# RESULTS

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Table (1) represents the age, duration of pregnancy and base line vital signs of the 30 nulliparous included in this study.

*Table (1)* : **Comparison between the nulliparous control group and nulliparous given nitric oxide donor, regarding age duration of pregnancy and base line vital signs :**

| | Control (n=15) Mean ± SD | Drug group (n = 15) Mean ± SD | t | p |
|---|---|---|---|---|
| Age (yrs) | 21.5 ± 1.9 | 21.8 ± 2.7 | 0.389 | > 0.05 (N.S) |
| Duration of pregnancy (wks) | 8.4 ± 1.8 | 9.3 ± 1.8 | 1.434 | > 0.05 (N.S) |
| Pulse (BPM) | 76.3 ± 4.7 | 76.1 ± 4.8 | 0.154 | > 0.05 (N.S) |
| Sys. BP (mmHg) | 122.7 ± 4.2 | 119.7 ± 9.3 | 1.135 | > 0.05 (N.S) |
| Diast. BP (mmHg) | 80.3 ± 4.0 | 78.0 + 5.6 | 1.313 | > 0.05 (N.S) |

SD = Standard deviation

N.S. = Non significant

The age of control group was ranging between 19 – 25 year with a mean 21.5 ± 1.9 year, while the age of the group given the nitric oxide donor was ranging between 18-25 year with a mean 21.8 ± 2.7 year. There was no significant difference between the two groups (P > 0.05).

The duration of pregnancy of control group was ranging between 6-11 weeks with a mean 8.4 ± 1.8 week, while the duration of pregnancy of the group given the nitric oxide donor was ranging between 7-12 week with a mean 9.3 ± 1.8 week. There was no significant difference between the two groups ($P > 0.05$).

The pre-procedure pulse rate of control group was ranging between 70-85 BPM with a mean 76.3 ± 4.7 BPM, while pulse rate of the group given the nitric oxide donor was ranging between 70-82 BPM with a mean 76.1 ± 4.8 BPM. There was no significant difference between the two group ($P > 0.05$).

The pre-procedure systolic blood pressure of control group was ranging between 120-130mmHg with a mean 122.7 + 4.2 BPM, while the systolic blood pressure of the group given the nitric oxide donor was also ranging between 110-140 mmHg with a mean 119.7 + 9.3BPM. There was no significant difference between the two groups ($P > 0.05$).

The pre-procedure diastolic blood pressure of control group was ranging between 70-85mmHg with a mean 80.3 ± 4 m.m.Hg, while the diastolic blood pressure of the group given the nitric oxide donor was also ranging between 70-90 mmHg with a mean 78.0 ± 5.6mmHg. There was no significant difference between the two groups ($P > 0.05$).

Table (2) presents the age, duration of pregnancy and base line vital signs of the 30 multigravida included in this study.

*Table (2) :* **Comparison between the multigravida control and multigravida given nitric oxide donor; regarding age duration of pregnancy and base line vital signs :**

| | Drug group (n=15) Mean ± SD | Control group (n = 15) Mean ± SD | t | p |
|---|---|---|---|---|
| Age (yrs) | 31.0 ± 4.9 | 30.1 ± 3.0 | 0.578 | > 0.05 (N.S) |
| Duration of pregnancy (wks) | 8.8 ± 1.7 | 9.3 ± 1.7 | 0.759 | > 0.05 (N.S) |
| Pulse (BPM) | 77.7 ± 4.9 | 78.3 ± 4.0 | 0.366 | > 0.05 (N.S) |
| Sys. BP (mmHg) | 121.7 ± 12.0 | 122.3 ± 6.5 | 0.189 | > 0.05 (N.S) |
| Diast. BP (mmHg) | 79.7 ± 9.3 | 76.7 ± 5.9 | 1.052 | > 0.05 (N.S) |

SD = Standard deviation

N.S. = Non significant

The age of control group was ranging between 26-36 year with a mean 30.1 ± 3 year, while the age of the group given the nitric oxide donor was ranging between 22-37 year with a mean 31.0 ± 4.9 year. There was no significant difference between the two groups (P > 0.05).

The duration of pregnancy of control group was ranging between 7-12 weeks with a mean 9.3 ± 1.7 week, while the duration of pregnancy of the group given the nitric oxide donor was ranging between 6-12 week

with a mean 8.8 ± 1.7 week. There was no significant difference between the two groups (P > 0.05).

The pre-procedure pulse rate of control group was ranging between 70-85 BPM with a mean 78.3 ± 4 BPM, while the pulse rate of the group given the nitric oxide donor was also ranging between 70-85 BPM with a mean 77.7 ± 4.9 BPM there was no significant difference between the two groups (P > 0.05).

The pre-procedure systolic blood pressure of control group was ranging between 110-130mmHg with a mean 122.3 ± 6.5mmHg, while the systolic blood pressure of the group given the nitric oxide donor was also ranging between 100-140mmHg with a mean 121.7 ± 12.0 mmHg. There was no significant difference between the two groups (P > 0.05).

The pre-procedure diastolic blood pressure of control group was ranging between 70-85mmHg with a mean 76.7 ± 5.9 mmHg, while the diastolic blood pressure of the group given the nitric oxide donor was also ranging between 70-100 mmHg with a mean 79.7 ± 9.3 mmHg. There was no significant difference between the two groups (P > 0.05).

When comparing the effect of nitric oxide donor on cervical dilation in the study nulliparous group; (table 3), it was found the crvical dilation before the insertion was ranging between 3 and 5 Heger with a mean 3.73 ± 0.59. On re-evaluation of cervical dilatation 3 hour after the insertion of the drug; it was ranged 5-6.5 Heger with a mean 5.77 ± 0.56. A highly significant different (P < 0.01).

