

FACTOR RELATED TO COPING STRATEGIES OF NURSES WORKING IN HEALTH CARE CENTERS ON TIMOR ISLAND, EAST NUSA TENGGARA PROVINCE, INDONESIA

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ABSTRACT: The study was conducted to identify and study significant factors related to nurses' coping strategies working in health care centres in five districts on Timor Island, East Nusa Tenggara Province, Indonesia. This was a descriptive cross-sectional study. A self-administered questionnaire was given to 322 nurses in the selected area. The response rate was 80.5% (322 from 400 cases). Timor Island has been purposively chosen for this study, and random sampling nurses from ninety-five health care center. Data were analyzed by using descriptive statistics, the chi square test and multiple logistic regression. Coping strategies were divided into problem-focused coping strategy (PF) and emotion-focused coping strategy (EF). Almost half of the respondents often used PF and EF. The quality of hardy personality was divided into commitment, challenge and control. Approximately 80% of the respondents used a combination of these three subcomponents. Nearly half of the respondents had low levels of stress. With regard to social support, 98.1% had friends, 89.7% lived with their families, 78% always received support from family and friends and 64.6% occasionally shared their problems with others. When adjusted for other variables, working as a nurse for more than 5 years (AOR = 0.40, 95% of CI 0.20 to 0.78) and having a high level of workload stress (AOR = 1.84, 95% of CI 1.15 to 2.95) were significant predictors for often using EF. Gender (female) (AOR = 1.85, 95% of CI 1.06 to 3.24), occasionally sharing problems with others (AOR = 1.87, 95% of CI 1.13 to 3.10) and occasionally receiving support from family and friends (AOR = 1.94, 95% of CI 1.09 to 3.47) were significant predictors for often using PF. In conclusion, researchers found that most nurses appear to use a combination of both emotion- and problem-focused strategies instead of one or the other exclusively, depending on the type of stressor and the situations. Being female and having sharing problem with other support from others were significant factors related to the use of PF often, while nurses number of years working and workload were significant factors related to EF often.

Keywords: Coping strategy, Job stress, Hardy personality, Social support, Indonesia

INTRODUCTION

Health centers (HC) are often the first stop for health services for people in a given community. HC provide primary, secondary and tertiary care, so people have access to adequate resources there. The nurse is a resource that has the closest and most frequent contact with patients, families, caregivers and the community. According to Benoliel et al. [1], nursing is one of the most stressful and challenging vocations because of the need for specialization, complexity and the requirement of being able to handle emergency situations. Despite the recognition of the value of illness prevention, nurses also have to handle health promotion, administrative work and other responsibilities.

Burbonnais et al. [2] have warned that nurses are a group which has been considered vulnerable to stress and burnout.

Dealing with a heavy workload, occasional role confusion, conflicts with other nurses or physicians and some staff might lead to job stress for nurses [3]. Because they are the first contact person in HC and because they have many responsibilities and work in a stressful situation, nurses have to have a good ability to manage their work and a good personality in order to provide good services. Hardiness is therefore needed in order to overcome stressful situations in nursing work. According to McCrainie et al. [4], hardiness is an important source of resistance against negative effects of stress among health care providers. Hardiness is a personality characteristic comprising the dimensions of commitment, control and challenge. People's

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beliefs about the nature of truth and the value of work, their tendencies to act, their ability to influence people, their interpersonal relations and their social situation are some factors included in a hardy personality [5].

Overlapping jobs, lack of personnel, inappropriate scheduling or changing shifts can lead to stressful situations for HC nurses. To deal with this kind of situation, nurses have to have strategies to cope with stressful situations. Cognitive and behavioural actions performed by individuals to cope with stressful situations and manage them are called coping strategies [6]. Coping is not a one-time action on the part of an individual; it consists, rather, of a set of reciprocal responses, occurring over time by which the environment and personality of a person influence each other [7]. Lazarus and Folkman [6] divided coping strategies into two types, which are problem-focused coping (PF) and emotion-focused (EP) coping. PF tends to predominate when people feel that something is constructive and that something can be done, when they view a situation as changeable, or when they confront work-related problems. PF is assessed by measuring painful problem solving, confrontive coping and seeking social support. EP tends to predominate when people feel that the stressor is something to be endured, when they confront personal health issues or when they confront personal health. EF is assessed by measuring self-control, distancing, positive reappraisal, facing or avoiding a problem and accepting responsibility. Generally, PF is associated with positive outcomes and EF, especially wishful thinking or denial of a problem, is associated with poor outcomes. In a more recent study, researchers found that most people appear to use a combination of both emotion- and problem-focused strategies instead of one or the other exclusively, depending on the type of stressor and the situations [6].

