# Results

None of the 100 patients experienced any difficulty in completing the IIEF questionnaire. Of 100 hypertensive patients 72 was found to be normal erectile function and 28 had erectile dysfunction.

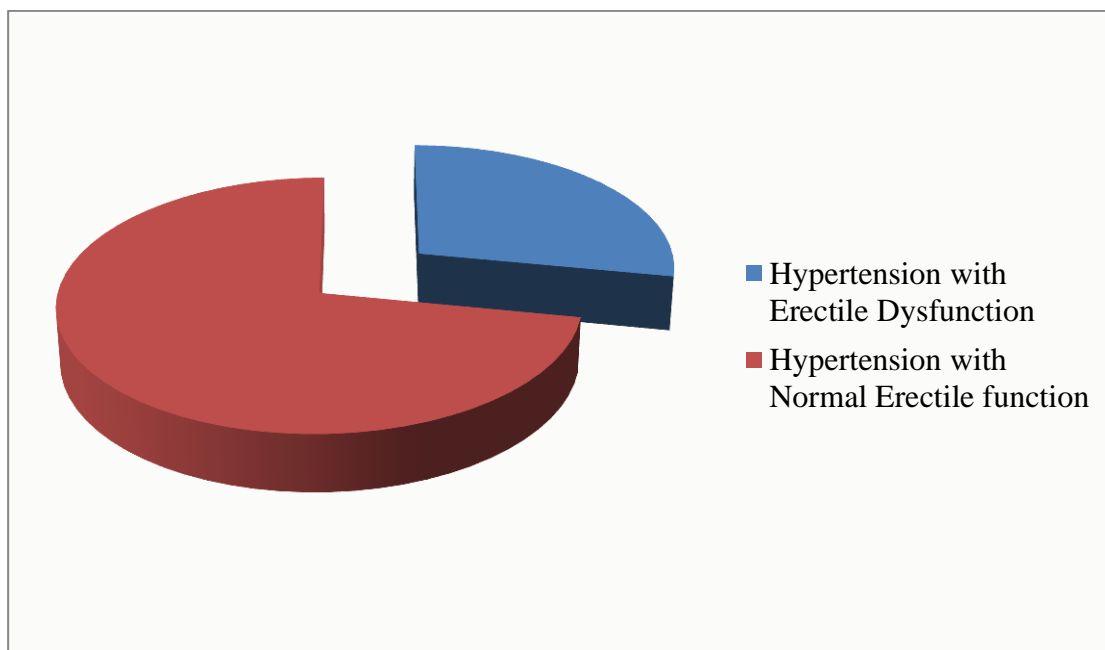| Groups | Number of cases | Percentage |
|---|---|---|
| Hypertension with Erectile Dysfunction | 28 | 28.0% |
| Hypertension with Normal Erectile function | 72 | 72.0% |



**Table 12 & Graph 11:** Show the erectile dysfunction in all hypertensive patients 28% (28 patients) and 72 % found to be normal erectile function (72 patients)

Patients with ED had significantly lower scores than those with normal erectile function. Of the 28 ED men, 4, 3, 8, and 13 had mild, mild to moderate, moderate, and severe ED, respectively. The score

system range is 22 – 25 for normal erectile function, 17 - 21 for mild erectile dysfunction, and 12 - 16 for mild to moderate erectile dysfunction, 8-11 for moderate erectile dysfunction and 5 - 7 for severe erectile dysfunction.

