Psychological Status and Job Burnout among Prison Staff in One Jail in Chongqing during COVID-19 Epidemic

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Abstract: To investigate the job burnout of employees in one jail in Chongqing during COVID-19 pandemic, and to analyse the factors causing the burnout. A total of 160 prison workers from prison area 1, prison area 2, prison area 3, and institutions were selected conveniently. General data questionnaire and MBI were used to investigate prison staff the demographic characteristics and job burnout, and multivariate logistic regression was used to analyze the job burnout influencing factors. The rate of job burnout in the prison was 24.1%, and there were significant differences in job burnout (F=5.644), emotional exhaustion (F=4.965), depersonalization (F=3.239) and low sense of achievement (F=6.698) among departments (P<0.05). Multivariate logistic regression analysis showed that psychosis was a risk factor for job burnout, active coping was a protective factor for job burnout, and income, working environment and internal and external orientation were the independent influencing factors of occupational burnout. During the COVID-19 pandemic, the psychological status of most prison staff is negative, of which burnout is main mainefestiation. The independent factors that influence job burnout are income, working environment, spiritual quality, internal and external orientation, and positive coping. Prison leaders should pay more attention to the physical and mental health of prison staff, by improving their salary in time, and carrying out psychological intervention and humanistic care.

1. Introduction

At the end of 2019, COVID-19 swept around the world. The sudden outbreak of COVID-19 had a huge impact on people's life and property, health and socio-economic development. Industrial production, consumption and investment were all sharply reduced with some indicators falling the most in history, China has now entered the stage of regular prevention and control to prevent imported COVID-19 and domestic rebound. During this period, in order to prevent the spread of the virus, the working mode of prison staff in Chongqing changed significantly immediately: they continued to work in isolation for 21 days, during which they did not communicate with the outside world, contact with their families. So work in prison is boring and tiring, the life is monotonous, for

that the range of activities is limited, everywhere is monitored by supervision and cameras, could not touch the phone, etc., which probablly occur negative symptoms such as anxiety and job burnout in event related groups. As is known to all, the core content of job burnout is emotional exhaustion [1-3], which is a state of physical, emotional and mental exhaustion caused by long-term work pressure, resulting in negative self-concept and negative attitude towards work. It can be summed up as a syndrome of emotional exhaustion, low personal achievement and depersonalization, which seriously affects the physical and mental health of prison staff and service quality. Thus the purpose of this research is to study the job burnout of a prison staff in Chongqing, pay attention to the mental health and job burnout of prison staff, by improving the quality of prison service.

2. Objects and Methods

2.1. Research Objects

From July 12, to August 31, 2020, randomly selected staff in one prison in Chongqing, the prison hospital was implementing the isolation work system, that is, 21 consecutive days on, 14 days off. Inclusion criteria for research objects: on-duty prison staff (doctors, nurses and prison guards) voluntarily participated in this study; Exclusion criteria: non-enrolled prison staff who were either diagnosed with a definite mental illness or refused to participate in the study.

2.2. Research Tools

2.2.1. General Questionnaire

The content is self-compiled and used to collect the personal information of interviewees, including department, hospital, age, gender, working years, marital status, income status, professional title level, education level, family situation, interpersonal relationship, physical condition, etc.

2.2.2. Maslach Burnout Inventor-General Survey (MBI-GS)

The Chinese version of MBI-GS revised by Li Chaoping et al was used in this study. There are three dimensions including emotional exhaustion (5 questions), depersonalization (4 questions) and low sense of achievement (6 questions), and burnout is divided into a boundary with a total score of 50.

2.2.3. Eysenck Personality Questionnaire (EPQ) for Adults

The adult version of Eysenck Personality Questionnaire revised by Gong yaoxian was used in this study. It was divided into three subscales: extroversion (E), neuroticism (N), psychoticism (P), and a validity scale: disguise scale (L).Some items are scored in reverse. The higher the score of E scale is, the more extroverted they are. The higher the N scale score, the more unstable the mood.

2.2.4. General Self-Efficacy Scale (GSES)

In this study, the Chinese version revised by Zhang Jianxin et al. represents the self-confidence of individuals in adversity. GSES is scored by Likert4 grade scoring method, which is scored according to "1= completely incorrect","2= somewhat correct","3= mostly correct" and "4= completely correct". The higher the score, the higher the GSES.

