Evaluate the effectiveness of selected nursing intervention on management of back pain among employees working in a selected company, Bangalore.

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"Evaluate the Effectiveness of Selected Nursing Intervention on Management of Back Pain among Employees working in a Selected Company, Bangalore".

BY

Abilasha Sharma

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IN

COMMUNITY HEALTH NURSING
Under the Guidance of

Dr. LAKSHMI A
HOD
Department of Community Health Nursing

Sarvodaya College of Nursing
No. 11/2, Magadi Main Road,
(Beside Raheja Park) Agrahara Dasarahalli
Bangalore -560079.
2017
Rajiv Gandhi University of Health Sciences, Bangalore, Karnataka

RESULTS

CHAPTER-V

RESULTS

CHAPTER: V

This chapter deals with the analysis and interpretation of data collected from 50 employees between the age group 20-50 years with mild, moderate and severe back pain to find out the effectiveness of selected nursing intervention.

Objectives of the study

1. To assess the pre-test and post-test level of back pain among employees.
2. To evaluate the effectiveness of selected nursing intervention on management of back pain among employees.
3. To determine the association between level of back pain and selected variables of employees.

Major findings of the study

Section – I

This section deals with the analysis pertaining to the demographic characteristics of the employees.

Section – II

This section deals with analysis pertaining to level of back pain among employees before and after intervention.

Section – III

This section deals with analysis pertaining to the effectiveness of nursing intervention on back pain among employees.

Section – IV

The section deals with analysis pertaining to association between levels of back pain among employees with selected demographic variables.

SECTION-I

ANALYSIS PERTAINING TO THE DEMOGRAPHIC CHARACTERISTICS OF THE EMPLOYEES

Table 1 : Frequency and percentage distribution of demographic variables

Characteristics	Category	Employees	
		Number	Percent
Gender	Male	5	10.0
	Female	45	90.0
Age group (years)	20-30	40	80.0
	30-40	10	20.0
Marital status	Single	33	66.0
	Married	17	34.0
Educational status	Below Bachelor's degree	6	12.0
	Bachelor's degree	39	78.0
	Master's degree	5	10.0
Monthly Income (Rs)	10000-20000	18	36.0
	20000-30000	32	64.0
Duration of Working	6-8 hrs	12	24.0
	8-10 hrs	34	68.0
	10-12 hrs	4	8.0
Working days per week	6 days	46	92.0
	7 days	4	8.0
Type of working shift	General	41	82.0
	Morning	9	18.0
Exercise frequency in the past 12 months	Daily	14	28.0
	Weekly	11	22.0
	Occasionally	25	50.0
Types of Exercise	Walking	46	92.0
	Yoga	4	8.0
Family history of LBP	Yes	7	14.0
	No	43	86.0
Duration of employment	0-3 years	40	80.0
	3-6 years	7	14.0
	6-10 years	3	6.0
Total		**50**	**100.0**

The table above depicts the frequency and percentage distribution of employees with respect to the demographic variables.

In relation to the Gender, 5 (10%) employees were males whereas 45 (90%) were females who participated in this study.

Majority of the employees 40 (80%) were in the age group of 20-30 years whereas 10 (20%) employees were in the age group of 30-40 years.
In reference to the marital status, 33 (66%) employees were single whereas 17 (34%) employees were married.

With regard to the Educational status, 6 employees had qualification below bachelor's degree (12%),39 employees had bachelor's degree(78%) whereas 5 employees had master's degree.
Most of the employees 32 (64%) had the salary slab of 20000-30000 whereas 18 employees (36%) had the salary slab of 10000-20000.

In relation to the duration of working hours, working days per week and working shift,12 (24%) employees were working for 6-8 hrs,34 (68%) employees were working for 8-10 hrs and 4 (8%) employees were working for 10-12 hrs ,46 (92%) were working for 6 days and 4 (8%)were working for 7 days per week and 41 (82%) employees were working in general shift and 9 (18%) were working in morning shift.

