



WORKLOAD ANALYSIS OF FRONT OFFICE STAFF AT WATER MARK HOTEL AND SPA JIMBARAN-BALI

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Abstract

Front office employees at Watermark SPA & Hotel work with **standing work posture** to serve guests by using a computer to input data and find information related to customer identity the information of room conditions. Subjective complaints arise because work is done for 8 hours a day. To get a solution to this problem a preliminary observational study of 6 front office employees was conducted. The workload is determined by the working pulse measured using a pulse meter. Subjective complaints were predicted from general fatigue and complaints of skeletal muscles as measured by a questionnaire, while body posture when working was assessed by the RULA score. Statistical analysis was carried out in a quantitative descriptive manner. The results of the study conclude that: (a) the workload of front office employees in Watermark Hotels & Spas is included in the medium workload category, (b) there is a significant difference in the score of subjective complaints of front office employees at Watermark Hotel & Spa before and after work. (c) the RULA analysis score obtained the grand score 5 score, it is recommended that an examination and change be immediately carried out on the work of front office employees at Watermark Hotel & Spa, (d) Need ergonomic interventions to reduce employee workload both objectively and subjectively . For this reason, it is recommended that there be improvements to work stations, proper work shift settings, and further research.

Keywords: workload, subjective complaints, front office hotel employees



I. Preface

Watermark Hotel & Spa is one hotels in the Jimbaran, Nusa Dua Bali area. This hotel is a 4 star hotel which gives top priority to the comfort of guests during their stay. So that the hotel really provides optimal service from the arrival of guests (check in) to the process of returning (check out).

The employee that in charge of handling guests from check in to check out is the Front Office section which operationally deals directly with guests, has the responsibility to provide services to guests. The duties are from before guests arrive or making reservations, when checking in or registering or when checking out, making payments, and also as a center of information about hotel products and facilities as well as supporting information about business activities provided by this hotel.

The employees of front office at Watermark Hotel work for 8 hours with a standing work posture to serve guests by using computers to input data and find information related to customer identities to the information of room conditions. Computer activity is carried out with a standing work posture while bending, this is because of computer display on the work table appears to be lower than the elbow height of the employee. If it was done for a long time, this condition can interfere with the work performance of employees which will have an impact on the services provided. Basically standing itself is more tiring than sitting and the energy expended to stand, 10-15% more compared to sitting (Tarwaka 2004).

Working posture bent over a long time is an unnatural (not normal) work posture. Work posture is not natural will cause in harmony between humans and work stations, thus causing undesirable things such as tend to occur work errors, less productive, and the emergence of additional expenses to overcome the consequences of the disruption that occurs (Helander 2006)

Problems that often occur for employees in the front office are complaints such as pain in the neck, arms, back, waist, legs, and feeling fatigue quickly. The complaints are known as subjective complaints which are divided into two categories, namely skeletal muscle complaints and general fatigue. For this reason, it is necessary to do solutive steps to help the employees. To make a solutive step, first



research is conducted to examine how much workload is available for the front office employees. Therefore this research was conducted, as preliminary research in providing a solutive step for front office employees.

The role of employees in Front office is very important enhancing the image and impression of hotel service to customers. Providing services quickly, precisely, kindly and comfortably is the commitment of every employee at the Watermark hotel, so that employees are required to be able to provide optimal work performance. From an ergonomic point of view, work performance will be optimal if supported by tasks, organization and an ergonomic work environment.

II. Materials and Methods

This study was an observational study of 6 employees of the Water Mark Hotel & Spa in Jimbaran Bali. The workload is determined by the working pulse measured using a pulse meter. The temperature and humidity of the environment are measured using an environment meter. Subjective complaints are predicted from general fatigue and complaints of skeletal muscles. Fatigue was measured using questionnaire, they are 30 items of exhaustion fatigue in general with four Likert scales and complaints of skeletal muscles measured by Nordic Body Map questionnaire, while body posture when working was assessed by the RULA score. Statistical analysis was carried out in a quantitative descriptive manner towards workload and subjective complaints of employees.

