# RESULTS

**Table (4): Comparison of Endothelin-1 (pg/ml) between studied groups:**

| Samples | Control | RDS | | F | p |
|---|---|---|---|---|---|
| | | Normal labor | Caesarian section | | |
| First samples: | | | | | |
| Range | 4.6-8.2 | 5.3-11.2 | 4.8-11.3 | | |
| Mean | 6.16 | 5.26 | 10.04 | 21.544 | 0.001* |
| SD | 1.25 | 1.85 | 0.82 | | |
| Second samples: | | | | | |
| Range | 3.1-5.1 | 4.2-8.2 | 6-8.4 | | |
| Mean | 4.01 | 0.24 | 7.08 | 33.369 | 0.001* |
| SD | 0.63 | 1.15 | 0.74 | | |
| t | 4.830 | 4.142 | 10.391 | | |
| p | 0.001* | 0.001* | 0.001* | | |

* Significant

Scheffe test: Each group significantly different from other groups.

This table shows that first samples ET-1 level were higher than second samples ET-1 levels in control group and RDs group ($p<0.01$).

**Table (5): Comparison of Endothelin-1 (pg/ml) between studied samples in relation to severity:**

| Samples | Severity | | | F | P |
|---|---|---|---|---|---|
| | Mild | Moderate | Severe | | |
| First samples: | | | | | |
| Range | 5.3-9.8 | 7.6-10.6 | 9.7-11.3 | | |
| Mean | 7.64 | 9.31 | 10.64 | 17.895 | 0.001* |
| SD | 1.63 | 1.04 | 0.55 | | |
| Second samples: | | | | | |
| Range | 4.2-7.2 | 4.9-7.6 | 7.1-8.4 | | |
| Mean | 6.01 | 6.31 | 7.75 | 15.412 | 0.001* |
| SD | 0.89 | 0.87 | 0.44 | | |
| t | 3.292 | 7.320 | 13.028 | | |
| p | 0.004* | 0.001* | 0.001* | | |

* Significant

* Scheffe test:
- First sample: mild significantly different from both moderate and severe.
- Second sample: severe significantly different from both mild and moderate.

This table shows that plasma endothelin-1 levels were significantly higher in babies with severe respiratory distress compared to babies with moderate and mild respiratory distress ($p<0.01$).

Babies with moderate respiratory distress had significantly higher levels compared to babies with mild distress.

