6 DATA ANALYSIS

The data were analyzed by the statistician using Statistical Package for Social Sciences version 22.0. Both descriptive and inferential statistics were used to describe data and infer hypothesis.

Kolmogorov–Smirnov's test were carried out to check normality of baseline data, Paired sample t test and Independent sample t test were carried out to compare the means within and between groups respectively. Percentage change and effect size were also calculated.

7 RESULTS

7.1 Comparison of socio- demographic & clinical variables

Both yoga group (YG) and control group (CG) were almost similar with respect to socio-demographic and medical characteristics. The baseline data for all variables were normally distributed and did not differ significantly between groups ($p>0.05$). 88 female nursing professional with CLBP participated in the study. The mean age of participants in the YG was 31.45 ± 3.47 years, and 32.45 ± 3.71 in the CG.

Table 7.1-1. Comparison of socio- demographic & clinical variables

Sl. No.	Variables		YG	CG
1	Number of participants (only female)		44	44
2	Age (mean ± SD)		31.45 ± 3.47	32.75 ± 3.71
3	Education	Auxiliary Nursing Midwifery (ANM)	08	03
		General Nursing Midwifery (GNM)	28	32
		Bachelor of Nursing	08	09
4	History of CLBP	3 Months – 1 year	34	37
		> 1 year	10	07
5	Causes	Non Specific/Muscle Spasm	37	35
		Lumbar Spondylosis	06	03
		Intervertebral disc prolapse	04	03

In the YG there were 3 subjects having qualification of auxiliary nursing midwifery (ANM), 28 General Nursing Midwifery (GNM) and 8 subjects were completed under graduation (BSc) in nursing. In CG group, 3 ANM, 32 GNM and 9 BSc nursing subjects were participated. There were 34 subjects in YG and 37 in CG had history of CLBPfor more than 3 months and less than a year. 10 subjects in YG and 7 patients in

CG had history of CLBP formore than a year. 37 subjects in YG and 35 in CG were diagnosed as non-specific CLBP, 6 subjects in YG and 3 in CG were suffered from lumbar spondylosis and 4 in YG, 3 in CG were suffered from intervertebral disc prolapse. Table no 7.1. Shows comparison of socio- demographic and clinical variables between YG and CG at baseline.

7.2 Comparison of specific outcome measures at baseline

88 subjects were participated in the study; 44 in YG and 44 in CG. The baseline data for all specific outcome measures were normally distributed and did not differ significantly between groups ($p>0.05$) the comparison were tabulated in table no 7.2

Table 7.2. Comparison of baseline data for all variables

Variables		Yoga	Control	p Value
		Mean ± SD	Mean ± SD	
NRS (Pain)		6.09±0.83	6.05±0.608	0.77
RMDQ (Disability)		9.68±1.55	9.52±1.47	0.62
Fear-Avoidance Beliefs Questionnaire (FABQ)	**Physical Activity (p)**	16.39±1.70	16.36±1.313	0.94
	Work(w)	21.32±3.26	21.11±2.755	0.75
State-Trait Anxiety Inventory (STAI)	**State Anxiety**	44.34±3.44	43.23±2.844	0.10
	Trait Anxiety	42.77±3.18	41.89±2.73	0.16
BDI (Depression)		11.75±2.09	11.86±1.924	0.79
PSS (Perceived Stress)		20.02± 5.30	20.57±4.51	0.60
Heat Rate Variability	**LF – Low frequency**	44.16±12.46	46.59±15.67	0.42
	HF – High Frequency	29.66±10.68	30.36±10	0.75
	LF/HF ratio	1.69± 0.74	1.67±0.78	0.87
WHOQOLBREF	**Physical**	41.27 ±6.60	39.82±6.655	0.31
	Psychological	34.91±5.36	34.93±7.315	0.99
	Social	43.09±12.42	44.09±8.757	0.66
	Environmental	55.70±5.33	55.84±5.278	0.90

NRS: Numerical Rating Scale; RMDQ: Roland Morris Disability Questionnaire; FABQp: Fear Avoidance Belief Questionnaire physical; FABQw**:** Fear Avoidance Belief Questionnaire - Work; STAI – State and Trait Anxiety Inventory; BDI; Beck's Depression Inventory; PSS: Perceived Stress Scale

Post interventional results of both the groups (YG vs CG)

Both YG and CG subjects were completed six week interventions. There were no dropouts in the study. All patients reported reduced pain, improved functional disabilities, improved sense of wellbeing at physical, psychological and social domains of health after the intervention of Yoga and Exercise. There were no adverse effects witnessed in both groups. Paired Sample t test was carried out to compare within group (Pre- post) and Independent t test was carried out to compare between groups (post intervention). The improvement in the YG appears to be better than the CG.

7.2.1 Numerical Rating Scale (NRS)

YG (pre-post) comparison: After six week of yoga intervention, analysis showed significantdecrease in numerical rating scale pain (NRS) ($p<0.001$,) from 6.09±0.83 to 2.25±1.42 indicating a decrease in perception of pain from moderate to mild. The effect size was 2.6 with 63.05% reduction in pain.

CG (pre-post) comparison: CG analysis showed significant decrease in NRS ($p<0.001$) from 6.05±0.61 to 4.11±1.04. The effect size was 1.85 with 31.95% reduction in pain.

Between group (YG vs CG) comparison: Post intervention analysis between YG and CG **(**2.25±1.42 vs 4.11±1.04) showed significant difference in NRS ($p<0.001$), percentage change & effect size were larger in YG compared to the CG.

Table 7.2-1. Results of Numerical Rating Scale for Pain (NRS)

	YOGA (YG)					**CONTROL (CG)**					**YG vs CG**
Variable	**Pre** Mean ± SD	**Post** Mean ± SD	**% change**	**ES**	**P Value**	**Pre** Mean ± SD	**Post** Mean ± SD	**% change**	**ES**	**P Value**	**P Value**
NRS	6.09 ± 0.83	2.25 ± 1.42	-63.05	2.6	<0.001	6.05 ± 0.6	4.11 ± 1.04	-31.95	1.85	<0.001	<0.001

NRS: Numerical Rating Scale

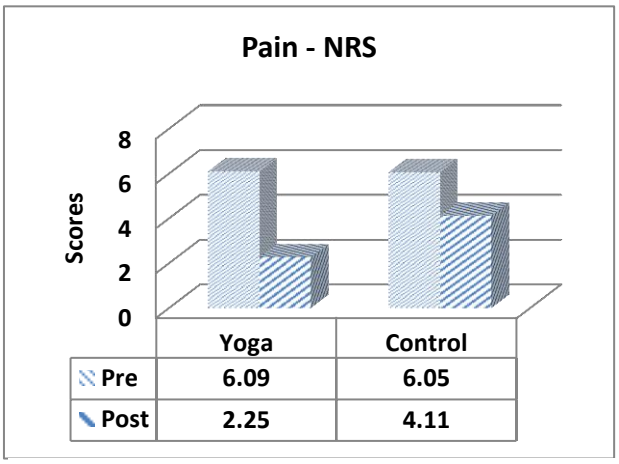

Figure 6. Numerical Rating Scale for Pain (NRS)

7.2.2 Roland Morris Disability Questionnaire (RMDQ)

YG (pre-post) comparison: Post intervention statistical analysis showed significant decrease in Roland Morris Disability Questionnaire (RMDQ) ($p<0.001$) from 9.68±1.55 to 3.77±2.36 indicating a decrease in functional disability. The effect size was 2.76 with 61.05% reduction in functional disability.

