CHAPTER 4

FINDINGS AND DISCUSSION

This chapter includes the findings from a correlational descriptive study which was designed to meet the five objectives and test the three hypotheses of the research. A Statistical Analysis Syster (SAS) program and the statistical package for SPSS were used for data analysis. The findings were organized into six sections according to the research objectives and hypotheses: (1) demographic data of the subjects, (2) job stressors, (3) burnout, (4) relationship between job stressors and burnout, (5) comparison of job stressors among staff nurses in four clinical units, and (6) comparison of levels of burnout among staff nurses in four clinical units.

Demographic data of the subjects

A total of 239 questionnaires were distributed to a systematical random sample of staff nurses in four clinical units (medical, surgical, obstetric and gynecological, and pediatric units) in four urban Chinese teaching hospitals in Xian, People's Republic of China, namely, the First Teaching Hospital and Second Teaching Hospital of Xian Medical

University, Xijing and Tangdu Hospitals of the Fourth Military Medical University. There was a 92.2% response rate with 220 completed questionnaires returned for analysis. The subjects from four hospitals were listed in table 2.

Table 2 Frequencies and percentage of subjects in each hospital

Hospital	n	%
First Teaching Hospital of XMU	73	33.2
Second Teaching Hospital of XMU	56	25.4
Tangdu Hospital of FMMU	40	18.2
Xijing Hospital of FMMU	51	23.2
Total	220	100.0

From the table 2, among the 220 subjects, 73 (33.2%) were employed in the First Teaching Hospital of Xian Medical University, 56(25.4%) were employed in the Second Teaching Hospital of Xian Medical University, 40 (18.2%) were employed in the Tangdu Hospital of the Fourth Military Medical University, and 51 (23.2%) were employed in the Xijing Hospital of the Fourth Military Medical University.

Table 3. Demographic characteristics of the subjects

Variable	Frequency	Percentage (%)
Age		
<30	128	58.2
31-40	73	33.2
41-50	15	6.8
>50	4	1.8
$\bar{X}\pm$S.D.= 29.69$\pm$6.77		
Sex		
Female	220	100.0
Marital Status		
Single	50	22.7
Married	165	75.0
Separated	3	1.4
Divorced	2	0.9
Education level		
Secondary nursing school	128	58.2
Diploma in nursing	92	41.8
Professional title		
Junior nurse	75	34.1
intermediate level nurse	116	52.7
Senior nurse	27	12.3
Associate advanced nurse	2	0.9

Table 3. Demographic characteristics of the subjects (Continued)

Variable	Frequency		Percentage (%)	
Working unit				
Medical	82		37.3	
Surgical		89		40.5
OB/Gyn	30		13.6	
Pediatric		19		8.6
Years of working in nursing profession				
=<5	42		19.1	
6-10	81		36.8	
11-15	67		30.5	
16-20	7		3.2	
>20	23		10.5	
$\bar{X}\pm$S.D. = 10.63$\pm$6.68				
Years of working in current unit				
=<5	55		25.0	
6-10	89		40.5	
11-15	54		24.5	
16-20	10		4.5	
>20	12		5.5	
$\bar{X}\pm$S.D. = 9.32$\pm$6.30				

Table 3 described the characteristics of the subjects. The age of the subjects ranged from 18 to 54 years with a mean age of 29.69 and a standard deviation of 6.77. Most of the

subjects were less than 30 years old (58.2%). All of the subjects were female. For marital status, the majority of the subjects were married (75%). The majority of the subjects were secondary nursing school graduates (58.2%), while 41.8% subjects held a diploma in nursing.

With regard to professional title, the data showed that the majority of 116 subjects (52.7%) were intermediate level nurses, while 75(34.1%) were junior nurses, 27(12.3%) were senior nurses, and 2(0.9%) were associate advanced nurses. The subjects came from four clinical units: medical (N=82, 37.3%), surgical (N=89, 40.5%), obstetric and gynecological (N=30, 13.6%), and pediatric units (N=19, 8.6%).

The number of years the subjects had worked as nurses ranged from 1 to 35 years, with a mean of 10.63 and a standard deviation of 6.68. In addition, the number of years the subjects had been working in the present position ranged from 1 to 35 years, with a mean of 9.32 and a standard deviation of 6.30.

Job stressors

Five subscales of job stressors were categorized. Means and standard deviation for cumulative frequency of the total score and subscales score were calculated. Table 4 contained the findings related to job stressors identified by staff nurses.

Table 4 Means and standard deviation of nursing job stressors subscales in rank order

Subscales	$\bar{X}$	S.D.
1. Professional and career issue	2.88	0.52
2. Workload and time pressure	2.68	0.25 3.
Resources and environmental problems	2.64	0.07
4. Nursing care and patient interaction	2.30	0.39
5. Interpersonal relationship and management	1.99	0.25

From table 4, when the five different subscales of nursing job stressors scale were analyzed, professional and career issue was the first job stressor on the overall job stressor scale with a mean of 2.88 and a standard deviation of 0.52. The next highest score were workload and time pressure ($\bar{X}$=2.68, S.D.=0.25), followed by resources and environmental

issue ($\bar{X}$=2.64, S.D.=0.07), and nursing care and patient interaction ($\bar{X}$=2.30, S.D.=0.39). The data showed that interpersonal relationship and management issue was perceived as the lowest job stressor by staff nurses with a mean of 1.99 and a standard deviation of 0.25.

