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Original article

Mental health of business employees at a Thai company during the coronavirus disease 2019 (COVID-19) pandemic

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Abstract

Background: Mental health is a state of well-being in which individuals can manage their emotional, psychological, and social well-being in daily life. Factors related to the coronavirus disease 2019 (COVID-19) pandemic such as social isolation, social distancing, quarantine, long-term work from home, or unemployment could potentially result in poor mental health.

Objectives: To investigate business employees' mental health including depression, anxiety, and stress and related factors during the COVID-19 pandemic.

Methods: The current study was a cross-sectional descriptive study. Online questionnaires were sent to the 127 employees in a business company in Thailand. Data were collected by using the personal data questionnaires, the happiness at work scale, and the Depression Anxiety Stress Scale (DASS-21). The related factors to employees' mental health were analyzed by Chi-square and Fisher's exact test. The logistic regression was performed on the predictors of employees' mental health.

Results: Of the 127 employees, 124 completed the questionnaires. One-third of the employees had anxiety (30.6%), depression (29.0%), and stress (25.8%). Factors significantly associated with mental health were emotional factors, working variables, happiness at work, responsibility for family expenses, getting help from mental health professionals, and using sleeping pills during the past one year ($P < 0.05$). The predictors of having mental health problems were emotional factors (despair, dismal feelings, angry feeling) the working factors, (low satisfaction with the previous year's performance appraisal) and happiness at work. Additionally, using sleeping pills during the past one year can predict anxiety and depression.

Conclusion: During the COVID-19 pandemic, some of the business employees at a selected company had mental health issues. Factors related to mental health problems are either involving to the work or the personal issues.

Keywords: COVID-19, employees, mental health, pandemic.

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The pandemic of the coronavirus disease (COVID-19) shocked the world's population. It has had a major effect on our lives than usual such as face mask-wearing, maintaining social distancing, studying or working at home. People were asked to isolate themselves without face-to-face interaction and outdoor activities were restricted.[1] When we spent more time at home; doing housework, and working from home (WFH) it altered the rhythms of daily life. These unhealthy lifestyle changes, or called new normal, have possibly influenced many of us facing with negative feelings of anger, stress, anxiety, depression, loneliness, boredom, insecurity, and uncertainty, especially, in vulnerable people.[1, 2] Long-term exposure to these feelings leads to mental health issues.

Lifestyle changes at work inevitably affected the employees. The office was left empty since the employees stayed at home to work, namely working from home or WFH. Many companies already applied online platforms, i.e., Zoom, before the COVID-19 pandemic to allow their employees to work from home.[3] Many employees did not only face with problems with technology but also mainly distracted by noise or more responsibility at home during working at home, which influenced their mental health. Moreover, stress can predict a high level of depression and reduce sleep quality due to working at home during the COVID-19 pandemic.[4] According to a previous study[3], long-term working on an online platform increased fatigue and diminished personal life. Some people were concerned about their online image and the pictures of environment of the home by comparing themselves to others. These may decrease happiness at work and increase stress.

The COVID-19 pandemic has not only affected health and mental health but also has impacted a global macroeconomic crisis.[5] The commercial indicators have declined, especially, the confidence index about overall job opportunities. It dropped to 45.1, the lowest level in 21 years, which impacted the companies to consider layoffs or temporarily suspended the employees.[6, 7] The employees felt insecure about their current job. The Department of Mental Health of Thailand reported suicide rate increased among Thais during the COVID-19 pandemic (7.37:100,000 people) and close to the Asian Financial Crisis on 1997 (8.59:100,000 people).[8] Many of us have been influenced by various problems. Thus, the current study aimed to investigate mental health during the pandemic of the COVID-19 study of the employees at a large consumer goods company in Thailand by using online questionnaires.

