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ORIGINAL RESEARCH

Care for the Carers: An Evaluation of Job Satisfaction of Community Healthcare Workers in Charge of Infectious Disease Prevention and Control in Vietnam

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Purpose: This study explored job satisfaction and associated factors among community healthcare workers (HCWs) during the COVID-19 pandemic.

Methods: A cross-sectional study was conducted among 319 HCWs in charge of infectious disease prevention and control activities at all commune healthcare centers in Ho Chi Minh City. Participants completed a self-administered questionnaire which included the 36-item Job Satisfaction Survey (JSS).

Results: Most participants were male (56.7%), and the mean age was 34.7 (SD=7.1) years. The overall job satisfaction was relatively low. Among 9 aspects measured, coworker was found to have the highest level of satisfaction (19.6±3.9), followed by supervision (19.3 ±4.1). In contrast, the lowest level of satisfaction was observed in operating condition (11.4 ±3.4) and contingent rewards (14.3±3.8). The total score of the JSS indicated that only half of HCWs were satisfied with their job in general. Older male HCWs who were married and those who had higher income reported a higher level of job satisfaction in several aspects measured. However, there was no association between job satisfaction and other HCW's characteristics, including specialty, occupation type, and working experience.

Conclusion: Since this is the crucial workforce in the battle against infectious diseases, urgent interventions are needed to increase job satisfaction in this population.

Keywords: infectious disease, healthcare worker, COVID-19, job satisfaction, Vietnam

Introduction

Job satisfaction is the most important factor which highly impacts on the efficiency and productivity of human resources. Many studies have revealed a positive relationship between health workers' job satisfaction and patients' satisfaction at health organisations across settings.[1] Besides, the success of health care programs also depends on the engagement and job satisfaction of health staffs. At community level, healthcare workers (HCW) not only provide health promotion, epidemic prevention activities but also provide treatments, rehabilitation, and palliative care.[2] In Vietnam, the health care system at community level includes District Hospitals, District Health Centers (DHCs), and Commune Health Centers (CHCs) which provide primary health care services and implement national health programs.[3] The workload of health staff at the grassroot level is so heavy. Therefore, their job satisfaction plays a key role for the success of the whole health care system.

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Research worldwide has showed that the job satisfaction level of community health staffs was particularly low, especially in resource-limited countries like Vietnam.[4,5] Deriba et al conducted a study in 2017 among 322 health professionals at 23 public health centers in West Ethiopia and revealed a proportion of general job satisfaction of only 41%.5.[6] Compensation, recognition by managers and opportunity for development were significantly associated with job satisfaction. In an exploratory study in 2019 in 462 Indian health staffs, Singh et al indicated that the general satisfaction was 66% and the satisfaction reasons included colleagues, leadership, job information, and communication. However, health staffs reported dissatisfaction with working conditions.[7] In addition, there is a negative relationship between job satisfaction (on working time, salary, and welfare policy) and the intention of quitting job.[8–10] Studies among health professionals in different disciplines have also revealed that job satisfaction may vary with gender, specialty, physical working conditions, freedom to choose one's own work method, the relationship with one's immediate boss, attention paid to one's suggestions and the amount of job variety.[11]

In Vietnam, the burden of infectious diseases is still a major issue of the national health system. In 2019, more than 65,000 cases of dengue fever were recorded in Ho Chi Minh City (HCMC). This number increased more than 100% compared to that reported in 2018. HCMC also has the highest number of hand-foot-mouth disease and measles cases in the South of Vietnam.[12] During the COVID-19 pandemic, the number of infected cases in HCMC was among the top 3 cities in the country.[13] Accordingly, health staffs in charge of epidemic prevention and control activities have high-pressure workloads, especially during the COVID-19 pandemic. At CHCs, health resources are limited while health staffs have to manage different national health programs; thus, they are often overloaded. However, there has been no study exploring the job satisfaction of health workers at community level.[14]

Therefore, this study aimed to explore job satisfaction and associated factors among health workers in charge of epidemic prevention and control activities at community level. Results from this study serve as scientific evidence for policymakers in strengthening human resources especially during the COVID-19 pandemic.