The model of stress and coping by Lazarus and Folkman using in this research [6] can be described with reference to dimensions of complexity and flexibility. People using a variety of strategies exhibit a complex style; those preferring a single strategies exhibit a single style. Those who use the same strategy in all situations exhibit a rigid style; those who use different strategies in the same, or different, situation exhibit a flexible style. A flexible style has been shown to be effective than rigid style.

In Indonesia, most nurses have to deal not only with health problems but also with administrative work. Onestudy mentioned that staff in Jawa – Bali had

more skills than did the staff in the eastern region of Indonesia and in Sumatra [8]. Lack of qualified health workers was one problem that East Nusa Tenggara province had to solve. In order to do so, the government provides scholarships, including for nurses, to gain more knowledge. This imposes an additional burden on those who remain.

This study therefore reveal factors that are related to the ways nurses cope with routine workplace stressful events. It identify the kinds of coping strategies nurses adopt to provide good services in HC on Timor Island, East Nusa Tenggara.

METHODOLOGY

This is a descriptive cross-sectional research to study factors related to coping strategy from nurse work in health center on Timor Island at east Nusa Tenggara Province. Permission to conduct this research was granted by ethics committee at the Mahidol University.

Timor Island is purposively selected and four districts and one municipality were the population area and 322 nurses participated in this research using random sampling. The response rate was 80.5% (322 from 400 cases). Data were collected in February and March, 2011. Nurses were given a self-administered questionnaire in Bahasa Indonesia which consists of 80 questions, divided into five parts. The demographic part contains 14 basic questions, the social support section contains 14 basic questions, and the nursing stress scale (NSS) is divided into four factors.: For fact actor 1 (conflict with other nurses/physicians), there are seven questions; for factor 2 (workload), there are five questions; for factor 3 (falling staff levels), there are four questions; and for factor 4 (role confusion/ambiguity), there are five questions. The Abridged hardiness scale, revised from Kobasa (personal communication), consists of 20 items answered on a four-point scale from 0 to 3; there were 11 questions for each subscale: commitment, challenge and control. The ways of coping questionnaire consists of 28 questions in seven subscales. Reliability was tested by using Cronbach's alpha and the KR coefficient (job stress = 0.83, hardiness = 0.61, coping strategies = 0.93 and overall questionnaire = 0.83).

Epi data was used for data entry and Minitab and SPSS were used for data analysis. Bivariate analysis, the chi-square test and simple logistic regression were used to assess the association between each independent variable and the dependent variable. Percentage and crude odds ratio were used to show strength of association at the 95% level of

Table 1 Frequency and percentage of socio demographic factors

Variables	n= 322	Percent	Variables	n= 322	Percent
Age (years)			Gender		
20 – 30 years	140	43.5	Female	248	77
31 – 40 years	112	34.8	Male	74	23
41 – 50 years	61	18.9	Marital Status		
51 – 54 years	9	2.8	Single	74	23
Min = 20 Max = 54 Median = 31 Q.D. = 6.5			Married	244	75.8
Number of Children			Divorced	1	0.3
No Children	86	26.7	Widow/Widower	3	0.9
1 person	52	16.2	Highest level of education		
2 persons	91	28.3	Nursing school	140	43.5
3 persons	51	15.8	Nursing diploma	171	53.1
4 – 7 person	42	13.0	Bachelor's degree in nursing	7	2.2
Min = 0 Max = 7 Median = 2 Q.D. = 1.5			Other bachelor's degree	4	1.2
Religion			Working experience in HCC		
Catholic	209	64.9	0-1 years	54	16.8
Protestant	88	27.3	2-5 years	96	29.8
Moslem	22	6.9	6-10 years	54	16.8
Buddhist	1	0.3	11-15 years	47	14.6
Other	2	0.6	16-33 years	71	22.0
Working experience as a nurse			Min = 0 Max = 33 Median = 6.5 Q.D. = 6.5		
0-1 years	27	8.4			
2-5 years	81	25.2			
6-10 years	64	19.8			
11-15 years	58	18.0			
16-33 years	92	28.6			
Min = 0 Max = 33 Median = 10 Q.D. = 6.5					