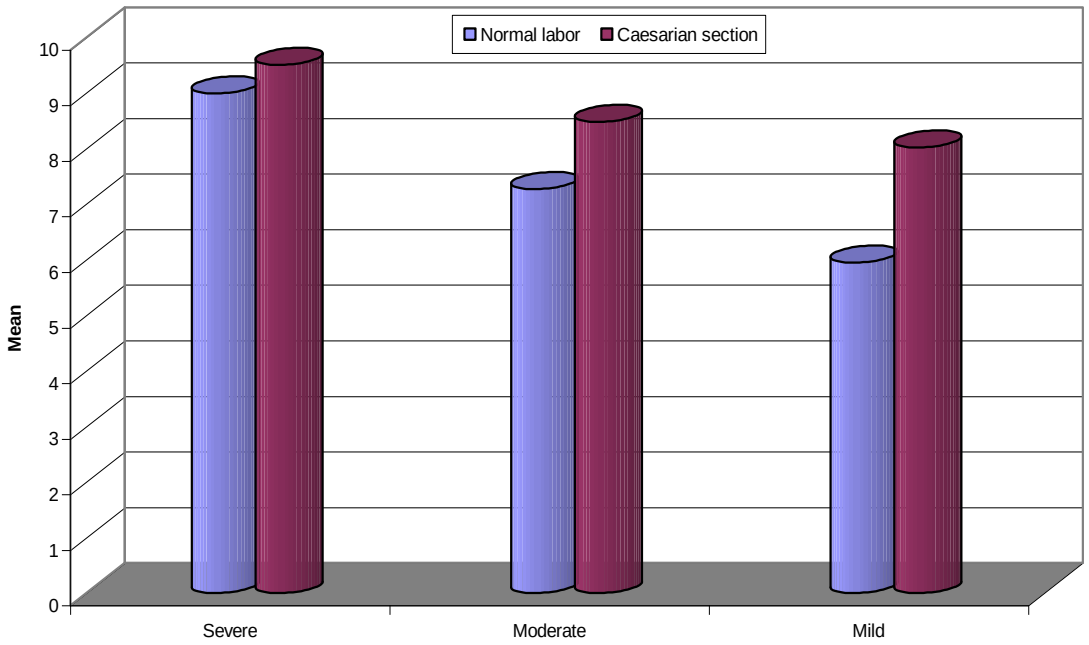


**Figure (1): Comparison of endothelin-1 (pg/ml) in relation to type of labor and severity**

**Table (6): Comparison of gestational age and weight between studied samples in relation to severity.**

| Variables | RDS Severity | | | | $X^2$! | $X^2$# |
|---|---|---|---|---|---|---|
| | Control | Mild | Moderate | Severe | | |
| Gestational age: | | | | | | |
| Range | 33.40 | 32.35 | 31.34 | 30.33 | | |
| Mean | 37.40 | 33.50 | 32.09 | 31.10 | 33.114* | 16.869* |
| SD | 1.65 | 1.09 | 0.94 | 1.10 | | |
| Weight in Kg: | | | | | | |
| Range | 3.1-3.9 | 1.2-2.8 | 1.2-1.7 | 1.0-1.5 | | |
| Mean | 3.56 | 1.68 | 1.39 | 1.28 | 30.531* | 12.455* |
| SD | 0.28 | 0.52 | 0.17 | 0.15 | | |

* Significant Kruskal-Wallis test at $p<0.001$
! Comparison between all studied groups.
# Comparison between patients with RDS only.

This table shows that babies with severe respiratory distress had significant lower gestational ages and birth weights than controls and babies with mild and moderate respiratory distress.