Materials and methods

This cross-sectional descriptive study has been approved by the Institutional Review Board of the Faculty of Medicine, Chulalongkorn University. The subjects were the Thai full-time employees aged ≥ 18 years who had been working at a consumer goods business company before the COVID-19 outbreak in Thailand (February 1, 2020) and continued to work at the time of the end of the study in June 2022. The exclusion criteria were the employee who was unable to read and understand Thai language, was on maternity leave, long-term sick leave, long-term leave, was working and responsible for sales indirectly to the company, and was probationary employee or employee who was undergoing disciplinary investigations or receiving probation.

Of the 127 employees who were invited to participate by email, 124 sent back the complete self-report online questionnaires including the demographic data, the information about their work, the Happiness at Work Scale, and the Depression Anxiety Stress Scale (DASS-21).

Happiness at Work Scale was developed by Sucheera Phattharayuttawat following the concept from Frederick Herzberg's Two-Factors Theory: motivation factor and maintenance factor. The scale was improved by Phansuea P, *et al*.[9] The scale measured on 12 facets comprises achievement, recognition, the work itself, responsibility, possibility of growth, salary, interpersonal relationship with superiors, interpersonal relationship with subordinates, company policy and administration, working conditions, job security, and overall happiness at work. The scale's internal consistency (α) was 0.89. The 5-Likert scale was applied to the 23 items. The individual with the highest level of happiness at work had an average score between 4.51 - 5.00.

Depression Anxiety Stress Scale (DASS-21) was 21 items. The scales indicated how much the statement applied to the subjects over the past week. The DASS-21 was measured on three facets including depression, anxiety, and stress. The Thai version was by Oei TPS, *et al*.[10] and they allowed Pityaratsatian N. and Buathong N. to adjust the scale suit to the context of the sample. Subjects were asked to respond to the items with a 4-Likert scale; 0 did not apply to me at all and 3 was applied to me very much. The recommended cut-off scores are shown in Table 1.

Table 1. DASS-21 interpretating scores.

	Depression	Anxiety	Stress
Normal	0 - 4	0 - 3	0 - 7
Mild	5 - 6	4 - 5	8 - 9
Moderate	7 - 10	6 - 7	10 - 12
Severe	11 - 13	8 - 9	13 - 16
Extremely severe	14+	10+	17+

Statistical analysis

Data analysis was performed by using Statistical Package for the Social Sciences (SPSS) version 25. The demographic data, information about work, and the happiness at work of mental health employees were presented by using the proportion, percentage, mean ($\bar{x}$), standard deviation (SD), minimum, and maximum. Chi-square and Fisher's exact test was applied to analyze the association between each facet of mental health and related characteristics. The related characteristics to the facet of mental health were analyzed by logistic regression. A *P* - value less than 0.05 was statistically significant.

Results

Of the 124 subjects, most of them were single (53.2%), graduated with Bachelor's Degree (54.0%), female (60.5%), and Buddhist (94.4%) with the age range between 19 - 29 years old (38.7%). Nearly half of them (48.4%) had sufficient income and 20.2% have medical disease such as allergies.

Almost half of the employees (46.2%) worked at the company for less than five years. Most employees worked at the practitioner level (69.4%), more than 20 days/month (70.2%) and worked 8 - 9 hours/day (63.3%), which were the same before COVID-19 with the work style that has changed (40.3%) but these changes (i.e., WFH, online meeting-conference, submission of work and information, signing documents to confirm identity, and conditions for the working hours) did not affect their lifestyle. Almost half of them were satisfied with the previous year's responsible for assigned and performance appraisal on a moderate level, 48.4% and 49.2%, respectively.

Most employees (61.8%) had never had COVID-19 but they had a high-risk exposure to COVID-19 patients (64.5%) and hoped that the COVID-19 situation would ease (81.5%). During the COVID-19 pandemic, more than half of employees (64.5%) did less exercise during the lockdown and half of them (50.0%) drank alcohol while one-tenth of the employees (10.5%) smoked cigarettes during the pandemic. One-fourth of the employees (24.2%) desired for psychological help from a psychiatrist or mental health professional and 14.5% took sleeping pill during the past year.