The exercise frequency in past 12 months and type of exercise followed revealed that 14 (28%) employees were doing daily exercise, 11 (22%) employees were doing exercise weekly whereas 25 (50%) employees were doing exercise occasionally and 46 (92%) employees were relying on walking and 4 (8%)were doing yoga as exercise.

With regard to the family history of LBP, 7 (14%) employees had history of LBP whereas 43 (86%) employees had no history of LBP.

Majority of employees 40 (80%)were working from 3 years, 7 employees were working from 3-6years whereas 3 employees were working from 6-10 years.

TABLE 2 : FREQUENCY AND PERCENTAGE DISTRIBUTION OF DEMOGRAPHIC VARIABLES N=50

Characteristics	Category	Employees	
		Number	Percent
Frequent rest break	Yes	42	84.0
	No	8	16.0
Duration of break	10 min	35	70.0
	30 min	7	14.0
	No	8	16.0
Medical services provided by company	Medical insurance	22	44.0
	Dispensary services	14	28.0
	None	14	28.0
History of Injury/Accidents	Yes	2	4.0
	No	48	96.0
Knowledge on Back strengthening exercise	Yes	38	76.0
	No	12	24.0
Total		50	100.0

In relation to the frequent rest breaks, 42 (84%) employees had taken rest breaks frequently whereas 8 (16%) employees had not taken frequent breaks.

With regard to the duration of break, 35 (70%) employees availed10 minutes break, 7 (14%) employees availed 30 minutes break and 8 (16%) employees did not avail any break.
In reference to the medical services provided by the company, 22 (44%) employees had medical insurance, 14(28%) employees had dispensary services whereas 12 (24%) employees had no privilege of any medical service.

Majority of the employees 48 (96%) had no history of injury whereas 2 (4%) employees had history of injury.

Most of the employees 38 (76%) had knowledge of back strengthening exercises whereas 12 (24%) employees had no knowledge of back strengthening exercise.

