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## Critical Care and Emergency Nurses' Challenges in Having Meals and Restorative Breaks at a Large Tertiary Hospital

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### Abstract

Nurses need undisturbed break time on each shift to balance the emotional and physical demands required to provide high quality care to patients and to keep more front-line nurses at the bedside. To measure the nurse's challenges in their work environment. A validated questionnaire with 17 items was used to measure the factors related to break time to 378 nurses during duty time from emergency and critical care departments of a tertiary care hospital in Riyadh, Cross-sectionally. This study was approved by the ethical committee. Total 33% of the nurses felt that their units did not have a restorative break environment. Only 63.6% of our nurses between the age group 20-30 with < 3 years' experience 'sometimes' had a break except at mealtime. 43% of the nurses felt their workload was increased due to their coworker's absenteeism. 37% of the nurses had always sacrificed their break to fulfill the patient care responsibilities assigned to them. They revealed that 37% of the nurses sometimes had health problems because of missing breaks and meals during duty. We observed staff staff-related challenges were more compared to Administration and Patient related challenges.

**Keywords:** Nurses Break Time; Cross-Sectional; Challenges; Structured Questionnaire

### Introduction

Nurses skipping breaks and mealtime is a means of disaster for the nurse, the patients, and the institution. A nurse's energy and stamina are not limitless even though some of us assume it is. Periodic rest and meal breaks are essential to func-

tion at our highest level — both physically and mentally. Working 12-hour shifts, which push nurses to their limits as it is, makes these breaks even more critical<sup>(1)</sup>. Many nurses work 12-hour shifts and workloads have not been decreased or additional breaks added. Although many

industries have adopted extended shifts very little information is available regarding the timing, duration, and frequency of breaks required when employees work longer shifts<sup>(2)</sup>. Available data from other industries have suggested that periodic breaks may improve short time performances and fatigue<sup>(3)</sup>. In a study, critical care nurses working beyond 12.5 hours had a significantly increased probability of making an error or near miss<sup>(4)</sup>.

It has increasingly become the responsibility of employers to provide preventative wellness programs to counter increasing costs and loss of productivity in the interest of the organization's bottom line<sup>(5)</sup>. Such benefits like meal breaks, and booster breaks not only increase the motivation and physical well-being of existing employees, but those benefits also become a differentiating factor to attract qualified new employees and retention of old employees and on the other hand patient safety. A recent study among workers from companies in various sectors showed that a higher frequency of rest breaks is associated with less work-related fatigue and distress<sup>(6)</sup>. Previous studies have mentioned the effect of work breaks on employee performance, but the present study aimed to elicit the association between demographics and the nurse's challenges over their break time.

## Materials & Methods

### Design

Cross-Sectional study<sup>(7)</sup> was conducted using a structured questionnaire among nurses

### Setting

King Saud Medical City (KSMC) is a tertiary hospital in the Kingdom of Saudi Arabia serving with a 1400 bed capacity. Data collection was done at Critical Care Departments (CCD) and Emergency Departments (ED) after the approval from the Institutional Review Board, [H1RI16 - Aug18-01] from Oct 2018 to Sep 2019. From Eight hundred nurses in both departments with an expected 50% response rate, 5% margin of error, and 95% confidence level, a minimum required sample size of 260 was estimated. Staff Nurses from these departments were included in this study with verbal informed consent by using a convenient sampling method<sup>(8)</sup>.

### Tool

A self-administered structured questionnaire<sup>(9)</sup> that measures factors related to break time for nurses during duty time was developed from the literature. The tool has three domains, admin-related, patient-related, and Staff related factors on a 5-point Likert scale to record the response. The reliability and validity of the tool were assessed for its consistency with

Cronbach's alpha = 0.87 and Kappa statistics = 0.92.

## Statistical Analysis

The data were analyzed using SPSS 24.0.<sup>(10)</sup> and the results are presented as descriptive statistics for all the variables as frequency, percentage, mean, and standard error for qualitative and continuous variables. The inferential statistics for the difference in scores of the nurse's challenges with the demographic variables were tested using t-test, and ANOVA. The association between categorical variables was tested using chi-square and Fisher's exact test<sup>(11)</sup> for cell count less five at a 5% significance level.

## Results

The survey forms were distributed to 400 nurses out of which 378 nurses participated with a response rate of 94.5%. Nurse demographics for the overall sample were not similar across the 2 departments as shown in Table 1. The mean age was 33 years, and the average experience of nurses was 6 years with 97.7% females. Out of 378 respondents, 289 (76.5%) were undergraduates and 69 (18.3%) diploma holders in nursing.