Table 5 Job stressor in rank order in relation to professional and career issue

Items	$\bar{X}$	S.D.
1. Low status of nursing profession	3.34	0.70
2. Less opportunity for continuing education	3.30	0.85
3. Inadequate salary	3.17	0.90
4. Less opportunity for promotion	3.10	0.86
5. Shift work	2.92	0.96
6. Lack of autonomy	2.28	0.99
7. Lack of clear job description	2.03	0.80

Table 5 described job stressors in relation to professional and career issue. Low status of nursing profession ($\bar{X}$=3.34, S.D.=0.70) and less opportunity for continuing education ($\bar{X}$=3.30, S.D.=0.85) were the two mostly frequently encountered job stressors. Inadequate salary ($\bar{X}$=3.17, S.D.=0.09) and less opportunity for promotion ($\bar{X}$=3.10, S.D.=0.86) were also regarded as the mostly frequently encountered job stressors by staff nurses within this subscale. In addition, shift work was also regarded as a frequently encountered job stressor in relation to career

and professional issue with a mean of 2.92 and a standard deviation of 0.96. Furthermore, lack of autonomy and lack of clear job description were also perceived as the frequently encounter job stressors in this category.

Table 6. Job stressors in relation to workload and time pressure

Item	$\bar{X}$	S.D.
1. Workload too high	3.02	0.78
2. Not enough staff to adequately cover the unit	2.83	0.81
3. not enough time to provide emotional support for a patient	2.63	0.86
4. Too much non-nursing tasks required	2.52	0.85
5. Too much paper work on shift	2.39	0.89

Table 6 showed the job stressors in the subscale of workload and time pressure. Two frequently encountered job stressors related to workload and time pressure were high workload ($\bar{X}$=3.02, S.D.=0.78) and not enough staff to adequately cover the unit ($\bar{X}$=2.83, S.D.=0.81). Meanwhile, not enough time to provide emotional support for a patient ($\bar{X}$=2.63, S.D.=0.86) was also perceived as the frequently encountered job stressors by staff nurses in this subscale. In addition, too much non-nursing tasks ($\bar{X}$=2.52, S.D.=0.85), and too much paper work on shift ($\bar{X}$=2.39, S.D.=0.89) were also seen as the frequently met job stressors in relation to workload and time pressure.

Table 7 Job stressors in relation to resources and environmental issue

	Item	$\bar{X}$	S.D.
1.	Crowded working space	2.76	1.03
2.	Inadequate equipment and resource to do the job well	2.73	0.81
3.	Dirty and poor working environment	2.65	1.03

Table 7 described the job stressors in relation to resources and environment problems. In this subscale, crowded working space was perceived as the frequently encountered job stressor with a mean of 2.76 and a standard deviation of 1.03. In addition, inadequate equipment and resources to do the job well ($\bar{X}$=2.73, S.D.=0.81) and dirty and poor working environment were also regarded as the frequently encountered job stressors in this subscale.

Table 8 Job stressors in relation to nursing care and patient interaction

Item	$\bar{X}$	S.D.
1. Fear of making a mistake in care for a patient	2.98	0.89
2. Lack of recognition for one's effort and dedication by patients and their families	2.82	0.70
3. Care for patients who are seriously ill	2.51	0.69
4. Aggressive patients' relatives	2.42	0.65
5. Individual patients who continually making heavy demands	2.34	0.59
6. Patient impolite behavior	2.20	0.66
7. Uncooperative patients	2.17	0.54
8. Feeling inadequately prepared in responding to emotional needs of patients and their families	2.12	0.63
9. Not enough knowledge for patient education	2.09	0.66
10. Performing procedures that patients experiences as painful	2.09	0.65
11. The death of a patient who I care for	1.55	0.58

Table 8 described the job stressors in relation to nursing care and patient interaction. The frequently encountered job stressor within this subscale was fear of making a mistake in care for the patient ($\bar{X}$=2.98, S.D.=0.89). Lack of recognition for one's effort and dedication by patients and their families ($\bar{X}$=2.82, S.D.=0.70) and care for patients who are seriously ill ($\bar{X}$=2.51, S.D.=0.69) were two other frequently encountered job stressors in this subscale. In addition, aggressive patients' relatives ($\bar{X}$=2.42, S.D.=0.65), individual patients who continually make heavy demands ($\bar{X}$=2.34, S.D.=0.59), patient impolite behavior ($\bar{X}$=2.20, S.D.=0.66), uncooperative patients ($\bar{X}$=2.17, S.D.=0.54), feeling inadequately prepared in responding to emotional needs of patients and their families ($\bar{X}$=2.12, S.D.=0.63), not enough knowledge for patients education ($\bar{X}$=2.09, S.D.=0.66), and perform procedures that patients experiences as painful ($\bar{X}$=2.09, S.D.=0.65) were also perceived as frequently encountered job stressors under this subscale. Meanwhile, the death of a patient who I care for was perceived as a less frequently encountered job stressor by staff nurses with a mean of 1.55 and a standard deviation of 0.58.