*Table (3) :* **The effect of nitric oxide donor on cervical dilation among the nulliparous group :**

| | Mean | Standard deviation |
|---|---|---|
| Pre-insertion | 3.373 | ± 0.59 |
| Post insertion | 5.77 | ± 0.56 |
| Paired t | 26.532 | |
| p | < 0.01* | |

* Significant

When comparing the effect of nitric oxide donor on cervical dilation in the study multigravida group; (table 4), it was found the cervical dilation before the insertion was ranging between 4 and 6 Heger with a mean 5.13 ± 0.52. On re-evaluation of cervical dilatation 3 hour after the insertion of the drug; it was ranged 6-9 Heger with a mean 7.80 ± 0.73. A highly significant difference (P < 0.01).

*Table (4) :* **The effect of nitric oxide donor on cervical dilation among the multiparous group :**

| | Mean | Standard deviation |
|---|---|---|
| Pre-insertion | 5.13 | ± 0.52 |
| Post insertion | 7.80 | ± 0.73 |
| Paired t | 25.400 | |
| p | < 0.01* | |

* Significant

*Table (5)* : **Represent the effects of nitric oxide donor on maternal vital signs in the nulliparous group :**

| | Pre-insertion Mean ± SD | Post-insertion Mean ± SD | Paired t | p |
|---|---|---|---|---|
| Pulse (BPM) | 76.1 + 4.8 | 83.2 ± 4.4 | 16.828 | < 0.01** |
| Sys BP (mmHg) | 119.7 ± 9.3 | 110.3 ± 9.1 | 11.297 | < 0.01** |
| Diast BP (mmHg) | 78.0 ± 5.6 | 73.0 ± 5.3 | 10.247 | < 0.01** |
| MAP (mmHg) | 92.08 + 9.95 | 88 + 7.52 | 10.540 | < 0.01** |

SD = Standard deviation
BP = Blood pressure
** = Highly significant
MAP = Mean arterial pressure

The pulse rate before insertion of NO donor in the nulliparous group was ranging between 70-82 BPM with a mean 76.1 ± 4.8 BPM> Three hour after the insertion of No Donor the pulse rate was ranging 76-90 with a mean 83.2 + 4.4 BPM, a highly significant increase (P < 0.01).

The systolic blood pressure before insertion of No donor in the nulliparous group was ranging between 110-140mmHg with a mean 119.7 ± 9.3 mmHg. Three hour after the insertion of the insertion of No Donor the systolic blood pressure was ranging 100-130 mmHg with a mean 110.3 ± 9.1 mmHg, a highly significant difference (P < 0.01).

The diastolic blood pressure before insertion of No donor in the nulliparous group was ranging between 70-90 mmHg with a mean 78.0 ± 5.6mmHg. Three hour after the insertion of No Donor the diastolic blood

pressure ranging 65-85 mmHg with a mean 73.0 ± 5.3mmHg, a highly significant difference ($P < 0.01$).

The mean arterial pressure before insertion of No donor in the nulliparous group was ranging between 75-120 mmHg with a mean 92.08 ± 9.95 mmHg. Three hour after the insertion of No Donor it was ranging 70-100 mmHg with a mean 88 ± 7.52 mmHg, a highly significant difference ($P < 0.01$).

**Table (6) : Represents the effects of nitric oxide donor on maternal vital signs in the multigravida group :**

| | Pre-insertion Mean ± SD | Post-insertion Mean ± SD | Paired t | p |
|---|---|---|---|---|
| Pulse (BPM) | 77.7 ± 4.9 | 84.9 ± 4.3 | 2.412 | < 0.01** |
| Sys BP (mmHg) | 121.7 ± 12.1 | 111.7 ± 11.6 | 14.491 | < 0.01** |
| Diast BP (mmHg) | 79.7 ± 9.3 | 75.7 ± 7.8 | 4.583 | < 0.01** |
| MAP (mmHg) | 94.67 ± 10.56 | 86.42 + 11.42 | 10.23 | < 0.01** |

SD = Standard deviation.
BP = Blood pressure.
** = Highly significant
MAP = Mean arterial pressure.

The pulse rate before insertion of No donor in the multigravida group was ranging between 70-85 BPM with a mean 77.7 ± 4.9 BPM. There hour after the insertion of the insertion of No Donor the pulse rate was ranging 79-92 with a mean 84.9 + 4.3 BPM, a highly significant increase ($P < 0.01$).

The systolic blood pressure before insertion of No donor in the multigravida group was ranging between 100-140 mmHg with a mean 121.7 ± 12.1 mmHg. Three hour after the insertion of No Donor the systolic blood pressure was ranging 90-130 mmHg with a mean 111.7 + 11.6 mmHg, a highly significant difference ($P < 0.01$).

The diastolic blood pressure before insertion of No donor in the multigravida group was ranging between 70-100 mmHg with a mean 79.7 ± 9.3 mmHg. Three hour after the insertion of No Donor the diastolic blood pressure was ranging 65-95 mmHg with a mean 75.7 ± 7.8 mmHg, a highly significant difference ($P < 0.01$).

The mean arterial pressure before insertion of No Donor in the multigravida group was ranging between 83-116 mmHg with a mean 94.67 ± 10.56 mmHg. Three hour after the insertion of No Donor the mean arterial pressure was ranging 70-106.6 mmHg with a mean 86.42 ± 11.42 mmHg, a highly significant difference ($P < 0.01$).

As regards the associated side effects noted after the insertion; one patient complained of sensation of nausea, no one complained of vomiting. Fourteen patients complained of headache, another 13 patients felt the sensation of dizziness and fainting.

As regard the amount of blood loss in the group given the No donor; it was subjectively much than the control group, but not them needed an other than usual medication, infusion or blood transfusion, and the cases responded normally to post procedure echbolics.