

ORIGINAL ARTICLES

## Self-reported social support at works among nurses and associated factors. Results from a cross-sectional study in a provincial hospital in 2020

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### ABSTRACT

**Objective:** This study aimed to measure nurses' self-perceived social support and identify associated factors at one Vietnamese provincial hospital in 2020.

**Methods:** A cross-sectional study was implemented among clinical nurses of 22 treatment wards working at the hospital for over six months. Two hundred sixty-one nurses returned the self-reported questionnaires containing the Vietnamese 22-item Job Content Questionnaire and set of questions on personal and work characteristics. Descriptive analysis (frequency, mean, standard deviation), crude analysis (t-test and ANOVA), and multivariate linear regressions were conducted to describe the social support (i.e., supervisor' and co-worker's supports) and their associations with other factors at the significant level  $p$  less than 0.05.

**Results:** The study achieved a relatively high response rate (82.1%). Social supports, including supervisor and co-worker's supports, were 24.04, 11.89, and 12.16, respectively. Multivariate Linear regressions showed an inverse association of job demand and positive correlation of job control with both supervisor and co-workers' support among participating nurses ( $p < 0.01$ ). Older nurses, nurses with fewer years of work experience or fixed-term contract reported more perceived support from their superiors ( $p < 0.05$ ).

**Conclusions:** Nurses with different characteristics reported dissimilar perceived levels of social supports at work. Head nurses responsible for nursing management should encourage a supportive working environment where nurses can feel comfortable asking for and receive assistance from others. In addition, appropriate training would be helpful to increase nurses' recognition and usage of available resources at work.

**Keywords:** Social support, supervisor's support, co-worker's support, clinical nurses, provincial hospital, Vietnam

### INTRODUCTION

Nurses' mental health has become a growing concern worldwide, including low- and middle-income countries (LMICs). It was estimated that the world would face a shortage of 12.9 million health workers by 2035, of which more than 50% were nurses

and midwives (1). Over half of that shortage, about 7.2 million, happened in LMICs. Factors contributing to this shortage include an aging health workforce, decreasing retention and increasing employee turnover rates, and rising demand for health services from a growing population (2). This situation essentially intensifies the work burden on



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healthcare workers' well-being, including nurses, resulting in a high prevalence of psychological problems such as depression or anxiety (3, 4). Mental disorders among nurses are significantly associated with absence from work, intention to leave, and high turnover (5, 6); occupational accidents (7), impaired work performance and inaccurate judgment, and a negative attitude at work (8). Hence, nurses' mental problems could endanger hospital patients' lives and satisfaction and deteriorate the quality of services provided (9), leading to organization's reputational damage and reduced productivity and clinical effectiveness (9).

However, nurses' subjective psychological stress is influenced by the combination of both external work environments and nurses' coping resources since individuals' perception of a stressful event depends on their characteristics and coping skills (10). According to the Job Demands-Control-Resource Model (11), one of the most well-known theories on the impact of the psychosocial work environment on workers' health, high social support at work can be a counterattack to balance the psychological impact of high demand and low control of such an occupation as nursing (12). Studies showed that high social supports significantly associated with decreased mental disorders such as depression, anxiety (13), and burnout (14). Increased support at work also correlated with the positive aspects of mental health, such as higher self-efficacy (15), job satisfaction (16), work engagement (17), and intent to stay at work (18). More social support is also associated with better physical health (19) among nurses. Therefore, the enhancement of social supports at work is essential to help nurses effectively cope with demanding hospital tasks.

In Vietnam, healthcare professionals, including nurses, face increasing stress and burnout at work (20, 21) because of stressful working environments, high workload, shortage of skilled health staff, and inadequate infrastructure and medical equipment (22). However, the availability of coping resources at work, such as social supports, is unknown, and priority should be considered within the low/limited-resource settings. Therefore, this study aimed to measure nurses' self-perceived social supports at work and identify factors associated with their perception of social support at one provincial hospital in Vietnam. This study's findings facilitate the development of prioritized evidence-based solutions to provide appropriate social supports for hospital nurses at the provincial level.

## **METHODS**

### **Study design**

This study applied the cross-sectional study design with a quantitative research method.

### **Study time and location**

Data collection was conducted in one general hospital in a mountainous province of Vietnam, located in the Northwest region, from February to April 2020.