**Table 1. Descriptive statistics for demographics**

Variables	CCD N (%)	ED N (%)
Age		
20-30	93 (42.5%)	64 (40.3%)
30-40	98 (44.7%)	71 (44.7%)
40-50	24 (11%)	19 (11.9%)
≥ 50	4 (1.8%)	5 (3.1%)
Gender		
Male	0	2 (1.3%)
Female	217 (99.1%)	153 (96.2)
Education – Diploma	37 (16.9%)	32 (20.1%)
Bachelor	182 (83.1%)	127 (79.9%)
Experience in years		
< 3	88 (40.2%)	58 (38.6%)
3 – 6	46 (21%)	32 (20.1%)
6 – 10	47 (21.5%)	40 (25.2%)
≥10	38 (17.4%)	29 (18.2%)

The values in bold *Italic* represent ED nurses and the light ones for CCD nurses in Table 2. Overall, 39.4% of the nurses got the opportunity to have a meal during their duty sometimes, and 43.7% of the nurses expressed that they never felt relieved from patient responsibilities during their break time. 42.9% felt their workload was increased due to their coworker's absenteeism. 37% of the nurses had always

sacrificed their break to fulfill the patient care responsibilities assigned to them. 51% of the nurses never planned their break time at the beginning of their shift. 42.1% of the nurses always skipped their breaks due to their work load even if they scheduled their break at the beginning of the shift. 37% of the nurses sometimes had health problems because of missing breaks and meals during duty.

The nurses with scores above 3 for all items in the tool were considered with challenges and the percentage of staff is shown in Figure 1. There were 201(53%) nurses, 116 from ED with a Median (IQR) score 5(3-7) & 85 from CCD with a Median (IQR) score 5(2.5-7) had administrative challenges, 303(80%) staffs, 178 from ED with median 5(2-7) score & 125 from CCD with median 5(3-8) score had Patient related challenges and 190(50%) nurses, 117 from ED with median 2(1-4) score & 73 in CCD with median 2(2-4) score had Staff related challenges.

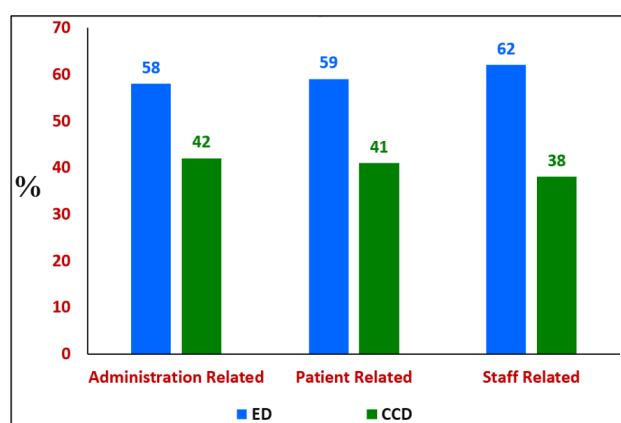


Fig 1. Percentage of Nurses with Challenges

## Administrative related challenges

### Critical Care Department

We observed 57.1% of nurses in the age group of 20-30 with experience 3-6 years and 42.9% of nurses from the age group of 30-40 with experience < 3 years said they never got the opportunity to sit down for a meal during duty. Nurses who 'never' had break were 38.7% with experience 3-6 years and 38.5% with experience 3-6 years from 30-40 years, whereas 63.6% of them between the age group 20-30 with < 3 years' experience had break 'sometimes'. 33.3% of nurses with experience 6-10 years 'never' get a chance 66.7% of nurses between the ages 20-30 and 43.3% of nurses from the age group of 30-40 with experience < 3 years got a chance 'sometimes' to go rest room. Among 54, 87% of nurses in the age group 20-30 years with experience < 6 years and 40% in the age group 30-40 years with experience 6- 10 years said they 'never' feel relieved from the patient responsibilities even if they get time for a break. 50% of nurses from the

age group of 20-30 with experience of < 3 years and 3-6 years say their coworkers 'never' cooperate with them during their break. 57.1% of nurses in the age group of 20-30 with experience of 3-6 years said coverage of their break time is 'never' arranged by the Charge Nurse or Head Nurse. 47.6% of nurses of 20-30 years & experience < 3 years and 70% between 40-50 years with experience  $\geq 10$  years "never" felt hospitals had regulations for having meals and breaks. 58.3% with < 3 years, 100% between 40-60 years with 6-10 &  $\geq 10$  years' experience felt their workload was due to the absenteeism of their coworkers "always".