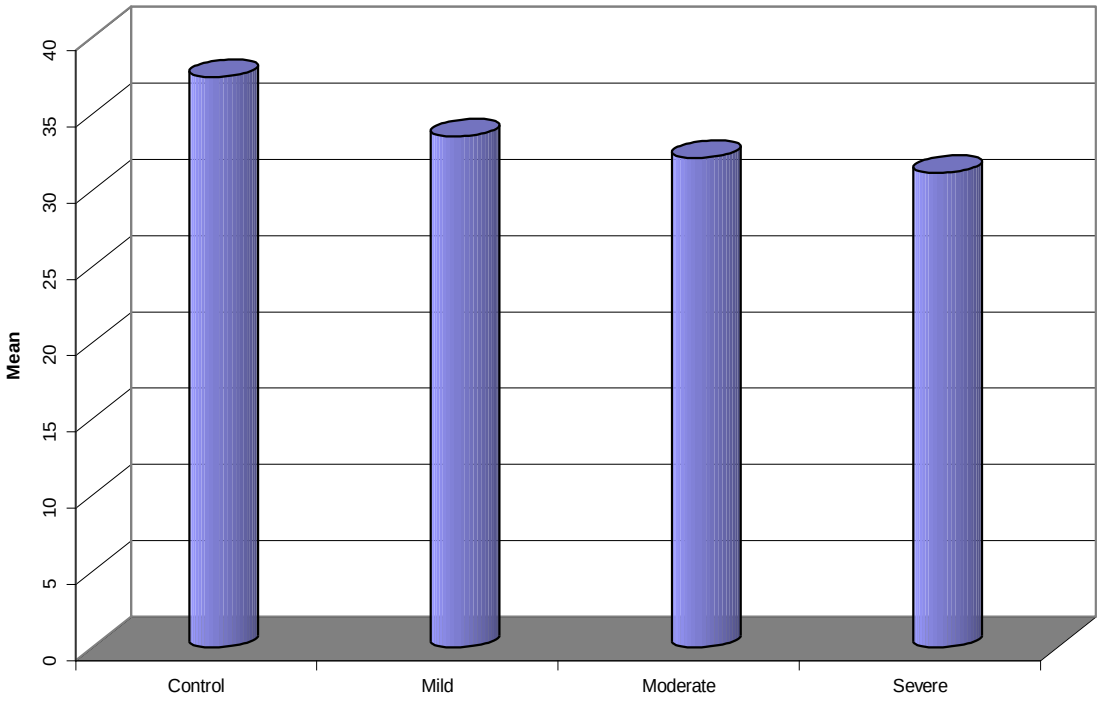


**Figure (2): Comparison of gestational age in weeks between studied groups**

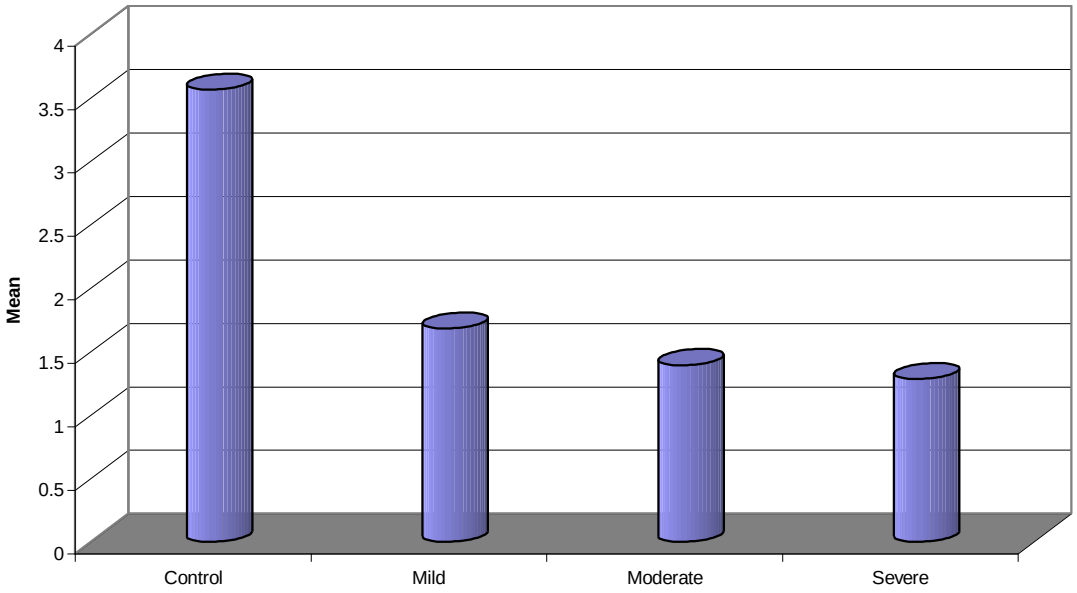


**Figure (3): Comparison of birth weight in relation to severity**

**Table (7): Comparison of Apgar score between the studied samples in relation to severity.**

| Variables | RDS Severity | | | | $X^2$! | $X^2$# |
|---|---|---|---|---|---|---|
| | Control | Mild | Moderate | Severe | | |
| Apgar score 1 minute: | | | | | | |
| Range | 6-7 | 4-7 | 4-6 | 3-5 | | |
| Mean | 6-7 | 5.79 | 4.91 | 3.7 | 26.866* | 16.168* |
| SD | 0.48 | 1.12 | 0.94 | 0.67 | | |
| Apgar score 5 minutes: | | | | | | |
| Range | 8.9 | 6-9 | 7-8 | 6-8 | | |
| Mean | 8.8 | 7.93 | 7.55 | 7.10 | 17.122* | 3.888 |
| SD | 0.42 | 1.07 | 0.52 | 0.88 | | |

* Significant Kruskal-Wallis test at $p<0.001$

This table shows that, babies with severe and moderately severe respiratory distress had significantly lower Apgar scores at 1 minute compared to controls and to babies with mild respiratory distress.