SECTION-II

ANALYSIS PERTAINING TO LEVEL OF BACK PAIN AMONG EMPLOYEES BEFORE AND AFTER INTERVENTION N=50

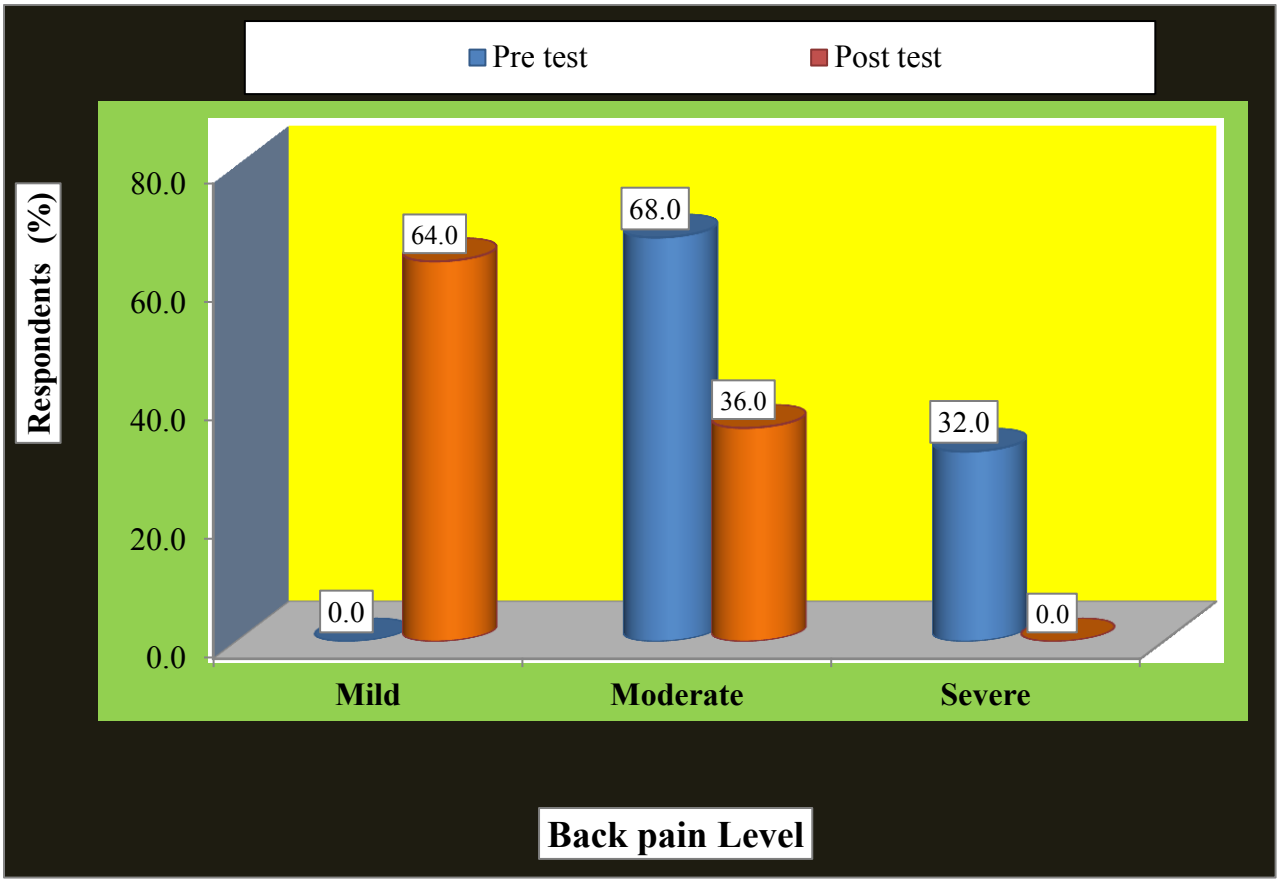

Figure 3 : Bar diagram representing frequency and percentage distribution of Employees with respect to Pre-test and Post-test levels of back pain

The above figure reveals that in the Pre-test Level of Back Pain 68% of the employees had moderate Levels of Back Pain and 32% of the employees had severe back pain whereas after nursing intervention, in the Post-test Level of the Back Pain 64% of the employees had mild Back Pain and 36% of the employees had moderate Back Pain.

TABLE 3 : FREQUENCY AND PERCENTAGE DISTRIBUTION OF PRE-TEST LEVEL OF BACK PAIN OF THE EMPLOYEES N=50

Back pain Level	Employees	
	Number	Percent
Mild	0	0.0
Moderate	34	68.0
Severe	16	32.0
Total	**50**	**100.0**

The above table reveals that in relation to the level back pain among employees before intervention The Percentage attributed with mild back Pain was 0 and moderate pain back pain was 68% and severe back pain was 32%.

TABLE 4 : FREQUENCY AND PERCENTAGE DISTRIBUTION OF POST –TEST LEVELS OF BACK PAIN AMONG THE EMPLOYEES. N= 50

Back pain Level	Employees	
	Number	Percent
Mild	32	64.0
Moderate	18	36.0
Severe	0	0.0
Total	**50**	**100.0**

The above table reveals that in relation to the level back pain among employees after intervention, the Percentage attributed with mild back Pain was 64% and moderate pain back pain was 36% among employees.

TABLE 5 : COMPARISON OF PRE-TEST AND POST-TEST LEVELS OF BACK PAIN AMONG EMPLOYEES N=50

Back pain Level	Classification of Employees				χ^2 Value
	Pre test		Post test		
	Number	Percent	Number	Percent	
Mild	0	0.0	32	64.0	52.92*
Moderate	34	68.0	18	36.0	
Severe	16	32.0	0	0.0	
Total	**50**	**100.0**	**50**	**100.0**	

* Significant at 5% level, χ^2 (0.05, 2df) = 5.991

The above table reveals the comparison of Pre-test and Post-test level of Back Pain. In the Pre-test 34 (68%) of the employees had moderate Back Pain and 16(32%) had severe Back Pain whereas in the Post-test 32(64%) had mild Back Pain and 18(36%) had moderate Back Pain and none of the employees had severe Back Pain.

SECTION-III

ANALYSIS PERTAINING TO THE EFFECTIVENESS OF NURSING INTERVENTION ON BACK PAIN AMONG EMPLOYEES.