Materials and Methods

Settings and Study Design

A cross-sectional study was conducted from April to June 2020 in HCMC, Vietnam. The city has 319 CHCs scattered in all catchment areas in 24 districts. These CHCs are grassroot-level healthcare facilities of Vietnam healthcare system where national healthcare programs are run and primary care is provided. Each CHC has one personnel in charge of infectious disease prevention and control activities in that catchment area. We recruited all 319 HCWs in charge of infectious disease prevention and control at these CHCs. Participation was on a voluntary basis and through informed written consents. All HCW invited agreed to participate in this study.

Measures

Participants were asked to complete a self-administered questionnaire which included 2 main parts. The first part included questions about background characteristics, including age, sex, marital status, education level, specialty, occupation type, working experience, number of concurrent roles, income, and number of hours working a week. The second part was the Job Satisfaction Survey (JSS) to measure the levels of job satisfaction participants experienced.[15,16] The JSS has 36 items to measure 9 aspects of job satisfaction including payment, promotion, supervision, fringe benefits, contingent rewards, operating conditions, coworkers, nature of work, and communication. Each item is assessed using a 6-point Likert-type rating scale, from 1 (disagree very much) to 6 (agree very much). The summative score for each of the 9 subscales is the total score of all items within the subscale after negative worded items being reversed. The overall score of the JSS is the total score of all 36 items. A higher score indicates a higher level of job satisfaction. In this study, participants completed the questionnaire in about 30 minutes.

Data Analysis

Descriptive statistics used in this study included mean and standard deviation for quantitative data, and frequency and percentages for qualitative data. To facilitate data analysis and interpretation of prevalence of job satisfaction, the scores of JSS and all 9 subscales were dichotomized using recommended cutoff points.[15,16] A score of 16 or more on each of the 9 subscales and a score of 144 or more on the total score were used to identify those who were satisfied with their job. Radar chart was used to present the level of

all aspects of job satisfaction measured. Chi-squared tests or Fisher's exact tests were used to identify factors associated with job satisfaction. A p-value of less than 0.05 was used as an indicator of statistical significance.

Ethical Consideration

The study was approved by the Ethics Committee for Biomedical Research at the University of Medicine and Pharmacy at Ho Chi Minh City (approval number: 142/HDDD-DHYD). All participants provided written informed consents.

Results

Among 319 HCW who participated in this study, the mean age was 34.7 (SD = 7.1), ranging from 23 to 59 years. The majority of participants were male (56.7%) and were currently married (72.4%). Almost all (91.8%) had a long-term, fulltime position with a mean working experience of 7.1 (SD = 5.1) years. Most HCW had to be in charge of multiple roles at the same time. About 70% of HCW indicated that they were the main income source in the family, but most of them had a monthly income of less than 7 million VND (~350 USD). Approximately 85% reported working more than 40 hours a week (Table 1).

Figure 1 presents the level of satisfaction through the mean score of all 9 subscales of the JSS. Overall, the level of satisfaction among HCW was relatively low. Coworker was found to have the highest level of satisfaction (19.6 ± 3.9), followed by supervision (19.3 ± 4.1). In contrast, lowest level of satisfaction was observed in operating condition (11.4 ± 3.4) and contingent rewards (14.3 ± 3.8). These results were supported by data presented in Table 2 where the scores were categorized to estimate the prevalence of satisfaction. While the prevalence of satisfaction was up to 83.4% in coworker aspect, only 11.3% HCW reported their satisfaction toward operating condition. Almost half (4/9) of aspects measured had a satisfaction level of less than 50%. The total score indicated that only half of HCWs were satisfied with the job in general.

The correlates of job satisfaction are presented in Table 3. Older male HCW who were married and those who had higher income reported a higher level of job satisfaction in several aspects measured. However, no association between job satisfaction and other HCW's characteristics, including specialty, occupation type, and working experience.

Table 1 Participant's Characteristics

Factor	Frequency	Percentage
Age category (year)		
<30	81	25.4
30–39	175	54.9
40–49	44	13.8
50+	19	6.0
Sex		
Male	181	56.7
Female	138	43.3
Currently married		
Yes	231	72.4
No	88	27.6
Education level		
Intermediate vocational training	201	63.0
College	60	18.8
Undergraduate	58	18.2
Specialty		
Nurse	127	39.8
Doctor assistant	133	41.7
Physician	12	3.8
Others	47	14.7
Occupation type		
Long-term/fulltime	293	91.8
Short-term/Part-time	26	8.2
Working experience category (year)		
<5	109	34.2
5–9	118	37.0
10–14	70	21.9
15+	22	6.9
Number of concurrent roles		
0	15	4.7
1	59	18.5
2	94	29.5
3+	151	47.3
Work as main income source in the family		
Yes	226	70.8
No	93	29.2
Income (million Vietnamese Dong)[a]		
7+	68	21.3
<7	251	78.7

(*Continued*)

Table 1 (Continued).

