

context of the pandemic.³ So, the question is how are the medical staff working at Kien Giang Provincial General Hospital motivated to work? What factors are related to the motivation of medical staffs here? What is the level of the motivation impact on their work? Thereby adding necessary information for human resource management, creating the best conditions for employees to promote their capacity not only for work but also to achieve the legitimate aspirations of each individual.

Research aims were as follows:

1. to describe the working motivation of medical staff at Internal Medicine Division - Kien Giang Provincial General Hospital 2020.
2. to analyze the impact of the pandemic and some factors related to the work motivation of health workers.

Methodology

Study Design and Subjects

A cross-sectional study was conducted at Department of Internal Medicine - Kien Giang Provincial General Hospital in 2020.

We applied convenience sampling to recruit participants. The sample size is calculated according to the formula for estimating a ratio.

p : As the percentage of health workers with good motivation, in order to have the largest sample size, we choose $p = 0.5$. Substituting the value into the formula we got $n = 384$.

General Characteristics of the Study Population

The proportion of male was 52.1% and female was 47.9%. The majority of medical staffs were married (73.2%), while those who were single (divorced/widowed) were 7.0%. There were 31.0% subjects as the main income in the family. The percentage of nurses and technicians is 65.6%, doctors are 34.4%. The average working time at the Hospital is 9.45 ± 6.61 years. In payroll, there were 86.5% of the participants.

Data Collection and Analysis

Using self-completed questionnaires to collect information related to the work motivation of health workers with reference to some questionnaires used by the University of Public Health.^{4,5} The questionnaire has revised and supplemented questions on awareness and attitudes of healthcare workers towards the COVID19 epidemic. Check the suitability by Cronbach'alpha, the level ranges from 0.615 to 0.818.

To evaluate each question on the Likert scale, 4 and 5 points are assessed as good motivation. Evaluating group motivation based on the average score of sentences in the group. Evaluation of the general level: good motivation is with a cutoff of 75% of the total score of 25 questions ≥ 93 points, below this level is not a good motivation.

Ethics Approval and Consent to Participate

The authors declare that the work is written with due consideration of ethical standards. The study was conducted in accordance with the ethical principles approved by the Human Experiments Ethics Committee of Thang Long University (Protocol No 3 of 12.02.2022).

Results

The Average Score of the Components of Work Motivation Evaluation

The overall average motivational score on the "successfulness" factor was the highest at 4.03 points and the lowest was "acknowledgement of achievement" 3.78 points(see Figure 1). Overall average is 3.87 ± 0.24 points (maximum 5 points).

Figure 1. Average score of motivating factors

Factors Related to Employee's Work Motivation

The rate of good motivation ($\geq 78\%$ total score = 93 out of 215 points of 25 questions) is 72.9%. Doctors have the highest motivation to work: 85.6% compared to lower education levels such as colleges and high schools, and good work motivation is only 40% (see Table 1).

Table 1. Subject characteristics related to work motivation

Characteristics		Work motivation		OR (95% CI)	p
		Good	Not good		
Age (years)	≥ 40	76 (81,7)	17 (18,3)	1,90 (1.06 - 3.41)	<0,05
	<40	204 (70,1)	87 (29,9)		
Role in families	Main income earner	95 (79,8)	24 (20,2)	1,71 (1.02 - 2.87)	<0,05
	Side income earners	185 (69,8)	80 (30,2)		
Level of education	Bachelor, postgraduate	266 (76,2)	83 (23,8)	4,8 (2,34 - 9,87)	<0,001
	College	14 (40,0)	21 (60,0)		
Type of labor	Payroll	251 (75,6)	81 (24,4)	2,45 (1,34 - 4,48)	<0,05
	Contract staff	29 (55,8)	23 (44,2)		
Career titles	Doctor	113 (85,6)	19 (14,4)	3,03 (1,74 - 5,25)	<0,001
	Nurse, technician	167 (66,3)	85 (33,7)		
Good motivation (general)		280 (72,9)	104(27,1)		

Health workers who are satisfied with the salary and allowance regime have a higher rate of good work motivation than the unsatisfied group (84.5% compared to 50.8%). The group who are not satisfied with the reward system of hospitals have the lowest rate of good work motivation (see Table 2).

Table 2. Ensuring the interests of the subjects related to work motivation

Rights of participants		Work motivation		OR (95% CI)	p
		Good	Not good		
Salary and allowance	Satisfied	213(84,5)	39(15,5)	5,29 (3,27-8,58)	<0,001
	Unsatisfied	67(50,8)	65(49,2)		
Bonus and reward	Satisfied	253(81,4%)	58(18,6%)	6,25 (3,62-10,80)	0,001
	Unsatisfied	30(41,1%)	43(58,9%)		
Tourism	Satisfied	256(78,3%)	71(21,7%)	4,00 (2,28-7,17)	0,002
	Unsatisfied	27(47,4%)	30(52,6%)		
Workplace safety	Satisfied	250(80,4%)	61(19,6%)	4,97 (2,90-8,52)	0,01
	Unsatisfied	33(45,2%)	40(54,8%)		
Leader's concern	Satisfied	242(79,9%)	61(20,1%)	3,87 (2,30-6,50)	<0,05
	Unsatisfied	41(50,6%)	40(49,4%)		

Satisfaction with the regulations in management and the acceptance of the state's policies and the hospital's human resource management regulations plays the most important role for health workers who are motivated to work well (see Table 3).