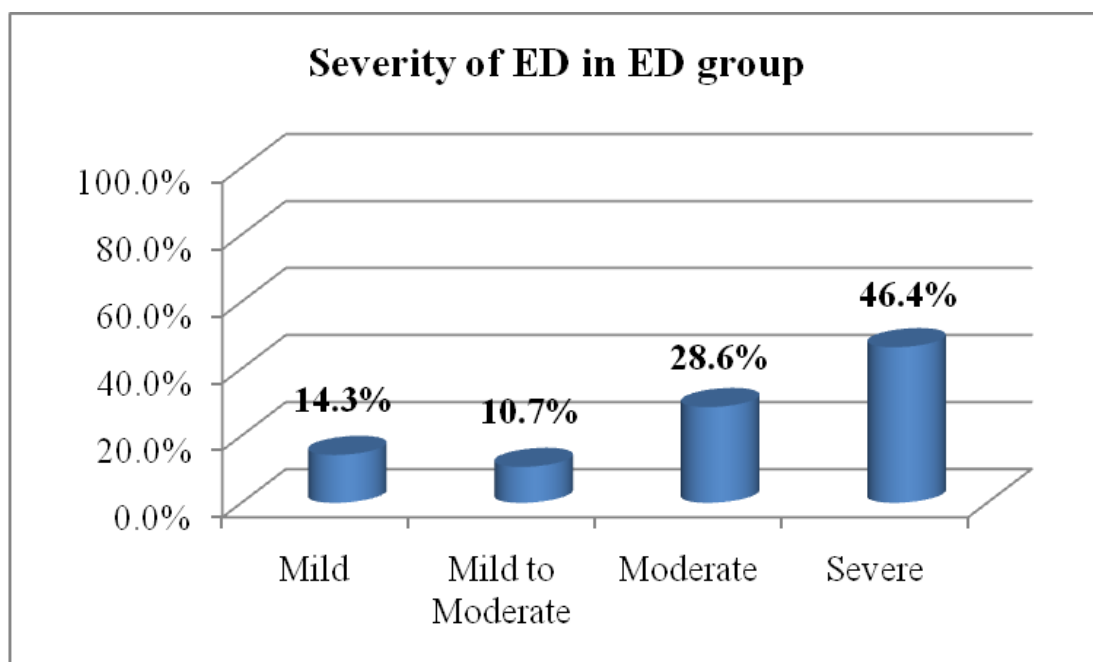| Degree of ED | Score | Number of cases | Percentage |
|---|---|---|---|
| Mild | 18-21 | 4 | 14.3% |
| Mild to Moderate | 12-16 | 3 | 10.7% |
| Moderate | 8 - 11 | 8 | 28.6% |
| Severe | 5 – 7 | 13 | 46.4% |



**Table 13 & Graph 12:** Show the degree of ED in the group with erectile dysfunction 14.3 % was found to be mild ED (4 patients) and 10.7 % found to be mild to moderate ED (3 patients) 28.6 % found to be moderate ED (8 patients) and 46.4% found to be severe ED (13 patients).

It was remarkable that the score of ED decreased with increase the duration of hypertension.

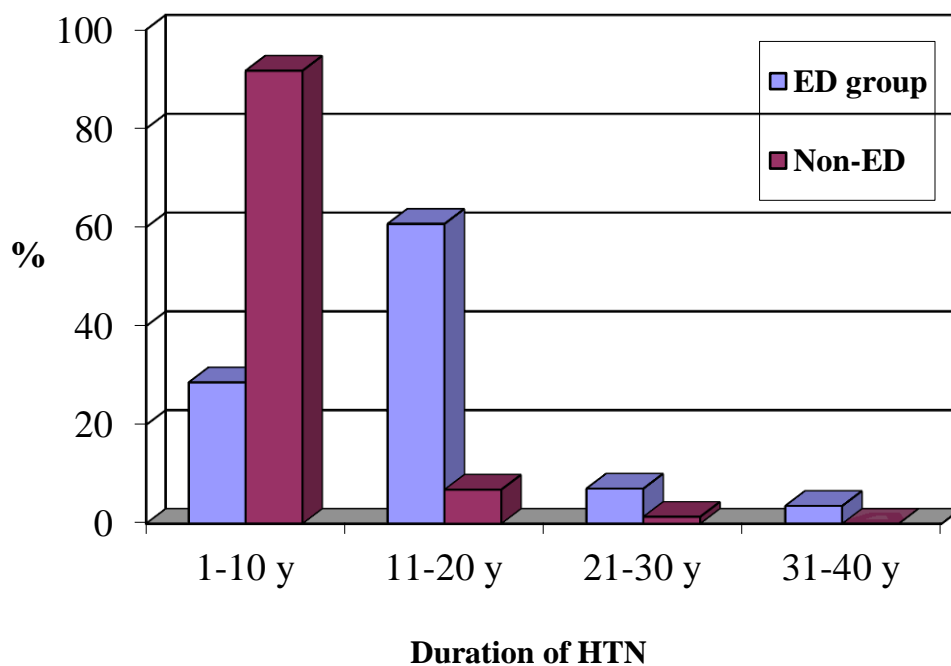| Duration of Hypertension in ED and Non-ED Groups | | | | |
|---|---|---|---|---|
| **Duration of Hypertension** | **ED group** | | **Non-ED group** | |
| | **No. = 28** | **Percent** | **No. = 72** | **Percent** |
| **1y-10y** | 8 | 28.6% | 66 | 91.7% |
| **11y-20y** | 17 | 60.7% | 5 | 6.9% |
| **21y-30y** | 2 | 7.1% | 1 | 1.4% |
| **31y-40y** | 1 | 3.6% | 0 | 0.0% |
| Mean ±SD | 16.6 ± 5.8 | | 5.8 ± 4.5 | |
| Range | 6 – 31 | | 1 – 22 | |
| Significance | t = 9.9 (P <0.001) | | | |



