

## Occupational exposure frequency in men with idiopathic abnormal spermatozoa visiting Royan Institute in 1998-2001

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### Abstract

Male reproductive function is known to be highly sensitive to many chemicals and physical agents generated by industrial or agricultural activities. Alterations in sperm count or semen quality have been documented for a number of occupational exposures. These exposures include, pesticides, solvents, heat, metals, radiation, estrogens and etc. Because of the infertility and individual and social problems, stress and also expensive treatment, prevention of these exposures should be emphasized and the distinction of occupational type of infertility from idiopathic form is necessary. The present study determined the frequency of occupational exposures and seminal characteristics among groups of men with abnormal semen parameters (idiopathic or unexplained) referred to Royan Institute. A total of 1550 consecutive men whose spouses were unable to conceive were recruited from an infertility clinic. Of these, 500 men were found to have an unknown cause for their reduced semen quality. They had at least two semen analyses and the results of recent semen analysis were linked to occupational exposure data from a self-administered questionnaire. Occupational exposures known to be hazardous to fertility were present in 164 men (32.8%). Among the exposed group, 36 men (22%) were exposed to pesticides, 46 men (28%) to solvents, 56 men (34.1%) to heat and 26 men (15.9%) to mixed agents. Frequency of high risk occupational groups were farmers 6.8% (n=34), drivers 7.8% (n=40), welders 4.4% (n=22). Frequency of semen characteristics of this group was asthenozoospermia (98.2%), teratozoospermia, oligozoospermia, oligoasthenozoospermia and azoospermia, respectively. Abnormal sperm reports especially oligozoospermia and oligoasthenozoospermia had more frequency in exposed group, with most cases falling under mixed subgroup. Also, mean semen parameters including, total sperm count, motility and normal morphology were less in exposed group. We concluded that occupational exposures play an important role in idiopathic infertile men, affecting 33% of patients. Therefore, identification of potential reproductive hazards, education and advocacy of patients, and reduction of exposure level via industrial health programs can be helpful.

**Keywords:** Male infertility, Occupational exposures, Sperm, Semen, Semen quality, Farmers, Welding, Work.

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