Table 3. Factors at work units, responsibilities related to work motivation

Factors at work unit		Work motivation				OR (95%CI)	P
		Good		Not good			
		n	%	n	%		
Satisfaction with working conditions	Yes	260	79,0	69	21,0	6,59 (3,58-2,14)	0,000
	No	20	36,4	35	63,6		
Obedience to superiors	Yes	121	87,7	1	12,3	3,89 (2,20 - 6,89)	0,000
	No	159	64,6	87	5,4		
Satisfaction with colleagues	Yes	64	75,3	21	24,7	1,17 (0,67-2,04)	0,57
	No	216	72,2	83	27,8		
Satisfaction with management and supervision	Yes	184	89,8	21	10,2	7,57 (4,42-12,98)	0,000
	No	96	53,6	83	46,4		
Acceptance of policy and administration	Yes	267	82,9	55	17,1	17,92 (9,01-35,31)	0,000
	No	13	21,3	48	78,7		

Positive attitude towards COVID-19 prevention and good work motivation was 82.2%, which was higher than the group of employees who are still afraid of the disease: 69.6% (OR=2.01; p <0.05) - see Table 4 and Figure 2.

Table 4. Work motivation related to the COVID-19 epidemic situation

Attitude towards COVID-19	Work motivation				OR (95%CI)	P
	Good		Not good			
	n	%	n	%		
Positive	83	82,2	18	17,8	2,01 (1,14-3,55)	<0,05
Negative	197	69,6	86	30,4		

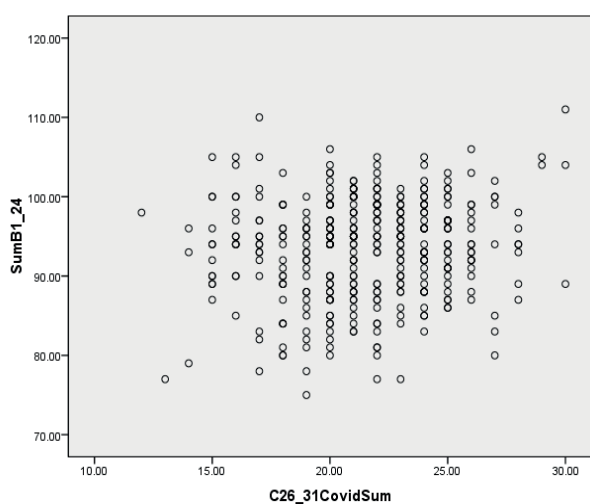


Figure 2. Relation between work motivation score and attitude score with the COVID-19 pandemic

Discussion

Characteristics of the Research Object

Research on 384 subjects who are medical staff currently working at Internal Medicine Division - Kien Giang General Hospital in 2020, in which the rate of male is 52.1% and female is 47.9%. The majority are married (73.2%) and Single is 7.0%). The result in our sample is that the proportion of women is lower than that of other hospitals in the country,^{6,7} this condition is also reported differently with the proportion of women less than 40%,⁸ It can be seen that the medical profession is quite overwhelming for female doctors, especially in the context of COVID-19 pandemic. This study focused on the group of doctors, without service staffs - the subjects with normally low motivation.

Motivation of Medical Staff

The results in Figure 1 show that the average scores of the questions of each group of motivations were quite different: the average overall motivation score on the factor “success”, “opportunity for

development” is 3.98. and 4.03 points; The lowest is “acknowledgement of achievement” 3.78 points, with “work responsibility” 3.76 points. The overall average is 3.87 ± 0.24 points (maximum 5 points). This result shows that there is a mismatch between rights and responsibilities. A common sense is that each person is more concerned with their own rights. However, having the right career awareness is also a powerful motivation. This is the result of the hospital's good propaganda and education work in recent years. This is consistent with the use of the work motivation evaluation scale with a cut-off point of 75% of the total score in Table 1. 72.9% of health workers here have good motivation to work.

Some Factors Related to Work Motivation

Each employee has their own abilities that make them work more actively is also different. If they are fully qualified to promote their abilities, the motivation to work will increase.⁹ According to Herzberg, the factors that create work motivation include key factors: nature of work, job responsibilities; successfulness; recognition of achievements; promotion; management policies and regimes; supervision; salary; human relations; working conditions; bonus and rewards. The above factors can be divided into 3 groups: (1) personal characteristics of health workers (2) benefits for health workers guaranteed by the hospital (3) responsibilities of medical staff, compliance with hospital regulations and (4) ensure the working conditions.