2.2.5. Understanding the Social Support Scale (PSSS)

A total of 12 questions were selected and revised by Jiang Ganjin according to the scale compiled by Zimet et al. with a total score of 12-84 and an internal consistency reliability of 0.88.

2.2.6. Simple Coping Style Questionnaire (SCSQ)

This questionnaire has been widely used in China. It was compiled by Xie Yaning, a Chinese scholar. There are 20 questions in the questionnaire, including positive coping (1-12 questions) and negative coping (13-20 questions).

2.2.7. Mental Recovery Strength Table (CD-RISC)

The revised Version of The Conner-Davidson Resilience Scale (CD-RISC) by Zhang Jianxin et al was selected.0 = "never", 1= "seldom", 2 = "sometimes", 3 = "often", 4= "almost always".

Adopting the cross-sectional survey method, our study was approved by the hospital ethics Committee and distributed in the form of paper questionnaires. The questionnaire adopted uniform text instructions, which introduced the purpose, significance, filling method, matters needing attention and confidentiality of data.160 questionnaires were sent out and 155 were recovered, and 145 points were effectively received with effective recovery of 90.6%, excluding invalid questionnaires and repeated questionnaires.

2.4. Statistical Methods

SPSS 22 software was used for data analysis. According to different data types, descriptive statistics, analysis of variance, Chi-square test and Logistic regression were used respectively. P <0.05 was regarded as statistically significant difference.

3. Research Results

3.1. General Demographic Data

Among the staff in our investigation, 23 cases (15.9%) of employees in the no.1 supervision area, 59 cases (40.7%) of employees in the no.2 supervision area, 20 cases (13.8%) of employees in the no.2 supervision area, 43 cases (29.7%) of employees in institutions, 34 cases (23.4%) of employees in doctors, 24 cases (16.6%) for nurses and 87 cases (60%) for prison guards; There were 106 male employees (73.1%) and 39 female employees (26.9%).116 cases (80%) were married, 24 cases (16.6%) were unmarried, and 5 cases (3.4%) were divorced. The highest educational background was technical secondary school in 6 cases (4.1%), junior college in 35 cases (24.1%), bachelor in 100 cases (69%), master in 4 cases (2.8%).There were 67 cases (46.2%) in primary level, 67 cases (46.2%) in intermediate level, 10 cases (6.9%) in secondary high level, and 1 case (7%) in positive high level. 22 cases (25.2%) have worked for less than 5 years, 45 cases (31%) have worked for 6-10 years, 50 cases (34.5%) have worked for 11-20 years and 28 cases (19.3%) have worked for more than 21 years.

3.2. Results of Job Burnout

Our study shows that the detection rate of job burnout was 24.1% (35/145), including 47.8% (11/23) in the first supervision area, 23.7% (14/59) in the second supervision area, 20.0% (4/20) in the third supervision area and 14.0% (6/43) in the organization area. The detection rate of job

burnout was 32.4% (11/34) for doctors, 4.2% (1/24) for nurses and 26.4% (23/87) for prison guards.

The job burnout variance analysis shows that there were statistically significant differences among departments in job burnout (F=5.644), emotional exhaustion (F=4.965), depersonalization (F=3.239) and low sense of accomplishment (F=6.698) (P <0.05).Further LSD pair comparison shows that the burnout scores of employees in the Prison area 1 were higher than those in the Prison area 3 and the institutions, and the burnout scores of employees in the Prison area 2 were higher than those in the institutions (P <0.05). Emotional exhaustion was higher in the Prison area 1 than in the Prison area 2 and institutions (P <0.05).In terms of depersonalization, the Prison area 1 was higher than the institutions (P <0.05). In terms of low achievement, the Prison area 1 was higher than the institutions, and the Prison area 2 was higher than the Prison area 3 and the institutions (P <0.05). See Table 1.

Table 1: Analysis of job burnout among departments.