Table 9 Job stressors in relation to interpersonal relationship and management issue

Item	$\bar{X}$	S.D.
1. Lack of respect from other health care professionals	2.87	0.81
2. Lack of support from the supervisor	2.33	0.86
3. Criticism by a supervisor	2.22	0.60
4. Criticism of nursing care by a physician	2.13	0.53
5. Lack of support from colleagues	1.84	0.53
6. Conflict with a supervisor	1.83	0.54
7. Difficulty in working with some nurses in the unit	1.83	0.62
8. Conflict with a physician	1.74	0.54
9. Lack of friendly atmosphere among staff	1.70	0.56

Table 9 described job stressors in relation to interpersonal relationship and management issue. Lack of respect from other health care professionals was perceived as the frequently encountered job stressors in relation to interpersonal relationship with a mean of 2.87 and a standard deviation of 0.81. Lack of support from the supervisor

($\bar{X}$=2.33, S.D.=0.86) and criticism by a supervisor ($\bar{X}$=2.22, S.D.=0.60) were also viewed by the staff nurses as the frequently encountered job stressors in this subscale. In addition, criticism of nursing care by a physician ($\bar{X}$=2.13, S.D.=0.53) was also perceived as the frequently encountered job stressors. The others included lack of support from colleagues ($\bar{X}$=1.84, S.D.=0.53), conflict with a supervisor ($\bar{X}$=1.83, S.D.=0.54), difficulty in working with some nurses in the unit ($\bar{X}$=1.83, S.D.=0.62), conflict with a physician ($\bar{X}$=1.74, S.D.=0.54), and lack of friendly atmosphere among staff ($\bar{X}$=1.70, S.D.=0.56) were perceived as less frequently encountered job stressors.

Level of burnout

The mean score, standard deviation and percentage of the three subscales of Maslach Burnout Inventory was calculated for staff nurses in this study.

Table 10 Means and standard deviation for burnout scores

MBI subscale	Norms *		subjects score	
score	$\bar{X}$	S.D.	$\bar{X}$	S.D.
Emotional exhaustion	22.19	9.53	29.00	11.49
Depersona-lization	7.12	5.22	8.21	6.54
Personal accomplishment	36.54	7.34	32.90	7.62

* For medical workers (physicians, nurses), modified from Maslach C., & Jackson S.E. (1986). Maslach Burnout Inventory. Palo Alto, CA: Psychologists Press.

Table 10 showed the mean score of burnout for the subjects compared with the norm score. The subjects had higher mean scores than the norm in emotional exhaustion and depersonalization subscales and lower score in personal accomplishment. The mean score of the subjects in emotional

exhaustion subscale was 22.30 (S.D.=11.49), which was considered high level of burnout for health workers. The average depersonalization score was 8.21 (S.D.=6.54), which fell on the border between average and high levels of depersonalization burnout. In personal accomplishment with their work, the mean score was 32.9 (S.D.=7.62), indicating the poor level of performance.

Table 11. Frequency and percentage of staff nurses by level of burnout

Level of MBI	Frequency	Percentage(%)
Emotional exhaustion		
High (≥ 27)	130	59.1
Moderate (19-26)	46	20.9
Low (≤ 18)	44	20.0
Depersonalization		
High (≥ 10)	76	34.5
Moderate (6-9)	54	24.5
Low (≤ 5)	90	41.0
Personal accomplishment		
High (≤ 33)	117	53.2
Moderate (34-39)	58	26.4
Low (≥ 40)	45	20.4

Table 11 described the level of MBI by frequency and percentage. Level of burnout was reflected by the three subscales of Maslach Burnout Inventory. 59.1% of the staff nurses experienced high emotional burnout in this subscale. 34.5% of subjects had high levels of detached interaction with their patients. 53.2% of subjects were assessed as experiencing high levels of job accomplishment.

Table 12. Scores for emotional exhaustion subscale of MBI in rank order

	Item	$\bar{X}$	S.D.
1.	I feel used up at the end of workday.	4.68	1.48
2.	I feel burned out from my work.	4.41	1.73
3.	I feel I'm working too hard on my job.	4.03	2.06
4.	I feel fatigued when I get up in the morning and have to face another day on the job.	3.94	1.96
5.	I feel frustrated by my job.	3.38	2.08
6.	I feel emotionally drained from my work.	3.23	1.98
7.	Working with people directly puts too much stress on me.	2.68	2.28
8.	Working with people all day is really a strain for me.	2.00	1.22
9.	I feel like I'm at the end of my rope.	1.65	2.02

Table 12 showed that in the emotional exhaustion subscale, the items with the high scores were: "I feel used up at the end of workday" ($\bar{X}$=4.68, S.D.=1.48), " I feel burned out from my work " ($\bar{X}$=4.41, S.D.=1.73), "I feel I'm working too hard on my job" ($\bar{X}$= 4.03, S.D.=2.06), "I feel fatigued

when I get up in the morning and have to face another day on the job ($\bar{X}$=3.94, S.D.=1.96), " I feel frustrated by my job" ($\bar{X}$=3.38, S.D.=2.08), and "I feel emotionally drained from my work" ($\bar{X}$=3.23, S.D.=1.98)

