



Adaptation and Validation of a Scale Measuring Job Satisfaction among Administrative Staff at Hanoi Obstetrics & Gynecology Hospital

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Abstract

Objective: To confirm the validity and reliability of a job satisfaction instrument to assess the satisfaction of administrative staff at Hanoi Obstetrics & Gynecology Hospital, Vietnam.

Method: Study was conducted in two phases. First, a nine-step translation process was done with an appropriate instrument for measuring job satisfaction among administrative staff at the hospital. Second, a quantitative survey of administrative staff in the hospital (n=243) was undertaken to investigate the validity and reliability of the questionnaire. Expert review (n=7), pre-testing (n=8) for item appropriateness, rewording and rephrasing were conducted before the quantitative survey and test-retest reliability assessment (n=30 participants) were also undertaken.

Result: The final instrument for measuring job satisfaction among administrative staff at the hospital consists of 7 dimension and 28 items, pay and benefits (7 items), reward and recognition (6 items), supervision (3 items), working conditions (3 items), communication (3 items), co-workers (3 items), and nature of the job (3 items). The CVI for the overall scale was 0.96, much higher than the threshold recommended by other instrument developers. The Cronbach's alpha coefficients of individual dimensions ranged from 0.658 to 0.867. The test-retest reliability coefficients over an interval of 15 days were ranged between 0.757 and 0.895, showing that the instrument had good test-retest reliability over a short period. The results of this phase showed that the new instrument was valid and reliable for assessing the job satisfaction of the administrative staff.

Conclusion: This is the first study to confirm the validity and reliability of the instrument for measuring job satisfaction of administrative staff working in a hospital in Vietnam, which appears to have good psychometric properties. It could be used for regular monitoring and evaluation of the hospital's human resource.

Keywords

Job Satisfaction, Exploratory Factor Analysis, Content Validity Index, Administrative Staff, Hanoi Obstetrics & Gynecology Hospital, Vietnam

Introduction

Job satisfaction is a concept that became popular in the 1930's [1] and thousands of studies have been conducted on this topic [2]. It is a complex concept that is not easily defined. Hoppock [3] introduced the

concept of job satisfaction as a set of psychological, physiological and environmental circumstances that make a person feel satisfied with their job. Another definition states that job satisfaction is a positive feeling about one's job that results from an evaluation

of the job's characteristics [4]. More broadly, Vecchio, Hearn, Southey [5] defined job satisfaction as a term expressing one's thinking, feeling and attitude toward work. It is influenced by the worker's experience, the job itself, communication from others, as well as the person's expectation about the job. Another definition by Spector [6] described job satisfaction as individual feelings of people about their jobs and other facets related to their jobs.

Numerous studies have demonstrated the role of job satisfaction of health workers with the quality of health services [7]. As a result, many studies on job satisfaction have been conducted in the health sector. The majority focussed on the job satisfaction of physicians and nurses in hospitals [8-13]. The literature shows that there have been a limited number of published studies on job satisfaction among administrative staff at the hospitals.

Administrative staff at hospital, also called hospital administrators, are key human resource of hospitals. They are responsible for organizing and overseeing the health services and daily activities of a hospital or healthcare facility. They manage staff and budgets, communicate between departments and ensure adequate patient care amongst other duties. They do not involve directly in the health service delivery process but indirectly and indispensably. At the Hanoi Obstetrics & Gynecology Hospital, administrative staff take the rate of around 15% total health workers, thus, their satisfaction with job is definitely of hospital leaders's attention.

As the role and the nature of job is much different between physicians, nurses and administrative staff at the hospital, it might be inappropriate when using job satisfaction scale of physicians and nurses for measuring that of administrative staff. Unfortunately,