III. Results and Discussion

3.1 Research Subjects

The characteristics of front office employees who as the subject of the research, as follows :

Table 1. Characteristics of research subjects

	Mean	Standar Rage	Deviation
Age	29,33	6,05	14,00
Weight	61,41	2,27	6,50
Height	168,25	1,92	4,50



Body Mass Index	21,69	0,45	1,13
Work Experience	5,5	0,83	2,00

Mean of age of the subject was 29.33 ± 6.05 years, with a mean work experience of 5.5 years. This shows that the subject is in productive age and has experience working in their field. The index of body mass is at mean of 21.69. This body mass index is in normal conditions. The condition of this subject is still in an optimal physical state to do work because of his productive age and good physical condition. Age conditions affect a person's physical work ability or muscle strength. A person's maximum physical ability is achieved between the ages of 25-35 years and will continue to decline with age (Kroemer and Grandjean 2009).

The results of research conducted by Choobineh showed that a person who has an abnormal body mass index is at risk of developing musculoskeletal complaints in the lower back area is twice higher than people with normal body mass index (Choobineh et al. 2007). Whereas in other studies stated that there is a relationship between nutritional status and body mass index with muscle complaints, in normal body mass index conditions, muscle complaints are caused more by work factors (Mushthofa et al. 2014).

3.2 Environmental Conditions

The work environment where the research subject works includes conditions of temperature, relative humidity, wind speed, and sound intensity. The results of the analysis of the measurement of working environment conditions before and after work as in Table 2 below :

Table 2. Work Environment Conditions

No	Parameter	Mean	SB	Range	
1	Dry Temperature (° C)	25,55	0,78	23,15	27,64
2	Wet Temperature	20,93	0,55	18,47	22,94



	(° C)				
3	Humidity (%)	74,65	1,59	70,17	78,49
4	Sound intensity (° C)	55,47	1,38	52,88	59,04
5	Light intensity (° C)	246,80	29,55	228,75	378,82

All components of the work environment as shown in Table 2 indicate that employees work in environmental conditions that are still relatively comfortable and within the limits of normal adaptation. Comfortable room temperature for Indonesians ranges from 22–28° C. The effective temperature for the tropics is 22–27° C (Soleman and Sitania 2011). According to the Decree of the Minister of Health No. 405 / Menkes / SK / XI / 2002) the lowest NAV (NAB) for room temperature is 18 ° C and the highest NAV(NAB) is 30 ° in air relative humidity between 65% to 95%. Good lighting is very important, so the job can be done properly and in a comfortable situation. In addition, when carrying out activities can see objects clearly and quickly. According to Dul and Weerdmeester, the amount of light intensity for normal activities is 200-800 lux (Dul and Weerdmeester 2008). A normal work environment will make workers work optimally with the level of risk of interference due to a minimal work environment (Sutjana, 2015)

3.3. The Workload

The workload of an employee can be measured based on the working pulse (Adiputra 2002; Kroemer and Grandjean 2009). Based on the working pulse calculation at Table 3, it found that the breaking pulse of Front Office employee at Watermark Hotel & Spa Jimbaran Bali is 66,46 beat per minute, whereas the working pulse is 125,45 beat per minute. There is a significant increasing ($p < 0,05$) between breaking pulse and working pulse. That working pulse is classified medium workload. Grandjean said that the medium working pulse workload is 120–125 beat per minute (Kroemer and Grandjean, 2009).



Table 3. Workload Analysis Result

Variable	Mean (dpm)	SD	t	p
Breaking Pulse	66,46	4,41	-20,8	0,000
Working Pulse	120,45	6,91		

The medium working pulse workload is predict because the working position of Front Office employees are standing to serve the customers and to type in the computer. This working position will be easier fatigue and stress, it causes increasing pulse beat.

Decreasing that workload needed improvement referring to Ergonomic Rules. Ergonomic intervention can decrease the employees workload moreover it can increase their workload productivity (Yusuf 2015).

3.4. Musculoskeletal Complaints and Fatigue

The subjective employees complaints at Table 4, occurred a significant increased ($p < 0,05$) improvement between before and after working measurement in Musculoskeletal Complaint and Fatigue. After working the Musculoskeletal complaint is often happened in employees' shoulders, necks and waists (66%), the illness of left and right hands, and the illness on backs (55%) wherever the fatigue is generally happened in body, back painful (83%) and also felt heavy on head, cramp on legs, cramp on shoulders (50%). These complaints are happened because of the standing working posture with back bent.

Table 4. The Analysis of Musculoskeletal Complaint and Fatigue

Variable		Avarage score	SD	T	p
Musculoskeletal	Before working	35,42	3,56	-14,18	0,000



complaints	After working	63,33	5,91		
Fatigue	Before working	43,75	3,11	-13,72	0,000
	After working	64,51	6,04		

Standing working posture with bent head for long time is not physiology work posture. It can be happened by the characteristic of job desk, work tools, work section, and unsuitable work posture with inability of employee (Manuaba 2000). The standing working posture with bent head has done for years can occur bones deviation of the employee (Kroemer and Grandjean 2009). To solve this problem it needs work posture improvement or new system work posture based on Ergonomic rules.