TABLE 6 : EFFECTIVENESS OF NURSING INTERVENTION ON THE LEVELS OF BACK PAIN OF THE EMPLOYEES **N=50**

Aspects	Max. Score	Scores				Paired 't' Test
		Mean	SD	Mean (%)	SD (%)	
Pre test	50	15.92	5.05	31.8	10.1	
Post test	50	8.48	5.50	17.0	11.0	16.72*
Enhancement	50	7.44	3.17	14.9	6.3	

* Significant at 5% level, 35 t (0.05,49df) = 1.96

The above table depicts the effectiveness of the nursing intervention on the level of Back Pain among employees. In the Pre-test, mean value of Back Pain was 15.92 with a standard deviation of 5.05 whereas in the Post-test, the mean value of Back Pain reduced to 8.48 with standard deviation of 5.50.The Paired 't' test value was 16.72 at P<0.05 level of significance which showed the effectiveness of nursing intervention on Level of Back Pain among employees.

SECTION-IV

ANALYSIS PERTAINING TO ASSOCIATION BETWEEN LEVELS OF BACK PAIN AMONG EMPLOYEES WITH SELECTED DEMOGRAPHIC VARIABLES.

N=50

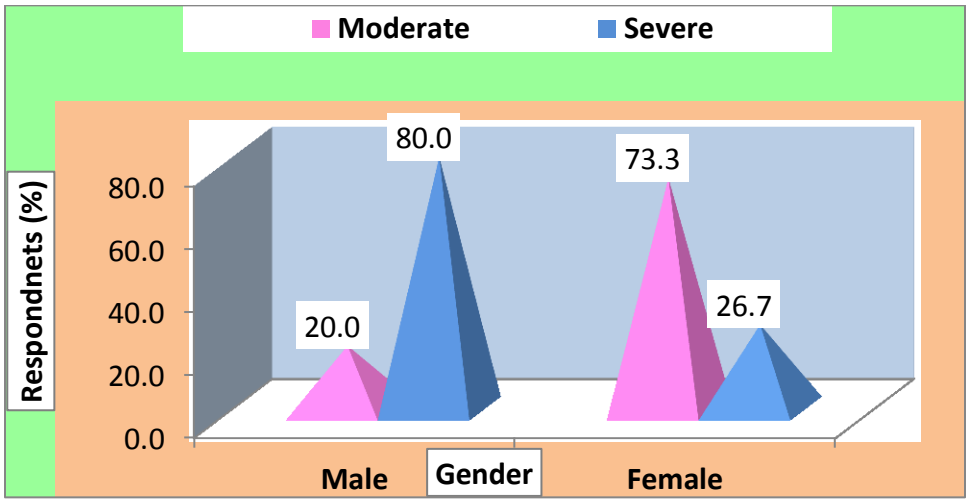

Figure 4 : The Bar diagram representing the association between Gender and Pre test level of Back pain

The figure above reveals that after the Pre-test of level of back pain of employees, 20% of Male employees had moderate back pain and 80% of Male employees had severe back pain whereas in case of females 73.3% of female employees had moderate level back pain and 26.7% of females had severe back pain.