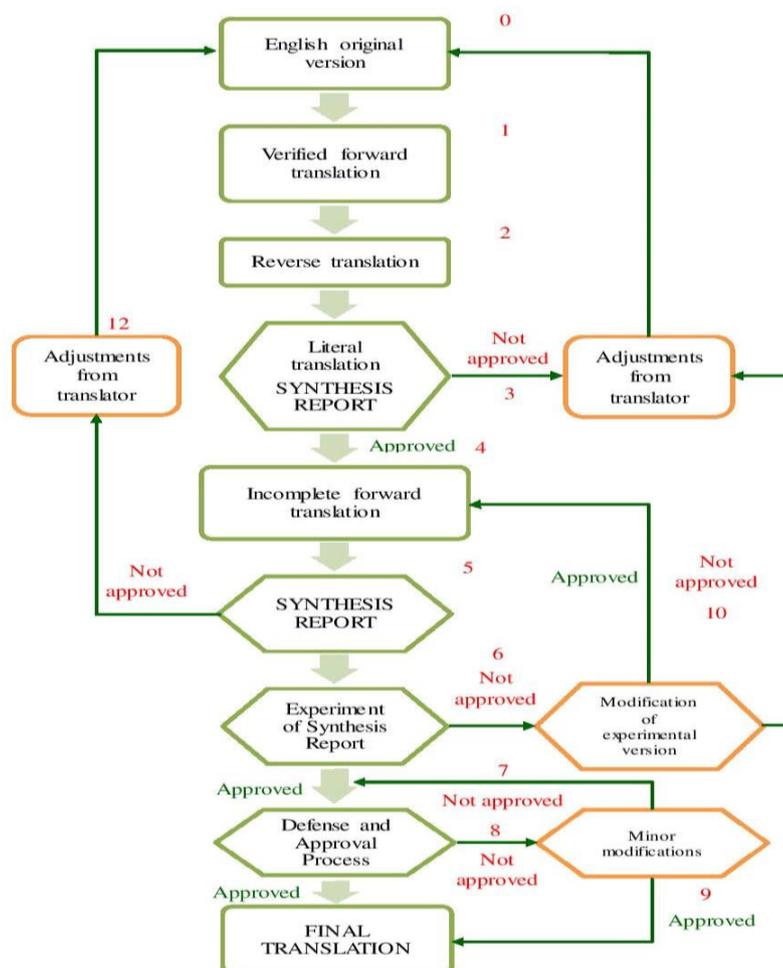


Fig-1: Apparatus translation process

there have been no instruments that are reliable and valid for assessing job satisfaction of a specific group of health worker, such as administrative staff working in hospital in Vietnam. The only available for use job motivation instrument for health workers in Vietnam but not physicians and nurses was developed by Nguyen and colleagues [14]. Even though, that instrument was culturally adapted and validated, there is a need to confirm the validity and reliability of the instrument for measuring job satisfaction among administrative staff working at the hospital in Vietnam.

Methods

This study was conducted in two phases.

Phase-1: The instrument was initially published in English [14], thus this step involved the standard translation process, including nine detailed steps as Fig-1.

Phase-2: The instrument of choice was validated through several steps, including expert reviews, a pre-test among a small sample of respondents, a quantitative study, and a test-retest survey.

Content Validity:

The content validity was done through expert reviews. The instrument was sent to 7 experts in Vietnam for review, including two sociologists, three administrative staff working at the hospital, one public health specialist and one officer from Ministry of Health. It was then revised based on their comments. The content validity of the instrument was assessed using the Content Validity Index (CVI) as suggested by Polit, Beck, Owen [15].

Face Validity:

The face validity was done through pre-test. A group discussion with eight administrative staff working at the hospital (four staff from Human resource department, one staff from Social work department, one staff from General planning department, two staff from Communication department) was conducted in order to ensure that items were phrased in a culturally acceptable manner. They were asked to give comments on the instrument in terms of wording and meaning of the items. The questions suggested by Nguyen et al

[14] were:

- Is any item too difficult to understand?
- Is any item too difficult to answer?
- Is any item easy to make misunderstanding?
- Is any word not culturally acceptable in Vietnam?
- Is any item that is repetitive? If so, please list the items.
- Is there any word/item that needs to be reworded/re-phrased? If so, please list the words/items

Construct Validity:

The construct validity was done through a quantitative study among 243 administrative staff at the hospital for assessment of the instrument's reliability and validity. Exploratory Factor Analysis (EFA) is one useful method to identify the number of constructs that might exist among a group of items [16]. In this study, EFA was employed to identify underlying constructs among the 34 items. The analysis was done using SPSS software version 22 with steps guided by Pallant [17]. Principal Components method at eigenvalue ≥ 1 was applied. Kaiser-Meyer-Olkin and Bartlett's Test was applied to verify if the data was appropriate for EFA. Varimax rotation of the factors was also applied in order to produce the factor structure. The cut-off value of factor loadings was set at 0.5.