Table 13 Scores for depersonalization subscale of MBI in rank order

	Item	$\bar{X}$	S.D.
1.	I feel recipients blame me for some of their problems.	2.69	1.96
2.	I don't really care what happens to some recipients.	2.24	2.16
3.	I've become more callous toward people since I took this job.	1.35	1.94
4.	I worry that this job is hardening me emotionally.	1.32	1.99
5.	I feel I treat some recipients as if the were impersonal objects.	0.60	1.23

From table 13, within the subscale of depersonalization, the item with high score were: "I feel recipients blame me for some of their problems ($\bar{X}$=2.69, S.D.=1.96) and "I don't really care what happens to some recipients ($\bar{X}$=2.24, S.D.=2.16).

Table 14 Scores for reduced personal accomplishment subscale of MBI in rank order

	Item	$\bar{X}$	S.D.
1.	I can easily understand how my recipients feel about things.	5.15	1.41
2.	I deal very effectively with the problems of my recipients.	4.90	1.58
3.	I can easily create a relaxed atmosphere with my recipients.	4.59	1.69
4.	I feel I'm positively influencing other people's lives though my work.	3.84	2.15
5.	I have accomplished many worthwhile things in this job.	3.51	2.17
6.	I feel exhilarated after working closely with my recipients.	3.41	2.06
7.	I feel very energetic.	3.01	2.11
8.	In my work, I deal with emotional problems very calmly.	1.65	2.02

From table 14, with regarding to the personal accomplishment, the items with high scores were: "I can easily understand how my recipients feel about things" ($\bar{X}$=5.15, S.D.=1.41), "I deal very effectively with the

problems of my recipients" ($\bar{X}$=4.90, S.D.=1.58), and "I can easily create a relaxed atmosphere with my recipients" ($\bar{X}$=4.59, S.D.=1.69).

Relationship between job stressors and burnout

The relationship between job stressors and levels of burnout was analyzed by Pearson's Product Moment (see table 15 for the results).

Table 15 Relationship between job stressors and burnout among staff nurses: Pearson's Correlation Matrix

Job stressors	Overall burnout score	Emotional exhaustion	Deperson-lization	Personal accom-plishment
Overall stressor score	0.46*	0.64*	0.41*	-0.17**
Nursing care and Patient interaction	0.44*	0.51*	0.42*	-0.18*
Workload and time pressure	0.35**	0.44*	0.19*	-0.07
Interpersonal relationship and management	0.30**	0.37*	0.33*	0.20**
Professional and career issue	0.33**	0.36*	0.31*	-0.08
Resources and environmental issues	0.33**	0.39*	0.29*	-0.13

* P<0.01 **P<0.05

Table 15 indicated that there were moderate correlations between job stressors and burnout. The total score of job stressors correlated significantly with the total

score of Maslach Burnout Inventory (r=0.46, p<0.01). The overall burnout score correlated significantly and positively with the five subscales of job stressors: nursing care and patient interaction (r=0.44, P<0.01), workload and time pressure (r=0.35, P<0.05), interpersonal relationship and managemental issue (r=0.30, P<0.05), professional and career issue (r=0.33, P<0.05), and resources and environmental issue (r=0.33, P<0.05). The total score of job stressors correlated significantly with emotional exhaustion (r=0.64, P<0.01), depersonalization (r=0.41, P<0.01), and negatively correlated with personal accomplishment (r=-0.17, P<0.05).

The results also indicated that each job stressor subscale scores positively correlated with most of the three subscales of burnout. Nursing care and patient interaction correlated positively with emotional exhaustion (r=0.51, P<0.01), depersonalization (r=0.42, P<0.01), and negatively correlated with personal accomplishment (r=-0.18, P<0.01). Workload and time pressure correlated positively with emotional exhaustion (r=0.44, P<0.44), and depersonalization (r=0.19, P<0.1). Interpersonal relationship and management issues correlated positively with emotional exhaustion (r=0.37, P<0.01), depersonalization (r=0.33, P<0.01), and personal accomplishment (r=0.20, P<0.05). Professional and career issues correlated positively emotional exhaustion (r=0.36, P<0.01), and depersonalization (r=0.31, P<0.01).

Resources and environmental issue correlated positively with emotional exhaustion ($r=0.39$, $P<0.01$), and depersonalization ($r=0.29$, $P<0.01$).

Comparison of job stressors among nurses in four clinical units

The staff nurses' job stressors were calculated by means and standard deviation, then one-way ANOVA was used to see if there was any significant difference among staff nurses in the four clinical units.

Table 16 Means, standard deviations and test of significance of total job stressor scores and subscale scores by clinical units.