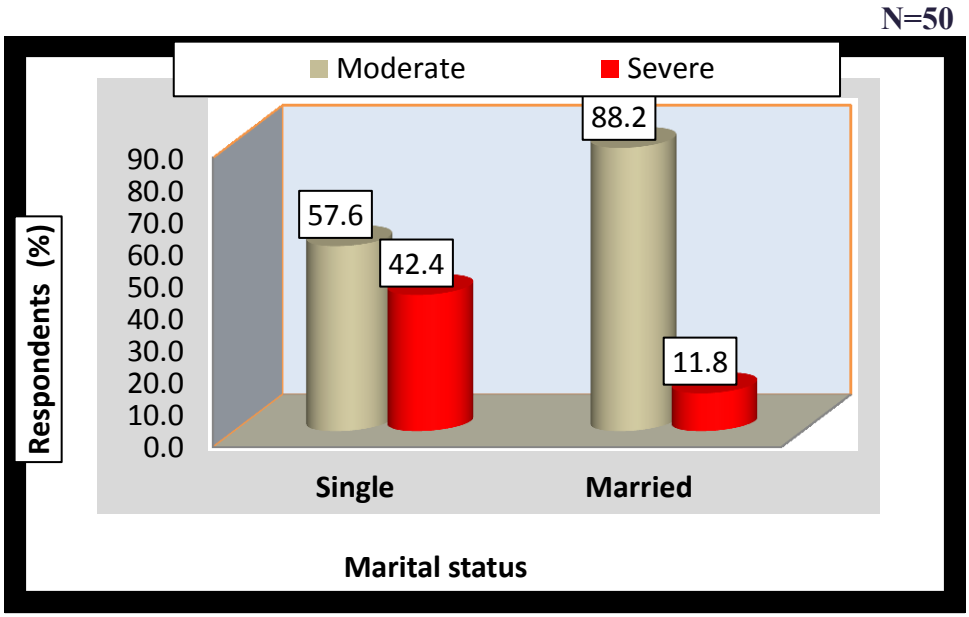

Figure 5: The Bar diagram representing the association between Marital status and Pre-test Back pain level

The Bar diagram above depicts that after the Pre-test of Back pain levels 57.6% of the employees who were single had moderate levels of back pain and 42.4% of the employees had severe level of back pain whereas among the married employees 88.2% of the employees had moderate level of back pain and 11.8% of the employees had severe levels of back pain.

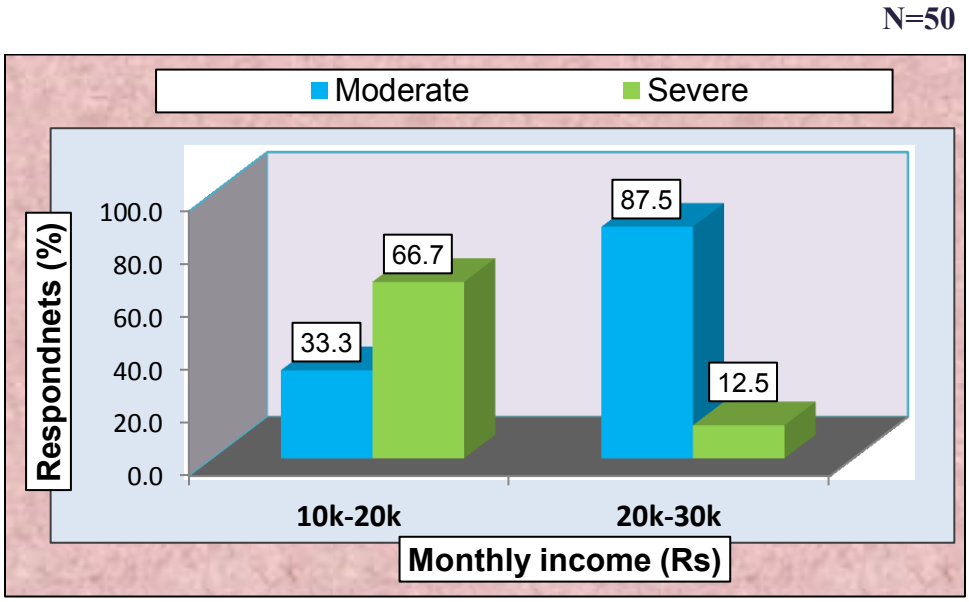

Figure 6 : The Bar diagram representing the association between Monthly income and Pre-test level of back pain.

The figure above depicts the association between monthly income of the employees and pre-test back pain levels and the result showed, among the employees receiving salary between 10001-20000, 33.3% of them had moderate back pain and 66.7% had severe back pain whereas employees receiving salary between 20,001-30, 000, 87.5% of them had moderate back pain and 12.5% had severe levels of back pain.