CG (pre-post) comparison: CG analysis showed significant decrease in RMDQ ($p<0.001$) from 9.52±1.47 to 7.27±1.98. The effect size was 1.5 with 23.63% reduction in functional disability.

Between group (YG vs CG) comparison: Post intervention analysis between YG and CG (3.77±2.36 vs 7.27±1.98) showed significant difference in RMDQ ($p<0.001$),percentage change & effect size were larger in YG compared to the CG.

Table 7.2-2. Results of Roland Morris Disability Questionnaire (RMDQ)

YOGA (YG)						CONTROL (CG)					YG vs CG
Variable	Pre Mean ± SD	Post Mean ± SD	% change	ES	P Value	Pre Mean ± SD	Post Mean ± SD	% change	ES	P Value	P Value
RMDQ	9.68 ± 1.55	3.77 ± 2.36	-61.05	2.76	<0.001	9.52 ± 1.47	7.27 ± 1.98	-23.63	1.5	<0.001	<0.001

RMDQ: Roland Morris Disability Questionnaire

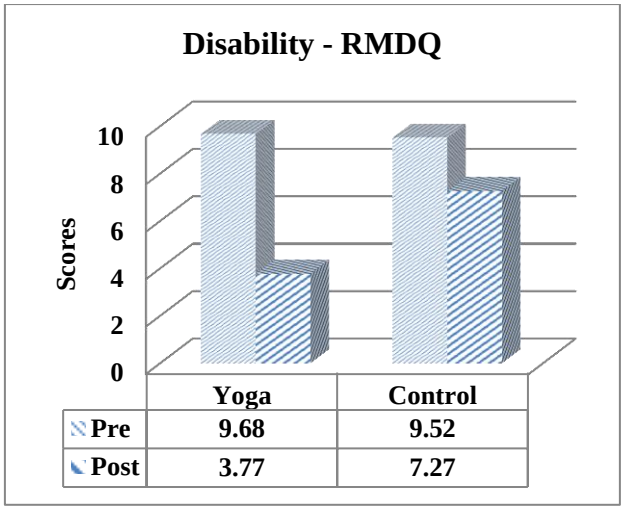

Figure 7. Roland Morris Disability Questionnaire (RMDQ)

Comparison of Psychological parameters

7.2.3 Fear Avoidance Belief Questionnaire (FABQ)

YG (pre-post) comparison: Post intervention analysis showed significant decrease fear avoidance belief questionnaire at physical activity (FABQp) ($p<0.001$) from 16.39±1.70 to 10.18±2.94. The effect size was 2.08 with 37.89% reduction in fear avoidance at physical activity. Fear avoidance belief questionnaire at work (FABQw) also found significant decrease ($p<0.001$) from 21.32±3.26 to 13.11±4.34. The effect size was 2.09 with 38.51% reduction in fear avoidance at work.

CG (pre-post) comparison: CG also found a significant decrease inFABQp ($p<0.001$) from 16.36±1.31 to 14.45±1.98. The effect size was 1.1 with 11.67% reductions in fear avoidance at physical activity. FABQw also found significant decrease ($p<0.001$) from 21.11±2.755 to 18.7±3.024. The effect size was 1.38 with 11.41% reduction in fear avoidance at work.

Between group (YG vs CG) comparison: Post intervention analysis between YG and CGshowed significant difference in FABQp ($p<0.001$) and FABQw ($p<0.001$). Percentage change & effect size were larger in Yoga group compared to the control group.

Table 7.2-3. Results of Fear Avoidance Belief Questionnaire (FABQ)

	YOGA (YG)					CONTROL (CG)					YG vs CG
Variable	Pre Mean ± SD	Post Mean ± SD	% change	ES	P Value	Pre Mean ± SD	Post Mean ± SD	% change	ES	P Value	P Value
FABQp	16.39 ± 1.70	10.18 ± 2.94	-37.89	2.08	<0.001	16.36 ± 1.31	14.45 ± 1.98	-11.67	1.1	<0.001	<0.001
FABQw	21.32 ± 3.26	13.11 ± 4.34	-38.51	2.09	<0.001	21.11 ± 2.75	18.7 ± 3.024	-11.41	1.38	<0.001	<0.001

FABQp- Fear Avoidance Belief Questionnaire-Physical Activity: FABQw- Fear Avoidance Belief Questionnaire-work

ES- Effect Size; SD- Standard Deviation

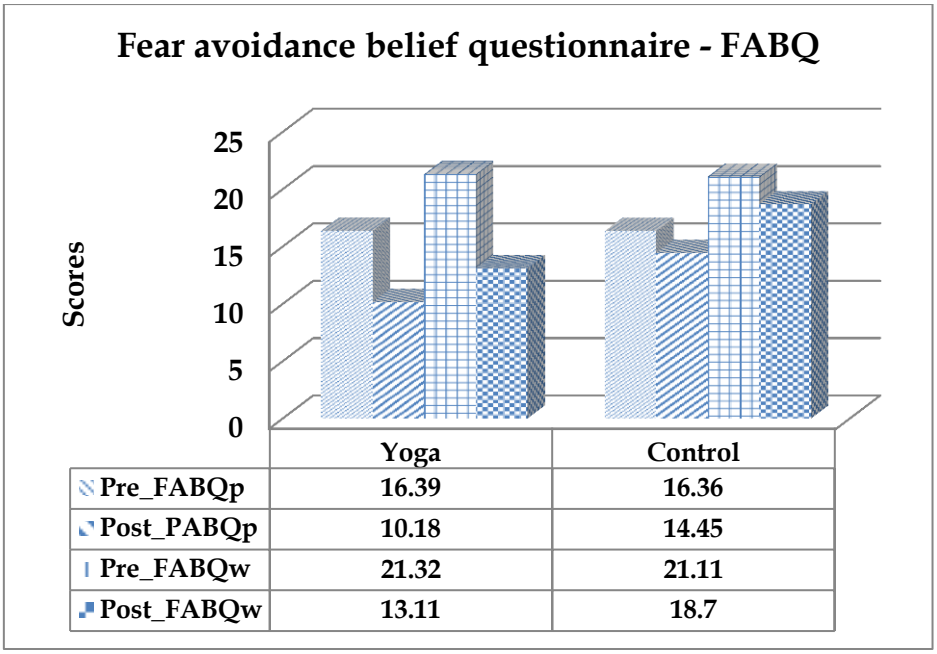

Figure-8.Fear Avoidance Belief Questionnaire (FABQ)

7.2.4 State and Trait Anxiety Inventory (STAI)

YG (pre-post) comparison: Post intervention analysis showed significant decrease state anxiety (STAI-S) ($p<0.001$) from 44.34±3.44 to 35.07±4.03. The effect size was 2.18 with 20.91%. Trait anxiety (STAI-T) also found significant decrease ($p<0.001$) from 42.77±3.18 to 40.89±3.04. The effect size was 1.23 with 4.40% reduction in trait anxiety inventory.

CG (pre-post) comparison: Post intervention analysis showed significant decrease state anxiety (STAI-S) ($p=0.31$) from 43.23±2.84 to 42.45±3.23. The effect size was 0.34 with 1.79. Analysis of trait anxiety (STAI-T) showed statistically insignificant decrease ($p=0.259$) from 41.89±2.73 to 41.61±2.90. The effect size was 0.16 with 0.65% reduction in trait anxiety.

Between group (YG vs CG) comparison: Post intervention analysis between YG and CGshowed significant difference in STAI-S ($p<0.001$) and STAI-T ($p=0.025$). Percentage change & effect size were larger in Yoga group compared to the control group.

