

Job satisfaction of staff in agencies for disease prevention and control in Hainan Province, China

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Abstract

This study done in Hainan from March 2017 to June aimed to assess job satisfaction status and influencing factors among the staff of agencies for disease prevention and control in Hainan Province. A questionnaire survey was administered to some staff members at 6 centers for disease control and prevention in Hainan Province, job satisfaction in the questionnaire was rated on a 5-points Likert scale (totally agree, agree, not sure, disagree, totally disagree). The average score of job satisfaction for the six centers was 3.35 ± 0.77 , which was relatively low. According to the Wilcoxon rank-sum test, job satisfaction showed significant differences among different job titles ($P < 0.05$). Logistic regression showed that the factors influencing job satisfaction were personal development space, rules and regulations in CDC, personal safety, public health system, and workload. The factors influencing the staff's satisfaction are personal development space, rules and regulations in CDC, personal safety, public health system and workload.

Keywords: Agency for disease control; Job satisfaction; Investigation and analysis.

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Introduction

Employees' job satisfaction is of great significance for administrative institutions and enterprises. A survey conducted by Harvard University showed that for every 3% increase in employees' satisfaction, customer's satisfaction increased by 5%.¹ Employees' job satisfaction is influenced by factors such as salary, development opportunities, and interpersonal relationships.²

Disease prevention and control agencies (CDCs) play a vital role in preventing diseases, promoting health, and prolonging individuals' lives. The job satisfaction of CDC staff with their work environment, working conditions, and benefits and remuneration directly affects their enthusiasm for their job and the success or failure of public

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health work. Staff's job satisfaction can be used to assess the organization and management of CDCs and predict the turnover intention of CDCs staff. The objectives of this study were to assess the status of job satisfaction among CDC staff in Hainan Province, identified the main factors influencing it, and offered suggestions to manage unfavorable factors that affect job satisfaction so that staff's enthusiasm, initiative, and creativity can be fully mobilized.

Methods and results

This was a descriptive study and was conducted in Hainan Province of China from March to June 2017. Approval for this study was obtained from the ethical review committee of Hainan Medical College and the management of the 6 CDCs. We designed a self-administered job satisfaction questionnaire according to the domestic and foreign literature on job satisfaction. The information in the questionnaire included: basic conditions of CDCs staff, overall job satisfaction, and factors influencing job satisfaction (11 items: working environment, boss-subordinate relationship, colleague relationship, remuneration, training opportunities, personal development space, disease control regulations, working load, job accomplishment, public health service system, and personal safety). We used this questionnaire to invest the staff's job satisfaction in Hainan Provincial Center for Disease Control and Prevention (Hainan province CDC), Haikou Municipal Center for Disease Control and Prevention in Hainan Province (Haikou CDC), Longhua District Center for Disease Control and Prevention in Haikou city, Meilan District Center for Disease Control in Haikou city, Qiongsan District Center for Disease Control in Haikou city, and Xiuying District Center for Disease Control in Haikou city, all participants signed informed consent form. The participating CDC staff completed the questionnaire by themselves, which were then collected on scene by investigators. In this investigation, there were 12 items in our questionnaire, and usually the sample size should be 20 times of the number of items, so we randomly

selected 268 persons from 6 CDCs with the same proportion. A total of 268 questionnaires were distributed and collected, from which 256 were valid, yielding an effective response rate of 95.5%. Questionnaires with more than 20% of missing content were excluded from the analysis. The part involving job satisfaction was scored on a 5-point Likert scale (totally agree = 5, agree = 4, not sure = 3, disagree = 2, totally disagree = 1).³ The questionnaire answers were converted into scores and analyzed. Statistical methods included descriptive statistics, Wilcoxon rank sum test and ordered logistic regression analysis (according to $\alpha=0.10$, $\alpha=0.15$ level of screening factors). $P < 0.05$ was considered as statistically significance.

Among the CDCs personnel surveyed, 110 (43.0%) were males and 146 (57.0%) were females; 85 (33.2%) aged 20-29 years, 70 (27.3%) aged 30-39 years, 101 (39.5%) aged 40 years and above; 91 (35.5%) with less than 5 years of working in CDCs, 79 (30.9%) with 5-14 years of working in CDCs, 86 (33.6%) with 15 years and above working in CDCs; 28 (10.9%) with under junior college education, 57 (22.3%) with junior college education, 154 (60.2%) with bachelor degree. 17 (6.6%) with master degree and above; 25 (9.8%) with senior and vice-senior title, 83 (32.4%) with middle title, 148 (57.8%) with primary title.

The overall job satisfaction score for the study sample was 3.35 ± 0.77 ; 4.7% (12/256) of respondents were very satisfied (≥ 4.5 points), 37.1% (95/256) were satisfied (< 4.5 and ≥ 3.5 points), 48.0% (123/256) were neutral (< 3.5 and ≥ 2.5 points), 8.6% (22/256) were dissatisfied (< 2.5 and ≥ 1.5 points), and 1.6% (4/256) were very dissatisfied (< 1.5 points).

The Wilcoxon rank sum test showed that there was a significant difference in overall job satisfaction among different job titles ($P < 0.05$), while overall job satisfaction did not differ significantly according to gender, age, education, or workload (Table 1).