Factor	Frequency	Percentage
Number of hours working a week		
≤40	54	16.9
41–55	180	56.4
56+	85	26.6

Note: [a]7 million Vietnamese Dong ~ 300 USD.

Discussion

From a large number of HCW participated in our study, the highest job satisfaction scores were found in 4 aspects including leadership, colleague, job information, and communication. This finding is consistent with previous studies employing the same measurement scale (ie, JSS). In 2012, a study conducted in Ha Nam showed that community health workers were highly satisfied with colleague, job nature, information and communication, and leadership.[17] Other studies conducted in Malaysia and China in 2012 shared similar results.[1,18] Among satisfaction aspects measured, several studies have showed that working condition has the lowest score. In our study, only 11.3% people satisfied with working conditions at their organization. In reality, commune health staffs have many extra-works and procedures that needed to be completed besides their main tasks. This percentage is higher than another study in Pakistan in 2018 where 77.5% health staffs felt unsatisfied with working conditions.[19] Our findings are also consistent with another cross-sectional study in 462 health staffs at community level including CHCs, DHCs, and district hospitals in India where only 3.2% health staffs satisfied with working conditions.[7] Moreover, our study revealed low scores in some aspects, possibly due to the job special characteristics of health staffs participated in the study. Further, this study was carried out when the health workers were fighting against COVID-19 and other epidemics such as Dengue fever and

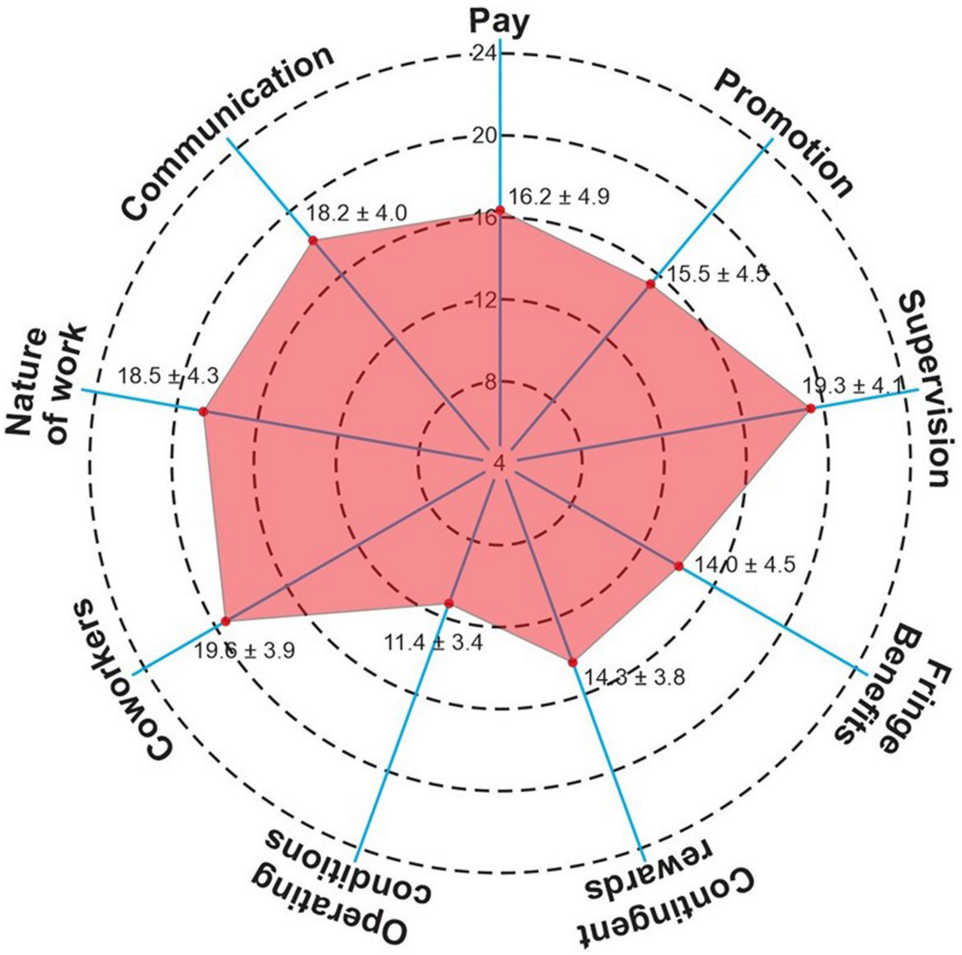


Figure 1 Distribution of satisfaction score of all aspects measured.