### Emergency Department

Observation on 42.6% of nurses between 20-30 years with 3-6 years' experience and 66.7% of nurses among 30-40 years with < 3 years' experience 'never' sat down for a meal during work. Nurses among the age group of 40-50 years with < 3 years' and 6-10 years' who 'never' had a break except meals were 50%. All of our participants aged 30-50 years and with experience of  $\geq 10$  years said they 'never' get a chance to use the room during work. Nearly 50% within 40-50 years of age & with experience of < 3 and 6-10 years as well as 100% of the nurses above  $\geq 50$  years with  $\geq 10$  years of experience had 'never' felt relieved from patient responsibilities even if they get time for break. The co-workers around 50% between 20-30 years with 6-10 years' experience years 'never' cooperated during their break & 66.7% among 30-40 years with < 3 years 'often' cooperated during their break. The head or the charge nurse "never" arranged for covering the break time of nurses between 20-30 years with experience 3-6 years is 57.1% and between 20-30 years with < 3 years' experience, 58.3% of nurses' workload was always due to the absenteeism of their co-workers.

## The patient-related challenges

### Critical Care Department

The majority 83.3% of the nurses between 40-50 years with 6-10 years' and 100% above 50 years with more than 10 years' experience sacrificed their break time to fulfill the patient responsibilities 'always'. Nurses who do not schedule their break time at the beginning of their duty are 53% of those aged 20-30 years with experience of < 3 years 60% middle aged with experience above 10 years and 100% of elderly nurses with the same experience. Nearly 72.2 % of young nurses with less experience were unable to go for a break 'often' based on their scheduled time because of the severity of the patient's condition. Due to the severity of the patient condition, 76.7% of middle-aged and 100% of elderly nurses with above 10 years' experience were 'always' unable to go for a break based on their scheduled time. The workload 'always' prevented going to break for 55.6% among youngsters with less experience and 71.4% middle aged with 6-8 years of experience along with 60% among the same age and above 10 years of experience. The call from their reliever

Table 2. Inferential Statistics for Nurses challenges

	Never	Seldom	Sometimes	Often	Always	P-Value
ADMINISTRATIVE	18	28	68	77	28	0.000*
Do you get the opportunity to sit down for a meal during your duty?	11	41	81	18	8	
Do you get time to go for a break except for meals during duty?	68	58	71	20	2	0.195
	56	39	51	7	5	
How often do you get a chance to go to the restroom?	57	58	68	31	4	0.546
	43	54	40	17	4	
If you get time for breaks and mealtimes, do you feel relieved from patient responsibilities?	119	29	45	20	6	0.000*
	46	36	41	23	12	
Are your co-workers cooperating with you during your break?	13	11	55	61	78	0.258
	7	17	45	38	50	
Coverage of your break times is arranged by the Charge Nurse/Head Nurse	45	25	59	47	41	0.351
	20	17	43	38	40	
Do you feel there are regulations in KSMC for nurses having meals & breaks?	58	30	70	28	31	0.060
	31	30	36	32	27	
Is your workload due to the absenteeism of your co-workers?	38	41	95	21	22	0.001*
	12	19	67	36	23	
PATIENT-RELATED	9	13	67	57	73	0.301
You sacrifice your break time to fulfil the patient care responsibilities assigned to you.	3	11	41	36	67	
Do you schedule your time for a break at the beginning of your duty?	111	38	49	9	11	0.701
	83	22	34	11	7	
When you were unable to go for a break based on your planned time, it is because of the severity of the patient's condition.	8	9	52	48	102	0.205
	7	13	41	40	57	
Do you think your workload prevents you from going for a break?	17	11	77	50	64	0.051
	4	12	43	42	58	
Did your break time interrupted due to a call from your reliever or physician.	13	23	99	44	40	0.205
	9	28	66	26	28	
STAFF RELATED	87	26	71	23	10	0.044*
Do you feel you have a restorative break environment?	36	28	60	20	10	
Do you have health issues because of skipping meals & Breaks?	32	28	85	1	23	0.126
	38	17	55	0	22	
Do you wait for your friend on duty to join you for a break?	35	23	108	42	10	0.114
	41	15	69	22	12	
Are you satisfied with the break times that you have now in KSMC?	78	20	81	20	18	0.032*
	58	24	42	26	9	

or physician ‘always’ interrupted 50% of nurses between 20-30 years with 3-6 years’ experience and 66% among 40-50 years with experience of  $\geq 10$  years.

### *Emergency Department*

The break time was sacrificed to fulfill the patient responsibilities ‘always’ by 71.4% in 40-50 years with experience above 10 years. 75% of the nurses among 20-30 years, with less experience, had ‘always’ scheduled their break at the beginning of the duty. Due to the severity of the patient’s condition 71.4% above 40 years with  $\geq 5$  years’ experience were ‘always’ unable to go for a break based on the planned time.

