

**Keywords:** Seminal plasma; Magnesium; Premature ejaculation

**Abbreviations:** PE: Premature Ejaculation; ED: Erectile Dysfunction; Mg: Magnesium

## Introduction

Premature ejaculation (PE), unlike erectile dysfunction (ED), affects men of all ages equally from 18 years old to the elderly. Both premature ejaculation and erectile dysfunction may coexist [1]. Many researchers reported that the pathogenesis of premature ejaculation is mostly due to psychological stress and anxiety [2], or due to organic diseases as pelvic congestion and chronic prostatitis [3]. Researchers reported that some trace elements as zinc, copper and selenium present in semen may play an important role in male sexuality [4]. Magnesium is one of the elements present in human seminal plasma. Seminal magnesium level (more than 70 mg/l) is much higher than in serum (17-24 mg/l) [5] which suggests that magnesium may play an important role in male sexuality. Magnesium (Mg) is the fourth most common cation in the body, and the second most common intracellular cation after potassium. It has a fundamental role as a co-factor in more than 300 enzymatic reactions involving energy metabolism

Specimens were centrifuged at 110 g for 10 min at 4°C within 30 min of sample collection. Aliquoted samples were stored at 80°C until they were assayed. Samples were sent to Balague center (Barcelona, Spain) to have the magnesium level measured there, using the atomic absorption spectrophotometry Perkin Elmer and Shimadzu, not available in our country at that time.

### Statistical Analysis

Data were analyzed using the SPSS program version 15. Results are statistically analyzed using signi cance test, independent t-test, ANOVA test and Pearson's correlation test. A "P" value of 0.05 was chosen as the level of statistical signi cance.

### Results

The normal level of Mg in seminal fluid is < 70 mg/l [5]. Results of seminal Mg level analysis in the 3 groups were as follows.

#### Group (A)

The 20 patients with PE only showed seminal Mg levels ranging from 41 mg/l to 69 mg/l with an average mean of 55.35 mg/l  $\pm$  8.9 and a highly signi cant decrease ( $p < 0.001$ ) when compared to group C.

#### Group (B)

In this group which includes 10 patients complaining of both PE and ED, the Mg level in semen showed a range of 9 mg/l to 46 mg/l with a mean of 26.5 mg/l  $\pm$  11.64, which was signi cantly lower when compared to patients of group A with PE only ( $p < 0.001$ ).

#### Group (C)

This group of 30 healthy control subjects showed a magnesium level < 70 mg/l in semen with a range of 70 mg/l to 141 mg/l and an average mean of 103.73 mg/l  $\pm$  22.5 with a highly signi cant elevation of Mg level ( $p < 0.001$ ) when compared to group A.

The relation between seminal Mg level in the 3 groups is shown in table 1 which clarifies highest values of Mg in semen of healthy men without any sexual dysfunction.

decrease in level of magnesium in semen of the group of men with PE,

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