N=50

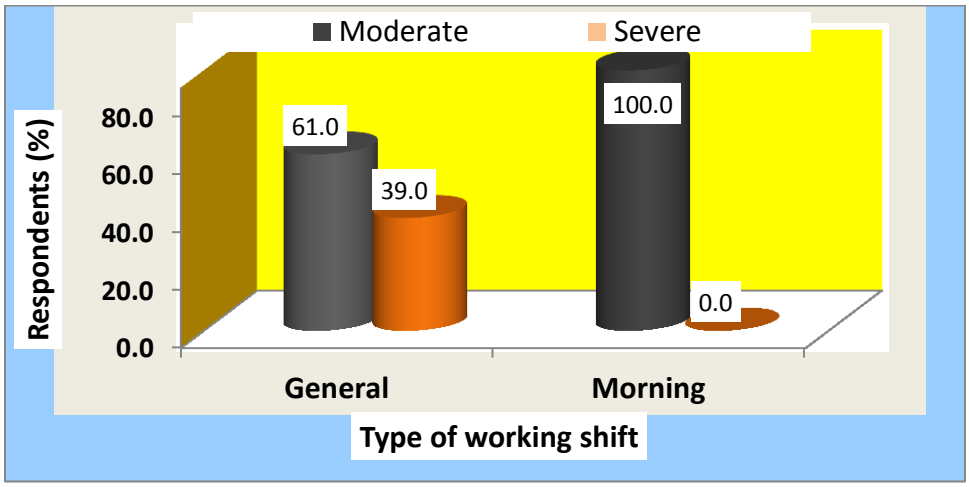

Figure 7: The Bar diagram representing the association between Type of Working shift and Pre-test level of back pain

The figure above depicts the association between type of working shift and Pre-test levels of back pain and the results shows that among the employees doing general shift ,61% had moderate back pain and 39% had severe back pain whereas the employees doing morning shift,100% of them had moderate level of back pain.

N=50

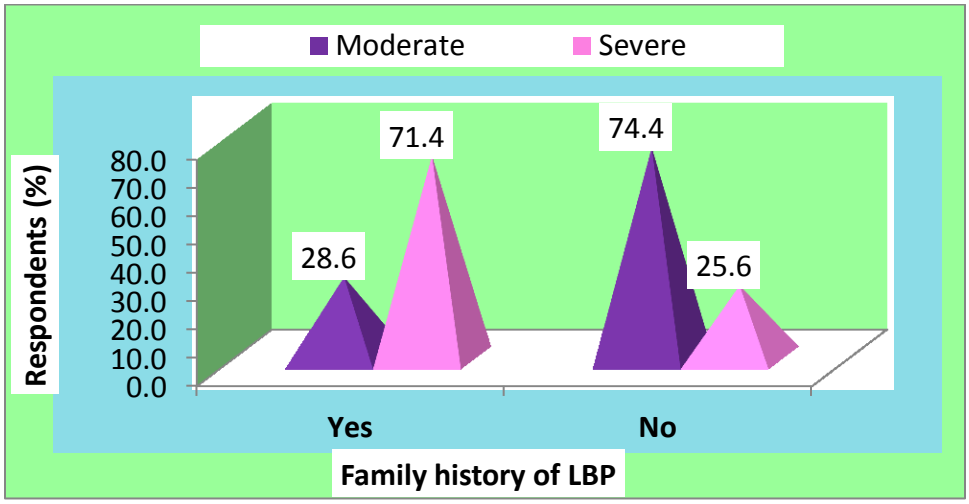

Figure 8 : The Bar diagram representing the association between Family history of LBP and Pre-test level of back pain

The figure above depicts the association between family history of LBP and Pre-test level of back pain and the results showed that 28.6% employees with family history of LBP had moderate level of back pain and 71.4% had severe levels of back pain whereas 74.4% of the employees with no history of LBP had moderate levels of back pain and 25.6% had severe levels of back pain.