Project	Prison area 1	prison area 2	prison area 3	institutions	*F-value*	*P*-value	*LSD*
Job Bumout	48.13±2.76	41.85±2.03	35.45±5.94	31.00±2.57	5.64	.001	1>3,4 2>4
emotional exhaustion	17.91±1.32	12.03±1.08	13.40±2.04	10.05±1.12	4.96	.003	1>2,4
depersonalization	10.74±1.33	7.83±.74	7.35±1.70	5.67±.89	3.24	.024	1>4
diminished personal accomplishment	19.52±1.53	22.02±1.14	14.20±2.76	14.91±1.37	6.70	.000	1>4 2>3,4

3.3. Univariate Analysis Results of Job Burnout

Chi-square test results demonstrated that there were respectively statistically significant differences among job burnout in occupation, department, income, physical condition, work environment, work treatment, psychoticism, extraversion, neuroticism, positive coping and resilience (x^2 =6.732, 9.676, 22.211, 15.011, 29.314, 17.378, 9.075, 8.266, 10.322, 51.106, 10.582, P <0.05)   , and there were no statistically significant differences in marriage, age group and GSES (x^2 =0.967, 1.623, 22.043, P >0.05). See Table 2.

Table 2: Univariate analysis results of job burnout.

Affecting factors		Case number(145 cases)	Burnout group(35 cases)	No burnout group(110 cases)	x^2-value	*P*-value
occupation	Doctors	34	11(32.4%)	23(67.6%)		
	Nurses	24	1(4.2%)	23(95.8%)	6.732	0.035
	Prison guards	87	23(26.4%)	64(73.6%)		
department	Prison area 1	23	11(47.8%)	12(52.2%)		
	Prison area 2	59	14(23.7%)	45(76.3%)	9.676	.022
	Prison area 3	20	4(20.0%)	16(80.0%)		
	Institutions	43	6(14.0%)	37(86.0%)		
marriage	Married	116	30(25.9%)	86(74.1%)		
	Unmarried	24	4(16.7%)	20(83.3%)	0.967	.617
	Divorced	5	1(20.0%)	4(80.0%)		
Age group	Under the age of 29	10	3(30.0%)	7(70.0%)		
	30-39 years old	33	9(27.3%)	24(72.7%)	1.623	.654
	40-49 years old	10	1(10.0%)	9(90.0%)		
	More than 50 years old	6	2(33.3%)	4(66.7%)		
Income	Dissatisfaction	15	9(60.0%)	6(40.0%)		
	Relatively unsatisfied	14	7(50.0%)	7(50.0%)	22.211	.000
	General	54	10(18.5%)	44(81.5%)		
	Relatively satisfied	22	3(13.6%)	19(86.4%)		
	Satisfied	14	0(0.0%)	14(100.0%)		

Physical condition	Dissatisfaction	13	8(61.5%)	5(38.5%)		
	Relatively unsatisfied	18	5(27.8%)	13(72.2%)	15.011	.005
	General	53	13(24.5%)	40(75.5%)		
	Relatively satisfied	27	3(11.1%)	24(88.9%)		
	Satisfied	8	0(0.0%)	8(100.0%)		
Working condition	Dissatisfaction	13	10(76.9%)	3(23.1%)		
	Relatively unsatisfied	17	7(41.2%)	10(58.8%)	29.314	.000
	General	50	8(16.0%)	42(84.0%)		
	Relatively satisfied	26	4(15.4%)	22(84.6%)		
	Satisfied	13	0(0.0%)	13(100.0%)		
Working treatment	Dissatisfaction	9	6(66.7%)	3(33.3%)		
	Relatively unsatisfied	22	9(40.9%)	13(59.1%)	17.378	.002
	General	78	16(20.5%)	62(79.5%)		
	Relatively satisfied	24	4(16.7%)	20(83.3%)		
	Satisfied	12	0(0.0%)	12(100.0%)		
Psychoticism	Yes	32	14(43.8%)	18(56.3%)	9.075	.003
	No	111	20(18.0%)	91(82.0%)		
Introversion and Extroversion	Introversion	59	21(35.6%)	38(64.4%)		
	neutral	30	6(20.0%)	24(80.0%)	8.266	.016
	Extroversion	54	7(13.0%)	47(87.0%)		
Neuroticism	Yes	75	26(34.7%)	49(65.3%)	10.322	.001
	No	68	8(11.8%)	60(88.2%)		
Positive coping		145	35(24.1%)	110(75.9%)	51.106	.013
GSES		144	34(23.6%)	110(76.4%)	22.043	.735
Resilience	feeble	11	4(36.4%)	7(63.6%)		
	General	62	22(35.5%)	40(64.5%)	10.582	.014
	Stronger	64	8(12.5%)	56(87.5)		
	Very Strong	8	1(12.5%)	7(87.5%)		