Internal Consistency Reliability:

A method to estimate the reliability of a scale is calculating the internal consistency coefficient, as an indicator of how well the single items of an instrument reflect a common, underlying factor [16]. In this study, the internal consistency reliability of each construct of the questionnaire was done by calculating the coefficient alpha [18]. It is one of the most important methods applied in measurement construction and use [19]. Some researchers suggest that the minimum acceptance of Cronbach's alpha for a scale is 0.7 [19,20]. According to DeVellis [21], minimum Cronbach's alpha of 0.65 is also acceptable.

Test – Retest Reliability:

Test-retest reliability is a method used to establish the temporal stability of a scale. It indicates scale consistency over time. The test can be done by

administering the same scale on a group of respondents at two different points of a time interval. According to Spector [16], an attitude scale should have good test-retest reliability within 1 – 2 weeks and may be less reliable over a long period because one's moods can change rapidly. In this study, the questionnaire was administered to a group of 30 respondents of the target population over 15 days.

Instrument:

The job satisfaction instrument had been validated for health workers but not physicians and nurses in Vietnam context and is available for use [14]. This instrument is self-reported questionnaire. Approximately half of the items were expressed in negative meaning to avoid response set (the tendencies for respondents to respond to items systematically regardless of the content of the items). The instrument consisted of 34 items and eight facets, including pay and benefits (7 items), reward and recognition (6 items), supervision (4 items), community support (4 items), working conditions (3 items), communication (4 items), co-workers (3 items), and nature of the job (3 items). This instrument had been demonstrated to be consistent with relevant international experience and had additional elements that may be important in developing country contexts. The scale appeared to provide a valid means of measuring job satisfaction amongst health workers but not physicians and nurses

in Vietnam.

Study Sites and Sampling:

The quantitative study was undertaken with 243 administrative staff at the Hanoi Obstetrics & Gynecology Hospital. Those are available at the time of data collection, who met two criteria: (1) had worked for the hospital for at least one year, and (2) not working as a physician, nurse, medical technician was invited to participate in the study. List of eligible participants is presented in **Table-1**.

Recruitment Procedures:

To recruit participants for the quantitative research, the researcher contacted the Human Resource department to create the list of eligible administrative staff to participate in the study. Eligible participants were provided with information sheets and the questionnaire. Those who agreed to participate in the study completed the questionnaire and returned it to the researcher.

Ethics Approval:

Research ethics approvals for the qualitative research were issued by the Research Ethics Committee of Hanoi School of Public Health, Vietnam (Ethics Approval No. 103/2020/YTCC-HD3, code 020-103/DD-YTCC).

Table-1: Eligible participants for the quantitative study

No.	Functional department	Quantity	Questionnaire code
1	Finance & Accounting Department	60	Jan-60
2	Quality management Department	11	61 - 71
3	Medical Equipment and Supplies Department	27	72 - 98
4	IT Department	17	101 - 117
5	General Planning Department	11	118 - 128
6	Social work Department	15	129 - 143
7	Security division	31	144 – 172, 242, 243
8	Nursing Department	12	173 - 184
9	Human resource Department	10	185 - 194
10	Communication Department	7	195 - 201
11	Administration Department	42	99, 100, 202 – 241
Total		243	