Table 7.2-4. Results of State and Trait Anxiety Inventory (STAI)

	YOGA (YG)					CONTROL (CG)					YG vs CG
Variable	Pre Mean ± SD	Post Mean ± SD	% change	ES	P Value	Pre Mean ± SD	Post Mean ± SD	% change	ES	P Value	P Value
STAI-S	44.34 ± 3.44	35.07 ± 4.03	-20.91%	2.18	<0.001	43.23 ± 2.844	42.45 ± 3.23	-1.79%	0.34	0.03	<0.001
STAI-T	42.77 ± 3.18	40.89 ± 3.04	-4.40%	1.23	<0.001	41.89 ± 2.73	41.61 ± 2.9	-0.65%	0.16	0.29	0.025

STAI-S: State Anxiety Inventory; STAI–T:Trait Anxiety Inventory;STAI:State and Trait Anxiety Inventory

ES- Effect Size; SD- Standard Deviation

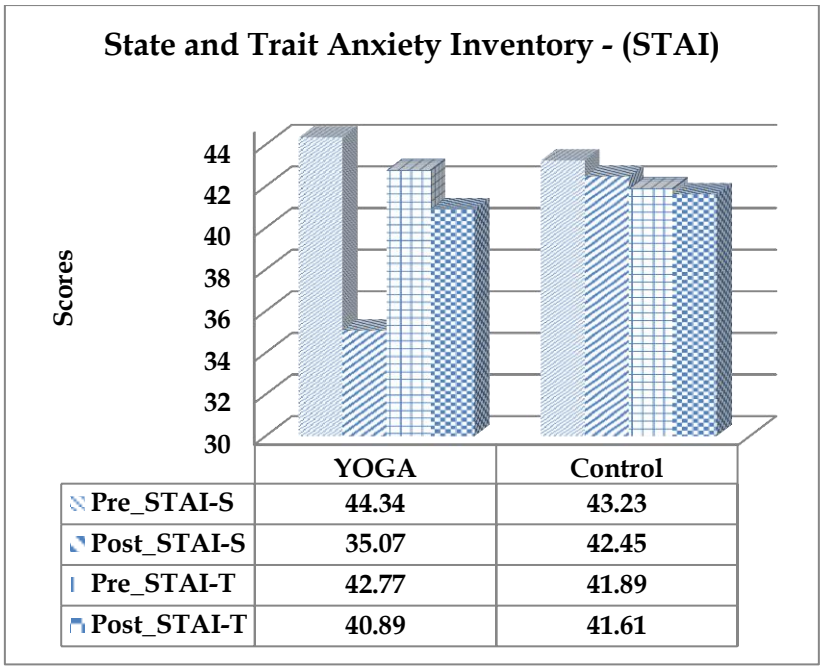

Figure-9. State and Trait Anxiety Inventory (STAI)

7.2.5 Beck's Depression Inventory (BDI)

YG (pre-post) comparison: Post intervention analysis showed significant decrease in Beck's Depression Inventory (BDI) ($p<0.001$), from 11.75±2.09 to 6.89±2.37. The effect size was 1.85 with 41.36% reduction in pain.

CG (pre-post) comparison: Post intervention analysis showed significant decrease in BDI ($p<0.001$) from 11.86±1.92 to 10.84±2.26. The effect size was 0.859 with 8.62% reduction in depression scores.

Between group (YG vs CG) comparison: Post intervention analysis between YG and CG **(**6.89±2.37 vs 10.84±2.26) showed significant difference in BDI (p<0.001,) Percentage change & effect size were larger in YG compared to the CG.

Table 7.2-5.Results of Beck's Depression Inventory

YOGA (YG)						CONTROL (CG)					YG vs CG
Variable	**Pre** **Mean ± SD**	**Post** **Mean ± SD**	**% change**	**ES**	**P Value**	**Pre** **Mean ± SD**	**Post** **Mean ± SD**	**% change**	**ES**	**P Value**	**P Value**
BDI	11.75 ± 2.09	6.89 ± 2.37	-41.36%	1.85	<0.001	11.86 ± 1.92	10.84 ± 2.261	-8.62%	0.86	<0.001	<0.001

BDI; Beck's Depression Inventory; ES- Effect Size; SD- Standard Deviation

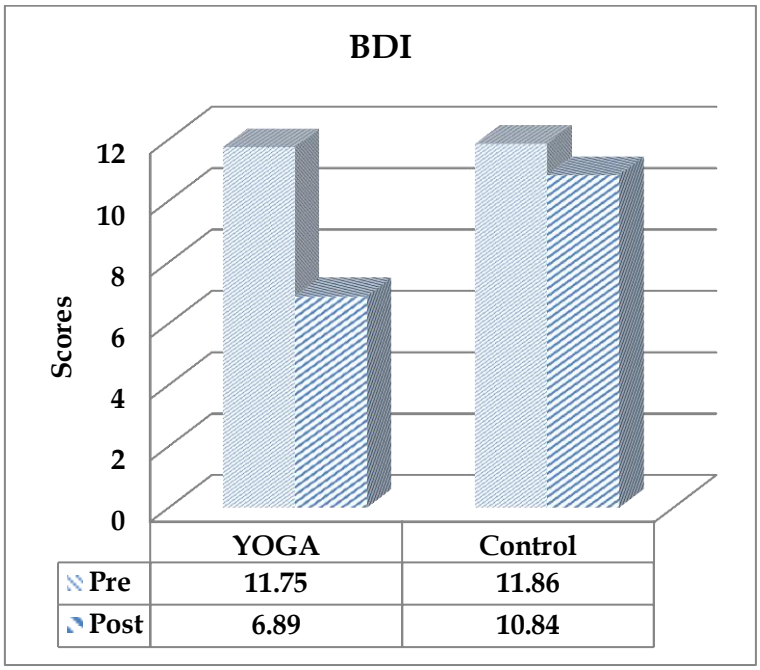

Figure-10. Beck's Depression Inventory (BDI)

7.2.6 Perceived Stress Scale (PSS)

YG (pre-post) comparison: Post intervention analysis showed significant decrease in Perceived Stress Scale (PSS) (p<0.001,) from 20.02±5.30 to 13.48± 4.81. The effect size was 1.55 with 32.67% reduction in perceived stress.

CG (pre-post) comparison: Post intervention analysis showed significant decrease in PSS ($p<0.001$) from 20.57±4.51 to 18.27±4.42. The effect size was 1.19 with 11.16% reduction in perceived stress

Between group (YG vs CG) comparison: Post intervention analysis between YG and CG **(**13.48± 4.81 vs 18.27±4.42)showed significant difference in PSS ($p<0.001$,) Percentage change & effect size were larger in YG compared to the CG.

