



## Traffic Noise Combined with Mobile Phone Radiation: Serious Environmental Risk to Male Reproductive System

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### Dear Editor-in-Chief

Of all forms of environmental pollutants, traffic noise is the most dominant and underhand natural pollutant. It has been well documented that traffic noise exposure contributes to hearing loss, tinnitus, heart disease, stroke, anxiety, stress, depression, learning difficulties, sleep disorders, reduced cognitive abilities and endocrine system disorders (1). Cell phones also pose a serious burden on the environment. In the last 20 yr, wide-reaching portable phone subscriptions have grown up from 12.4 million to over 5.6 billion, penetrating about 70% of the inclusive population. Its custom has also become an imperative public health problem, as there have been reports of plenty of health hazards, both mental and physical, in people of entirely age groups (2). Noise exposure can induce physiological and mental impairments (3). Enduring disclosure to traffic noise has undesirable effects on reproductive system (4). It has also been reported that mobile phones may reduce serum male sex hormones (5); however, there are research data showing that electromagnetic field exposure due to mobile phone has no major health effects on endocrine system function (6, 7). The impact of

traffic noise and mobile phone radiation as major environmental pollutants on human health is subject of study worldwide, because of the significant increase in mobile phone usage and increased traffic noise pollution throughout the world.

The current study was exerted to inspect the outcome of traffic noise combined with mobile phone radiation on the serum testosterone and the testicular morphology in rats. The study was approved by the Ethics Committee of the IAU, Hamedan branch, Hamedan, Iran.

Our study revealed that exposure of animals to traffic noise or mobile phone for 1 h/day did not significantly change but for 6 h/day resulted in significantly reduced serum testosterone level. The greatest reduction in serum testosterone, and in seminiferous tubule diameter, spermatogonia and Sertoli cells count was also observed in rats exposed to traffic noise combined with mobile phone for 6 h/day. The consequences of this study indicated that long-standing exposure to cell phone radiation and/or traffic noise has the greatest negative effects on male reproductive



system leading to the reduction in serum testosterone level and impaired testicular tissue.

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## Conflict of interest

The authors declare that there is no conflict of interest.

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