3.4. Multiple Logistic Regression Analysis of Burnout Affecting Factors

Table 3: Multivariate Logistic regression analysis of influencing factors of job burnout.

variable	B	$S_{\bar{x}}$	Wald-value	P-value	OR	(95%CI)
Income	-.594	.302	3.866	.049	.552	(.305,.998)
Dissatisfaction						
Relatively unsatisfied						
General						
Relatively satisfied						
Satisfied						
Working condition	-.963	.449	4.601	.032	.382	(.158,.920)
Dissatisfaction						
Relatively unsatisfied						
General						
Relatively satisfied						
Satisfied						
psychoticism	1.727	.674	6.566	.010	5.624	(1.501,21.073)
Yes						
No						
introversion and extroversion	-.852	.331	6.646	.010	.426	(.223,.815)
Introversion						
neutral						
Extroversion						
Positive coping	-.082	.040	4.135	.042	.921	(.851,.997)

Multivariate stepwise logistic regression was performed for the factors with statistically significant differences in univariate analysis as follows: Income (OR=0.552, CI:.0305-0.998),

working environment (OR=0.382, CI: 0.158-0.920), internal and external orientation (OR=0.426, CI: 0.223-0.815), positive response (OR=0.921,CI: 0.851-0.997) was an independent protective factor for job burnout (P <0.05), and psychoticism (OR=5.624, CI: 1.501-21.073) was an independent risk factor (P >0.05). See Table 3.

4. Discussion

4.1. Job Burnout of Staff in a Chongqing Prison during the Epidemic

The results of our study demonstrated that during the epidemic period, the detection rate of job burnout of all employees in this study is 24.1%. Doctors, nurses and prison guards all have job burnout, among which the detection rate of doctors is 32.4%, which is roughly the same as that of relevant domestic studies [4], and the detection rate of nurses is 4.2% that is consistent with Colville G[5] et al. 's study that the burnout degree of doctors is higher than that of nurses, and the detection rate of prison guards is 26.4%. Which is inconsistent with xie Jialing et al.' s study that the detection rate of job burnout of prison police is higher than that of medical staff, which is probably due to busy work during the epidemic. Job burnout is inevitable due to the limited scope of activities of on-duty employees (doctors and nurses are more obvious), high risk, high pressure, less time to communicate with family and monotonous lifestyle. However, there was no statistically significant difference between doctors, nurses and prison guards in total score of job burnout, emotional exhaustion, depersonalization and low sense of accomplishment (P>0.05). A prison staff in chongqing overall burnout situation is more optimistic, majority is not tired, may be many businesses have closed down during the outbreak and operation impeded, the country a lot of people are unemployed, the civil service system, institution relative to other enterprises have the advantage of stability, employees' income, etc. And before the outbreak of no too big change. In addition, the study excluded informal staff and related risk factors such as job instability. It may also be due to the busy work during the epidemic and the large number of questionnaires and questions in this survey. In addition, due to the great employment pressure and fierce competition among industries, employees take privacy issues and other pros and cons into account in the questionnaire survey. They worry about the negative impact on individuals and fill in the questionnaire conservatively.

4.2. Differences about Burnout among Departments during the Epidemic

Our survey shows that there were significant differences in job burnout among departments during the epidemic period, among which the total score of burnout, emotional exhaustion, depersonalization and low achievement of employees in one ward were all in the first column. This may be related to the work differences between departments. Most of the prisoners in the first prison area are the old, weak, sick, disabled and miscellaneous offenders, which need the close attention and supervision of the staff in the prison area. The elderly, the sick and the disabled have chronic physical diseases and incurable diseases, poor self-care ability and may be in danger of life at any time; In order to maintain the order and safety of the prison area, these need to consume a large number of police and medical resources, which virtually increases the workload of the staff in the prison area. Least authority departments burnout, most of them are responsible for data processing, finance, information, etc., not like other prison staff and prisoners face-to-face contact for a long time, walking around, weathered look and keep the monitoring, etc., are relatively better working environment, the risk is relatively small, so the incidence of job burnout, only accounted for 14.0% (6/43);In addition, it is also related to the handling style of the department leaders, who are strong in handling affairs, open-minded, good at appreciating and caring for subordinates, and give support to employees to a certain extent. The job burnout of the employees is relatively low.