Regarding individuals: the results in Table 1 show that older people tend to have better work motivation, age group ≥ 40 , the rate of good motivation is 1.90 times higher than age group < 40 . This is a problem with a group of young workers with bigger ambitions that have not been met. In human resource management, this feature should be noted and analyzed further their aspirations which are promotion or income, or vacation mode. The group with university degrees or higher has a good motivation rate nearly 5 times higher than the group of intermediate and college employees. This is not an easy problem to solve about different job positions. The main income earners in the family, the rate of good motivation is also 1.7 times higher than that of the group of secondary workers, the difference is statistically significant ($p < 0.05$). The good motivation ratio for doctors was 3 times higher than that of nurses and technicians.

The payroll group has a good motivation ratio 2.45 times higher than the contract workers group,

the difference is statistically significant ($p < 0.05$). These factors are also similar to studies of Mutale¹⁰, Weldegebriel⁹ and Hang.¹¹ Currently, the increase in contract medical staff is very common in public hospitals, the contract rate of logistics is even higher, the problems of lack of motivation to work can affect the quality of service.

In terms of benefits: salary and additional income are related to the motivation of health workers.¹² Through the study, we found that the satisfied group with salary and allowances had a much higher work motivation than the unsatisfied group (84% vs 50%, OR=5; $p < 0.001$). Especially, rewards also have a strong impact on the ratio of good motivation (OR=6, $p < 0.01$). Being secure at work, having time to relax and visiting are quite strong factors affecting the employee's working capacity (OR from 4 to 5, $p < 0.01$). In order to be motivated to work well, the hospital needs to pay attention to the income of medical staffs, encouragement and rewards as well as pay attention to the spiritual life of health workers. This is also discovered in many other studies.^{6,7,9}

Regarding responsibility for work and respect for regulations on organization and administration, the positive attitude (support) of the management and supervision of work with good work motivation is 89.8%, which is significantly higher than the group of employees with low motivation (negative - oppose): 53.6% (OR=7.57; $p < 0.001$). Being satisfied with the relationship with their superiors that motivates medical staffs to work well is 87.7% higher than those who are not satisfied with the relationship with their superiors: 64.6% (OR=3.89; $p < 0.001$). Being satisfied with the management regime and policies with good work motivation was 82.9%, much higher than the unsatisfied group: 21.3% (OR=17.92; $p < 0.001$).

Ensure Good Working Conditions and Friendly Working Environment

In our study, satisfaction with working conditions clearly affects the motivation of healthcare workers. The group that is satisfied with the working conditions has a good motivation to work 79%, which was higher than the unsatisfied people: 36.4% (OR=6.59, $p < 0.001$). Improving working conditions not only increases the work motivation of health workers but also contributes to ensure the quality of medical care and safety for patients.

Satisfaction with the relationship with superiors also motivates good work is 87.7% in our study, which

was higher than those who are not satisfied with the relationship with superiors. The unit leader's concern for employees is a tenet of total quality management (concerning the inner customer), this is also the principle of "small action, big impact".

Regarding the impact of the COVID-19 pandemic on healthcare workers, there have been many reports in the last 2 years. Positive attitude towards COVID-19 disease prevention and good work motivation is 82.2% higher than the group of employees who are still afraid of the disease: 69.6% (OR=2.01; p <0.05) (table 3.24). However, considering the correlation between work motivation score and COVID 19 awareness score, there was no correlation (R = 0.12; p<0.001).

Conclusion

To sum up, the percentage of medical staff with good motivation at work accounts for a high rate of 72.9%. The overall average motivational score on the "successfulness" factor was the highest points and the lowest was "acknowledgement of achievement". Results show that the rate of good comments about the management and supervision factors of medical staff is the lowest while satisfaction about the management regime and remuneration policy is the highest (53.4% and 81.2% respectively).

Positive attitude towards COVID-19 disease prevention and good motivation is 82.2% higher than the group of employees who are still afraid of the disease: 69.6% (OR=2.01; p<0.05). The rate of good work motivation in medical staffs that are satisfied with their personal income is significantly higher than the group of unsatisfied employees (OR= 3.11; p<0.001). Doctors have a higher rate of good motivation than nurses and technicians (OR = 3.03; p < 0.001).

The group that is satisfied with the working conditions, the rate of good work motivation is higher than those who are not satisfied with the working conditions (OR=6.59; p<0.001). The group that is satisfied with

the management regime and policies, the rate of good work motivation is much higher than the group of unsatisfied employees (OR=17.92; p<0.001). The group with a positive attitude to work management and supervision, the rate of good work motivation is significantly higher than the group of employees with a negative attitude (OR=7.57; p <0.001).

List of Abbreviations

Not applicable.

Human and Animal Rights

This study was warranted for ethical issues in biomedical research in accordance with the Declaration of Helsinki.

Research Involving Plants

Not applicable.

Consent for Publication

Not applicable.

Availability of Data and Materials

Data are available upon request to the corresponding author.

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Conflict of Interest

The authors report no conflicts of interest in this work.

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Authorship

TQH, TVH, DVD, NVK, and VTKA contributed equally to the experimentation. TQH and TVH wrote and edited the article. DVD and NVK equally designed and conducted the experiment. VTKA studied scientific literature about the topic. All authors read and approved the final manuscript.

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