Table-2: Content validity index of the items and the overall scale

No.	Items	I-CVI
1	Considering my skills and the effort I put into my work, I am satisfied with my salary and professional allowance	1
2	The benefits we receive are as good as most other organizations within the health care system offer.	1
3	The benefit package we have is equitable.	1
4	Professional allowance is not as good as other sectors within the health care system.	1
5	I am not satisfied with the benefits (holidays, chances to travel,...) I receive.	0.86
6	Considering what it costs to live in this area, my salary and professional allowance are adequate.	0.86
7	There are benefits we do not have which we should have.	1
8	I do not feel that my efforts are rewarded the way they should be.	0.86
9	There are few rewards for those who work here.	0.86
10	There is really too little chance for promotion on my job.	1
11	When I do a good job, I receive the recognition my manager that I should receive.	1
12	Management is concerned about giving everyone a chance to get ahead.	1
13	Those who do well on the job stand a fair chance of being promoted.	0.86
14	My supervisor is not helpful to me in getting my job done.	1
15	I do not get high respect and fair treatment from my supervisor.	1
16	My supervisor is quite competent in doing his/her job.	1
17	My superiors are open to ideas.	1
18	I am satisfied with the respect I receive from local people	1
19	I am not satisfied with the way I am treated by local people.	1
20	I do not receive full co-operations from local people while doing my work.	0.71
21	I am satisfied with the friendliness of the local people.	0.71
22	I am fully provided with professional for doing my work.	1
23	I am provided with fully protective equipment for doing my work.	1
24	Physical working conditions make my working unpleasant	1
25	Rules, decisions are well informed within this organization.	1
26	The organization's communication makes me feel a vital part of it	1
27	Work assignments are not fully explained.	1
28	I receive the information needed to do my job in time	1
29	I enjoy my co-workers.	1
30	I like the people I work with.	1
31	There is too much bickering and fighting at work.	1
32	I like my job because of its stability.	1
33	I like doing the things I do at work.	0.86
34	I feel my job is helpful to the community.	1
S-CVI		0.96

RESULTS

Content Validity:

The content validity was done through expert reviews. The instrument after going through nine steps of the standard translation process was sent to 7experts in Vietnam for review. They were given the translated questionnaire and asked to rate each item of the instrument at one of four ordinal levels (1 = not relevant, 2 = somewhat relevant, 3 = quite relevant, and 4 = highly relevant). They were also asked to give further comments on the items as well as suggest adding items to or removing items from the instrument. CVI (in terms of proportion of rating of 3 or 4) was then calculated in both single item-CVI (I-CVI) and overall scale CVI (S-CVI) as recommended by Lynn [22] and also used by Nguyen [14]. Lynn [22] suggested that if there are six experts, an I-CVI value at 0.83 or above is acceptable for an instrument. The acceptable S-CVI value at 0.8 or above is widely used by scale developers [16]. **Table-2** shows the I-CVI of the items and S-CVI of the overall scale.

As mentioned above regarding the limit value of both I-CVIs and S-CVI, most of the I-CVIs were above the limit value. There were two items with low I-CVI as of 0.71, including items for community's support. Overall, the S-CVI was 0.96, much higher than the recommended threshold 0.8. In addition, the two low I-CVI items did not dramatically affect the overall S-CVI and were not much lower than the recommended threshold. Therefore, they were kept in the instrument for next validation steps.

Face Validity:

A group discussion with eight administrative staff working at the hospital was conducted in order to ensure that items were phrased in a culturally acceptable manner as well as appropriate for hospital concept.

Result from the group discussion reported that most of the questions were easy to understand and easy to answer. All the questions were written in a culturally acceptable manner. The respondents suggested only several minor changes of wording, as the instrument was initially developed to measure job satisfaction among preventive medicine workers, thus all the

phrase "preventive medicine workers" and "preventive health centers" needed to be changed to "administrative staff" and "hospital", respectively. They also recommended that the term "management" should be cleared as the Director of the hospital.

Construct Validity:

As described in the method part, 243 respondents were recruited for the quantitative study. **Table-3** shows the characteristics of the respondents. The percentages of females and males were not much different (49% and 51%, respectively). More than half of respondents were between 30 - 39 years old (54.3%). About three-fourths of the respondents had children. Most of participants were married (83.5%). More than half of the respondents (56%) were educated at a bachelor level. Most of them (95.9%) did not have a second job. While the respondents working at the hospital less than 5 years was 34.2%, most of the participants (55.1%) had worked less than 5 years at their current position.

As suggested by many scale developers, Exploratory Factor Analysis (EFA) is one useful method to identify the number of constructs that might exist among a group of items [14,23]. In this study, EFA was employed to identify underlying constructs among the 34 items. The Kaiser-Meyer-Olkin and Bartlett's Test result showed that the data is appropriate for EFA (KMO = 0.818, Bartlett's test was significant with $p < 0.001$). Items did not load on any construct or loaded on two or more constructs but factor loading difference was less than 0.3 were removed. EFA was repeated until there was no item loaded on different constructs with factor loading difference was less than 0.3 or did not load on any construct.