Table 7.2-6. Results of Perceived Stress Scale (PSS)

YOGA (YG)						CONTROL (CG)					YG vs CG
Variable	Pre Mean ± SD	Post Mean ± SD	% Change	ES	P Value	Pre Mean ± SD	Post Mean ± SD	% change	ES	P Value	P Value
BDI	20.02 ± 5.30	13.48 ± 4.81	-32.67%	1.55		20.57 ± 4.51	18.27 ± 4.42	-11.16%	1.19		<0.001

PSS: Perceived Stress Scale; ES- Effect Size; SD- Standard Deviation

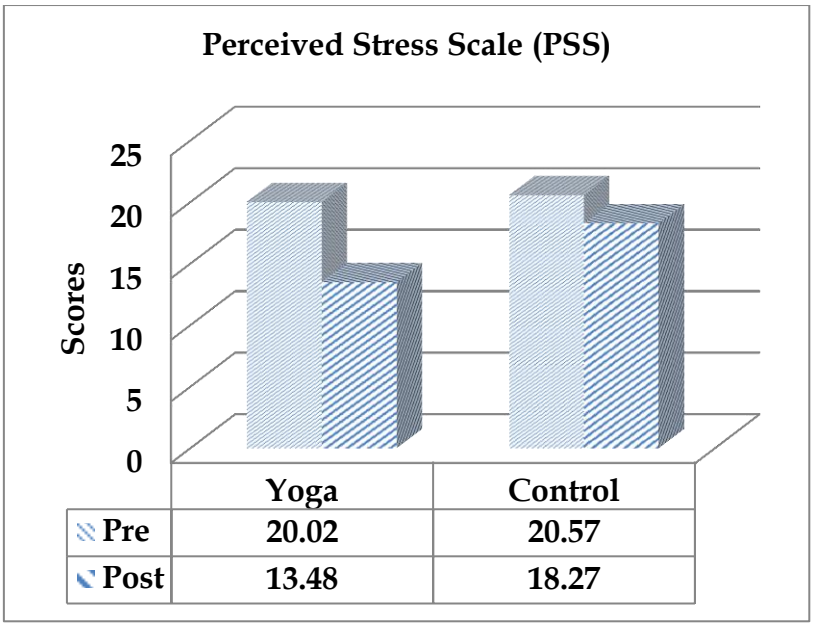

Figure -11. Perceived Stress Scale (PSS)

Comparison for frequency domains of Heart Rate Variability

7.2.7 Heart Rate Variability (HRV)

7.2.7.1 Low Frequency (LF)

YG (pre-post) comparison: Post intervention analysis showed significant decrease in low frequency (LF) (p=0.103,) from 44.16±12.46 to 40.51±13.89. The effect size was 0.251 with 8.27% decrease in LF.

CG (pre-post) comparison: Post intervention analysis showed insignificant increase in LF (p=0.513) from 46.59±15.67 to 48.33±14.07. The effect size was -0.1 with 3.72% increase in LF.

Between group (YG vs CG) comparison: Post intervention analysis between YG and CG **(**40.51±13.89 vs 48.33±14.07)showed significant difference in LF (p=0.01,) Percentage change & effect size were larger in Yoga group compared to the control group.

Table 7.2-7. Results of HRV - Low Frequency (LF)

	YOGA (YG)					CONTROL (CG)					YG vs CG
Variable	Pre Mean ± SD	Post Mean ± SD	% change	ES	P Value	Pre Mean ± SD	Post Mean ± SD	% change	ES	P Value	P Value
LF	44.16 ± 12.46	40.51 ± 13.89	-8.27%	0.251	0.103	46.59 ± 15.67	48.33 ± 14.07	3.72%	-0.1	0.513	0.01

LF: Low Frequency; HRV: Heart Rate Variability; ES: Effect Size; SD: Standard Deviation

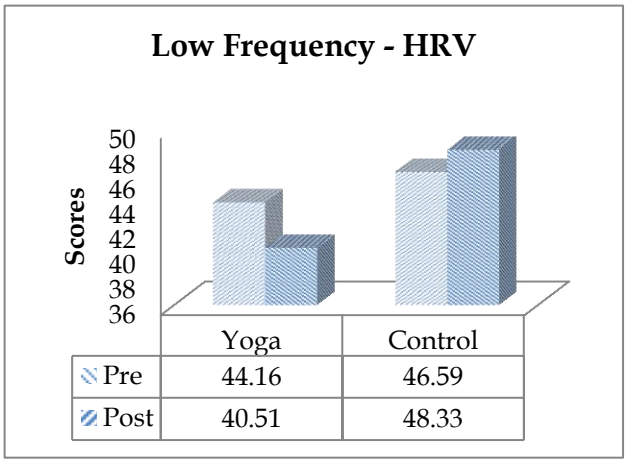

Figure-12. HRV - Low Frequency (LF)

7.2.7.2 High Frequency (HF)

YG (pre-post) comparison: Post intervention analysis showed significant increase in high frequency (HF) (p=0.024,) from 29.66±10.68 to 33.79±10.36. The effect size was 0.35 with 13.92% increase in HF.

CG (pre-post) comparison: Post intervention analysis showed insignificant increase in HF (p=0.555) from 30.36±10 to 31.55±10.75 indicating insignificant positive impact on HF of HRV. The effect size was 0.09 with 3.9% increase in HF.

Between group (YG vs CG) comparison: Post intervention analysis between YG and CG **(**33.79±10.36 vs 31.55±10.75) showed insignificant difference in HF (p=0.32). Percentage change & effect size were larger in YG compared to the CG.

Table 7.2-8.Results of HRV - High Frequency (HF)

	YOGA (YG)					CONTROL (CG)					YG vs CG
Variable	**Pre** **Mean ± SD**	**Post** **Mean ± SD**	**% Change**	**ES**	**P Value**	**Pre** **Mean ± SD**	**Post** **Mean ± SD**	**% change**	**ES**	**P Value**	**P Value**
HF	29.66 ± 10.68	33.79 ± 10.36	13.92	- 0.35	0.024	30.36 ± 10	31.55 ± 10.75	3.9%	- 0.09	0.555	0.32

HF: High Frequency; HRV: Heart Rate Variability; ES: Effect Size; SD: Standard Deviation

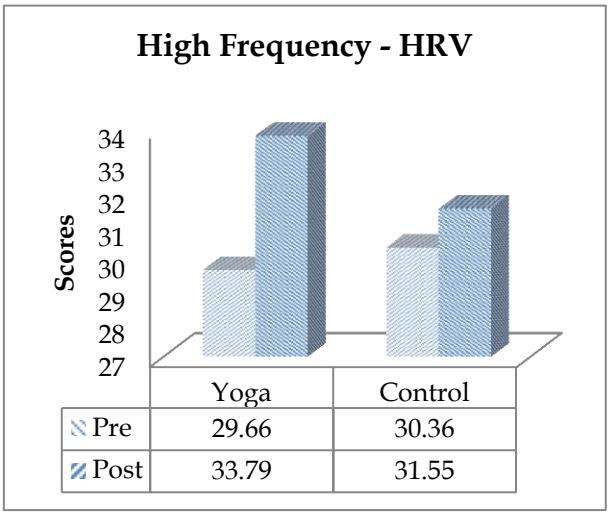

Figure 13. HRV - High Frequency (HF)

7.2.7.3 LF/ HF Ratio

YG (pre-post) comparison: Post intervention analysis, showed significant decrease in LF/ HF ratio (p<0.001) from 1.69± 0.74 to 1.26±0.48. The effect size was 0.752 with 25.44% increases in LF/HF.

CG (pre-post) comparison: CG also showed insignificant increase in LF/HF (p=0.615) from 1.67±0.78±10 to 1.72±0.81. The effect size was 0.076 with 3.03% increase in LF/HF ratio.

Between group (YG vs CG) comparison: Post intervention analysis between YG and CG **(**33.79±10.36 vs 31.55±10.75)showed significant difference in LF/HF ratio (p<0.001) Percentage change & effect size were larger in YG compared to the CG.