### **Study participants**

The study invited clinical nurses of the hospital who met the following inclusion criteria: 1) directly provided care for patients in the 22 clinical wards, 2) worked at the hospital for over six months, and 3) agreed to participate in this study. Nurses solely in charge of administrative works or worked in the laboratory, were not included. Exclusion criteria consisted of two conditions: 1) not

presented at the hospital during the study period, and/or 2) had mental health problems.

### **Sample size and selection of participants**

Among 318 nurses in the hospital (23), 261 nurses were eligible, agreed to join the survey and completed the self-reported questionnaires.

### **Study variables and instrument**

Dependent variables of this study, social supports, consisted of Supervisor's and Co-worker's support. Independent variables to test the association with social supports included individual characteristics and work conditions. Individual information contained age, gender, education level, years of working as nurses, average monthly income in 2019 (in VND), and type of labor contract, and drinking, smoking habits. Work conditions included a number of night shifts per week, frequency of feeling satisfied with co-workers, experienced verbal abuse from patients and their families, a self-perceived opportunity of promotion and psychological work environments (i.e., job demand and job control).

Supervisor support, co-worker support, job demand and job control were measured by the 22-item Job Content Questionnaire (JCQ-22), a well-known self-assessed tool (24) to measure the work dimensions based on the Job Demand-Control-Resource model. The core scales of JCQ included three dimensions, namely 1) Job control, 2) Psychological job demands, and 3) Social support. Social support was measured by eight Likert items (i.e., four items for each supervisor and co-worker's support subscale), ranging from 1 (Strongly disagree) to 4 (Strongly agree). The scores of Supervisor support and Co-worker support subscales were summed with each subscale's four items' score. Job demand

and Job control were measured by the five-item and nine-item subscales of the JCQ-22. The calculation of each dimension followed the validation paper of the Vietnamese JCQ (25). The Vietnamese version of JCQ-22 had acceptable validity and reliability (25).

Individual characteristics and other working conditions were collected using originally developed self-reported questionnaires.

### **Data collection procedure**

Data was collected using the self-reported method. The study tools were piloted among ten nurses before the data collection to test the appropriateness of the questions. The researcher contacted the hospital management board to ask for permission. Participants' informed consent was obtained before the data collection that was implemented in each clinical wards. Participated nurses gathered in the ward's meeting room to answer the self-reported questionnaires with the researchers' assistance.

### **Data analysis**

The researchers coded and entered data into a password-protected computer using the software Epidata version 3.1. Data cleaning and analysis were performed using SPSS version 20.0. Descriptive analysis (i.e. frequency, mean, standard deviation SD) was used to describe the participants' characteristics and social supports. T-test, ANOVA, correlation, and multivariate linear regression were used to examine associations between supervisor/co-worker supports and related factors at the significant level  $p < 0.05$ .

### **Ethical consideration**

The Ethical Committee of Hanoi University of Public Health approved this study's ethical conditions in Decision No 30/2020/YTCC-

HD3 dated 13/2/2020. Voluntary participation was guaranteed. Participants were free to withdraw from the study at any time or refuse to answer any questions without adverse consequences. Data confidentiality was secured with anonymous reporting of results. Completed questionnaires were kept in a locked cabinet, accessible to only researchers.

## RESULTS

Two hundred sixty-one completed questionnaires were collected and included in the final analysis (response rate of 82.07%). Table 1 presented general

information about the participants. More than 80% of participating nurses were female, obtained college and a higher degree in nursing, and signed a permanent or no fixed-term contract with the current hospital. The mean age of the study sample was 32.91 ( $\pm 4.77$ ). Participants worked in the nursing profession for nearly ten years ( $9.65 \pm 5.00$ ), with the average monthly income in 2019 as 6.41 million Vietnam Dongs. The mean scores of job demand and job control were 29.39 and 66.86, respectively. Less than 10% of nurses reported tobacco smoke, a slightly higher percentage reported alcohol consumption (18.4%).