The **Table-4** shows that seven components were extracted accounting for 65% of the variance of overall job satisfaction. Among 34 items, three items of community support facet of the original questionnaire did not load on any construct, while its last item loaded on construct of nature of work. One item of communication, one of supervision and one of nature of job did not load on any construct. Thus, final questionnaire from the EFA includes 28 items and seven constructs as presented in **Table-5**. These

constructs show the same meaning as their meaning in the original questionnaire so that they were named: pay and benefits (7 items), reward and recognition (6 items), supervision (3 items), working conditions (3 items), communication (3 items), co-workers (3 items), and nature of the job (3 items).

Table-3: Characteristics of respondents of the quantitative pilot study

	<i>Frequency</i>	<i>Percent</i>
Gender (n=243)		
Male	119	49
Female	124	51
Age (n=243)		
20 – 29 years	44	18.1
30-39	132	54.3
40-49	45	18.5
≥ 50 years	22	9.1
Number of children (n=243)		
None	46	18.9
One	46	18.9
Two	142	58.5
Three	9	3.7
Marital status (n=243)		
Single	31	12.8
Married	203	83.5
Other	9	3.7
Education level (n=243)		
High school	23	9.5
Professional training	26	10.7
College	30	12.3
Bachelor	136	56
Masters	28	11.5
Having a second job (n=243)		
Yes	10	4.1
No	233	95.9
Tenure at current position (n=243)		
≤ 5 years	134	55.1
06-Oct	61	25.1
Nov-15	30	12.3
16 – 20	7	2.9
≥ 21 years	11	4.5
Length of employment at the hospital (n=243)		
≤ 5 years	83	34.2
06-Oct	65	26.7
Nov-15	52	21.4
16-20	23	9.5
≥ 21 years	20	8.2

Table-4: Total variance explained by the extracted factors from EFA

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings*			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	6.798	24.278	24.278	6.798	24.278	24.278	3.953
2	3.517	12.561	36.839	3.517	12.561	36.839	3.897
3	2.26	8.071	44.91	2.26	8.071	44.91	2.329
4	1.688	6.03	50.94	1.688	6.03	50.94	2.273
5	1.55	5.534	56.474	1.55	5.534	56.474	2.151
6	1.292	4.616	61.09	1.292	4.616	61.09	1.825
7	1.138	4.063	65.152	1.138	4.063	65.152	1.816

*Extraction Method: Principal Component Analysis

Table-5: The rotated factor structure for EFA

Item No.	Items	Component*						
		1	2	3	4	5	6	7
1	The Director General is concerned about giving everyone a chance to get ahead.	0.799						
2	There is really too little chance for promotion on my job.	0.76						
3	There are few rewards for those who work here.	0.759						
4	I do not feel that my efforts are rewarded the way they should be.	0.744						
5	Those who do well on the job stand a fair chance of being promoted.	0.703						
6	When I do a good job, I receive the recognition my manager that I should receive.	0.691						
7	Considering my skills and the effort I put into my work, I am satisfied with my salary and professional allowance.		0.807					
8	Considering what it costs to live in this area, my salary and professional allowance are adequate.		0.79					
9	The benefit package we have is equitable.		0.788					
10	The benefits we receive are as good as most other organizations within the health care system offer.		0.66					
11	Professional allowance is not as good as other departments within the hospital		0.66					

12	There are benefits we do not have which we should have.		0.635				
13	I am not satisfied with the benefits (holidays, chances to travel,...) I receive.		0.596				
14	I am provided with fully protective equipment for doing my work.			0.875			
15	I am fully provided with professional tools for doing my work.			0.82			
16	Physical working conditions make my working unpleasant			0.817			
17	My supervisor is quite competent in doing his/her job.				0.806		
18	My supervisor is not helpful to me in getting my job done.				0.741		
19	I do not get high respect and fair treatment from my supervisor.				0.666		
20	Rules, decisions are well informed within this organization.					0.787	
21	Work assignments are not fully explained.					0.737	
22	I receive the information needed to do my job in time.					0.679	
23	I enjoy my co-workers.						0.737
24	I like the people I work with.						0.736
25	There is too much bickering and fighting at work.						0.677
26	I am satisfied with the respect I receive from local people.						0.769
27	I feel my job is helpful to the community.						0.696
28	I like doing the things I do at work.						0.579

*Loadings < 0.5 are omitted from the table

Table-6: Internal consistency and test-retest reliability of the questionnaire

Subscale	Cronbach's alpha	Test-retest reliability
Pay and benefits	0.85	.827*
Reward and recognition	0.867	.865*
Supervision	0.758	.807*
Working conditions	0.831	.775*
Communication	0.693	.764*
Co-workers	0.728	.895*
Nature of the job	0.658	.793*
Total Scale		.757*

*Test was significant at $p < 0.01$

Internal Consistency Reliability and Test-Retest Reliability

Result of the internal consistency reliability and the test – retest reliability demonstrates in **Table-6**.