**Table 14 & Graph 13:** Show the duration of hypertension in both studied groups. In ED group: it was found to be 28.6 %, 60.7 %, 7.1 % and 3.6 % in duration of hypertension from 1-10, 11-20, 21-30, 31-40 years, respectively, and in non-ED group: it was found to be 91.7 %, 6.9 %, 1.4 %, in duration of hypertension from 1-10, 11-20, 21-30 years, respectively.

It was found that the use of β-blocker increase the incidence of ED either alone or in combination. On the other hand the uses of Ace-inhibitor and Ca-channel blocker decrease the incidence of ED and maintain the erectile function.

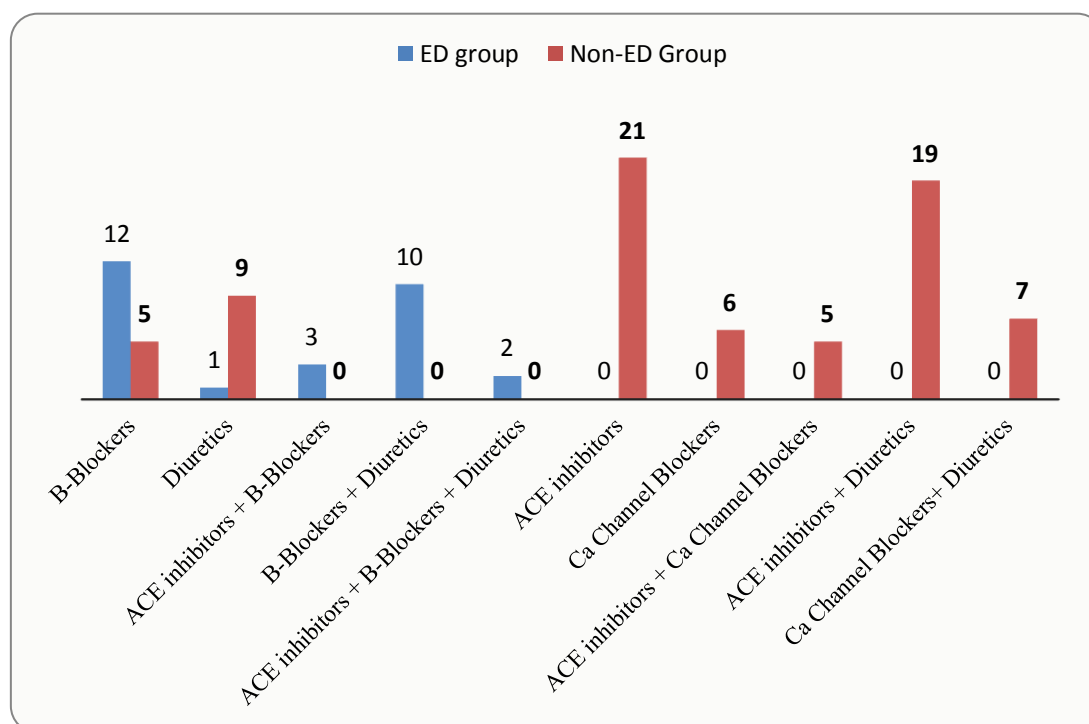| Anti-hypertensive medications | | | | | | |
|---|---|---|---|---|---|---|
| **Medication Group** | **ED Group** | | **Non-ED Group** | | **Statistical analysis** | |
| | **No.** | **%** | **No.** | **%** | $\chi^2$ | **P value** |
| B-Blockers | 12 | 12% | 5 | 5% | | |
| Diuretics | 1 | 1% | 9 | 9% | 15.97 | <0.001 |
| ACE inhibitors + B-Blockers | 3 | 3% | 0 | 0% | 4.7 | 0.03 |
| B-Blockers + Diuretics | 10 | 10% | 0 | 0% | 24.74 | <0.001 |
| ACE inhibitors + B-Blockers + Diuretics | 2 | 2% | 0 | 0% | 2.24 | 0.13 |
| ACE inhibitors | 0 | 0% | 21 | 21% | 10.34 | 0.0013 |
| Ca Channel Blockers | 0 | 0% | 6 | 6% | 1.22 | 0.26 |
| ACE inhibitors + Ca Channel Blockers | 0 | 0% | 5 | 5% | 0.85 | 0.35 |
| ACE inhibitors + Diuretics | 0 | 0% | 19 | 19% | 9.12 | 0.002 |
| Ca Channel Blockers+ Diuretics | 0 | 0% | 7 | 7% | 1.62 | 0.2 |