The subjective complaint of working can be happened by work stress. Marchelia found that there is a relationship meaning between work stress and work fatigue controlled by age (Marchelia 2014). That is why the employees need refreshment by changing the right shift and convenient work environment. Ergonomic intervention can decrease this subjective complaint (Santiana, Yusuf, and Lokantara 2018) moreover can increase their work motivation (Sutapa et al, 2017).

3.5 The RULA Analysis

The workload evaluation also analyzed by RULA. This evaluation is based on the employee work posture of the following picture 1.

Picture 1.

The work posture of Front Office Employee at Watermark Hotel & Spa Jimbaran Bali

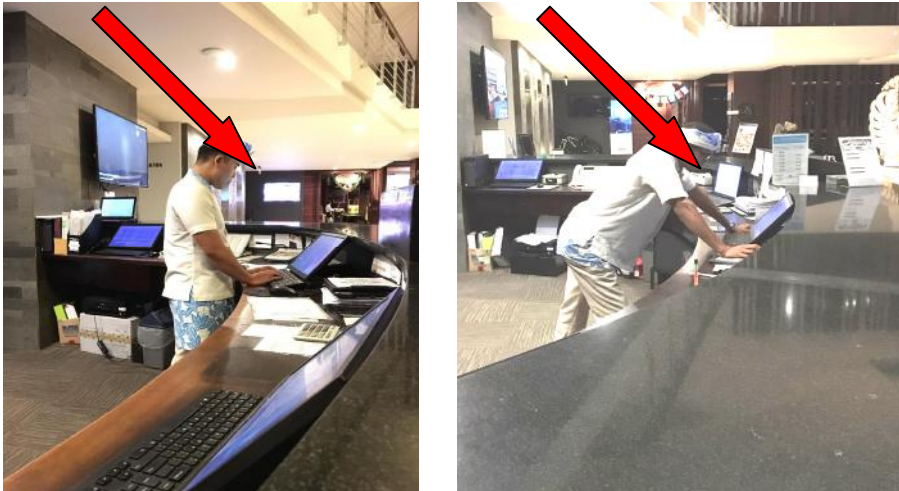


Table 5. The Score Result of RULA Analysis

Body Group A Postur Rating	Body Group B Postur Rating
Upper arm : 1	Neck : 4
Lower arm : 1	Trunk : 3
Wrist : 3	
Twist : 2	
Total : 5	
Grand Score : 5	
further investigation, change may be needed	

Using RULA analysis in picture 1 above and score result of RULA analysis in table 1, the total score of Front Office employee work posture of both group is 5, and the grand score is 5 with action recommendation, they need checking and changing the work posture



immediately. Therefore, the analysis result of workload Front Office is recommended to review and then change it into the better one based on the Ergonomic rules and RULA analysis. They can decrease the workload in objectively and subjectively (Yusuf and Santiana 2014). Irwanti, et al (2016) also found that the working posture improvement with ergonomic approach and rula analysis to fatigue and musculoskeletal complaints of hotel employee.

IV. Conclusion and Suggestion

4.1 Conclusion

The analysis result of the discussion above can be concluded as:

1. The Front Office employee workload at Watermark Hotel & Spa Nusa Dua Bali is medium workload category.
2. There was a significant difference score of subjective complaint of Front Office employee at Watermark Hotel and Spa (Musculoskeletal Complaint and fatigue) before and after working.
3. The grand score of RULA analysis is 5, it means that it needs recommendation for reviewing and changing the work posture of Front Office employee at Watermark Hotel and Spa immediately based on Ergonomic rules.
4. It needs Ergonomic interventions for decreasing workload of Front Office employee both in objectively and subjectively.

4.2 Suggestion

There are 3 suggestions for Front Office employee at Watermark Hotel and Spa Nusa Dua Bali to decrease workload both in objectively and subjectively. They are:

1. To repair the table for putting the computer, so that their work posture is more natural (the head is not bent, the wrist are not bent).
2. To manage the working system such as managing the break by giving
Short break with sitting for 5 to 10 minutes every office hours.



3. It needs further research about working system improvement of Front Office employee at Watermark Hotel and Spa Nusa Dua Bali to give solution of subjective fatigue employee.

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