Also, Apgar score at 5 minutes were significantly lower in babies with severe respiratory distress compared to babies with moderate and mild respiratory and control babies.

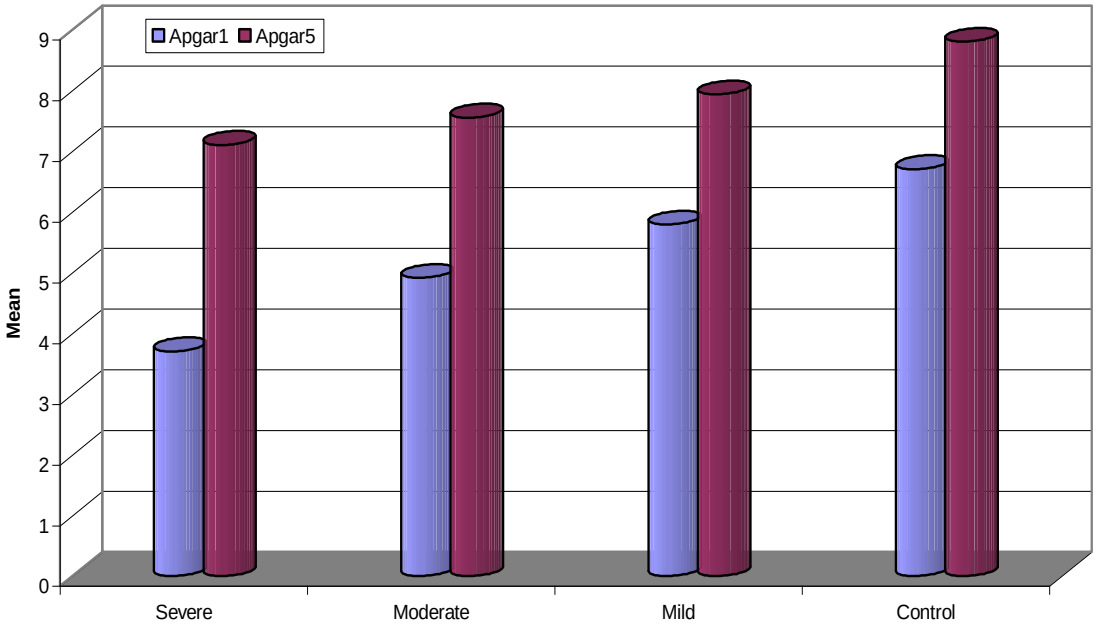


**Figure (4): Comparison of Apgar score between studied groups in relation to severity**

**Table (8): Comparison of $FiO_2$ between the studied samples in relation to severity.**

| Variables | RDS Severity | | | $X^2$ | p |
|---|---|---|---|---|---|
| | Mild | Moderate | Severe | | |
| $FiO_2$ | | | | | |
| Range | 30-50 | 50-80 | 70-100 | | |
| Mean | 40.36 | 67.73 | 85.00 | 27.975 | 0.001* |
| SD | 7.46 | 9.84 | 9.13 | | |

* Significant Kruskal-Wallis test at $p<0.001$

This table shows that, the $fiO_2$ was significantly higher in babies with severe respiratory distress tress compared to those with moderate and mild respiratory distress.