(Quartile Deviation: Q.D.)

confidence. Multiple logistic regression was used to find significant predictors for coping strategies.

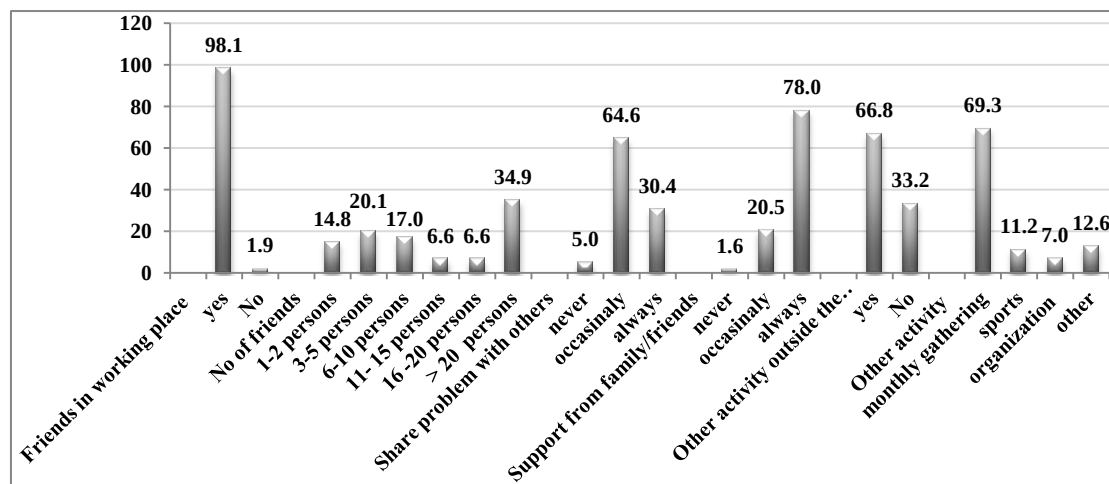
RESULTS

Since the subjects in the study were nurses in health centers on Timor Island, the median age of respondents' was 31 years, and almost 80% of the nurses were 20 - 40 years old. Three-quarters of the respondents were female and a quarter of them were male. About 76% were of the nurses were married; fewer than 23% of them were single (not married, divorced or widow/widower). It was found that 56.6% of the respondents had one or two children. Most of the respondents were Chirstian (64.9% Catholic, 27% Protestant and 0.6% Adventist) and the rest were Moslem (22%). Half of the nurses (53.1%) had the nursing diploma as their highest level of education. Regarding their work experience, 29.8% of the sample had two to five years of nursing experience; more than 27% of them had 16 - 33 years of experience and 25.2% had two to five years experience. About 74% said that they didn't have any special training related to nursing (Table 1).

For social support,almost all of the respondents claimed to have friends in their workplaces and 39.9% had between one and five such persons;

more than 25% had from 21 to 60 friends. About 65% of the respondents occasionally shared their problems with others, and 89.7% lived with their families. More than three-quarters of the respondents were always supported by their families or friends. Almost two-thirds of the respondents claimed they had other activities outside their routine work, and more than half of them choose monthly gatherings as an activity (Figure 1).

Figure 2 shows hardy personality as a set of personality traits consisting of three subcomponents: commitment, challenge, and control. Approximately 8% of the respondents exhibited a low degree of hardy personality, 13% exhibited a high degree of hardy personality, and 78% combined the three subcomponents. The following combinations of the three subcomponents were found: 32% of the respondents exhibited high commitment, low challenge, and high control; 14 % exhibited high commitment, low challenge and low control; 13% exhibited high commitment, high challenge and low control; whereas 10.5% exhibited low commitment, high challenge and low control. Only 5% of the respondents exhibited low commitment and challenge but high control, and another 5% of the nurses exhibited low commitment and high challenge and control.