The Cronbach's alpha should be higher than 0.65 as the minimum acceptance suggested by many instrument developers [16,21]. The facets of communication and nature of the job had alpha coefficients less than 0.7. However, they were above the minimum acceptance of alpha coefficient 0.65 recommended by Spector [16]. The sub-scales of supervision and co-workers had coefficients between the respectable range (0.7-0.8). The sub-scale of pay and benefits, reward and recognition and working conditions had very good Cronbach's alpha coefficients according to the criteria of DeVellis [21].

The test-retest reliabilities of sub-scales range from 0.764 to 0.895 and the overall test-retest reliability is 0.757. These results demonstrate that the instrument is stable over a short period.

Discussion

The instrument was adapted and validated through several steps. The questionnaire was translated into local language, Vietnamese, by a standard method of translation. This ensures the meaning of items in Vietnamese is the same with the English version. The findings of expert reviews also indicated that most of existing items in job satisfaction scale of preventive medicine workers might be appropriate to use for administrative staff in hospitals. Only some items might not be appropriate for the target workers such as items for community supports (I-CVI at 0.71). The S-CVI at 0.96 showed that most of experts agreed that most items of the questionnaire might be used for measure dimensions of job satisfaction of the workers.

The pre-test among 8 administrative staff currently working at Hanoi Obstetrics & Gynecology Hospital, who understand Vietnamese culture as well as hospital contexts showed that only some minor changes in wording issue had to be made to the Vietnamese instrument. The result from this step confirms the face validity of the instrument, in other words, confirms the appropriateness to the Vietnam culture and the

understandableness by the administrative staff.

The Exploratory Factor Analysis results showed that some items did not load on any common factors. Three items of factor of community support did not load in a common factor as the original scale. One reason for this result may be that the administrative staff work in their hospital. They don't often work at community so that support from community don't affect their job satisfaction significantly. However, the item "respect of local people" of community support loaded with items of nature of work. This may suggest that the attitude of the local people to the staff job is significantly related to their job satisfaction. The EFA results also showed that dimensions of job satisfaction of hospital administrative staff are similar to non-healthcare workers. Although the EFA showed that 28 items and seven constructs should be remained in the final scale, they accounted for 65% total variance of the respondents. The original scale validated by Nguyen [14] showed that its 34 items and eight constructs explained 63% of variance of overall job satisfaction. This result suggested that the EFA helped reduce the number of items and constructs of job satisfaction of the target workers while explained higher total variance in comparison with the original scale for preventive medicine workers.

The reliability of the instrument was evaluated in terms of internal consistency and test-retest reliability. Cronbach's alpha coefficient, the most common form of internal consistency, was computed for each dimension. The alpha coefficients of the dimensions "nature of the job" (0.658) and "communication" (0.693) were slightly above the minimum acceptable threshold recommended by Spector [16]. The constructs are acceptable as each of them include only three items. All other constructs had alpha coefficients within the respectable range (0.7-0.8) or good alpha coefficients suggested by DeVellis [21]. The Pearson correlation, the most common type of test-retest reliability, was computed for each of the seven dimensions and the overall scale within a 15-day interval. The coefficient for "communication" was the lowest (0.764), while "co-workers" had the highest coefficient (0.895) and the coefficient for the overall scale was 0.757. Compared to the test-retest reliability of the original scale among preventive medicine

workers by Nguyen, these results showed that the instrument had good test-retest reliability for the administrative staff.

