



Importance of Environmental Parameter on Worker's Working Capacity in Restaurant

KEYWORDS

Environmental parameter, humidity, illumination, working capacity, psychological stress.

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ABSTRACT *Environment is the events and culture that a person lived in. Person's beliefs and actions are dependent on their environment. As the same environmental parameters [play an important role in our daily life actions. restaurant worker's perform wide variety of activities in kitchen daily. Due to continuous performance in the kitchen, workers are exposed to high temperature, humidity, high level of noise and illumination etc. If the exposure toward these environmental parameters exists for a long time then these can adversely affect on the efficiency and the health of the workers. Because of this reason specifically this area had been taken for research purpose to decrease the effect of adverse environmental conditions in the restaurant kitchen. For the present study 120 workers were selected from the four south Indian restaurant i.e. Sri Nidhi Sagar, Raaga the family restaurant, Tamarind and Inchara the family restaurant, Bangalore city, Karnataka State. Descriptive cum experimental research design was used for the present study. Purposive sampling procedure was followed to select the sample and data was gathered by interview method. The workers were mainly literate and aged from 25-40 years. The data further showed that the existing conditions of the restaurant workers were satisfactory i.e. work environment. Besides this occupational risks were noticed among workers which can result in health hazards.*

Introduction

The restaurant and catering sectors employs more than 7.8 million people in India and is characterized by high job demands and high physical workloads. The hotel, restaurant and catering sector covers a wide range of different businesses, including hotels, pubs, and restaurants, contract caterers in various industrial and commercial premises, fast foods, cafes and bistros. The complexity of this sector makes it difficult to present an exhaustive view of the situation. Much attention goes toward working in kitchen. Thus, it is appropriate to regard the restaurant kitchen, and the work performed by the restaurant workers, the workers, working in the restaurants must withstand the pressure, string of working for long hours, suffering from high blood pressure due to prolong standing posture, lifting heavy pots and kettles and working near hot oven and grill. So there is a need to take care of that kind of workers. Ergonomics cover all aspect of human, environment and machine relationship from the point of view of physical stresses, body motion pain at joints/muscles/nerves/tendons/bones and the like, to environmental factors which can affect hearing, vision and general comfort and health. the workers working in the restaurants must withstand the pressure, string of working for long hours, suffering from high blood pressure due to prolong standing posture and adverse environmental conditions such as high temperature, high humidity, improper light and too much noise in the work place. There are major various physiological and psychological risk factors which are associated with adverse environmental condition and this becomes responsible for deteriorating the worker's working capacity in the restaurant. Sometimes work related disorders that are caused or related disorders that are caused or made worse by work method and environment. It does occur when the physical capabilities of the workers do not match the physical requirement of the job. Aware of this problem, this research study was conducted in order to enhance the working capacity by reducing the ill effect of adverse environmental conditions. There are so many environmental parameters which can interfere with task performances like temperature, humidity, noise etc. The environment of the

restaurant kitchen usually contains significant level of dust, fumes, gases which can put the workers at a health risk.

As studied by **Bittencourt (2001)**, many different aspects interfere in the environmental climate in the work place among them. The impact on the air temperature, radiant temperature, air speed and relative humidity but the type of physical activity is also get affected by clothing that is worn. The environment protection should start from home, every household should be sensitive to the problem that emerge with his/her immediate surroundings. Most of the health hazards are due to improper care toward environment.

Sunstorn (2006) has summarized the complex literature on noise and performance. Practicable noise such as the background noise in a room can reduce accuracy in performing various tasks and during vigilance tasks, if the noise is very loud and when two are being carried out simultaneously unpredictable noise can also degrade performance of the above tasks as well as tasks involving mental circulation or short term recall.

This service of service industry has been taken for research purpose because restaurant workers perform a wide variety of activities in kitchen daily and they have no alternative to escape from their routine job. Due to continuous performances under harmful environmental conditions workers suffer various types of mental and physical disorders. Therefore, the study is designed with the following objective:

To study the environmental parameter such as indoor air quality and its effect on their work.

Limitation:

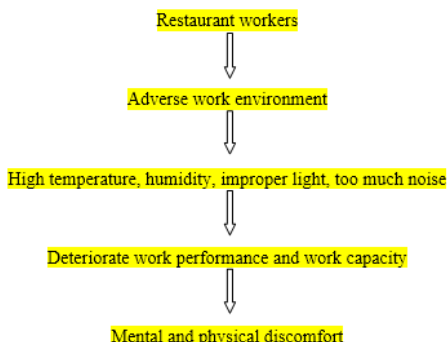
The study was limited to the middle class family restaurant and it's workers only.

Delimitation:

The sample was selected from various restaurants of Bangalore city of Karnataka state.