P <0.05 = Significant

**Table 15 & Graph 14:** show the groups of antihypertensive medication in 100 patients in our study was as follow 17 % was found to use β-blocker (12 of them had ED and 5 with normal erectile function), 10 % found to use diuretics (one of them had ED and 9 with normal erectile function), 3 % was found to use ACE-inhibitor and β-blocker (all 3 patients had ED ), 10% found to use β-blocker and diuretics (all 10 patients had ED), 2 % was found to use ACE-inhibitor and β-blocker and diuretics (all 2 patients had ED), 21 % was found to use ACE-inhibitor (all 21 patients with normal erectile function), 6 % was found to use Ca Channel Blockers (all 6 patients with normal erectile function), 5 % was found to use ACE inhibitors and Ca Channel Blockers (all 5 patients with normal erectile function), 19 % was found to use ACE inhibitors and Diuretics (all 19 patients with normal erectile function), And finally 7 % was found to use Ca Channel Blockers and Diuretics (all 7 patients with normal erectile function).

| Anti-hypertensive medications in ED group | | | | | |
|---|---|---|---|---|---|
| **Medication Group** | **Number of cases** | **mild** | **Mild to moderate** | **moderate** | **severe** |
| **B-Blockers** | 12 | 3 | 3 | 6 | - |
| **Diuretics** | 1 | 1 | - | - | - |
| **ACE inhibitors + B-Blockers** | 3 | - | - | 1 | 2 |
| **B-Blockers + Diuretics** | 10 | - | - | 1 | 9 |
| **ACE inhibitors + B-Blockers + Diuretics** | 2 | - | - | - | 2 |

**Table 16:** Show the degree of ED in each group of hypertensive medication β-blocker 12 patients (3 mild, 3 mild to moderate and 6 moderate), diuretics one patient of mild degree, ACE-inhibitor and β-blocker 3 patients (one moderate and 2 severe), β-blocker and diuretics 10 patients (one moderate and 9 severe) and ACE-inhibitor and β-blocker and diuretics 2 patients of severe degree.

Antihypertensive medications were taken almost always by 90 men, and 10 men had missed the dose a few times. Of 10 men 7 have ED and 3 with normal erectile function.