**Table 1. Characteristics of study participants**

Characteristics of study participants		N/ Mean	%/ SD
Total		261	100.0
Age		32.91	4.77
Years of service		9.65	5.00
Average monthly income in 2019 (million VND)		6.41	2.82
Job control		66.86	5.79
Job demand		29.39	3.64
Sex	Male	51	19.5
	Female	210	80.5
Education	Vocational training	54	20.7
	College	121	46.4
	Undergraduate	85	32.6
	Post graduate	1	0.4
Labor contract	Fixed-term contract	10	3.8
	Permanent or no fixed-term contract	251	96.2
Smoking	Frequent (>4 times/ week)	4	1.5
	Sometime (1-3 time/week)	16	6.1
	No	241	92.3
Drinking	Frequent (>4 times/ week)	2	0.8
	Sometime (1-3 time/week)	46	17.6
	No	213	81.6

The condition of social supports was presented in Table 2. The average score and standard deviation of social support, supervisor's and co-worker's supports were 24.04, 11.89, and 12.16, respectively. Within the supervisor's support subscale,

the supervisor's support to complete the job received the highest mean score (1.96), and the lowest score fell in the aspect of the supervisor's attention to subordinate's talk (1.88). All four items of co-workers' scores were rate equally (1.97).

**Table 2. Self-perceived Social support at work**

Scales (Number of items) [possible range]	Mean	SD	Min	Max
Social Support (8) [8-32]	24.04	2.02	14	32
Supervisors (4) [4-16]	11.89	1.35	4	16
...concern about subordinates' welfare	1.89	0.32	1	2
...pay attention to subordinates' talk	1.88	0.32	1	2
...help to complete the job	1.96	0.19	1	2
... successfully get people to work together	1.93	0.25	1	2
Coworkers (4) [4-16]	12.16	0.99	8	16
... are competent in doing their work	1.97	0.16	1	2
...take a personal interest in me	1.97	0.18	1	2
... are friendly	1.97	0.17	1	2
...help to complete the job	1.97	0.16	1	2

Table 3 revealed the distribution of supervisor and co-worker's support scores across participants with different characteristics. Crude analysis showed that a number of serviced years and job demand significantly and negatively correlated with supervisor and co-worker's supports while job control positively associated with social resources at work. Nurses with lower education levels or frequently satisfying with their co-workers reported higher levels of social supports. Participants who were verbally abused by clients (patients and their families) with high frequency reported the highest co-worker's

support score ( $p=0.006$ ), while nurses with promotion opportunity perceived a higher level of supervisor's support ( $p=0.03$ ). Considering all factors in Linear multivariate regressions, nurses with increased levels of job demands rated lower supports at work. In contrast, participants with more job control received greater help from their superiors and co-workers ( $p<0.01$ ). Older nurses, nurses with fewer years of working, or fixed-term contracts reported more support from their superiors ( $p<0.05$ ). Co-workers' support significantly increased among nurses who were more satisfied with their co-workers ( $p=0.005$ ).

**Table 3. Associations between self-perceived supervisor and co-worker supports and individual and work-related factors in Multivariate linear regression analysis**

Factors*	Subgroups	Supervisor support				Co-worker support									
		Crude analysis <sup>a</sup>		Multivariate analysis <sup>b</sup>		Crude analysis <sup>a</sup>		Multivariate analysis <sup>b</sup>							
		Mean	SD	t/ F/ r	p	Beta	t	Mean	SD	t/ F/ r	p	Beta	t	p	
Individual characteristics															
Age				-0.04	0.566	0.30	2.67	0.008		-0.10	0.098	0.07	0.57	0.572	
Years of service				-0.14	<u>0.026</u>	-0.33	-2.78	0.006		-0.15	<u>0.014</u>	-0.17	-1.32	0.187	
Education	Vocational training	12.00	1.58						12.26	0.87					
	College	11.93	1.27						12.22	1.08					
	Undergraduate	11.80	1.25	3.12	<u>0.027</u>	-0.09	-1.51	0.133		4.32	<u>0.005</u>	-0.09	-1.44	0.152	
	Post graduate	8.00	-						9.00	-					
Labor contract	Fixed term contract	12.70	1.06						12.50	0.97					
	Permanent or no fixed term contract	11.85	1.35	3.84	0.051	-0.12	-2.00	<u>0.047</u>		1.24	0.266	-0.05	-0.75	0.453	
Work characteristics															
Job control				0.34	<u>&lt;0.001</u>	0.35	5.99	<u>&lt;0.001</u>		0.19	<u>0.001</u>	0.20	3.20	<u>0.002</u>	
Job demand				-0.14	<u>0.029</u>	-0.17	-2.85	<u>0.005</u>		-0.13	<u>0.037</u>	-0.16	-2.60	<u>0.010</u>	
Night shift per week				-0.08	0.197	-0.08	-1.42	0.156		0.01	0.891	0.02	0.36	0.720	
Satisfied relationship with co-workers	Never	16.00							15.00						
	Sometime	11.44	1.66						11.91	1.07					
	Frequent	11.90	1.16	7.50	<u>&lt;0.001</u>	0.11	1.83	0.068		10.71	<u>&lt;0.001</u>	0.17	2.81	<u>0.005</u>	
	Always	12.38	1.27						12.79	1.42					
Verbal abuse from patients and their families	Never	11.87	1.20						12.23	0.99					
	Sometime	11.88	1.42						12.10	0.98					
	Frequent	11.71	0.49	1.00	0.394	0.03	0.53	0.595		4.25	<u>0.006</u>	0.01	0.16	0.876	
	Very frequent	13.50	2.12						14.50	2.12					
Promotion opportunity	Yes	12.11	1.17						12.19	1.10					
	No	11.70	1.46	6.21	<u>0.013</u>	-0.08	-1.29	0.197		0.27	0.605	0.01	0.22	0.824	