Job stressors	Med (N=82)		Sur (N=89)		OB/Gyn (N=30)		Ped (N=19)			P
	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	$\bar{X}$	S.D.	F	value
Nursing care and patient interaction	2.32	0.38	2.29	0.39	2.23	0.47	2.35	0.41	0.71	0.55
Workload and time pressure	2.77	0.27	2.65	0.21	2.56	0.37	2.41	0.28	1.48	0.54
Interpersonal relationships and management issue	1.96	0.23	2.02	0.26	1.97	0.28	2.00	0.29	0.38	0.22
Professional and career issue	2.87	0.50	2.87	0.51	2.85	0.63	2.99	0.63	0.34	0.77
Resources and environmental issue	2.64	0.07	2.83	0.11	2.56	0.13	2.72	0.29	1.32	0.79
Total	2.51	0.37	2.53	0.33	2.43	0.30	2.49	0.34	0.42	0.74

$P<0.05$

The results in table 16 showed that surgical nurses had the highest score on the overall job stressor score ($\bar{X}$=2.53, S.D.=0.37). Followed by medical nurses ($\bar{X}$=2.51, S.D.=0.37), pediatric nurses ($\bar{X}$=2.49, S.D.=0.34), and obstetric and gynecological nurses ($\bar{X}$=2.43, S.D.=0.03). However, there was no significant difference on the total job stressor score among staff nurses in four clinical units (F=0.42, P>0.05).

Although there were some differences among staff nurses in the four clinical units in the subscale of nursing job stressors inventory, the differences were not significant in all the five subscales.

In the subscale of nursing care and patient interaction, pediatric nurses had higher job stressors score ($\bar{X}$=2.35, S.D.=0.41), followed by medical nurses ($\bar{X}$=2.32, S.D.=0.37), surgical nurses ($\bar{X}$=2.29, S.D.=0.39), and obstetric and gynecological nurses ($\bar{X}$=2.23, S.D.=0.47). However, the difference is not significant.

In relation to workload and time pressure, medical nurses had the highest job stressors score ($\bar{X}$=2.77, S.D.=0.27), followed by surgical nurses ($\bar{X}$=2.65, S.D.=0.21), obstetric and gynecological nurses ($\bar{X}$=2.56, S.D.=0.37), and pediatric nurses ($\bar{X}$=2.41, S.D.=0.28). The different was also not significant.

For interpersonal relationships and management issue, surgical nurses had the highest job stressors score ($\bar{X}$=2.02, S.D.=0.26), followed by pediatric nurses ($\bar{X}$=2.00, S.D.=0.29), obstetric and gynecological nurses ($\bar{X}$=1.97, S.D.=0.28), and medical nurses ($\bar{X}$=1.96, S.D.=0.23). The different was not significant.

Pediatric nurses had the highest job stressors score within the subscale of professional and career issue ($\bar{X}$=2.99, S.D.=0.63), followed by surgical nurses ($\bar{X}$=2.87, S.D.=0.51), medical nurses ($\bar{X}$=2.87, S.D.=0.50), and obstetric and gynecological nurses ($\bar{X}$=2.85, S.D.=0.63).

With regard to resources and environmental issue, surgical nurses had the highest job [illegible] ($\bar{X}$=2.83, S.D.=0.11), followed by pediatric nurses ($\bar{X}$=2.72, S.D.=0.29), medical nurses ($\bar{X}$=2.61, S.D.=0.07), and obstetric and gynecological nurses ($\bar{X}$=2.56, S.D.=0.13). The results indicated that the difference was not significant.

Comparison of burnout among nurses in four clinical units

Means of the Maslach Burnout Inventory's three subscales of emotional exhaustion, depersonalization, and personal accomplishment were analysis. Then the total score and three subscale scores of Maslach Burnout Inventory were analyzed using one-way ANCVA.

Table 17 Means and test of significance of total burnout scores and subscale scores by clinical units

Burnout	Med $\bar{X}$	Sur $\bar{X}$	OB/Gyn $\bar{X}$	Ped $\bar{X}$	F	P value
Emotional exhaustion	29.29	27.54	29.60	33.74	1.61	0.18
Depersona-lization	8.52	7.67	8.30	9.26	0.44	0.72
Personal accomplish-ment	33.74	31.71	33.00	34.76	1.43	0.23
Total score	23.84	22.30	23.64	31.38	2.77	0.04

$P<0.05$

From table 17, significant differences among staff nurse were detected among four group of nurses in the total burnout score($F=2.77$, $P<0.05$). With pediatric nurses had highest level of burnout ($\bar{X}=31.38$), followed by medical nurse

($\bar{X}$=23.84), obstetric and gynecological nurses (X=23.64), and surgical nurses ($\bar{X}$=22.30).

However, when the three component of burnout were analyzed, the differences in all the subscale were not significant (P>0.05). In the subscale of emotional exhaustion, pediatric nurses had the highest level of emotional exhaustion ($\bar{X}$=33.74), followed by obstetric and gynecological nurses ($\bar{X}$=29.60), medical nurses ($\bar{X}$=29.29), and surgical nurses (X=27.54).

There was a high level of feelings of depersonalization or emotional detachment from patients for pediatric nurse ($\bar{X}$=9.26), followed by medical nurses ($\bar{X}$=8.52), obstetric and gynecological nurses (X=8.30), and surgical nurses ($\bar{X}$=7.67).