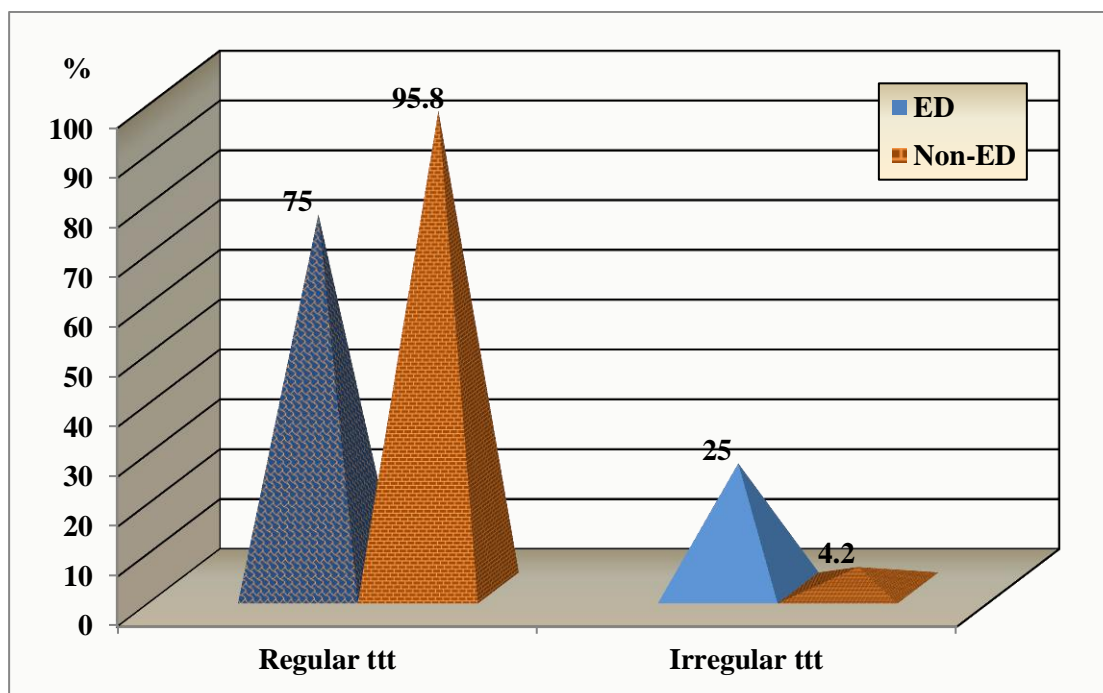| Hypertension treatment in both studied groups | | | | | |
|---|---|---|---|---|---|
| | ED group | | Non-ED group | | Significance | |
| | No. | % | No. | % | $\chi^2$ | P value |
| **Regular** | 21 | 75.0 | 69 | 95.8 | 7.55 | 0.005 |
| **Irregular** | 7 | 25.0 | 3 | 4.2 | | |



**Table 17 & graph 15:** Show the hypertension treatment in both studied groups. In ED group it was found to be 75.0 % and 25.0 % in regular and irregular treatment, respectively and in non-ED group it was found to be, 95.8% and 4.2% in regular and irregular treatment patients.

As the patient age increase the incidence of ED increase also as seen in the following table almost all ED cases ranges from 51 years to 70 years old age.

Exactly patient age in ED group from 54 to 61 with mean = 57.71429 & SD 1.902379 and patient age in normal erectile function group from 28 to 61 with mean = 43.83333 and SD 9.171296.

**Comparison between ED and non-ED as regards to age**

| Age (years) | ED group | Non-ED | t | P |
|---|---|---|---|---|
| Mean ± SD | 5.77 ±1.9 | 43.8 ± 9.2 | 7.9 | <0.001 |
| Range | 54 – 61 | 28 – 61 | | |