\* Sex, average monthly income in 2019, smoking, and drinking status were insignificantly associated with supervisor and co-worker supports in both crude and multivariate analyses with  $p > 0.05$ .

<sup>a</sup> Crude analysis between supervisor' and co-worker's support and investigated factors using t-test (t) for binary variables or ANOVA (F) for variables with more than two categories or correlation coefficient (r) for continuous variables

<sup>b</sup> Multivariate analysis using Linear regression.

## DISCUSSION AND CONCLUSIONS

Nurses in our study reported a relatively high level of social support at work. Different perceptions of nurses with varied individual characteristics and working conditions might imply the unequal distribution of social support at the study hospital.

### Social supports

According to the Job Demand-Control-Support (JDSCS) model, social supports at work consisted of two elements, namely supervisor' and co-worker's supports (11). The social supports experienced by nurses in our study (11.89 and 12.16, respectively) were relatively similar to that of other studies among nurses in Vietnam (12.0 and 12.2) (25), Iran (11.4 and 11.5) (26), Taiwan (11.6 and 12.8) (15), and Thailand (11.5 and 12.3) (18). This homogeneous finding was attributable to the fact that these studies were conducted in large general hospitals with comparable working conditions in Asia.

Similar to other studies using the same JCQ to measure social support, our study showed that workplace resources were available for clinical nurses, of which co-

worker's support was slightly perceived better than the supervisor's support. One reason might be a slight difference between the two subscales' items (25). Superiors are responsible for various duties, not only clinical care but also management and administrative tasks, so it was difficult for them to deliver much support to all subordinates equally. Besides, nurses may feel more comfortable asking for assistance from or providing it to their co-workers than superiors (such as the head nurse or the head doctor of the ward). They might be reluctant to seek help from their superiors in fear that their boss might evaluate them as incompetent, poor performance, lack of nursing knowledge, or skills. This situation is particularly applicable to new and younger nurses with inadequate experience in hospital work. Moreover, the level of self-perceived social support measured by JCQ might be influenced by personal factors such as knowledge, attitude, or health conditions (18, 27).

### Distribution of social support across groups of participants with different characteristics

Our study findings on the relationship between social support and job demand/ job control were consistent with those of published studies (12, 18, 28). Specifically, nurses with increased perceived job demand and low level of job control reported lower social support from supervisors and co-workers. It was likely that the disadvantageous psychological work environment (high job demand and low job control) might deteriorate nurses' mental well-being, causing stress or depressive symptoms (29, 30), which negatively influenced their perception of social support at work. However, suppose the low level of perceived social support truly reflects

the actual conditions at the hospital. In that case, nurses are at risk of high strain (high job demand, low job control, and low social support) with a detrimental impact on their health following the JDCS model (11). Solutions to improve psychological work environments would be crucial to protect and promote nurses' health. Specifically, increasing the social support within the workplace would effectively counteract the effect of perceived high demands on nurses' psychological health conditions since a reduction of demand is not easily achievable in jobs such as nursing (12).