Remark: Social Support refer to have friends in their workplaces, no of friend, share problem with others, support from family/friends, other activity outside the routine work and other activity.

Figure 1 Frequency and percentage distribution for Social Support

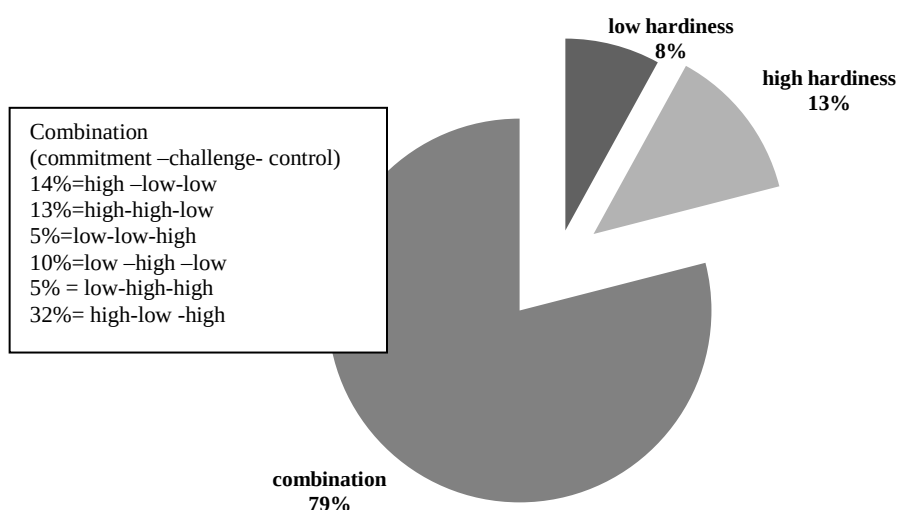


Figure 2 Frequency and percentage distribution for hardy personality

Almost three-quarters of the respondents had low levels of stress, and only 29.8% claimed to have a high level of stress in terms of conflict with other nurses or physicians. Regarding workload factors, more than half of the respondents had low levels of stress (61.8%) and 38.2% of the nurses had high levels of stress. Falling staff levels, caused low levels of stress for 51.6% had low levels of stress, and 48.4% had high levels of stress. Half of the respondents claimed having low levels of stress (51.6%) due to confusion factors, and 48.4% answered that they had a low level of stress. It was found that more than half of the respondents (53.1%) claimed to have a low overall level of job stress, while 46.9% had a high level of stress (Figure 3).

When problem-focused coping was measured, it was found that almost three-quarters of the respondents rarely used painful problem solving, and only 28.9% often used it. It was found that 56% of the respondents rarely sought social support, but 44% said that they often used this type of coping. Finally, 56.8% of the nurses said that they rarely used confrontive coping strategies, and 43.2% often used them.

In terms of emotion-focused coping, it was found that 60.3% of the respondents claimed they rarely used distancing and 39.7% often used this coping strategy. Half of the respondents (57.1%) rarely used escape avoidance and only 42.9% often used this method as a coping strategy. Only 36% of the nurses often used self control as a way to cope with