N=50

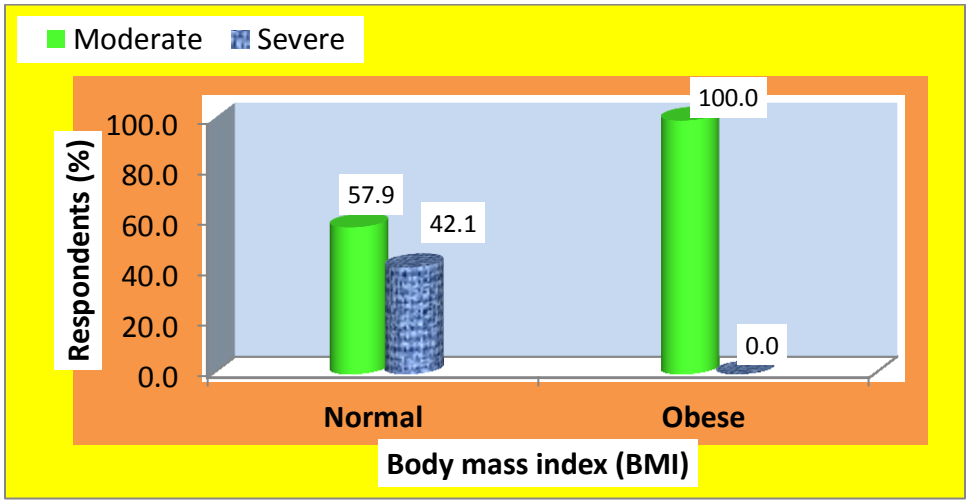

Figure 9 : The Bar diagram representing the association between Body mass index and Pre-test level of back pain

The figure above depicts the association between BMI and pre-test back pain levels and the results shows that among the employees who fall under normal BMI 57.9% had moderate levels of back pain and 42.1% had severe levels of back pain whereas employees who are Obese 100% of them had moderate level of back pain.

TABLE 7 : CHI-SQUARE ANALYSIS PERTAINING TO THE ASSOCIATION BETWEEN PRE-TEST LEVELS OF BACK PAIN WITH SELECTED DEMOGRAPHIC VARIABLES.

N-=50

Demographic Variables	Category	Sample	Back pain Level				χ^2 Value	P Value
			Moderate		Severe			
			N	%	N	%		
Gender	Male	5	1	20.0	4	80.0	5.88*	P<0.05 (3.991)
	Female	45	33	73.3	12	26.7		
Age group (years)	20-30	40	27	67.5	13	32.5	0.02 NS	P>0.05 (3.841)
	30-40	10	7	70.0	3	30.0		
Marital status	Single	33	19	57.6	14	42.4	4.85*	P<0.05 (3.841)
	Married	17	15	88.2	2	11.8		
Educational status	Below Bachelor's degree	6	5	83.3	1	16.7	1.25 NS	P>0.05 (5.991)
	Bachelor's degree	39	25	64.1	14	35.9		
	Master's degree	5	4	80.0	1	20.0		
Monthly Income (Rs)	10001-20000	18	6	33.3	12	66.7	15.53*	P<0.05 (3.841)
	20001-30000	32	28	87.5	4	12.5		
Duration of employment	0-3 years	40	25	62.5	15	37.5	2.98 NS	P>0.05 (5.991)
	3-6 years	7	6	85.7	1	14.3		
	6-10 years	3	3	100.0	0	0.0		
Duration of Working	6-8 hrs	12	11	91.7	1	8.3	7.27*	P<0.05 (5.991)
	8-10 hrs	34	19	55.9	15	44.1		
	10-12 hrs	4	4	100.0	0	0.0		
Working days per week	6 days	46	30	65.2	16	34.8	2.05 NS	P>0.05 (3.841)
	7 days	4	4	100.0	0	0.0		
Type of working shift	General	41	25	61.0	16	39.0	5.17*	P<0.05 (3.841)
	Morning	9	9	100.0	0	0.0		
Combined		50	34	68.0	16	32.0		

* Significant at 5% Level, NS : Non-significant

Note : Figures in the parenthesis indicate Table value

The above table reveals that there was significant association between the pre-test level of back pain among employees who were at the age group between 20-50 years with the demographic variables categorised as Gender, Marital status, Monthly income, Duration of working hours, and Type of working shift. As the table value of these variables was less than that of the calculated chi-square value the research hypothesis was accepted whereas the demographic variables categorised as Age group, Educational status, Duration of employment, working days per week depicted no significant association with pre-test levels of back pain as their table value was more than the calculated chi-square value thus the research hypothesis was rejected.

