Table 2: Association between type of Management and Oswestry Low Back Pain Disability Questionnaire (posttest)

		OPD Management (n=50)			Home Management (n=50)			P Value
		n	%		n	%		
Intensity of Pain	Mild	16	32	0	0	0		0.000
	Moderate	14	28	2	4	4		
	Severe	20	40	48	96			
Personal Care	Can Look After Independently	21	42	2	4			0.000
	Partially Dependent	23	46	13	26			
	Totally Dependent	6	12	35	70			
Lifting	Can Lift Heavy Weights	20	40	1	2			0.000
	Can Lift Medium Weights	16	32	18	36			
	Can Lift only Light Weights	14	28	31	62			
Walking	Can Walk with/out Support	11	22	15	30			0.000
	Can Walk Max. 1 mile to 100 yards	36	72	22	44			
	In bed most of the time	3	6	13	26			
Sitting	Can Sit without Pain	24	48	0	0			0.000
	Can Only Sit Max. 1 hour	25	50	37	74			
	Cannot Sit at all	1	2	13	26			
Standing	can Stand as long as I want	19	38	1	2			0.000
	Can Stand Max. 1 hour	31	62	40	80			
	Pain Prevents from Standing	0	0	9	18			
Sleeping	Can Sleep without being disturbed by Pain	30	60	1	2			0.000
	Can Sleep only for 2-6 hours	19	38	35	70			
	Pain Prevents from Sleeping	1	2	14	28			
Social Life	Normal Social Life	33	66	6	12			0.000
	Restricted Social Life	16	32	34	68			
	No Social Life	1	2	10	20			
Travelling	Can Travel without Pain	26	52	2	4			0.000
	Can Travel between 30 mins-2 hours	23	46	36	72			
	Pain Prevents from Travelling	1	2	12	24			
Employment/ Home Making	Near Normal Office/Home activities	24	48	5	10			0.000
	Moderate to Light Work	25	50	36	72			
	No Work	1	2	9	18			

PRACTICE OF ERGONOMICS AMONG BANKERS OF PRIVATE AND PUBLIC SECTOR BANKS

ABSTRACT

OBJECTIVE

To compare the knowledge and practice of ergonomics among bankers of private and public sector

METHOD

A cross-sectional study was conducted on bankers of Karachi over a period of 6 months. 200 participants were recruited from one of the reputed public sector bank of Karachi for the observational study. Another group of 200 members was taken from different private banks of Karachi. Convenience sampling technique was chosen for data collection by using self-administered Questionnaire. Data entry was done on SPSS Version 20. Mean is calculated by using One sample T-test and considered significant at p value <0.05. In addition, the frequencies and percentages were taken as descriptive statistics for categorical variables.

RESULTS

The workshop on ergonomics revealed statistically significant difference between the mean values 1.82, (p=0.00) and 1.95 (p=0.06) in the private and public sector bankers respectively. In addition, the means of back care were also calculated between the two sectors; showing higher mean values (1.83,) among the public sector bankers as compared to the private sector bankers (1.72, p=0.00).

CONCLUSION

Our result shows that private sector bankers are more vigilant about their health and posture as compared to the public sector. The above result appears to be useful indicators of determining the risk of musculoskeletal problems among bankers.

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INTRODUCTION

Workstation design can have a large impact on health^{1,2}. Uphill struggle are being made to endorse an environment in which physical condition and safety of employ should be given key significance³. Ergonomics is considered as the discipline to optimize the association between environment and the person⁴ where the concern to assemble things at the workstation. The competency of the employer is directly related to 'the ergonomics'⁵. The application to design a place of work as personnel use of tools and the overall situation is called ergonomic design^{6,10}. It focuses on the compatibility of objects and environment with the humans using them⁷. Globally the number of people suffering from musculo-skeletal conditions has increased by 25% over the past decade and these conditions makeup 2% of the global disease burden. If emerges as an issue since many of these musculoskeletal conditions are common computer related injuries⁸. According to Osborne, "good ergonomic design in the work place offers a mean to victory over the oppressive forces that continue to make work less productive, unpleasant, uncomfortable and unsafe"⁹. The principles of ergonomic design can be applied to everyday objects and work spaces. A high-quality ergonomic contributes to reduction of expenditure due to preventable health problems by improving potential of workers^{3,7,11,12}. This also benefits the employer by increasing the quality of life³. There is an acquaintance between health of an employ and work station ergonomics³. With the encroachment in technology people have become more approaching towards the use of computer not only for learning purpose but also for researches³. Previous studies show that while using computers prolong sitting postures in combination with poor workstation ergonomics was significantly attributable to development of musculoskeletal symptoms¹¹.