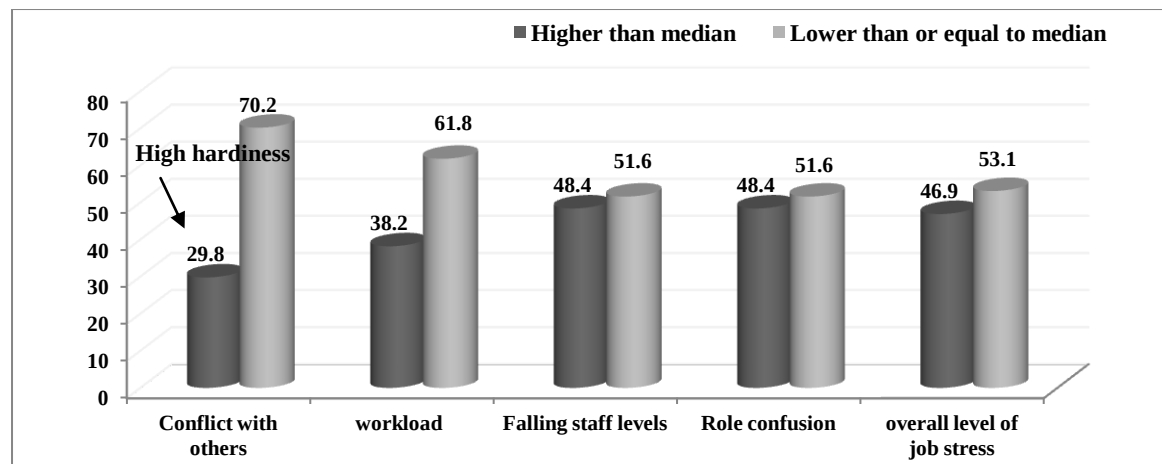


Figure 3 Frequency and percentage distribution by individual factors - job stress

Table 2 Frequency and percentage distribution by coping strategies (by subcomponents) (N=322)

Variables	Lower than or equal to median		Higher than median	
	n	(%)	n	(%)
<i>Problem-focused coping</i>				
Painful problem solving Min: 0 Max: 9 Median: 7 Q.D.: 1	229	71.1	93	28.9
Seeking social support Min: 0 Max:12 Median: 8 Q.D.: 1.5	180	56	142	44
Confrontive coping Min: 1 Max 9 Median: 5 Q.D.: 1	183	56.8	139	43.2
<i>Emotion-focused coping</i>				
Positive reappraisal Min: 0 Max: 9 Media : 8 Q.D.: 1	209	64.9	113	35.1
Distancing Min: 2 Max:12 Median: 5 Q.D.: 1	194	60.3	128	39.7
Escape avoidance Min: 0 Max: 9 Median: 5 Q.D.: 1	184	57.1	138	42.9
Self control Min: 0 Max: 9 Median: 5 Q.D.: 1.5	206	64	116	36
Accepting responsibility Min: 2 Max:12 Median: 8 Q.D.: 1	202	62.7	120	37.3

(Quartile Deviation: Q.D.)

stress, while more than half (56%) rarely used this for coping with stress. It was found that almost three-quarters of the respondents rarely used positive reappraisal, and 35.1% often used it. About 63% claimed that they rarely accepted responsibility, but 37.3% said that they often did this.

Overall, 42% rarely often used coping strategies, 33% often used coping strategies, 15% rarely used problem-focused but often used emotion-focused and 10% of the respondents often used problem-focused coping but rarely used emotion-focused coping (Table 2).

Among the socio-demographic factors, gender was the only factor that had a significant association with problem-focused coping. Among the social factors, years of working had a significant association

with problem-focused coping and emotion-focused coping, while sharing problems with others and getting support from family and friends were significantly associated with problem-focused coping. Workload was the only factor that had a significant association with emotion-focused coping in terms of job stress (Table 3).

After applying multiple logistic regression, some factors were significant as predictors for use of coping strategies. Those significant factors were presented in table 3. In terms of problem-focused coping, females use problem-focused coping almost twice as often as did males when adjusted for other variables (p value = 0.031). After adjusting for other variables, the respondents who occasionally shared problems with others were almost two times

Table 3 Significant associations between dependent and independent factors (N=322)