Table 2 Satisfaction Level of All Aspects Measured

Domain	Frequency	Percentage
Pay	176	55.2
Promotion	155	48.6
Supervision	249	78.1
Fringe benefits	105	32.9
Contingent rewards	89	27.9
Operating conditions	36	11.3
Coworkers	266	83.4
Nature of work	244	76.5
Communication	236	74.0
Total satisfaction	159	49.8

Hand-Foot-Mouth diseases; thus, their workload is huge. These can partly influence their job satisfaction score. Other studies conducted at the same time also reported low scores on job satisfaction.[20,21] However, further investigation is needed to understand the direct effect of COVID-19 on job satisfaction since such effect might require a long follow-up time.

In our study, males were found to have higher job satisfaction scores in several aspects than females. However, the association between gender and job satisfaction varies across study populations and settings. For example, a study among a large number of radiologists revealed that females had lower level of job satisfaction than males.[22] In contrast, two other studies conducted in China and India among HCW at primary care settings reported that females had higher satisfaction scores than males.[7,23] Some previous studies in Vietnam using same scale and another study in China among community HCW found no significant association between job satisfaction and gender.[17,24,25] In addition, in our study old health workers were more satisfied on salary, reward, and communication than young health workers. A study in 164 Laos' community health staffs also showed that age was positively associated with job satisfaction.[26] It can be explained that older people adapt better with their tasks and they recognise the interesting, meaningful parts of their job. This finding is consistent with previous studies where older healthcare workers had more skills and experiences than those in young age; therefore, they tended to adjust themselves to their career characteristics better.[7,27] However, a study conducted by Jun A Liu in China showed opposite results, in which healthcare workers at the age of 30 or younger had higher level of job satisfaction than those at the older age.[23] The difference in this result may be due to the differences in professional characteristics of the health workers between studies. In our study, participants were health workers working in the field of preventive medicine, while participants in previous studies were clinical health staffs. Our study also found a relationship between job satisfaction and marital status where married healthcare workers had higher score of job satisfaction than others. However, previous studies found that marital status did not have significant relationship with job satisfaction.[17,23,26] Literature shows that the higher the monthly income health staffs got, the better score on job satisfaction they had.[23,28] Our study found a similar result; specifically in 3 components of healthcare worker's income, include job salary, welfare for employee and reward policy of their workplace. This finding indicates that if the income from the main job ensures their life, healthcare workers regardless their specialty will be more satisfied with their job.

Our study has many practical implications. First, healthcare workers whose main tasks are in epidemic prevention and control at CHCs have an intermediate education level (63%), only about 18% of them finished college and university. This can be the main reason why most of health workers in this study had relatively low monthly income (ie, 7 million VND ~ 300 USD). In Vietnam, the current calculation of salaries government health workers is based on educational degrees and number of working years. Although healthcare workers undertake a very important job at primary health facilities, their incomes are still low compared to the average income reported in the Labor survey in Quarter 2 of 2018.[29] To ensure job satisfaction of this important human resource, it is necessary to have a specific mechanism regarding income for this group. The investment in epidemic prevention and control is more cost-effective than having to deal with it when the disease is widespread. Second, health workers in this study have various qualifications, mostly physicians and nurses with very small proportion of preventive medicine doctors and public health bachelors. With limited knowledge about preventive medicine, it is obvious that health workers at CHCs will encounter certain difficulties. More training is needed for this population, with the focus on public health and preventive medicine.