According to happiness at work, the employees showed a moderate level (57.3%). They had the highest mean score ($\bar{x}$ = 3.75, SD = 0.58) on the responsibility facet, but on the other hand, the lowest mean score was the possibility of growth facet ($\bar{x}$ = 2.94, SD = 0.66). The average score of happiness score among them was 3.38 (SD = 0.49).

Most of the employees had normal mental health levels. According to the prevalence of mental health issue from mild to extremely severe levels, the most mental health issues were anxiety (30.6%), depression (29.0%), and stress (25.8%), respectively. However, no one had extremely severe levels of stress (Table 2).

Table 2. Mental health levels of employees on depression, anxiety, and stress.

Mental health levels	Depression n (%)	Anxiety n (%)	Stress n (%)
Normal	88 (71.0)	86 (69.4)	92 (74.2)
Mild	12 (9.7)	20 (16.1)	19 (15.3)
Moderate	18 (14.5)	8 (6.5)	9 (7.3)
Severe	4 (3.2)	5 (4.0)	4 (3.2)
Extremely severe	2 (1.6)	5 (4.0)	-
	x = 3.09, SD = 3.58, min = 0, max = 19	x = 2.48, SD = 3.14, min = 0, max = 15	x = 4.64, SD = 3.70, min = 0, max = 16

Pearson's correlation coefficient was applied to analyze between variables. The happiness at work had negative correlation with depression (r = - 0.373, P < 0.001), anxiety (r = - 0.340, P < 0.001), and stress (r = - 0.317, P < 0.001).

Nine variables were significantly associated with depression including responsibility for family expenses, dismal feelings about COVID-19, lonesome feelings about COVID-19, having no hope related to COVID-19, needing for professional help, using sleeping pills in the past year, no working style change during COVID-19, dissatisfaction with the previous year's performance appraisal, and low level of happiness at work (Table 3).

Table 3. Association between mental health (depression) and related factors.

Characteristics	Depression				X^2	P - values
	Normal (n = 88)		Mild to extremely severe (n = 36)			
	n	%	n	%		
Responsibility for family expenses						
Be able to take care of	70	79.5	19	52.8	9.036	0.003**
Very heavy burden	18	20.5	17	47.2		
Dismal feelings about COVID-19						
Low to lowest level	44	50.0	7	19.4	9.851	0.002**
High to highest level	44	50.0	29	80.6		
Lonesome feelings about COVID-19						
Low to lowest level	48	54.5	12	33.3	4.603	0.032***
High to highest level	40	45.5	24	66.7		
Having hope regarding COVID-19						
Yes	76	86.4	25	69.4	4.841	0.028***
No	12	13.6	11	30.6		
Professional help						
Yes/unsure	16	18.2	14	38.9	5.973	0.015***
No	72	81.8	22	61.1		
Using sleeping pills in the past year						
Yes (everyday/sometimes)	5	5.7	13	36.1	19.064	< 0.001*
No	83	94.3	23	63.9		
Working style changes during COVID-19 (n = 123)						
Yes	70	80.5	22	61.1	5.057	0.025***
No	17	19.5	14	38.9		
Satisfied with the previous year's performance appraisal						
Dissatisfied/low-moderate satisfied	43	48.9	26	72.2	5.648	0.017***
High satisfied	45	51.1	10	27.8		
Happiness at work						
Low to lowest level	49	55.7	27	75.0	4.019	0.045***
High to highest level	39	44.3	9	25.0		

*P < 0.001, **P < 0.01, ***P < 0.05

We found variables significantly associated with employees' anxiety including responsibility for family expenses, feelings of stressful, anxious, angry, dismal, or lonesome about COVID-19, effect of WFH on stress, having despair about COVID-19, needing for professional helps, using sleeping pills in the past year, responsible duration changed, satisfactions with the previous year's assigning responsibility or performance appraisal, and low level of the happiness at work (Table 4).