Table 7.2-9. Results of HRV - LF/ HF ratio

	YOGA (YG)					CONTROL (CG)					YG vs CG
Variable	**Pre** **Mean ± SD**	**Post** **Mean ± SD**	**% Change**	**ES**	**P Value**	**Pre** **Mean ± SD**	**Post** **Mean ± SD**	**% change**	**ES**	**P Value**	**P Value**
LF/HF	1.69 ± 0.74	1.26 ± 0.48	-25.44%	0.75	<0.001	1.67 ± 0.78	1.72 ± 0.81	3.03%	-0.08	0.615	<0.001

LF: Low Frequency; HF: High Frequency; HRV: Heart Rate Variability; ES: Effect Size; SD: Standard Deviation

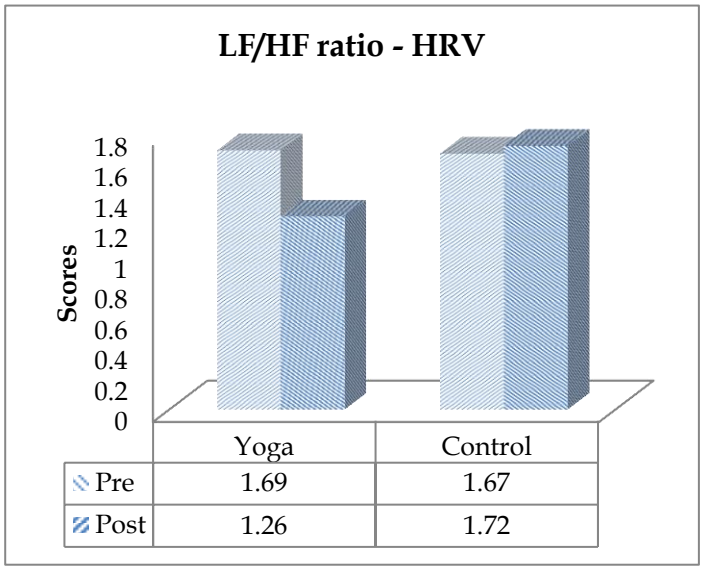

Figure -14. HRV - LF/ HF ratio

7.2.8 Quality of Life (WHOQOL-BRIEF)

7.2.8.1 QoL- Physical domain

YG (pre-post) comparison: Post intervention analysis, showed significant increase in quality of life of physical domain (Phy-QoL) ($p<0.001$) from 41.27 ±6.60 to 59.48±9.04. The effect size was 1.55with 44.12% increase in physical domain's QoL.

CG (pre-post) comparison: Post intervention analysis, showed significant increase in Phy-QoL ($p<0.001$,) from 39.82±6.66 to 49.91±8.58. The effect size was 1.07 with 25.34% increase physical domain's QoL.

Between group (YG vs CG) comparison: Post intervention analysis between YG and CG **(**59.48±9.04 vs 49.91±8.58)showed significant difference in physical domain's QoL($p<0.001$). Percentage change & effect size were larger in YG compared to the CG.

Table 7.2-10. Results of WHOQOLBREF - Physical domain

	YOGA (YG)					CONTROL (CG)					YG vs CG
Variable	Pre Mean ± SD	Post Mean ± SD	% change	ES	P Value	Pre Mean ± SD	Post Mean ± SD	% change	ES	P Value	P Value
Phy-QoL	41.27 ± 6.60	59.48 ± 9.04	44.12	-1.55	<0.001	39.82 ± 6.655	49.91± 8.58	25.34	-1.07	<0.001	<0.001

QoL: Quality of Life; Phy: Physical domain; ES: Effect Size; SD: Standard Deviation

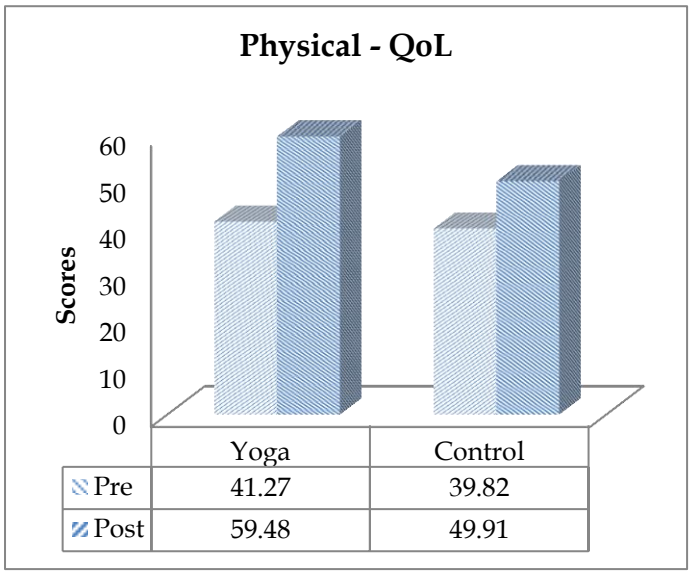

Figure-15. WHOQOLBREF - Physical domain

7.2.8.2 QoL- Psychological domain

YG (pre-post) comparison: Post intervention analysis, showed significant increase in quality of life of psychological domain (Psy-QoL) ($p<0.001$,) from 34.91±5.36 to 68.80±13.43 indicating positive impact on psychological domain QoL. The effect size was 2.68 with 97.08% increase in psychological domain's QoL.

CG (pre-post) comparison: CG also showed significant increase in Psy-QoL ($p<0.001$,) from 34.93±7.32 to 42.23±7.36 indicating improvement in psychological domain's QoL. The effect size was 1.05 with 20.88% increase psychological domain's QoL.

Between group (YG vs CG) comparison: Post intervention analysis between YG and CG **(**68.80±13.43 vs 42.23±7.36)showed significant difference in psychological domain's QoL ($p<0.001$). Percentage change & effect size were larger in YG compared to the CG.

Table 7.2-11. Results of WHOQOLBREF - Psychological domain

	YOGA (YG)					CONTROL (CG)					YG vs CG
Variable	Pre Mean ± SD	Post Mean ± SD	% change	ES	P Value	Pre Mean ± SD	Post Mean ± SD	% change	ES	P Value	P Value
Psy-QoL	34.91 ± 5.36	68.80 ± 13.43	97.08	-2.68	<0.001	34.93 ± 7.32	42.23 ± 7.36	20.88	-1.05	<0.001	<0.001

QoL: Quality of Life; Psy: Psychological domain; ES: Effect Size; SD: Standard Deviation

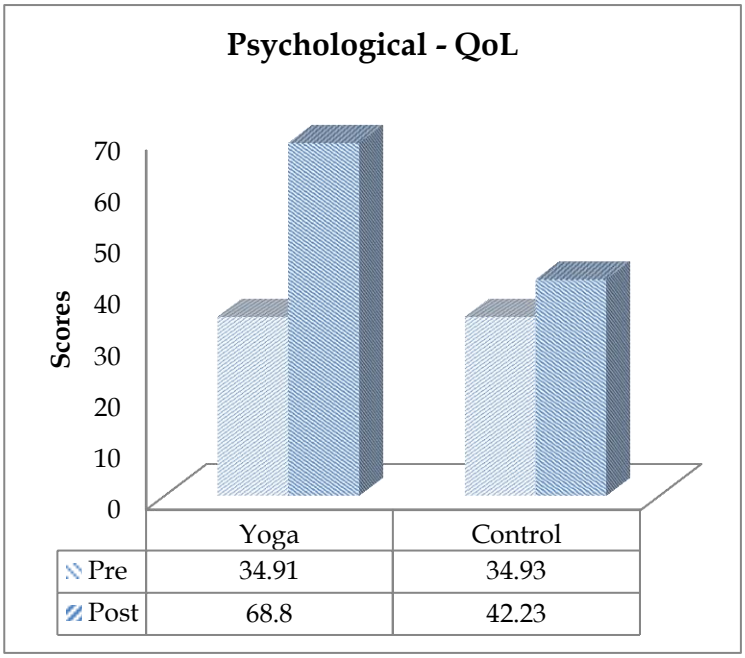

Figure 16. WHOQOLBREF - Psychological domain

7.2.8.3 QoL- Social domain

YG (pre-post) comparison:Post intervention analysis, showed significant increase in quality of life of social domain (Soc-QoL) ($p<0.001$,) from 43.09±12.42to 66.77±12. The effect size was 1.54with 54.95% increase in social domain's QoL.