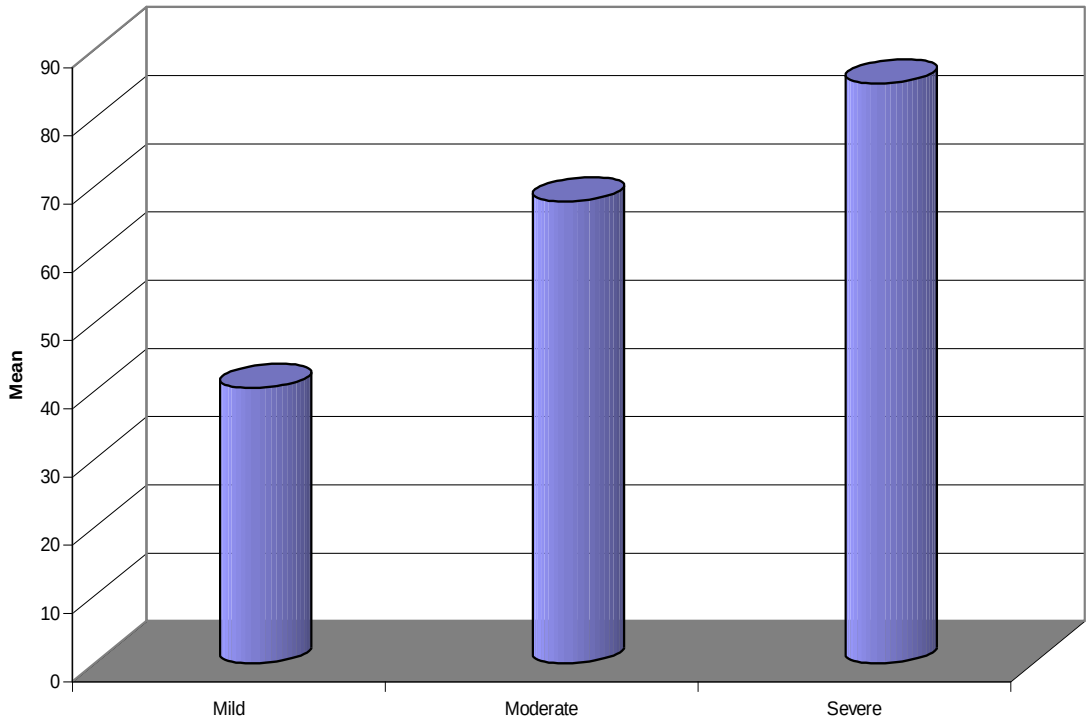


**Figure (5): Comparison of $FiO_2$ in relation to severity**

**Table (9): Correlation between Endothelin-1 and studied variables among control group.**

| Variables | Endothelin-1 | |
|---|---|---|
| | R | p |
| Gestational age | -0.916 | 0.001* |
| Body weight | -0.974 | 0.001* |
| Apgar score at 1 minute | -0.151 | 0.677 |
| Apgar score at 5 minutes | -0.165 | 0.649 |

* Significant

This table shows that there is no significant correlation between endothelin-1 levels and gestational age among control group ("r" = -0.916). Also, the table shows that there is no significant correlation between endothelin-1 levels and birth weight ("r" = 0.974).

The table shows, as well, that there is negative significant correlation between -1 levels and Apgar score at 1 minute and at 5 minutes ("r" = -0.151 & -0.165)

**Table (10): Correlation between Endothelin-1 and studied variables among patients group.**

| Variables | Endothelin-1 | |
|---|---|---|
| | R | p |
| Gestational age | **-0.794** | **0.001*** |
| Body weight | **-0.911** | **0.001*** |
| Apgar score at 1 minute | **-0.912** | **0.001*** |
| Apgar score at 5 minutes | **-0.771** | **0.001*** |
| $FiO_2$ | **0.864** | **0.001*** |
| Silverman score | **0.826** | **0.001*** |

* Significant

This table shows that there is significant negative correlation between endothelin-1 levels in patient groups and each of gestational age ("r" = - 0.794), birth weight ("r" = -0.911), Apgar score at minute ("r" = -0.912) and Apgar scoire at 5 minutes ("r" = -0.771), while there is significant positive correlation between endothelin-1 level and ($FiO_2$ ("r" = 0.826).