Methodology

A research design is the arrangement of conditions for collection and analysis of the data in a manner that aims to combine relevance to a research purpose with economy in procedure. In this study experimental research design was planned to find out the impact of indoor air quality and its effect on worker's work capacity.



Conceptual framework

To analyse the environmental parameters data table, worksheet were developed. For the selection of the study area, purposive sampling and for respondent's selection simple random sampling without replacement was selected. Four restaurant were purposively selected for the present study namely: Sri nidhi sagar, Raaga-The family restaurant, Tamara and Inchara-the family restaurant from Bangalore city, Karnataka.

Result and discussion

Restaurants where the workers provide services of serving the food home to home should be whether proof to provide protection from the element (cold, rain, wind, hot sun) and provide comfort especially during the hot sunny day. Restaurant kitchen should also provide good ventilation so that the workers who are working inside the restaurant kitchen can comfortably work. Environmental parameters such as temperature, humidity, light, noise have a profound effect on human performance, efficiency and efficacy.

So data on environmental parameters were recorded while collecting the data for other physiological parameters in existing condition. It is clear from the table 1 that almost half of the workers were facing the problem of highly noisy area where the majority of workers were engaged in the preparation activity that is 15 percent whereas 4 percent suffered from the problem of poor lighting.

Table: 1 Environmental parameters of the restaurant (N=120)

Environmental parameter	Total	Preparation	Cooking	Serving	Dish Washing
Highly noisy working area	60 (50)	18 (15)	14 (11.67)	5 (4.16)	13 (10.83)
Poor lighting	5 (4.16)	4 (3.33)	-	-	1 (0.83)
Comfortable temperature during summer	10 (8)	3 (2.5)	4 (3.33)	2 (1.67)	1 (0.83)
Comfortable temperature during winters	-	-	-	-	-
Too high humidity	-	-	-	-	-
Too low humidity	-	-	-	-	-

Poor air circulation	15 (12.5)	6 (5)	4 (3.33)	-	4 (3.33)
Pollution free air	-	-	-	-	-
Crowded area	20 (17)	4 (3.33)	7 (5.83)	5 (4.16)	4 (3.33)
Overall poor physical environment	10 (8)	3 (2.5)	2 (1.67)	-	5 (4.16)
Any other	-	-	-	-	-

Value in parentheses depicts percentage.

The data showed that nearly 8 percent worker said that they were having the comfortable temperature during the summer. It was found that about 12 percent of the workers reported the problem of poor air circulation in which only 3 percent were involved in dish washing activity. Approximately 17 percent workers reported that the area in which they worked was quite crowded and about 9 percent were having the overall poor physical environment. Among them only 1.67 percent of the workers were from the cooking activity who felt the problem of poor physical environment. Environmental parameter considered under the study was average but temperature and sound level was little bit higher inside the restaurant kitchen. Table 2 showed the existing environmental conditions in the restaurant kitchen.

Table: 2 Existing environmental parameter

Environmental parameters	Range	
	Maximum	Minimum
Temperature (-C)	28.5	19.4
Humidity (%)	72	65
Light (Lux)	105	15
Noise (dB)	110.2	82.3

The relative humidity and temperature was found to be little bit higher in the present study. The restaurant workers reported that this temperature will increase during the month of February to May which was hazardous to health since the study was conducted in the month of August the temperature was 28.5-19.4 degree centigrade during the course of data collection. The humidity ranged from 65-72%. Similarly the comfortable temperature as given by Saha (1980) is 20-30 degree centigrade and temperature below and above this limits make the person uncomfortable leading to reduce work efficiency. The comfortable limits of humidity are 40-50% for winters and 40-60% for summers. Relative humidity less than 30% are undesirable reported by Bakshi, (1997). In the present study the sound level ranged from 82.3-110.2 dB, the higher value was considered hazardous but the workers did not have any problem with this level of sound as they were used to it. The noise level in the kitchen was considered normal.

Light is also important environmental parameters, which can affect the worker's performance and if adverse viewing conditions occur then it may result in visual fatigue and pain. Lighting needs vary with production type and task. General lighting is basic necessity for areas infrequently used or having simple work demands. Work demands were considered as 20-200 Lux (CIE, ISO 1995), whereas the luminance level in the present study ranged from 15-105 Lux in the working area.

Conclusion: restaurant workers face some of the most dangerous working conditions in the country on a daily basis. Although there are regulations, statutes, ordinance and industry standard that mandate employers to provide a reasonably safe working environment, thus the restaurant workers suffer from serious industries at an alarming

rate. On the basis of findings of investigation it can be concluded that workers were affected with some physical problems like alleviated level of odor, noise, heat, flames, dust, fumes, light, suffocation, psychosocial problems due to adverse environmental conditions. Although the working area was little bit noisy and temperature and light were in normal range.

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