TABLE 8 : CHI-SQUARE ANALYSIS PERTAINING TO THE ASSOCIATION BETWEEN PRE-TEST LEVELS OF BACK PAIN WITH SELECTED DEMOGRAPHIC VARIABLES

N=50

Demographic Variables	Category	Sample	Back pain Level				χ^2 Value	P Value
			Moderate		Severe			
			N	%	N	%		
Exercise frequency in the past 12 months	Daily	14	10	71.4	4	28.6	8.19*	P<0.05 (5.991)
	Weekly	11	11	100.0	0	0.0		
	Occasionally	25	13	52.0	12	48.0		
Types of Exercise	Walking	46	30	65.2	16	34.8	2.05 NS	P>0.05 (3.841)
	Yoga	4	4	100.0	0	0.0		
Family history of LBP	Yes	7	2	28.6	5	71.4	5.82*	P<0.05 (3.841)
	No	43	32	74.4	11	25.6		
Frequent rest break	Yes	42	30	71.4	12	28.6	1.42 NS	P>0.05 (3.841)
	No	8	4	50.0	4	50.0		
Duration of break	10 min	35	23	65.7	12	34.3	4.57 NS	P>0.05 (5.991)
	30 min	7	7	100.0	0	0.0		
	No	8	4	50.0	4	50.0		
Medical services provided by company	Medical insurance	22	20	90.9	2	9.1	19.98*	P<0.05 (5.991)
	Dispensary services	14	11	78.6	3	21.4		
	None	14	3	21.4	11	78.6		
History of Injury/Accidents	Yes	2	0	0.0	2	100.0	4.43*	P<0.05 (3.841)
	No	48	34	70.8	14	29.2		
Knowledge on Back strengthening exercise	Yes	38	25	65.8	13	34.2	0.36 NS	P>0.05 (3.841)
	No	12	9	75.0	3	25.0		
Combined		50	34	68.0	16	32.0		

* Significant at 5% Level, NS : Non-significant

Note: Figures in the parenthesis indicate Table value

The above table reveals that the demographic variables categorised as Exercise frequency in past 12 months, family history of LBP, Medical services provided by the company, History of accidents or injury showed significant association with back pain level as their calculated chi-square value was more than the tabulated value ,so the research hypothesis is accepted whereas the variables categorised as Type of exercise, Frequent rest breaks, Duration of breaks and knowledge on back strengthening exercises showed no significant association with pre-test back pain levels thus the research hypothesis was rejected.

TABLE 9 : CHI-SQUARE ANALYSIS PERTAINING TO THE ASSOCIATION BETWEEN PRE-TEST LEVELS OF BACK PAIN WITH SELECTED DEMOGRAPHIC VARIABLES

N=50

Demographic Variables	Category	Sample	Back pain Level				χ^2 Value	P Value
			Inadequate		Moderate			
			N	%	N	%		
Height (cm)	141-154	22	13	59.1	9	40.9	1.61 NS	P>0.05 (5.991)
	155-159	18	13	72.2	5	27.8		
	160+	10	8	80.0	2	20.0		
Weight (kg)	40-49	18	7	38.9	11	61.1	14.12*	P<0.05 (5.991)
	50-60	17	12	70.6	5	29.4		
	61-70	15	15	100.0	0	0.0		
Body mass index (kg/m2)	Normal	38	22	57.9	16	42.1	7.43*	P<0.05 (3.841)
	Obese	12	12	100.0	0	0.0		
Combined		50	34	68.0	16	32.0		

* Significant at 5% Level, NS : Non-significant

Note: Figures in the parenthesis indicate Table value

The above table reveals the association between Back Pain and demographic variables namely weight and Body mass index which showed significant association with back pain as their calculated chi-square values are more than the table value thus the research hypothesis was accepted whereas height showed no significant association with pre-test back pain level as its calculated chi square value was less than the table value, the research hypothesis was rejected.