Through the single-factor analysis, significant differences in job satisfaction according to various factors were identified. An ordered logistic regression analysis was conducted to further clarify the factors influencing staff's overall satisfaction. All single factors were taken as independent variables (include: age, sex, educational background, technical title, length of employment, working environment, boss-subordinate relationship, colleague relationship, remuneration, training

Table-1: Comparison of overall job satisfaction by staff characteristics (n = 256).

| Staff characteristics | Categories | Average rank | X ² /Z | p-value * |
|-----------------------|--------------------------------------|--------------|-------------------|-----------|
| Gender | Male | 136.42 | -1.624 | 0.104 |
| | Female | 122.53 | | |
| Age | 20 to 29 | 133.55 | 1.733 | 0.420 |
| | 30 to 39 | 119.69 | | |
| | 40 years old and above | 130.36 | | |
| Working years | Less than 5 years | 128.57 | 0.093 | 0.955 |
| | 5 to 14 years | 130.39 | | |
| | 15 years and above | 126.59 | | |
| Education level | Technical secondary school and below | 154.11 | 5.701 | 0.127 |
| | Junior college degree | 133.38 | | |
| | University degree | 122.03 | | |
| | Master's degree and above | 128.62 | | |
| Job title | Senior | 124.36 | 8.072 | 0.018 |
| | Medium-grade | 209.76 | | |
| | Primary | 259.81 | | |

*The level of significance of the p-value is 0.05.

Table-2: Ordered logistic regression of CDCs staff's job satisfaction.

| Factors | Estimate value | Standard error | WaldX ² | p-value * | 95% Confidence interval |
|------------------------------|----------------|----------------|--------------------|-----------|-------------------------|
| Personal development space | 1.122 | 0.208 | 20.433 | 0.000 | 0.635~1.608 |
| Disease control regulations | 0.839 | 0.309 | 7.396 | 0.007 | 0.234~1.442 |
| Personal safety | 0.712 | 0.209 | 11.622 | 0.001 | 0.303~1.121 |
| Public health service system | 0.598 | 0.244 | 5.996 | 0.014 | 0.119~1.076 |
| Workload | 0.597 | 0.227 | 6.935 | 0.008 | 0.153~1.042 |

*The level of significance of the p-value is 0.05.

opportunities, personal development space, disease control regulations, working load, job accomplishment, public health service system, and personal safety), and the overall job satisfaction of CDCs staff was used as the dependent variable; the factors with greater effect were selected. Personal development space, disease control regulations, personal safety, public health service system and workload were the main factors affecting CDCs staff's job satisfaction (Table 2).

Conclusion

There were many studies investigating the job satisfaction of medical staff,⁴⁻¹⁰ but no report on the job satisfaction of staff in CDCs. This study found the staff's job satisfaction in some CDCs in Hainan Province is relatively low. The most important factor influencing staff's job

satisfaction in CDCs of Hainan Province was personal development space, which may be because of the work characteristics of the CDCs in Hainan Province. Due to the limited positions, many staff members, especially young ones, find it is very difficult to be formally employed. Compared with formal employees, they have lower salaries and their chances of promotion and salary increase are also limited. At present, Chinese society is changing rapidly, and individuals generally lack a sense of security in their work. At the same time, individuals' needs at the material level are not fully satisfied; therefore, the primary factor that causes job dissatisfaction is often the salary. On the other hand, rapid environmental changes and increasingly fiercer competition have forced individuals to focus on not only real-time issues but also long-term development; they pay special attention to their own growth space and the opportunities they can obtain in their work. In other words, the relationship between these two aspects implies that raising the salary does not necessarily improve job satisfaction, although lowering wages will definitely reduce job satisfaction; in the same way, providing more development space for employees will improve job satisfaction and the opposite will reduce job satisfaction. Therefore, both aspects are fundamental issues. Many public health workers are not very satisfied with their current development space, and believe that their efforts and returns are not equal; the gap between the actual conditions and psychological expectations is very large and will deepen their dissatisfaction with work, and the resulting psychological injustice will greatly affect their work enthusiasm.

Another main factor influencing the job satisfaction of Hainan CDCs staff was personal safety. This may be related to the public health emergencies happening in recent years, such as SARS, H7N9 avian influenza, food poisoning, etc., with some being contagious, which poses a threat to the health of CDCs staff. Major public health incidents have an impact not only on individuals' health but also on the environment, economy, and even politics. For example, in the SARS incident, although the number of sick persons was not very high in China, the economic losses were substantial. Therefore, when these public health emergencies occur, the physical and psychological pressure on CDCs staff is very high, and this will affect their job satisfaction. Therefore, the disease control agencies should protect their staff's personal safety better.

Only when personal safety of staff is guaranteed, their job satisfaction can be increased.

Another factor influencing job satisfaction in this study was the public health service system. After the SARS incident in 2003, the public health service system was highly valued, but the management system of CDCs is still not perfect and there is still big room for improvement. The management team of CDCs should pay more attention to employees' job satisfaction and aim to improve it continually.

Taking into account the variation of job satisfaction at different staff levels, attention should focus on factors such as pay, promotion, talent development, work environment, and personal safety, and advanced public health service management ideas and concepts should be introduced to establish and improve various management systems, so as to fully mobilize the work enthusiasm of the majority of public health workers and constantly improve their job satisfaction.

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