Besides notable strength, our study has several limitations. The cross-sectional design used in our study does not refer to causal relationship between job satisfaction and participant characteristics. Moreover, this study may be biased in several ways. In this study, we did not include health workers who quitted their job. It is possible that the

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Table 3 Associated Factors of Satisfaction

Factor	Pay	Promotion	Supervision	Fringe Benefits	Contingent Rewards	Operating Conditions	Coworkers	Nature of Work	Communication	Overall Satisfaction
Age category (year)	**				*				**	*
<30	**44 (54.3)**	42 (51.9)	61 (75.3)	22 (27.2)	**26 (32.1)**	7 (8.6)	66 (81.5)	59 (72.8)	**61 (75.3)**	**39 (48.1)**
30–39	**84 (48.0)**	76 (43.4)	135 (77.1)	54 (30.9)	**39 (22.3)**	18 (10.3)	146 (83.4)	130 (74.3)	**120 (68.6)**	**77 (44.0)**
40–49	**34 (77.3)**	26 (59.1)	37 (84.1)	21 (47.7)	**14 (31.8)**	9 (20.5)	38 (86.4)	37 (84.1)	**36 (81.8)**	**29 (65.9)**
50+	**14 (73.7)**	11 (57.9)	16 (84.2)	8 (42.1)	**10 (52.6)**	2 (10.5)	16 (84.2)	18 (94.7)	**19 (100)**	**14 (73.7)**
Sex		*		*			*			*
Male	107 (59.1)	**98 (54.1)**	140 (77.3)	**68 (37.6)**	56 (30.9)	22 (12.2)	**159 (87.8)**	140 (77.3)	133 (73.5)	**100 (55.2)**
Female	69 (50.0)	**57 (41.3)**	109 (79.0)	**37 (26.8)**	33 (23.9)	14 (10.1)	**107 (77.5)**	104 (75.4)	103 (74.6)	**59 (42.8)**
Currently married										*
Yes	130 (56.3)	112 (48.5)	186 (80.5)	80 (34.6)	68 (29.4)	29 (12.6)	196 (84.8)	181 (78.4)	176 (76.2)	**123 (53.2)**
No	46 (52.3)	43 (48.9)	63 (71.6)	25 (28.4)	21 (23.9)	7 (8.0)	70 (79.5)	63 (71.6)	60 (68.2)	**36 (40.9)**
Education level			**							
Intermediate vocational training	114 (56.7)	99 (49.3)	**164 (81.6)**	65 (32.3)	56 (27.9)	23 (11.4)	170 (84.6)	154 (76.6)	156 (77.6)	106 (52.7)
College	30 (50.0)	25 (41.7)	**48 (80.0)**	21 (35.0)	16 (26.7)	7 (11.7)	53 (88.3)	42 (70.0)	43 (71.7)	26 (43.3)
Undergraduate	32 (55.2)	31 (53.4)	**37 (63.8)**	19 (32.8)	17 (29.3)	6 (10.3)	43 (74.1)	48 (82.8)	37 (63.8)	27 (46.6)
Specialty										
Nurse	69 (54.3)	62 (48.8)	100 (78.7)	43 (33.9)	32 (25.2)	12 (9.4)	111 (87.4)	91 (71.7)	92 (72.4)	58 (45.7)
Doctor assistant	78 (58.6)	65 (48.9)	108 (81.2)	45 (33.8)	37 (27.8)	18 (13.5)	111 (83.5)	107 (80.5)	103 (77.4)	77 (57.9)
Physician	6 (50.0)	8 (66.7)	6 (50.0)	3 (25.0)	3 (25.0)	0 (0)	8 (66.7)	9 (75.0)	8 (66.7)	5 (41.7)
Others	23 (48.9)	20 (42.6)	35 (74.5)	14 (29.8)	17 (36.2)	6 (12.8)	36 (76.6)	37 (78.7)	33 (70.2)	19 (40.4)
Occupation type										
Long-term/fulltime	164 (56.0)	142 (48.5)	229 (78.2)	98 (33.4)	80 (27.3)	32 (10.9)	244 (83.3)	225 (76.8)	215 (73.4)	148 (50.5)
Short-term/Part-time	12 (46.2)	13 (50.0)	20 (76.9)	7 (26.9)	9 (34.6)	4 (15.4)	22 (84.6)	19 (73.1)	21 (80.8)	11 (42.3)
Working experience category (year)										
<5	55 (50.5)	53 (48.6)	83 (76.1)	33 (30.3)	37 (33.9)	13 (11.9)	89 (81.7)	80 (73.4)	79 (72.5)	52 (47.7)
5–9	62 (52.5)	57 (48.3)	89 (75.4)	38 (32.2)	24 (20.3)	10 (8.5)	96 (81.4)	88 (74.6)	86 (72.9)	53 (44.9)
10–14	42 (60.0)	33 (47.1)	58 (82.9)	24 (34.3)	20 (28.6)	10 (14.3)	61 (87.1)	57 (81.4)	51 (72.9)	38 (54.3)
15+	17 (77.3)	12 (54.5)	19 (86.4)	10 (45.5)	8 (36.4)	3 (13.6)	20 (90.9)	19 (86.4)	20 (90.9)	16 (72.7)
Number of concurrent roles						***				
0	8 (53.3)	10 (66.7)	12 (80.0)	6 (40.0)	6 (40.0)	**6 (40.0)**	13 (86.7)	13 (86.7)	9 (60.0)	9 (60.0)
1	33 (55.9)	31 (52.5)	49 (83.1)	24 (40.7)	21 (35.6)	**9 (15.3)**	51 (86.4)	45 (76.3)	46 (78.0)	34 (57.6)
2	52 (55.3)	37 (39.4)	71 (75.5)	25 (26.6)	24 (25.5)	**14 (14.9)**	75 (79.8)	71 (75.5)	69 (73.4)	40 (42.6)
3+	83 (55.0)	77 (51.0)	117 (77.5)	50 (33.1)	38 (25.2)	**7 (4.6)**	127 (84.1)	115 (76.2)	112 (74.2)	76 (50.3)

