8)	1 (6)	1 (13)	5.31
Abuse	4	2 (6)	2 (7)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	3.03
Anger	22	7 (13)	3 (11)	4 (11)	1 (8)	2 (13)	2 (18)	2 (18)	1 (17)	1.09
Exercise	15	4 (3)	2 (2)	2 (2)	1 (2)	2 (6)	2 (5)	1 (4)	1 (6)	3.23
Help seeking: "Yes"										
Smoking	15	3 (9)	2 (7)	0 (0)	2 (8)	3 (13)	4 (14)	1 (10)	0 (0)	4.79
Drinking	3	0 (0)	0 (0)	0 (0)	1 (9)	0 (0)	1(10)	1 (10)	0 (0)	6.12
Drugs	9	2 (17)	3 (25)	0 (0)	0 (0)	1 (50)	2 (40)	1 (50)	0 (0)	6.41
Gambling	11	2 (9)	3 (15)	1 (8)	1 (11)	1 (11)	3 (33)	0 (0)	0 (0)	5.28
Depressed	36	6 (10)	16 (24)	5 (12)	3 (23)	3 (13)	2 (8)	1 (8)	0 (0)	8.89
Anxiety	46	6 (9)	16 (23)	9 (13)	4 (16)	2 (8)	5 (19)	3 (19)	1 (13)	7.20
Abuse	17	3 (9)	3 (11)	6 (32)	2 (33)	2 (40)	0 (0)	1 (50)	0 (0)	11.91
Anger	24	4 (8)	5 (19)	9 (25)	1 (8)	2 (13)	2 (20)	1 (9)	0 (0)	7.82
Exercise	20	7 (5)	5 (4)	3 (3)	0 (0)	2 (6)	2 (5)	1 (4)	0 (0)	3.67

Note:

[a] 1 to 8 represent the eight main industries identified in the Hong Kong Census 2011. Results are weighted per industry to match the industry population.
1 = Community, Social and Personal Services
2 = Import/Export, Wholesale/Retail
3 =Finance, Insurance, Estate and other Commercial Services
4 =Transport, Warehousing and Communication
5 = Hotels and Restaurants
6 = Construction
7 =Manufacturing
8 = Others
[b] Help-seeking responses for the number of positive respondents in that industry.

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