CG (pre-post) comparison:Post intervention analysis, showed significant increase in

Soc-QoL($p<0.001$,) from 44.09±8.76 to 50.48±8.61. The effect size was 0.85with 14.48% increase social domain's QoL.

Between group (YG vs CG) comparison:Post intervention analysis between YG and CG **(**66.77±12.00 vs 50.48±8.61)showed significant difference in social domain's QoL ($p<0.001$). Percentage change & effect size were larger in YG compared to the CG.

Table 7.2-12. Results of WHOQOLBREF - Social domain

YOGA (YG)						CONTROL (CG)					YG vs CG
Variable	Pre Mean ± SD	Post Mean ± SD	% change	ES	P Value	Pre Mean ± SD	Post Mean ± SD	% change	ES	P Value	P Value
Soc-QoL	43.09 ± 12.42	66.77 ± 12	54.95	-1.54	<0.001	44.09 ± 8.76	50.48 ± 8.61	14.48	-0.85	<0.001	<0.001

QoL: Quality of Life; Soc.: Social domain; ES: Effect Size; SD: Standard Deviation

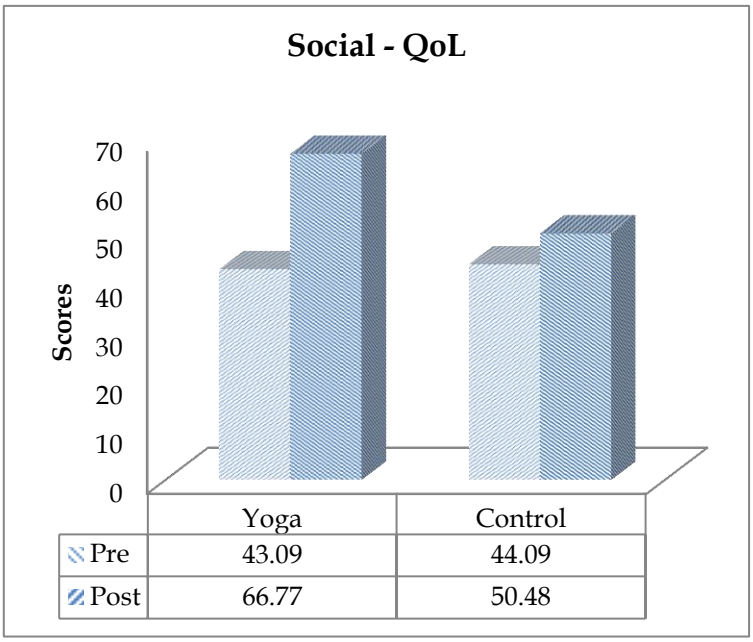

Figure -17.WHOQOLBREF - Social domain

7.2.8.4 QoL- Environmental domain

YG (pre-post) comparison: Post intervention analysis, showed significant increase in quality of life of environmental domain (Env-QoL) (p=0.078,) from 55.70±5.33 to 57.27±6.03. The effect size was 0.27with 2.82% increase in environmental domain's QoL.

CG (pre-post) comparison: CG also showed significant increase in Env-QoL (p=0.957,) from 55.84±5.28 to 55.89±5.14. The effect size was 0.01with 0.08% increase environmental domain's QoL.

Between group (YG vs CG) comparison: Post intervention analysis between YG and CG **(**68.80±13.43 vs 42.23±7.36) showed significant difference in environmental domain's QoL (p<0.001). Percentage change & effect size were larger in YG compared to the CG.

Table 7.2-13. Results of WHOQOLBREF - Environmental domain

	YOGA (YG)					CONTROL (CG)					YG vs CG
Variable	Pre Mean ± SD	Post Mean ± SD	% change	ES	P Value	Pre Mean ± SD	Post Mean ± SD	% change	ES	P Value	P Value
Env-QoL	55.70 ± 5.33	57.27 ± 6.03	2.82	-0.27	0.08	55.84 ± 5.28	55.89 ± 5.14	0.08	-0.01	0.96	0.25

QoL: Quality of Life; Env.:Environmental domain; ES: Effect Size; SD: Standard Deviation

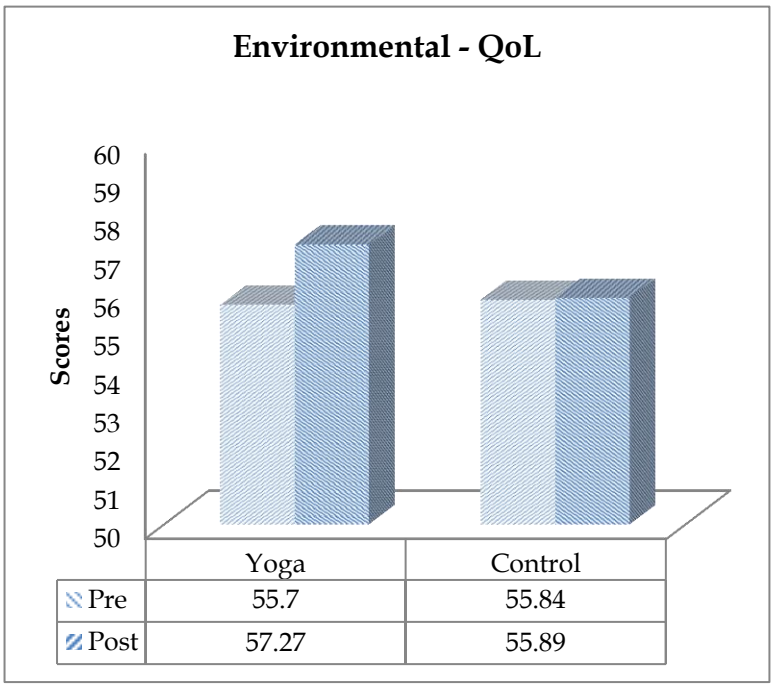

Figure 18. WHOQOLBREF - Environmental domain

7.3 General Variables

7.3.1 Pulse

YG (pre-post) comparison: After six week of yoga intervention, analysis showed significant decrease in pulse (p=0.026,) from 81.95±11.18to79.50±7.96indicating a decrease in perception of pulse from moderate to mild. The effect size was 0.26 with 2.99% reduction in pulse.

CG (pre-post) comparison: CG analysis showed significant decrease in pulse (p<0.001) from 85.27±7.80to83.16±6.22. The effect size was 0.3 with 2.47% reduction in pulse.

Between group (YG vs CG) comparison: Post intervention analysis between YG and CG **(**79.50±7.96 vs 83.16±6.22.)showed significant difference in pulse (p=0.018), percentage change & effect size were larger in YG compared to the CG.