Table 4. Association between mental health (anxiety) and related factors.

Characteristics	Anxiety				X^2	*P* - values
	Normal (n = 86)		Mild to extremely severe (n = 38)			
	n	%	n	%		
Responsibility for family expenses						
Be able to take care of	67	77.9	22	57.9	5.210	0.022**
Very heavy burden	19	22.1	16	42.1		
Stressful feelings about COVID-19						
Low to lowest level	31	36.0	5	13.2	6.701	0.010*
High to highest level	55	64.0	33	86.8		
Anxious feelings about COVID-19						
Low to lowest level	30	34.9	5	13.2	6.140	0.013*
High to highest level	56	65.1	33	86.8		
Angry feelings about COVID-19						
Low to lowest level	48	55.8	12	31.6	6.198	0.013*
High to highest level	38	44.2	26	68.4		
Dismal feelings about COVID-19						
Low to lowest level	43	50.0	8	21.1	9.121	0.002**
High to highest level	43	50.0	30	78.9		
Lonesome feelings about COVID-19						
Low to lowest level	48	55.8	12	31.6	6.198	0.013*
High to highest level	38	44.2	26	68.4		
Effect of WFH on stress during COVID-19[a] (n = 98)						
Low to moderate	69	94.5	19	76.0	–	0.016*
High	4	5.5	6	24.0		
Having hope regarding COVID-19						
Yes	74	86.0	27	71.1	3.922	0.048*
No	12	14.0	11	28.9		
Professional help						
Yes/unsure	13	15.1	17	44.7	12.608	< 0.001***
No	73	84.9	21	55.3		
Using sleeping pills in the past year						
Yes (everyday/sometimes)	7	8.1	11	28.9	9.196	0.002**
No	79	91.9	27	71.1		
Responsible duration had changed						
Yes	32	37.2	6	15.8	5.689	0.017*
No	54	62.8	32	84.2		
Satisfied with the previous year's assigning responsibility						
Dissatisfied/low-moderate satisfied	39	45.3	25	65.8	4.409	0.036*
High satisfied	47	54.7	13	34.2		
Satisfied with the previous year's performance appraisal						
Dissatisfied/low-moderate satisfied	39	45.3	30	79.0	12.054	0.001**
High satisfied	47	54.7	8	21.0		
Happiness at work						
Low to lowest level	46	53.5	30	79.0	7.200	0.007**
High to highest level	40	46.5	8	21.0		

*$P < 0.05$, **$P < 0.01$, ***$P < 0.001$ [a] = Fisher's exact test

The result showed seven associated variables with stress, including responsible for family expenses, having high-risk exposure to COVID-19 patients, dismal feelings about COVID-19, needing for professional help, using sleeping pills in the past year, and being dissatisfied with the previous year's performance appraisal, and low level of happiness at work (Table 5).

Table 6 shows a logistic regression analysis of depression, anxiety, and stress. Four factors can predict depression including despair feeling about COVID-19, high to highest dismal feelings about COVID-19, past year's sleeping pills use, and dissatisfaction with the previous year's performance appraisal whereas there are six factors that can predict anxiety including having high to highest level of angry feelings about COVID-19, high-stress level due to work from home (WFH) during COVID-19, using sleeping pills in the past year, responsible duration had not changed, satisfaction about assigning responsibility and dissatisfaction about performance appraisal. In addition, high to the highest dismal feelings about COVID-19 and low to the lowest level of happiness at work can predict stress at the time of the pandemic.

Table 5. Association between mental health (stress) and related factors.