In terms of personal accomplishment, pediatric nurses had the highest level of personal accomplishment ($\bar{X}$=34.76), followed by medical nurses ($\bar{X}$=33.74), obstetric and gynecological nurses ($\bar{X}$=33.00), and surgical nurses ($\bar{X}$=31.71).

Discussion

Increasing attention has been focused on investigating job stressors and burnout in nurses. Chronic exposure to job stressors can lead to staff burnout, which can produce a situation that is compatible with performance efficiency and may lead to the decline in patient care. Job stressors and

burnout have not been studied in the People's Republic of China. Therefore, this study examined job stressors, burnout, the relationship between job stressors and burnout, and comparison of job stressors and burnout among staff nurses in four clinical units in four urban Chinese university teaching hospitals. The discussion was organized in relation to the five research objectives and three hypotheses of the research.

Job Stressors

The first objective of this study was to identify the various job stressors among staff nurses working in four clinical units in four urban Chinese teaching hospitals. The study found that profession and career issue was the first frequently encountered job stressor among staff nurses. The second frequently encountered job stressors was workload and time pressure, followed by resources and environmental issue, nursing care and patient interaction, and interpersonal relationship and management issue.

It is interesting to compare the findings of this study with previous investigations which indicated that the most common job stressors in nursing were workload, inadequate preparation, death and dying and patient interaction (Gray-Toft & Anderson, 1981, Sullivan, 1993). In this study, however, the frequently encountered job stressors were different from those reported. This study found that workload

was the second most frequently encountered job stressor instead of being the first as reported by most researchers (Foxall, Zimmerman, Standley & Bene, 1990, Gray-Toft & Anderson, 1981, Power & Sharp, 1988, Tyler & Ellison, 1994). The disparities may be due to differences in social cultural background, in demographic characteristics of the groups, tools used in the study, and the time in which data were collected.

The primary aspects of profession and career issues that were stressful were low status of the nursing profession, less opportunity for continuing education, inadequate salary, less opportunity for promotion and shift work.

In the People's Republic of China, the nursing profession is still perceived by society as having low status (Li & Zhang, 1995). According to Sullivan and Decher (1988), tangible and intangible rewards meet the need for recognition and esteem for a professional. However, patients and their families often failed to express their appreciation for nurses' work. The media portrays a nurse as someone who does not have nice manner and has low intelligence. In addition, the public does not fully understand what nurses do and does not realize how demanding the work is. Some people still think of nurses as little more than bedpan carriers and doctors' helpers until they require the services of a nurse and find out what nurses really do (Zhang & Zhang, 1994).

Inadequate opportunities for continuing education were not regarded as a significant job stressor among the staff nurses studied by Burns and her coworkers (Burns, Kirlloff & Close, 1983). However, less opportunity for continuing education was the most significant job stressor for the staff nurses in this study. Most Chinese nurses are secondary nursing school graduates (Ye & Yang, 1996). After graduation, they have little chance to further their education. Although there are diploma programs now in most parts of China, it is hard for most nurses to find an opportunity for further education. There are only a few baccalaureate programs or higher degree programs in nursing available for staff nurses now. Moreover, the opportunities for further education are limited for staff nurses who work in nursing service settings compared to nurse faculty who work in schools of nursing. Inservice education and short training courses are not enough for nurses.

The finding indicated that low pay was also a significant job stressor among staff nurses. In this study, all the subjects worked for the government. The pay scales are determined by government policy which mandates that salaries must be based on professional titles. The position classification is determined for each profession in the government agency. Although there is a 10% extra salary for nurses, the salary of nurses in China is in the low to middle

range when compared to other professionals (Li & Zhang, 1995, Zhang & Zhang, 1994). Nurses are poorly paid for their level of expertise and the degree of responsibility they are given.

Several authors stated that few opportunities for promotion was one of the major reasons for staff nurses to leave the nursing profession in the People's Republic of China (Li & Zhang, 1995, Zhang & Zhang, 1994, Ye & Yang, 1996). Nurses are often discouraged by hospitals and health care policies to move up the career ladders. Since there are a limited number of higher positions, subjects had little chance of being promoted. Furthermore, according to the Chinese professional title system, persons who are secondary school graduates can only be entitled as middle level. Most staff nurses in China are secondary school or associate degree graduates. So they can only be entitled junior nurses. They cannot have other higher titles such as associate advanced nurses or advanced nurses (Li & Zhang, 1995).

Shift work was also perceived as a frequently encountered job stressor within the subscale of professional and career issues. The findings consistent with the previous research by Rogers and Travers (1991). According to Berggren and his colleagues (Berggren, Hane & Ekberg, 1988), shift work has a negative impact on an individual's health, personal, family and social life. Constant shift work can disrupt the individual's circadian rhythms. In the People's Republic of

China, almost all the nurses have to work on different shifts, and this may explain why they perceived shift work as a frequently encountered job stressor.

The study found that high workload was the second subscale of job stressors for staff nurses. The primary aspects of workload that were stressful were workload too high, not enough staff to adequately cover the units, not enough time to provide emotional support for a patient, too many non-nursing tasks and too much paper work.