Variables	Problem-focused Coping				Emotion-focused Coping			
	often used		rarely used		often used		rarely used	
	(n)	(%)	(n)	(%)	(n)	(%)	(n)	(%)
Gender								
Male	27	36.49	47	63.51	27	36.49	47	63.51
Female	131	52.82	117	47.18	122	49.19	126	50.81
Gender	COR	95% CI	Chi-square		COR	95% CI	Chi-square	
male	1				1			
female	2.58	1.03-6.48	0.013 *		1.25	0.63-2.51	0.053	
Working as nurse								
0-5	51	47.22	57	52.78	50	46.30	58	53.70
>5	107	67.72	107	65.24	99	66.44	115	66.47
Working as nurse	COR	95% CI	Chi-square		COR	95% CI	Chi-square	
0-5	1				1			
>5	1.73	1.01-2.98	0.041*		0.60	0.37-0.97	0.034*	
Share problems								
always	61	62.24	37	37.76	45	45.92	53	54.08
occasional	89	42.79	119	57.21	97	46.63	111	53.37
Share problem	COR	95% CI	Chi-square		COR	95% CI	Chi-square	
always	1				1			
occasional	3.00	1.21 – 7.47	0.006*		1.14	0.51-2.57	0.972	
Get support								
always	135	53.78	116	46.22	119	47.41	132	52.59
occasional	23	32.39	48	67.22	30	42.25	41	57.75
Get support	COR	95% CI	Chi-square		COR	95% CI	Chi-square	
always	1				1			
occasional	3.23	1.20-8.65	0.001*		2.37	0.80-7.01	0.441	
Workload								
Low level of stress	97	48.74	102	51.26	83	41.71	116	58.29
High level of stress	61	49.59	62	50.41	66	53.66	57	46.34
workload	COR	95% CI	Chi-square		COR	95% CI	Chi-square	
Low	1				1			
High	0.89	0.37-2.11	0.882		2.12	1.23-3.68	0.037*	

* Chi- square p value < 0.05**Table 4** Multiple logistic regression for predictors of the coping strategies

Variables	AOR	95 % CI		<i>p Value</i>
		Lower	Upper	
<i>Problem-focused Coping</i>				
Gender				
Male	1			
Female	1.85	1.06	3.24	0.031*
Share problems				
always	1			
occasionally	1.87	1.13	3.10	0.015*
Get support				
always	1			
occasionally	1.94	1.09	3.47	0.025*
<i>Emotion-focused Coping</i>				
Years working as a nurse				
0-5	1			
> 5	0.40	0.20	0.78	0.007*
Workload				
Low level of stress	1			
High level of stress	1.84	1.15	2.95	0.011*

* p value < 0.05

more likely to use this type of coping often than were those who always shared problems with others (p value = 0.015). In addition, when adjusted for other variables, the respondents who occasionally got support from family or friends were two times more likely to use problem-focused coping often than were those who always got support from family or friends (p value = 0.025). In terms of emotion-focused coping, when adjusted for other variables, respondents who had been working as a nurse for less than 5 years were less likely to use emotion-focused coping often than were those who had longer experience working as a nurse (p value = 0.007). In addition, when adjusted for other variables, respondents who had high levels of stress in terms of workload were almost two times more likely to use emotion-focused coping often than were those who had low levels of stress (p value = 0.011), Table 4.

DISCUSSION

In this study, the use of coping strategies was divided into two categories: often used and rarely used. It was found that more than half of the respondents had low levels of stress and rarely used either way of coping. According to Watson [9] the process of coping is a very complex response that occurs when an individual attempts to remove stress or a perceived threat from the environment. Thus the actual reaction to an environmental event may be as important as the event itself. The statement above explains why the respondents' use of coping with stress was low: because events for which stress itself was found to be low the result was that the use of coping strategies was also low.

In this study personality was another important factor. More than two-thirds of the respondents used a combination of the three subcomponents of hardiness. According to Subramanian et al. [10], hardy individuals have the ability to cope in a way that is adaptive once occupational stress is perceived or encountered. The level of hardiness (in each of the three subcomponents) may vary because such a combination is more likely to moderate their cognitive processes and make them able to cope reasonably with the stressors at a better level. This is meaningful in the sense that hardy individuals lay much emphasis on their own resources to deal with various perceived occupational stressors. In this study there were no significant found between hardy personalities and coping strategies. Lazarus and Folkman [6] described three type of beliefs that influences the coping process, general beliefs or dispositions regarding to personal control; existential beliefs and situational control appraisal

or the extent to which persons believe they can shape or influence a particular stressful person-environment relationship. In this study, this three types of beliefs as we seem in hardy personality were all low and it related to job stress also had low level of stress. So we can conclude that a person with the low level of stress will develop a low level of hardiness as moderating effect and will come up with the rarely use coping in PF and EF.