## **Staff related challenges**

### *Critical Care Department*

About 77.8% of nurses with 40-50 years and 10 experience, ‘never’ felt that they had a restorative break environment. Nearly 75% of youngsters with  $< 3$  years’ experience ‘always’ had health issues because of skipping meals and breaks. 50% among 20-30 years of age and with experience of 3-6 years said they ‘always’ wait for their friend to join with them for a break. 58.3% of 20-30 years with less experience and 76.9% between 40-50 years with experience  $\geq 10$  years were ‘never’ satisfied with their break times in their current institution.

### *Emergency Department*

The restorative break environment was ‘never’ felt by 60% of nurses in 40-50 years and experience of  $\geq 10$  years. 60% of the nurses 20-30 years of age with experience  $< 3$  years had ‘always’ waited for their friend to join for a break. The break time in the current institution was ‘never’ satisfied for 44.4% of the nurses in 20-30 years of age with experience of  $< 3$  years.

## **Discussion**

Our staff (43.7%) said their break time was interrupted due to a call from their reliever or physician sometimes which was like Rogers, et. al (2004)<sup>(2)</sup> study where 43% of nurses reported having the time for a break or eat a meal but not being relieved of patient care responsibilities. 33.1% of the nurses felt that their units did not have a restorative break environment.

In the present study, 57.1% of nurses in the age group of 20-30 with experience 3-6 years and 42.9% of nurses from the age group of 30-40 with experience  $< 3$  years said they never got the opportunity to sit down for a meal during duty in CCD. A large survey (N = 13,515) conducted by the ANA (2009) found that 35% of the nurses reported taking a meal break rarely or never. Similarly, Nejati et al. (2016)<sup>(12)</sup> observed that 11% of nurses reported taking no breaks during their shifts.

In Taylor’s model, nurses take collective “booster breaks” for 10 to 15 minutes and can include restorative activities such as healthy snacks and mindfulness exercises (e.g., yoga, tai chi,

meditation),<sup>(13)</sup>. Taylor has argued that this change fosters nurses’ physical and psychological well-being by providing a regular reprieve from the ongoing stress of the work environment. But only 63.6% of our nurses between the age group 20-30 with  $< 3$  years’ experience ‘sometimes’ had break except meal time.

Nurses reported having a break or meal period free of patient care responsibilities less than half of the shifts they worked (2,429/5,211 shifts),<sup>(2)</sup> 76.9% (n=51) of the nurses in CCD among 20-30 years with  $< 3$  years’ experience says they ‘sometimes’ feel relieved from patient responsibilities even if they get a break. The leaders must understand that there is a great impact on employee satisfaction with their rest & break times between their duties can adversely affect the quality of patient care. The drawback of work breaks is that their implementation is highly dependent on the type of work being carried out (i.e. not all work settings allow for a flexible arrangement of work and breaks). Additionally, the employer and employee both need to accept the changes required by the work-break pattern: (1) the employer providing extra time for breaks, and (2) the employee accepting a longer presence at work to cover more break time but the same amount of work time<sup>(14)</sup>.

All nurses have an opportunity to investigate their patient’s acuity level and plan for their break time every day. But our study explores 51.3 % of nurses in ED & CCD never schedule (plan) their break at the beginning of their duty and 46.8% of the nurses wait for their friends (colleagues) to join them for a break which shows that employee’s acceptance in planning break schedule is still not clear. As per Article 101,<sup>(15)</sup>. ‘Working hours and rest periods during the day shall be scheduled so that no worker shall work for more than five consecutive hours without a break of no less than thirty minutes each time during the total working hours for rest, prayer and meals, provided that a worker shall not remain at the workplace for more than eleven hours a day’ our staff in this study adopt to the same instructions as above. When comparing, Nurses in CCD on 12 hours of duty experienced more significant challenges than ED Nurses on 8 hours of duty in having meals and restorative breaks (P=0.048).

For 80% of ED nurses with 40–50 years of experience and 45.5% of nurses with 30–40 years of experience and 6–10 years of experience, the workload “always” prevented them from taking breaks, and this violates Article 102<sup>15</sup>, which states that “the periods designated for rest, prayers, and meals shall not be included in the actual working hours.” The employee will not be under the employer’s control during these times. The employee will not be obliged by the employer to stay at work during these productive breaks.

The Towers Watson survey<sup>(5)</sup> found that the companies that are most successful at encouraging employee wellness, invest more in health and productivity than organizations with less-effective programs. Improvements in the restorative

break time may significantly improve nurse satisfaction and stress reduction, potentially leading to improved care for their patients.

## Conclusion

37% of the nurses sometimes had health problems because of missing breaks and meals during duty. This might affect their work schedule which might further burden their colleagues. We observed that staff-related challenges were more compared to Administration and Patient related challenges. Sorting out staff-related challenges will help create a good impact among staff about their meal break & restorative breaks. Scheduling the break time at the beginning of duty will help the nurses to have their break time.

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