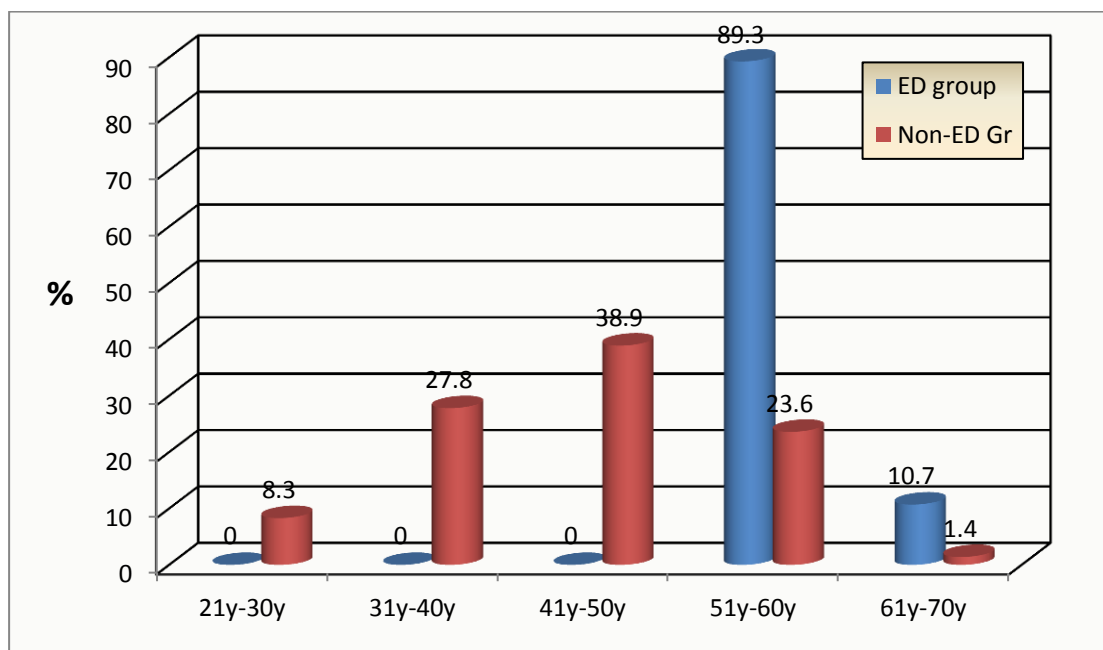| Patients' ages in both studied groups | | | | | | |
|---|---|---|---|---|---|---|
| Patients' ages | ED group | | Non-ED group | | Significance | |
| | No. | % | No. | % | $\chi^2$ | P value |
| **21y-30y** | 0 | 0.0 | 6 | 8.3 | 1.22 | 0.26 |
| **31y-40y** | 0 | 0.0 | 20 | 27.8 | 9.72 | 0.0018 |
| **41y-50y** | 0 | 0.0 | 28 | 38.9 | 15.12 | <0.001 |
| **51y-60y** | 25 | 89.3 | 17 | 23.6 | 35.7 | <0.001 |
| **61y-70y** | 3 | 10.7 | 1 | 1.4 | 2.46 | 0.11 |

**Table 18 & Graph 16:** Show hypertensive patients in both studied groups in relation to age. In erectile dysfunction: 89.3 % was found to be from 51 years to 60 years (25 patients) and 10.7 % found to from 61 years to 70 years (3 patients) In normal erectile function group; 8.3 % was found to be from 21 years to 30 years (6 patients) and 27.8 % found to be from 31 years to 40 years (20 patients) and 38.9 % found to be from 41 years to 50 years (28 patients) and 23.6 % found to be from 51 years to 60 years (17 patients) and 1.4 % found to be from 61 years to 70 years (1 patients).

The medical and hypertension histories of our patients revealed that of the 100 patients 80 were smokers but of 28 ED patients 20 are smokers and 8 are non-smoker. However that the smoking habit is common in our patients but we found that smoking increase with the incidence of ED. None of the patients consumed habitual drugs (cocaine, opium, marijuana or alcohol).

## Comparison between ED and non-ED as regards to smoking

| No. of cigarettes | ED group | Non-ED | t | P |
|---|---|---|---|---|
| Mean ± SD | 30.0 ± 7.8 | 19.8 ± 8.2 | 4.7 | <0.001 |
| Range | 20 – 50 | 5 – 40 | | |