The nature of these job stressors as well as their pervasiveness suggests that factors inherent to the nursing role are important determinants of stress. Workload results from the multiple and varied demands placed on staff nurses. The nurse is responsible to many individuals, including the nurse supervisor, other nurses, the physicians, the patients and their families. Frequently there is a conflict between the amount of time, resources, and capacities of a nurse and the defined role behavior. Furthermore, most nurses work in hospital settings, and often the workload in such settings is heavy and includes many time oriented activities, and the demands on nurses' energy are intense. In addition, a shortage of nurses further worsens the problems of heavy workload for staff nurses. Grant (1993) warned that if understaffing and work overload were not given proper attention, they could actually sabotage the efficiency of an

acute care facility because staff nurses had lost motivation and purpose.

Meanwhile, because of time constraints, nurses have little time spend with the individual patients to know their needs and to give them support. They are discouraged by the fact that they have no time to give the emotional support to the patients and the patients' families.

The result suggested that too non-nursing tasks and too much paper work were also job stressors contributing to heavy workload. In the People's Republic of China, nurses are required to do a lot of non-nursing tasks, such as clerk's work or acte as cleaners (Li & Zhang, 1995). Furthermore, instead of providing actual care to the patients, nurses are asked to fill in a number of forms during their shifts. The paper work may take a great deal of the nurses' time.

This study found that resources and environmental issues were the third most frequently encountered job stressors among staff nurses in the four clinical units. The main aspects of job stressors in this subscale were crowded work space, inadequate equipment and resources, and dirty and poor work environments. These findings were consistent with the study of Benoliel and her colleagues (Benoliel, McCorkle, Georgiadou, Denton & Spitzer, 1990). All the staff nurses in the study worked in hospitals, and the crowded, noisy and dirty environments were their everyday work

settings. These acted as chronic job stressors for them. If working conditions cannot be improved, undesired consequences would occur for both patients and nurses.

In terms of nursing care and patients interaction, the most frequenly encountered job stressors were fear of mistakes in caring for a patient, lack of recognition for the nurse's efforts and dedication by patients and their families, care for the patients who are seriously ill, aggressive patient relatives and individual patients who are continually making heavy demands.

Nurses' work is closely related to the life and death of another human being. If a nurse makes any mistake in their work, undesired consequence would occur not only for the patients but also for the nurse. Meanwhile, nurses usually work in a time urgent condition. This further increase the possibilities of making a mistake. The nurses have to concentrate and make efforts to avoid any possible errors in caring for the patients. This makes them much more stress in their work.

However, most of the patients and families viewed nurses as doctors' helpers, and they often failed to express their gratitude to nurses. Nurses might have low self esteem because their efforts and dedication were not recognized by the patients and their families. This result supported the early findings of Gray-Toft & Anderson (1981).

In the subscale of interpersonal relationship and management issues, the frequently encountered job stressors are lack of respect from other health care professionals, lack of support from the supervisor, criticism by a supervisor, and criticism of nursing care by a physician.

Lack of respect or recognition from other health care professionals was a frequently encountered job stressor in relation to interpersonal relationships and management issues. Nurses are in the bottom of the hierarchy in the health care system. Their efforts are not recognized not only by the patients and families, but also by physicians and other health care professionals'. As suggested by McAbee (1991), lack of public and health care professionals recognition of nurses' efforts and dedication was a frequently encountered job stressor for nurses.

Lack of support from the supervisor and criticism by a supervisor were perceived as frequently encountered job stressors among staff nurses. Staff nurses are often discouraged by the fact that nursing supervisors fail to provide support for them in times of need and conflict with other professionals (Li & Zhang, 1995). Furthermore, nursing supervisors usually fail to give constructive criticism to the staff nurses and to praise nurses for their good work. The nurses may perceive the unconstructive criticism as finding fault with them.

Stress for nurses, an integral part of the nursing role, stems from either controllable or uncontrollable job stressors. The staff nurses need to delineate which of the job stressors they can control and which can be controlled by management. If nurses perceive the job stressor as something they can control, they may be able to lessen the stress response. If, however, the stressor is perceived as a professional issue that can not be controlled, the nurses' stress response may be magnified.

Level of burnout

The second objective of the study was to measure the level of burnout among staff nurses in four clinical units in four urban Chinese university teaching hospitals. Maslach & Jackson's (1986) normative study suggested a distribution of 33% within each of the categories: low, moderate, and high for professionals, including health care workers, on each of the three subscales of the Maslach Burnout Inventory. On these norms, 33% of health care professionals might be expected to show high burnout indicators, with another 33% revealing moderate burnout, and 33% showing low burnout.

This study found that staff nurses had significantly higher levels of burnout than the norm suggested by Maslach and Jackson (1986). Approximately half of the staff nurses in this study frequently suffered a high level of emotional

exhaustion, although they saw themselves as dealing effectively with patients' problems and understanding their feelings. Nevertheless, they feel "used up at the end of the work day", "fatigued when I get up in the morning and have to face another day on the job" which left them "emotionally burned out from my work".