Literature review showed that most of the researchers focused on only specific job satisfaction dimensions that generated and presented to the researchers by well-known measurement instruments. The most two famous job satisfaction scale amongst healthcare workers are: Job Satisfaction Survey (JSS) and the Satisfaction of Employees in Health Care (SEHC) survey. For the JSS, in 2012, Fesharaki et al. [24] analyzed the reliability and validity of “Job Satisfaction Survey” questionnaire in military health care workers. The questionnaire of JSS with 36 questions and measuring 9 sub domain of four questions. Questions of questionnaire which reduced the efficiency of data for exploratory factor analysis was evaluated using anti image matrix that the results of this investigation led to omission of three questions (questions 4, 16, and 18) out of total of 32 questions in the questionnaire. They concluded that the validity and reliability indexes of the questionnaire are reported in acceptable range, the new version of JSS questionnaire is a valid and reliable questionnaire for measuring job satisfaction among military health care workers. In 2016, Batura et al. [25] conducted a validation analysis of the Job Satisfaction Survey to measure job satisfaction amongst health workers in Nepal. Strong points of this research were Batura et al. tried to figure out the link between job satisfaction and intention to leave the workplace and Batura et al. used mixed methods to assess its validity and reliability in measuring job satisfaction among maternal and newborn health workers (MNHWs) in government facilities in rural Nepal. The instrument includes of several dimensions: pay and benefits, co-workers and supervisors, promotion and training, work environment, and general job satisfaction. In comparison with the instrument used in this study, there are some similar dimensions, such as pay and benefits, supervisor and co-workers, working conditions, .. but some dimensions included in our instrument due to characteristics of our target audience, for instant communication, reward,.

For the SEHC survey, in 2013, Alpern et al. [26] aimed to develop a brief instrument for assessing

healthcare employee satisfaction in a low-income setting. They sought to develop the Satisfaction of Employees in Health Care (SEHC) survey for use in hospitals and health centers throughout Ethiopia. For the validation process, they conducted a survey with health care workers at six hospitals and four health centers across Ethiopia. The final validated instrument included of 18 questions factored into three factors, which they characterized as 1) relationship with management and supervisors, 2) job content, and 3) relationships with co-workers. After that, in 2017, Chang et al. [27] validated the Satisfaction of Employees in Health Care (SEHC) survey with multidisciplinary, healthcare staff in the United States. They concluded that the SEHC appears to measure a single general job satisfaction construct. The scale has adequate reliability and validity to recommend its use to assess satisfaction among multidisciplinary, U.S. healthcare staff.

Seldom we found researchers developed new job satisfaction instrument. For example, in 2013, Faye et al. [28] developed a valid and reliable instrument to measure satisfaction among health professionals, including doctors, midwives, nurses and technicians in the sub-Saharan African context. Eight dimensions of satisfaction encompassing 24 items were identified: continuing education, salary and benefits, management style, tasks, work environment, workload, moral satisfaction and job stability. All eight dimensions demonstrated significant discriminant validity. The final model showed good performance, with a root mean square error of approximation (RMSEA) of 0.0508 (90% CI: 0.0448 to 0.0569) and a comparative fit index (CFI) of 0.9415. The concurrent criterion validity of the eight dimensions was good. Reliability was assessed based on internal consistency, which was good for all dimensions but one (moral satisfaction < 0.70). Test-retest showed satisfactory temporal stability (intra class coefficient range: 0.60 to 0.91). Even that instrument proved to be validated and reliability for doctors, midwives, nurses and technicians, but might be not appropriate for administrative staffs, who work in the hospital but their job satisfaction were affected by different factors.

Conclusion

The instrument was adapted and validated through several steps, including the standard method of translation, content validity, face validity, construct validity, internal consistency reliability, test-retest reliability. Finally, the final instrument for measuring job satisfaction among administrative staff at the hospital consists of 7 dimension and 28 items, pay and benefits (7 items), reward and recognition (6 items), supervision (3 items), working conditions (3 items), communication (3 items), co-workers (3 items), and nature of the job (3 items). This instrument has been demonstrated to be appropriate to the Vietnam culture and understandable by the administrative staff as well as having good psychometric properties. It could be used for regular monitoring and evaluation of the hospital's administrative staff with regard to the advantages of this instrument, such as fewer numbers of questions and its appropriate domain and its high reliability and validity.

Conflicts of Interest

The authors declare that there is no conflict of interest. The views expressed in the paper are that of the authors and do not reflect that of their affiliations.

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