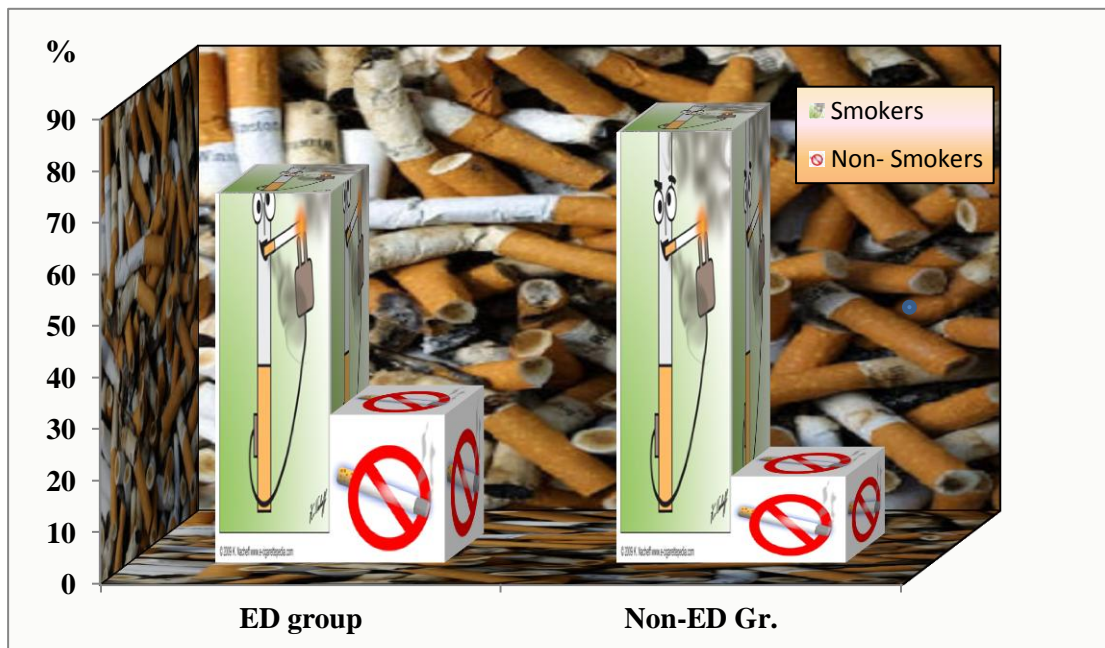| Smoking in both studied groups | | | | | |
|---|---|---|---|---|---|
| | ED group | | Non-ED | | Mean | SD |
| | No. | % | No. | % | $\chi^2$ | P value |
| **Smokers** | 20 | 71.4 | 60 | 83.3 | 1.79 | 0.18 |
| **Non- Smokers** | 8 | 28.6 | 12 | 16.7 | | |



**Table 19 & Graph 17:** Show the smoking habit in both studied groups. In erectile dysfunction group it was found to be 71.4 % and 28.6 % in smokers and non-smokers, respectively. In the group with normal erectile function 83.3 % was found to be smokers (60 patients) and 16.7 % found to be non-smokers (12 patients).

Of the 100 patients, 80 had regular sexual activity (one or two times weekly) but of 28 ED patients 20 are irregular and 8 are regular.

| Sex act in both studied groups | | | | | |
|---|---|---|---|---|---|
| **Sex act** | **ED group** | | **Non-ED Gr.** | | **Significance** | |
| | **No.** | **%** | **No.** | **%** | $\chi^2$ | **P value** |
| Regular | 8 | 28.6 | 72 | 100 | 64.29 | <0.001* |
| Irregular | 20 | 71.4 | 0 | 0.0 | | |