It is interesting to compare the results of this study with the previous researchers. Dolan (1987) indicated levels of burnout which were similar to the current results in terms of personal accomplishment ($\bar{X}$=34.13), but much lower in terms of emotional exhaustion ($\bar{X}$=12.37) and depersonalization ($\bar{X}$=5.47). Lewis and colleagues' study (Lewis, Bonner, Campbell, Cooper & Willard, 1984) also showed a similar result in terms of personal accomplishment, but a much lower rate in terms of emotional exhaustion and depersonalization than the present study.

At present, staff nurses maintain close contacts with patients, experience sensory overload, function under multiple and time urgent demands, and get low pay for their effort. It is important that staff nurses should be able to function in situations where they can maintain some degree of control over their work and work environment.

Manifestations of burnout in nursing include loss of idealism, decreased commitment to service, emotional detachment from the patient, negative attitudes toward

patients and work, increased escape and avoidance, feelings of powerlessness, and the appearance of psychosomatic ailments (Muldary, 1983). For an individual, burnout results in depleted energy reserves, lowered resistance to infection, pessimism, inefficiency at work, and a decline in commitment to provide care (Veninga & Spradley, 1981).

Keane, Ducette, and Adler (1985) described burnout as a feeling of powerlessness and failure in managing job responsibilities due to factors beyond the control of individual.

It is interesting to compare the present research with the work completed by McGrath, Reid, and Boore (1989). They noted that very low levels of burnout were indicated by the scores on the emotional exhaustion and depersonalization subscale of Maslach Burnout Inventory and very high levels of burnout were indicated by the corresponding scores on the personal accomplishment subscale of the inventory in a group of nurses from all specialties in northern Ireland. These findings reverse the trends in this study and emphasized the very positive levels of personal accomplishment that appear to exist within this group of staff nurses studied.

Relationship between job stressors and burnout

The third objective of the study was to examine the relationship between job stressors and burnout. As was

expected, the result suggested that the presence of job stressors correlated significantly with burnout. The first hypothesis was accepted, which is that there is a positive relationship between job stressors and burnout.

The finding of this study was consistent with other studies (Chiriboca & Bailey, 1986; Cronin-Stubbs & Rooks, 1985; Jenkins & Ostchega, 1986). Nurses who experienced more frequent job stress reported greater burnout. Job stressors correlated positively with level of burnout.

The result could be interpreted within the framework of stress and coping by Lazarus (Lazarus & Folkman, 1984) and burnout by Maslach & Jackson (1986). Job stress in nursing stems from professional and career issues, workload and time pressures, resources and environmental issues, nursing care and patient interaction, and interpersonal relationships and environmental issues. If nurses perceived a high frequency of job stressors in their work, they would have high levels of burnout.

Comparison of job stressors among staff nurses in four clinical units

The fourth objective of this study was to compare differences of job stressors among four clinical units (medical, surgical, obstetric and gynecological, and pediatric units). An interesting finding of this study was the uniformity of stressors across clinical units. Among the most frequently encountered job stressors for staff nurses studied in nearly every unit were low status of the nursing profession, little opportunity for education, low salary, little opportunity for promotion, and high workload. There was no significant difference in job stressors among nurses in different clinical units. Previous research suggests that factors inherent in the nursing role are important determinants of stress and there was little empirical evidence to indicate that certain types of nursing were more stressful than others. Such research implies that certain stressors are encountered by all nurses (Dewe, 1989, Foxall, Zimmerman, Standley & Bene, 1990). In other works, stress appears to arise from the overall complexity and uncertainty associated with nurses' work, rather than specific tasks required of nurses in different working units.

Other researchers have disputed this assertion. Power and Sharp (1988), for example, argued that job stressors in nursing are not as similar in the clinical units as is often

reported. They believe that there may be additional stressors which lie undetected in areas of nursing. It would seem logical, however, to suggest that both these views share an element of accuracy and correctness, and in fact, reflect opposite poles of a continuum. It is likely that a common set of job stressors are similar in all areas of nursing, but they assume different priorities. There are no significant differences of job stressors among staff nurses in the four clinical units, and thus, the second hypothesis is rejected.

Comparison of levels of burnout among staff nurses in four clinical units

The final objective of this study was to compare levels of burnout among staff nurses in four clinical units in four urban Chinese university teaching hospitals. The findings showed that there were differences in the overall burnout score in four clinical units, with pediatric nurses having the highest rate of burnout. The results confirmed the third hypothesis which stated that there were differences in the level of burnout among staff nurses.

One possible reason that pediatric nurses had a high level of burnout may be due to the fact that China now has the policy of the one child family. When the child is admitted to the hospital, the parents and relatives are very anxious, and they make heavy demands on nurses. Therefore, nurses in the

pediatric unit have to cope with the physical and emotional problems of the child as well as the emotional demands of the child's parents and relatives. These may explain why they had significantly higher levels of burnout than nurses in other clinical units.

The other possible reason may be the relatively small number of pediatric nurses in the study (N=19). In addition, it should be noticed that although there was a significant difference in the overall burnout score, there were no differences in the three subscales of Maslach Burnout Inventory.