4.3. Analysis of Influencing Factors of Job Burnout

Our study found that income, work environment, internal and external orientation and positive coping were independent protective factors of job burnout (P <0.05), that is, income satisfaction was negatively correlated with job burnout, and the risk of job burnout decreased by 44.8% with the increase of income satisfaction level (from dissatisfaction to satisfaction) (OR=0.552, CI: 0.031~0.998), economic income has a great influence on employee passion, and is closely related to job burnout. As the pricing of the prison system in China does not fully take into account the technical nature of the job, employees do not get equal rewards for their efforts and high risks, and it is difficult for them to maintain enthusiasm for work, leading to job burnout. The risk of job burnout decreases by 61.8% (OR=0.382, CI: 0.158-0.920) with each level of satisfaction (from dissatisfaction to satisfaction). A good working environment will create a relaxed and pleasant atmosphere and reduce the occurrence of job burnout. Prison is a special environment, the service object of the staff is very special, facing all kinds of prisoners, not only the crime type is complicated, intelligent, violent means of crime, but also the criminals have a strong anti-social consciousness, weak sense of morality, psychological abnormality. Employees need to maintain the safety and order of the prison area while battling with them for a long time, which is prone to energy exhaustion and leads to burnout [6]. Extroversion is negatively correlated with job burnout, and the risk of job burnout decreases by 57.4% (OR=0.426, CI: 0.223-0.815) with each level of personality (from introversion to extroversion). Extroversion is fond of contacting people, can communicate with others better, and can get help from others more easily than introversion. Easy to generate topics, divert attention, talk about bad emotions and share their happiness. Group work is a communication job, and good communication and communication may reduce the occurrence of burnout. Positive coping is negatively correlated with job burnout, and the more positive coping styles, the lower the risk of burnout (OR=0.921, CI: 0.851-0.997), which is consistent with Kopans [7]'s research. He pointed out that creating "positive coping styles" can reduce anxiety, reduce disease and improve sleep quality, and ultimately improve individual resilience. Reduce job burnout; Psychoticism is an independent risk factor (P >0.05), that is, psychoticism is negatively correlated with job burnout, and psychoticism is 5.624 times of the risk of job burnout for employees without psychoticism (OR=5.624, CI: 1.501-21.073), which is consistent with the conclusion that psychoticism has an impact on job burnout reported in relevant literature [6]. Mental quality can show is withdrawn, lack of concern for other, difficult to adapt to the external environment, the few human and unresponsive, not friendly, like to cause trouble, regardless of the danger, do some strange, more or less will cause interpersonal problems, and in the collective life and work, interpersonal relationship is very important, largely tend to work environment and atmosphere, the reaction to their lead to job burnout. Prison work is a team work system, and the work environment is largely created by the team. Foreign studies have shown that the comprehensive atmosphere of team cooperation varies greatly in different environments [8,9].

However, the differences of general self-efficacy(GSES), social support, family status, marital status, gender, working years, and job burnout are not statistically significant, which is different from the studies of some scholars [10,11], such as Xie Jialing [6], Xu Jia [12] et al., that the individual sense of achievement of unmarried people is lower than that of married people. Burnout is more likely to occur. Many studies suggest that female employees with children are more prone to burnout [13], mainly due to exhaustion of self-consciousness, multi-role conflict, or reduction of psychological resources due to multiple caring responsibilities [14].

Our study is limited to a cross-sectional investigation, and the analysis of causal relationship lacks the basis of time sequence. At the same time, the formal questionnaire of job burnout involves the privacy of prison employees, and some employees are wary. Moreover, the prison system is

cumbersome, so there may be certain reporting bias. Although the sample size of this study is large, the scope of the study is only a prison in Chongqing. Due to cultural and regional differences, the extrapolation of the conclusion still needs to be investigated.

5. Conclusions

During the COVID-19 pandemic, the psychological status of most prison staff is negative, of which burnout is main mainefestiation. The independent factors that influence job burnout are income, working environment, spiritual quality, internal and external orientation, and positive coping. Prison leaders should pay more attention to the physical and mental health of prison staff, by improving their salary in time, and carrying out psychological intervention and humanistic care.

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