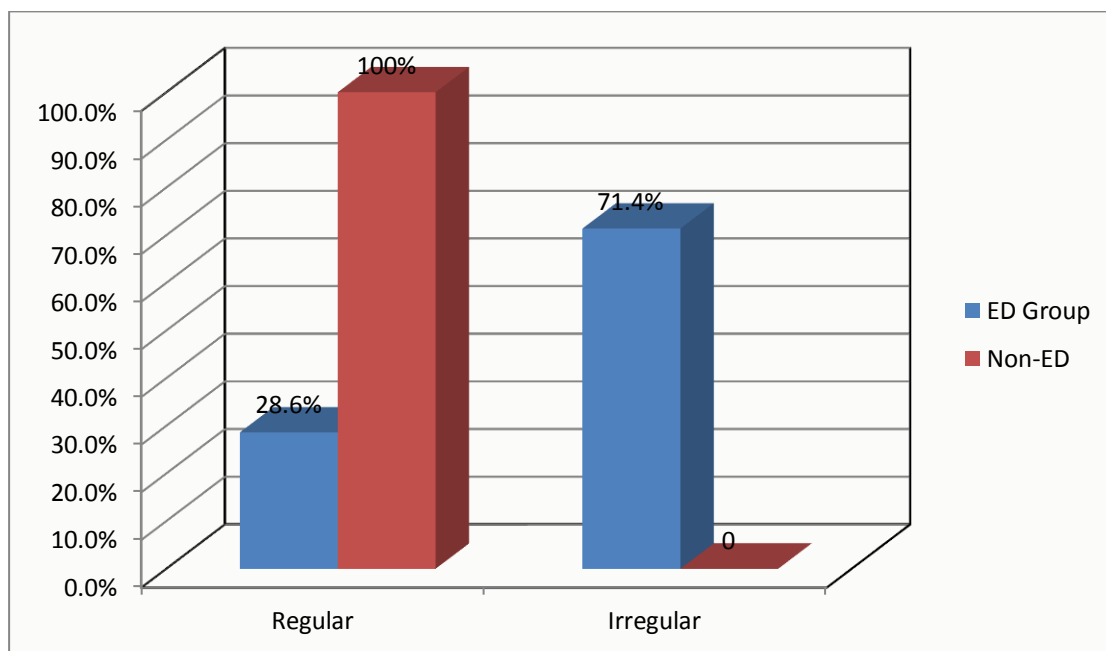*P<0.001 = Highly Significance



**Table 20 & graph 18:** Show the sexual activity in both studied groups. In ED group: 28.6% was found to be regular (8 patients) and 71.4% found to be irregular (20 patients). In non-ED group 100 % was found to be regular (72 patients).

Only 45 patients reported taking erectogenic drug therapy 17 of them have ED.

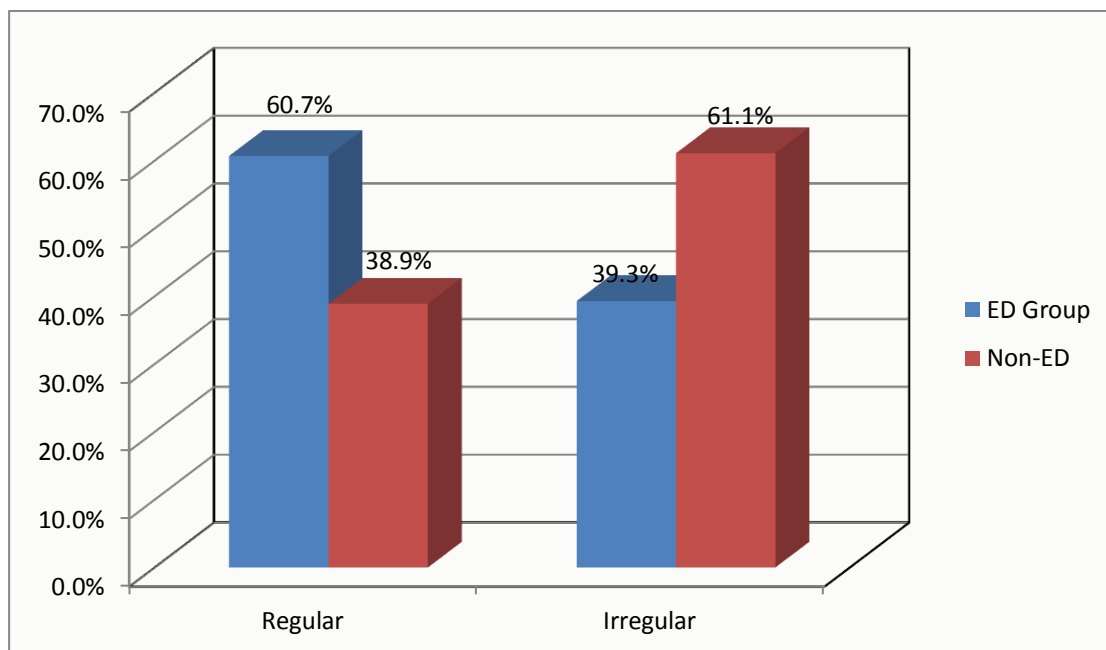| History of Erectogenic drugs in ED group | | | | | | |
|---|---|---|---|---|---|---|
| | ED group | | Non-ED Gr. | | Significance | |
| | No. | % | No. | % | $\chi^2$ | P value |
| Yes | 17 | 60.7% | 28 | 38.9% | 3.88 | 0.04* |
| No | 11 | 39.3% | 44 | 61.1% | | |

* P <0.05 = Significant



**Table 21 & Graph 19**: Show the history of erectogenic drugs in the study groups. In erectile dysfunction group 60.7% was found to use erectogenic drugs (17patients) and 39.3% do not use erectogenic drugs (11patients). In non ED group 38.9% was found to use erectogenic drugs (28 patients) and 61.1% do not use erectogenic drugs (44 patients).