According to Proplonates repetitive movements and static loads due to constrained working postures cause musculoskeletal injuries. computer used might be more strongly related to disorders of hands and arms than to neck and shoulder⁷. Ariens et al. showed a significant positive correlation between the percentage of working hours in a sitting positions and neck pain among office workers¹³. However in both of the above studies, a significant decrease in work related musculoskeletal disorders has been observed when workers were given flexible work environment with ergonomics.

A cross sectional study by Punnett L ergonomic stressor and upper extremity musculoskeletal disorders in automotive manufacturing shows that wrist hand disorders were all associated with exposure to physical ergonomic stressor in the subjects usual jobs¹⁴. Sustained sitting posture during computer used in combination with poor workstation ergonomics was significantly attributable to development of musculoskeletal symptoms¹⁵. A study conducted in 1996 by US department of health and human services estimated that 7% of US men and 9% of women experienced some form of computer related musculoskeletal disorders¹⁶. A study by Yu and Wong reported that 31% of bank employs complained about back pain annually¹⁷. From the above mention researches it may be concluded that assessment and intervention of ergonomics result in improve outcomes of office workers.

Although a number of studies have been conducted before on knowledge and practice of ergonomics

findings can form a building block for further research and practical ergonomic intervention which can bring economical occupational well being for individual who are working for prolong period of time.

MATERIAL AND METHODS

Study Design

A cross sectional study was conducted among private and public sector bankers of Karachi. 400 participants were recruited for the study.

Sampling Technique

Convenience sampling technique was used.

Study Settings

Participants were enrolled from National Bank, United Bank Limited, Habib Bank Limited, Faisal Bank, Bank Al Habib, Habib Metropolitan Bank and Muslim Commercial Bank.

Data Collection Tools

A self-administered questionnaire was given to the bankers. Data was collected by taking permission from the branch managers; as well as a verbal consent was taken from the bankers after explaining the objective of the study. The questionnaire assessed their working posture while using computer and physical activities.

Inclusion Criteria

- Executives
- Clerks
- Officers
- Mean age of 25-40 years

Exclusion Criteria

- Absent at the time of data collection
- Interns will be excluded
- New appointees less than 1 year

Data Analysis

Data entry was completed on SPSS Version 20. One sample T test is used to calculate the mean value and considered significant at P value of <0.05. The Frequency and percentages were calculated for categorical data.

RESULTS

The results of the study compared and revealed the better practice of ergonomics in private sector banks when compared with public. The participants recruited in the study showed a mean age of (25-40 years). Majority of the participants recruited from both private and public sectors showed male dominance (n=164, 161) whereas female participants were lesser more than half (n=36, 39).

Table 1

Private sector	Frequency	Percent
Males	161	36.8
Females	39	8.8
Public sector	Frequency	Percent
Males	164	37.5
Females	36	7.6

Table 2 shows that 26.1 % of participants were graduates in private sector whereas a higher qualification was being observed in the public sector. However, it shows no association with practice of ergonomics.

Table 2

Qualification	Private Sector	Public Sector
Intermediate	4.1 %	1.1%
Graduate	26.1%	18.5%
Post Graduate	15.1%	26.1%

To conclude results regarding the usage of back care, one sample t-test statistics mean of the private sector bankers is 1.72, p 0.00). Furthermore, public sector bankers show mean value (1.83) with the (1.78-1.88) confidence interval. It was found that most of the respondent of private sector bankers using back care.

Table 3

VARIANCE	MEAN VALUE	LOWER RANGE	UPPER RANGE	P VALUE
Workshop on ergonomics				
Private sector	1.82	0.38	1.76	0.00
Public sector	1.95	1.91	1.98	
Using back care				
Private sector	1.72	1.66	1.78	0.00
Public sector	1.83	1.78	1.8	
Using adjustable chair				
Private sector	1.24	1.18	1.30	0.00
Public sector	1.25	1.19	1.31	
Adjust height of chair				
Private sector	1.27	1.20	1.33	0.00
Public sector	1.38	1.31	1.44	
Using strolling chair				
Private sector	1.35	1.28	1.42	0.00
Public sector	1.49	1.42	1.55	
Adjust armrest				
Private sector	1.51	1.44	1.58	0.00
Public sector	1.65	1.58	1.71	
Elbow position				
Private sector	1.30	1.23	1.36	0.00
Public sector	1.39	1.32	1.45	
Wrist position				
Private sector	1.24	1.18	1.30	0.00
Public sector	1.30	1.23	1.36	
Knee position				
Private sector	1.36	1.29	1.42	0.00
Public sector	1.41	1.34	1.48	
Monitor level				
Private sector	1.15	1.10	1.20	0.00
Public sector	1.19	1.13	1.24	