In a nursing setting, supervisors with good leadership skills may positively affect job satisfaction, patient outcomes, and staff education. Furthermore, supervisors' support can facilitate a resourceful work environment, enhance nurses' work engagement (17), and improve nursing turnover and mental health (31). In our study, the supervisor's support significantly increased with age ( $p=0.008$ ). This contradicted results from studies among Moroccan health care workers (32) and Thai nurses (18). The Moroccan study included all physicians, nurses, and other health professionals with different job tasks and responsibilities, which required different physical and mental capabilities (32). Older physicians might have more experienced over longer service duration and be promoted to a higher job position with advantageous working conditions. Their health examination and consultancy tasks do not require as much exertion as nurses do to care for, lift, or support patients. Older nurses' physical strength might be degenerated over time, causing difficulty in conducting nursing tasks and the need for colleagues' assistance. However, it is inconvenient for older nurses to ask for help all the time; therefore, the head nurses assign tasks and schedules appropriately

to their subordinates' abilities. In addition, gender was reported as a moderator in psychological studies (33). The Thai study contained only female nurses (18) while our study invited all nurses, although male nurses were accountable for the minority (about 20%). Moreover, it is possible that the low perception of the supervisor's support among new young nurses was the result of their limited experience, awareness, and attitude. Thus, training programs to improve nursing professionals' perceptions of social support (from both supervisors and co-workers) might be beneficial (34).

The supervisor's support also decreased among nurses with more working years or permanent/unlimited-term contracts with the hospital. Our study's finding was consistent with that of studies among nurses from a national hospital in Vietnam (25) and Thailand (18). In Vietnamese hospitals, nurses with less favorable labor contracts (short/fixed-term) or low job positions are usually involved in a low-pressure environment, low demand and high support to perform with their current capability. On the other hand, experienced nurses were responsible for more complicated nursing tasks. Under social pressure and expectation, they have to appear as competent in doing their jobs effectively without error since misconduct can lead to such a severe consequence as losing a patient's life. This puts excessive pressure on their physical and psychological health. A cluster analysis study also reported that nurses in their middle age with many working years and stable job positions had the highest risk of psychological disorders (21). Our findings suggest that even though experienced/ senior nurses do not take the initiative to ask for help, head nurses should communicate with them regularly and provide assistance if necessary.

It is surprising that nurses with an opportunity of promotion highly evaluated the support they received from supervisors, compared to those who had not been promoted at work. Promotion is one of the rewarding methods to increase employee motivation, which positively correlated with job control (12). Employees with the best performance and capacity would likely be promoted, enabling them to work independently and effectively. Hence, these competent nurses might not require much support from superiors. However, we could not determine which came first, supervisor's support or job promotion within a cross-sectional study design. Further studies might be necessary to investigate this association.

Generally, nursing requires much collaboration and teamwork with other nurses or physicians to provide patients' care. Therefore, the work relationship's quality might influence a nurse's performance, mental health (21), and their evaluation of co-worker's support. The last significant finding of our study showed that nurses' satisfaction with professional relationship positively correlated with their perception of co-worker's support. Hence, the development of an open and supportive environment and culture at work helps enhance the social support and psychological work environment for nurses in the hospital.

### **Limitations**

Several limitations should be considered in the interpretation and generalization of our study's results. First, our study was conducted in a province-level general hospital with a certain workload level, which might be different from hospitals at other levels, such as national, district hospitals, or specialized hospitals. However, the results of this study might be applicable to other provincial hospitals in Vietnam. Second,

the cross-sectional and quantitative study design resulted in limited information on the causal relationship between self-perceived social support and work conditions and the most suitable type of support for nurses. Future studies should include the qualitative component or open questions to explore the context and type of support nurses need for their professional tasks. Finally, nurses' health conditions during study period might influence their perception of social support, and this potential bias was not controlled in the multivariate analysis. This information should be included in future studies using a subjective/ self-reported method of data collection.

### **Conclusions**

Hospital nurses at the provincial level reported a considerably high level of social support at work, with self-perceived co-worker's support being better than the supervisor's support. The perception of received supports among nurses varied across groups with different individual characteristics and work conditions. The findings suggest that different job types need different sources of social support. Proactive steps by head nurses of the ward/ nurse managers to increase workplace social support might improve the psychological work environments, nurses' health, and performance. In addition, training for nurses is necessary to increase their recognition and effective mobilization of social support at work.

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