Characteristics	Stress Normal (n = 92) n	%	Mild to extremely severe (n = 32) n	%	X^2	*P* - values
Responsibility for family expenses						
Be able to take care of	71	77.2	18	56.3	5.131	0.024*
Very heavy burden	21	22.8	14	43.7		
Having high risk exposure to COVID-19 patients						
Yes	64	69.6	16	50.0	3.970	0.046*
No	28	30.4	16	50.0		
Dismal feelings about COVID-19						
Low to lowest level	44	47.8	7	21.9	6.604	0.010*
High to highest level	48	52.2	25	78.1		
Professional help						
Yes/unsure	15	16.3	15	46.9	12.098	0.001**
No	77	83.7	17	53.1		
Using sleeping pills in the past year						
Yes (everyday/sometimes)	9	9.8	9	28.1	6.437	0.011*
No	83	90.2	23	71.9		
Satisfied with the previous year's performance appraisal						
Dissatisfied/low-moderate satisfied	46	50.0	23	71.9	4.603	0.032*
High satisfied	46	50.0	9	28.1		
Happiness at work						
Low to lowest level	50	54.3	26	81.3	7.242	0.007**
High to highest level	42	45.7	6	18.7		

*$P < 0.05$, **$P < 0.01$

Table 6. Prediction of relation between mental health; depression, anxiety, and stress.

Variables	B	S.E. (B)	*P* - values	Adjusted OR	95% CI	
					Lower	Upper
Depression						
Despair about COVID-19	1.421	0.579	0.014*	4.143	1.332	12.891
High-highest dismal feelings about COVID-19	1.614	0.546	0.003**	5.024	1.722	14.655
Using sleeping pills in the past year	2.292	0.671	0.001**	9.899	2.658	36.866
Dissatisfied/low-moderate satisfied with the previous year's performance appraisal	1.372	0.521	0.008**	5.024	1.722	14.655
Anxiety						
High to highest level of angry feelings about COVID-19	2.716	0.838	0.001**	15.126	2.927	78.181
WFH affect to high-stress level during COVID-19	1.870	0.935	0.046*	6.486	1.037	40.567
Using sleeping pills in the past year	2.694	1.056	0.011*	14.793	1.867	117.203
Conditions for working hours at WFH had not changed	2.499	0.940	0.008**	12.175	1.928	76.893
High satisfied to the previous year's for assigning responsibility	1.902	0.902	0.035*	6.698	1.143	39.270
Dissatisfied/low to moderate satisfied to the previous year's performance appraisal	2.631	0.948	0.006**	13.889	2.164	89.119
Stress						
High to the highest dismal feelings about COVID-19	1.237	0.512	0.016*	3.445	1.262	9.404
Low to the lowest level of happiness at work	1.136	0.529	0.032*	3.114	1.103	8.787

*$P < 0.05$, **$P < 0.01$

Discussion

Employees around the world have been affected by the COVID-19 pandemic differently especially due to working from home. According to our results, most employees from a consumer goods business in Thailand had moderate level (57.3%) of happiness at work during the time of the pandemic. Of the 12 facets of happiness at work, the employees had the highest mean score on the responsible facet and the possible growth was the lowest facet. This result was consistent with previous studies[9, 11] that the responsible facet was the highest facet among hospital staff and commercial pilots. According to Bolisani E, *et al*. [12] even employees needed to WFH during the COVID-19 pandemic, however they still did their responsibility as usual. Additionally, our results revealed that the employees' happiness at work was negatively related to mental health. Happiness at work was affected by mental health issues and these issues could affect happiness at work as well. We found that having low to the lowest level of happiness at work can predict stress during the COVID-19 pandemic.