Table 7.3-1. Results of Pulse

YOGA (YG)						CONTROL (CG)					YG vs CG
Variable	Pre Mean ± SD	Post Mean ± SD	% change	ES	P Value	Pre Mean ± SD	Post Mean ± SD	% change	ES	P Value	P Value
Pulse	81.95 ± 11.18	79.50 ± 7.96	-2.99%	0.26	0.026	85.27 ± 7.80	83.16 ± 6.22	-2.47%	0.3	<0.001	0.018

ES: Effect Size; SD: Standard Deviation

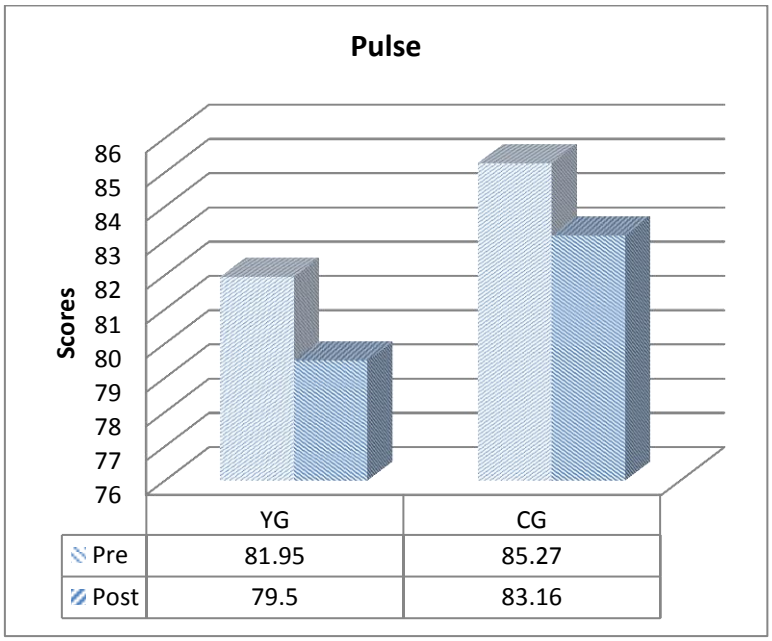

Figure 19. Pulse

7.3.2 Respiratory Rate (RR)

YG (pre-post) comparison:After six week of yoga intervention, analysis showed significant decrease respiratory rate (RR) ($p<0.001$) from 19.55±2.65to16.68±2.37 indicating a decrease in perception of RR from moderate to mild. The effect size was 1.16 with 14.68% reduction in RR.

CG (pre-post) comparison:CG analysis showed significant decrease in RR ($p<0.012$) from 19.25±2.16to18.68±2.15. The effect size was 0.27 with 2.96% reduction in RR.

Between group (YG vs CG) comparison:Post intervention analysis between YG and CG **(**16.68±2.37vs 18.68±2.15.)showed significant difference in RR (p<0.001), percentage change & effect size were larger in YG compared to the CG.

Table 7.3-2. Results of Respiratory Rate (RR)

YOGA (YG)						CONTROL (CG)					YG vs CG
Variable	Pre Mean ± SD	Post Mean ± SD	% change	ES	P Value	Pre Mean ± SD	Post Mean ± SD	% change	ES	P Value	P Value
RR	19.55 ± 2.65	16.68 ± 2.37	-14.68%	1.16	<0.001	19.25 ± 2.16	18.68 ± 2.15	-2.96%	0.27	0.012	<0.001

RR :Respiratory Rate; ES: Effect Size; SD: Standard Deviation

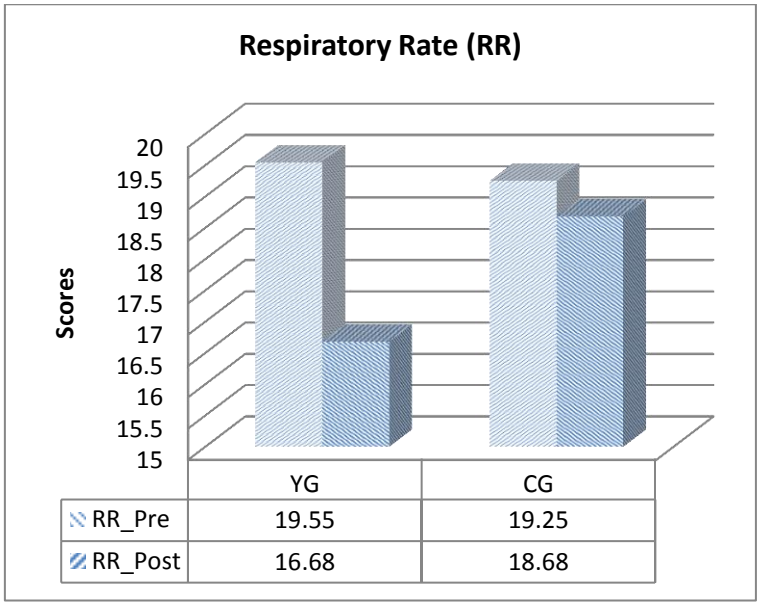

Figure 20. Respiratory Rate (RR)

7.3.3 *Bhramari* Time (BHT)

YG (pre-post) comparison: After six week of yoga intervention, analysis showed significant decrease in *Bhramari* Time (p=<0.001,) from 7.70±1.62 to 10.93±2.07indicating a decrease in perception of *Bhramari* Time from moderate to mild. The effect size was 1.76 with 41.95% reduction in *Bhramari* Time.

CG (pre-post) comparison: CG analysis showed significant decrease in *Bhramari* Time (p=0.13) from 7.73±1.04to7.93±1.32. The effect size was 0.15 with 2.59% reduction in *Bhramari* Time.

Between group (YG vs CG) comparison: Post intervention analysis between YG and CG **(**10.93±2.07vs 7.93±1.32.) showed significant difference in *Bhramari* Time (p<0.001), percentage change & effect size were larger in YG compared to the CG.

Table 7.3-3. Results of Bhramari Time (BHT)

YOGA (YG)						CONTROL (CG)					YG vs CG
Variable	**Pre**	**Post**	**% change**	**ES**	**P Value**	**Pre**	**Post**	**% change**	**ES**	**P Value**	**P Value**
	Mean ± SD	**Mean ± SD**				**Mean ± SD**	**Mean ± SD**				
BHT	7.70 ± 1.62	10.93 ± 2.07	41.95%	-1.76	<0.001	7.73 ± 1.04	7.93 ± 1.32	2.59%	0.15	0.13	<0.001

BHT :Bhramari Time; ES: Effect Size; SD: Standard Deviation

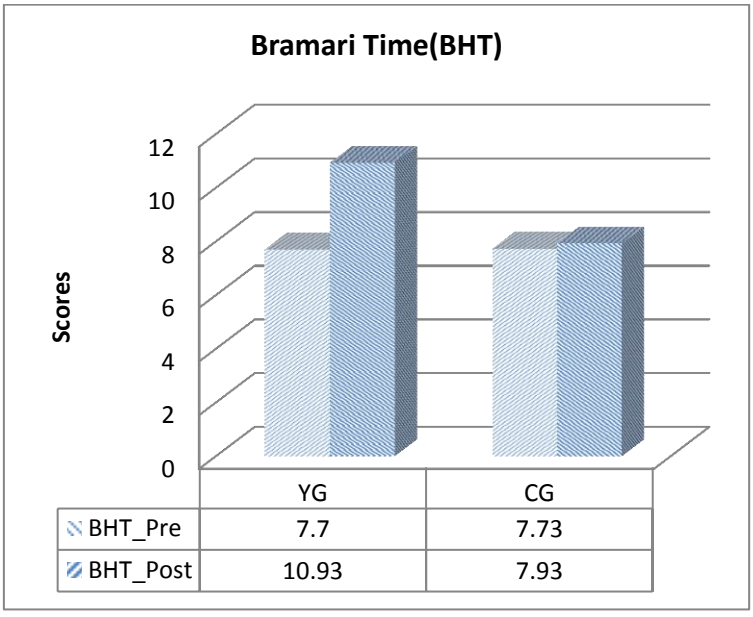

Figure - 21. *Bhramari* Time (BHT)

7.3.4 Blood Pressure

YG (pre-post) comparison: After six week of yoga intervention, analysis showed insignificant decrease in blood pressure (BP-S) (p=0.33,) from 116.41±13.30to115.09±9.48indicating a decrease in perception of blood pressure from moderate to mild. The effect size was 0.12 with 1.13% reduction in BP-S. Blood pressure (BP-D) also found insignificant decrease (p=0.39) from 73.41±7.34 to 72.91±5.29. The effect size was 0.08 with 0.68% reduction in diastolic BP.