Gender also had a significant association with the problem-focused coping strategy. This finding is consistent with the results of a study about gender influences on work-related stress-coping processes, This study indicated that men and women adopt different stress and coping processes, forming two very distinct groups and adopting specific process models when encountering a stressful situation at work [11]. When adjusted for other variables, being female was a significant predictor for using problem-focused coping. This result agrees with those in a study about the roles of sex, gender, and coping in adolescent depression, 2006 which found that girls were more likely than males to use problem-focused coping when dealing with stressful situations [12]. Another study about culture-specific stress-coping strategies for nurses, 2009 found that, when considering sex, the majority of female nursing staff utilize social support, behavioral and information-seeking fields. Overall, women showed a preference for the strategy of social support when coping with stress [13].

Those occasionally sharing problems with others were more likely to use problem-focused coping often. A previous study by Bianchi [14] found that since the nursing profession requires working in teams to provide the best quality of care, seeking social support (one of the problem-focused coping indicators) was one of the nurses' most often used coping strategies. Another study about nursing students in Ireland, 2004 found that among pre-registration diploma nursing students, talking to relatives and friends and talking to peers were the most common methods of coping with stress [15]. Those who occasionally received support were more likely to use the problem-focused coping strategy often. These findings agree with those of a study by McInthosh [16], which revealed that nurses who made use of social support were often able to proceed in a more problem-focused manner. Another study by Prosser et al. [17] found that stress among hospital nurses was effectively reduced by social support. Among the social support factors, it was found that sharing problems and getting support were significant predictors for using the coping strategy. According to Lazarus and

Folkman [18] social skills are important coping resources because social interaction should be a part of so many stressful situations. Those who develop good social skills, such as sharing problems, interpersonal relationships and seeking social support usually have the ability to communicate and behave with other people in ways that are socially appropriate and effective. Moreover, they can help others in solving problems in social situations by giving other people more control over the relevant social interactions, such as increasing the likelihood of other people cooperating and offering support.

Those having less than 20 years experience in nursing were less likely to use emotion-focused coping often. This result is consistent with that of a study in Africa about coping mechanisms, 1999 which found that coping strategies varied by region, community, social group, household, gender, age, season and time in history, and were greatly influenced by an individual's previous experiences [19]. This study also revealed that those who had high levels of workload stress were almost two times more likely to use emotion-focused coping often. This finding agrees with that of a study by LeSergent and Haney [20] in the United Kingdom; a positive relationship was found between nursing stress and emotion-focused coping. Nurses who felt more stress tended to rely on more emotion-focused coping.

The choice of which coping strategy that an individual uses depends on the environment, the individual's personality, appraisal, social support and the individual's reciprocal relations with other people.

A strategy would also be considered effective if the individuals receive benefits such as altering their emotions or escaping stressful situations by means of both emotion- and problem-focused coping strategies.

CONCLUSION

Half of the respondents often used PF and EF. Female respondent who occasionally share problem with others and respondents who occasionally get support from family and friend, were significant predictor of often use PF coping. Female nurse were almost two time more likely to often use PF coping, nurse who occasionally share their problem with others were almost two times more likely to often used PF coping when dealing with stressful situation, as well as nurses who occasionally get support from family and friend, were two time more likely to often use PF coping. Nurses who had less working experience as nurse, was likely to often EP coping and for nurses who experienced high level

of workload stress were almost two times more likely to often use EP coping when adjust to other variable.

RECOMMENDATIONS

Interventional programs need to be designed to improve the coping abilities of nurses in areas such as making use of cognitive skills in the face of work-related stress, expressing their feelings to groups, regularly engaging in physical exercise, obtaining more emotional and instrumental help in stressful conditions, keeping their psychology positive and optimistic and improving relaxation techniques.

A monthly gathering as a customary outside activity is a good way to share problems or just to relax, so it can reduce stress. With a proper sample size and complete questionnaires, correlation and linear regression could be a better way of measuring the associations and the predictors. Also, this method could give deeper information about each factor.

Another study about coping strategies should consist of more complete questions on coping factors, and on situational, or environmental and personality factors because these are important factors in determining what kind of coping strategies are used and what the perceptions of stress.

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