Although most employees had normal mental health but almost one-third of them had mild to extremely severe mental health issues including anxiety, depression, and stress. According to Talevi D, *et al*.[13], WFH could affect psychological issues, which anxiety was the most common negative emotion reported from online survey on COVID-19.[14] We found that the associated factors with anxiety were emotional factors such as despair, stressful, anxious, angry, dismal, and lonesome feelings during the COVID-19 pandemic. Lock down of the cities increased negative effect and internalizing symptoms and decreased positive effect and increased perceived stress.[15]

The factors associated with all mental health issues were the responsibility for family expenses, using sleeping pills in the past year, dismal feelings about COVID-19, unhappiness at work, and dissatisfaction with the previous year's performance appraisal. Due to the uncertainty of the pandemic, employees have risked losing their jobs consist to the pressure from their work. Many problems provoke by stimuli that were out of control. It turned into huge

trouble for mental health of individuals. Consequently, many associated factors that we found can cause them to find the advice. Some problems, the individual cannot disclose to significant or intimate people. The previous study[16] found that the individual with self-concealment information had high COVID-19 stress levels. Finally, they will be seeking help from professionals, e.g., psychiatrists and mental health professionals. Therefore, individuals who confront mental health issues may ask for assistance from professionals afterward. The current study was a cross-sectional study so the results did not demonstrate the causal association of the variables.

When focusing on the predictors of the mental health issues among the employees, having a high to the highest level of dismal feelings about COVID-19 can predict both depression and stress, also, feeling despair about COVID-19 can predict depression. People spent more time following COVID-19 news; moreover, Ni MY, *et al*.[17] depicted that frequent media exposure was related to mental health issues and negative feelings. Despair had a strong correlation with mental health issues, especially, depression.[18, 19] Consequently, these issues influenced the sleep quality and disturbed sleep cycle. Poor sleep can trigger mental health because the relationship between sleep and mental health is bi-directional.[20] Thus, individuals who faced with poor sleep and mental health issues in their life during COVID-19 might ask for using sleeping pills. According to the current study, using sleeping pills during the past year can predict both anxiety and depression. During the COVID-19 quarantine, people have unsatisfied with their sleep and took more sleeping pills approximately 20.0% than before.[21]

Regarding the information about work in the previous year, the results showed employees who had low satisfaction with their performance appraisal and assigning responsibility can predict depression and anxiety when compared to the employees with high satisfaction. A low level of happiness at work also predicted stress according to their report; the duration of working at home affected high-stress levels during COVID-19. The previous study from a systematic review[22] depicted that fear of COVID-19 affected high anxiety about a job. Therefore, employees were more concerned with responsibility and performance appraisal to maintain their current job. Not only mental health but also COVID-19 has directly impacted working styles. Thus, hope is a powerful feeling that one's expect and desire for a better situation to happen in the future.

Regarding the limitation of the current study, firstly, data were collected two years after the COVID-19 pandemic began in 2020. The results might differ from the mental health data collected during the first year of the COVID-19 pandemic. Thus, their lifestyle changes have adjusted accordingly to the new normal. Second, the sample size was small due to the number of employees in the department. Third, the study was a cross-sectional study that cannot illustrate the sequence or the causal relationship of variables. Lastly, the study was conducted among a specific group from one consumer goods business company in Bangkok that may not generalized to the general population or other companies.

Conclusion

Most employees from a consumer goods business company had normal mental health. However, 30.6%, 29.0%, and 25.8% of the employees had anxiety, depression, and stress, respectively, ranging from mild level to extremely severe during the COVID-19 pandemic. Responsibility for the family expense, negative feelings about COVID-19, conditions of working hours when WFH, dissatisfaction at work, unhappiness at work, and need for help for mental health or psychiatric symptoms were predictors of mental health issues of the employees during the COVID-19 pandemic.

The findings from the study could help the human resource or head of the department chief to plan or give advice to employees with mental health issues during COVID-19. Because employees with low mental health issues could affect their job responsibility, job performance, and happiness at work. These effects might be involved in the department's outcome. Thus, the authority should pay attention to and apply effective mental health guidelines to promote their employee's mental health, i.e., having mental health professionals in the workplace or company.

Conflicts of interest statement

Each of the authors has completed an ICMJE disclosure form. None of the authors declare any potential or actual relationship, activity, or interest related to the content of this article.

Data sharing statement

The present review is based on the references cited. Further details, opinions, and interpretation are available from the corresponding authors on reasonable request.

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