Work as main income source in the family										
Yes	119 (52.7)	104 (46.0)	173 (76.5)	69 (30.5)	**54 (23.9)**	22 (9.7)	* **182 (80.5)**	172 (76.1)	164 (72.6)	108 (47.8)
No	57 (61.3)	51 (54.8)	76 (81.7)	36 (38.7)	**35 (37.6)**	14 (15.1)	**84 (90.3)**	72 (77.4)	72 (77.4)	51 (54.8)
Income (million Vietnamese Dong)	***			**	*					
7+	**51 (75.0)**	38 (55.9)	57 (83.8)	**34 (50.0)**	**26 (38.2)**	9 (13.2)	55 (80.9)	58 (85.3)	52 (76.5)	42 (61.8)
<7	**125 (49.8)**	117 (46.6)	192 (76.5)	**71 (28.3)**	**63 (25.1)**	27 (10.8)	211 (84.1)	186 (74.1)	184 (73.3)	117 (46.6)
Number of hours working a week						*		*		
≤40	26 (48.1)	24 (44.4)	37 (68.5)	16 (29.6)	15 (27.8)	**9 (16.7)**	43 (79.6)	**36 (66.7)**	36 (66.7)	22 (40.7)
41–55	102 (56.7)	86 (47.8)	145 (80.6)	62 (34.4)	49 (27.2)	**24 (13.3)**	153 (85.0)	**147 (81.7)**	134 (74.4)	91 (50.6)
56+	48 (56.5)	45 (52.9)	67 (78.8)	27 (31.8)	25 (29.4)	**3 (3.5)**	70 (82.4)	**61 (71.8)**	66 (77.6)	46 (54.1)

Notes: Data are presented in frequency (percentage). Figures in bold indicate statistical significance. P-value: *** < 0.001 < ** < 0.01 < * < 0.05.

level of job satisfaction found in this study is overestimated. Moreover, although the surprising high rate of participation in this study indicated that HCWs were interested in this topic, this might have potential bias given that the research team members had good relationship with all CHC in the city. Also, this study was conducted during the COVID-19 pandemic and the workload during this period may result in high level of job unsatisfaction. Finally, this study was conducted in a big city in Vietnam and thus may not represent other health workers working in epidemic prevention and control in other areas and settings in the country. More studies are needed to address these limitations.

Conclusions

Vietnamese HCWs in charge of infectious disease prevention and control have a low level of job satisfaction. Since this is the crucial workforce in the battle against infectious diseases, urgent interventions and programs are needed to increase job satisfaction in this population. Doing this is likely to improve the job commitment among HCWs and thus increase the effectiveness of infectious disease prevention and control, particularly in resource-limited countries like Vietnam.

Abbreviations

CHC, commune health centers; DHC, district health centers; HCMC, Ho Chi Minh City; HCW, healthcare workers; JSS, Job Satisfaction Survey.

Ethical Approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the Research Ethics Committee at the University of Medicine and Pharmacy at Ho Chi Minh City, Vietnam (No: 142/HDDD-DHYD) and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent

Informed consent was obtained from all individual participants included in the study.

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Disclosure

The authors declare that they have no conflicts of interest.

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