CG (pre-post) comparison: CG analysis showed insignificant decrease in blood pressure (p=0.25) from 114.73±11.32to113.59±8.46. The effect size was 0.12 with 2.47% reduction in systolic blood pressure. Analysis of diastolic blood pressure showed insignificant decrease (p=0.25) from 75.36±7.53 to 74.86±6.49. The effect size was 0.12 with 0.99% reduction in diastolic BP (D).

Between group (YG vs CG) comparison: Post intervention analysis between YG and CG showed insignificant difference in BP-S (p=0.436) and BP-D (0.125) percentage change & effect size were larger in YG compared to the CG.

Table 7.3-4. Results of Blood Pressure (BP)

	YOGA (YG)					CONTROL (CG)					YG vs CG
Variable	**Pre** **Mean ± SD**	**Post** **Mean ± SD**	**% change**	**ES**	**P Value**	**Pre** **Mean ± SD**	**Post** **Mean ± SD**	**% change**	**ES**	**P Value**	**P Value**
BP-S	116.41 ± 13.30	115.09 ± 9.48	-1.13%	0.12	0.33	114.73 ± 11.32	113.59 ± 8.46	-0.99%	0.12	0.25	0.436
BP-D	73.41 ± 7.34	72.91 ± 5.29	-0.68%	0.08	0.39	75.36 ± 7.53	74.86 ± 6.49	-0.66%	0.07	0.4	0.125

BP-S: Blood Pressure –Systolic; BP-D: Blood Pressure –Diastolic; Effect Size; SD: Standard Deviation

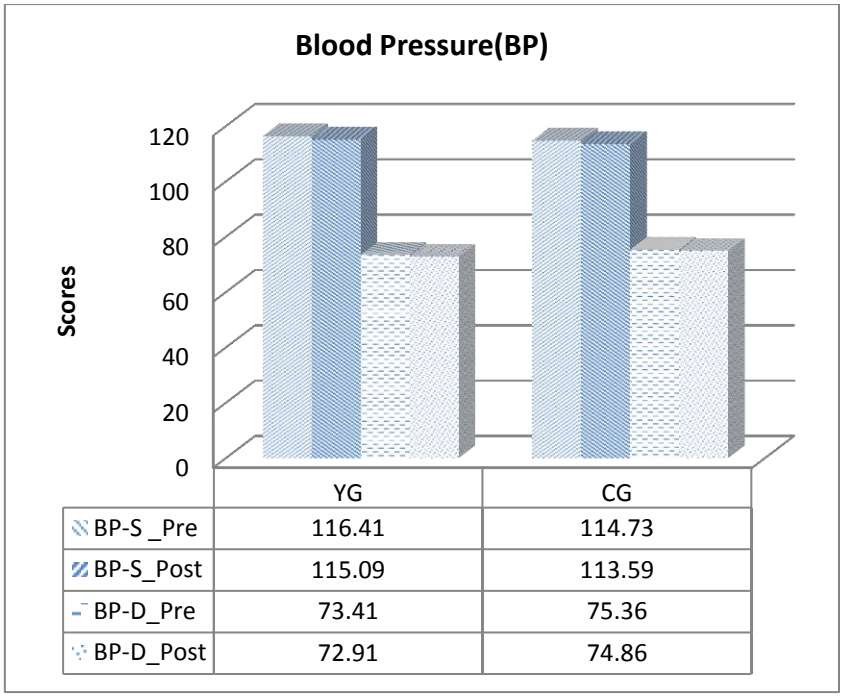

Figure 22. Blood Pressure (BP)

7.3.5 Body Mass Index (BMI)

YG (pre-post) comparison: After six week of yoga intervention, analysis showed significant decrease in BMI ($p<0.001$) from 22.85±4.45to22.09±3.61indicating a decrease in BMI. The effect size was 0.19 with 3.33% reduction in BMI.

CG (pre-post) comparison: CG analysis showed insignificant decrease in ($p=0.43$) from 22.17±3.66to22.26±3.46. The effect size was 0.03 with 0.41% reduction in BMI.

Between group (YG vs CG) comparison: Post intervention analysis between YG and CG **(**22.09±3.61vs 22.26±3.46.) showed significant difference in pulse ($p=0.828$), percentage change & effect size were larger in YG compared to the CG.

Table 7.3-5. Results of Body Mass Index (BMI)

YOGA (YG)						CONTROL (CG)					YG vs CG
Variable	Pre Mean ± SD	Post Mean ± SD	% change	ES	P Value	Pre Mean ± SD	Post Mean ± SD	% change	ES	P Value	P Value
BMI	22.85 ± .45	22.09 ± 3.61	-3.33%	0.19	<0.001	22.17 ± 3.66	22.26 ± 3.46	0.41%	-0.03	0.43	0.83

BMI: Body Mass Index; ES: Effect Size; SD: Standard Deviation

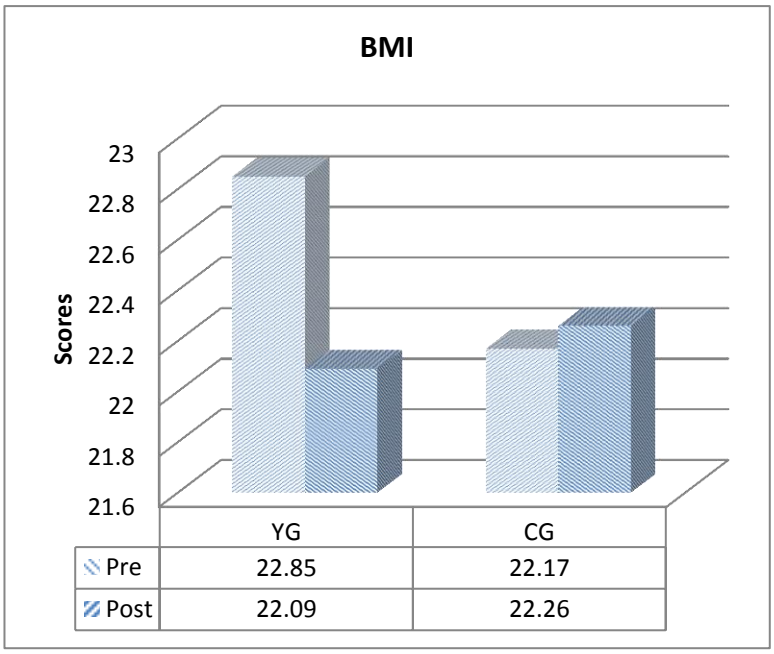

Figure 23. Body Mass Index (BMI)