The sex ratio of offspring of male gasoline filling station workers

Ansari-Lari et al. reported that the sex ratio (proportion male) of offspring of men exposed to petroleum fuel is significantly lower than expected. They found that the sex ratio of offspring exposed to gasoline filling station workers was significantly lower compared to controls. The study was undertaken in the Galton Laboratory, University College London, and the University, Shiraz 71454, Iran; saadat@susc.ac.ir

References


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Offspring sex ratio in men exposed to electromagnetic fields

Many environmental factors have been shown to affect sex ratios in animals and humans. There are a few studies that have shown a change of offspring sex ratio because of paternal exposure to electromagnetic field, but others have not. Therefore, this study was undertaken.

Using a simple questionnaire, the number of sons and daughters of 51 professional drivers was recorded. The mean of measured magnetic field in their workplace was 0.15 mT. Within these families 110 offspring (61 males, 49 females) were identified. The mean duration of employment of subjects was 19 years (range 7–29 years). Because it is reported that paternal age and birth order have some effect on offspring sex ratio, for each exposed worker, three unexposed persons from the general population of Shiraz (without occupational exposure to electromagnetic fields) were matched by age (+2 years) and number of children as a control group. In the control group, 330 offspring (168 males, 162 females) were identified. Bootstrapping was used as the proportion of the total live births that were male (male proportion). The offspring sex ratio at birth in exposed and unexposed groups were 0.535 and 0.509, respectively. Statistical analysis showed that there was no significant difference between the study groups for male proportion at birth ($\chi^2 = 0.68, df = 1, p = 0.409$).

Irgens et al. reported that the male proportion in offspring of men in industries with electromagnetic field was slightly reduced. Also Wang and his coworkers reported that the sex ratio significantly decreased after mice were irradiated by an electromagnetic pulse. However, our data are not consistent with these reports. The sex ratio and the other two reports on experimental animals do not support the hypothesis that exposure to electromagnetic field is an important factor for change in offspring sex ratio.

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References


BOOK REVIEW

Survival analysis using S. analysis of time-to-event data


This well written introductory text book contains a succinct description of the survival analysis concepts nicely supplemented with examples and S-PLUS commands unlike typical textbooks on statistics or S-PLUS that serve just a single purpose. The didactic nature of this book makes easy reading. Each chapter begins with a list of learning objectives that capture the content to be covered, a gentle introduction to the topics using real life examples, implementation of the methods through detailed S-PLUS commands, and concise interpretation of the results. There is minimum emphasis on theory, however adequate references are provided for enthusiastic readers. Exercises, primarily applied problems, at the end of each chapter suffice a thorough understanding of the material covered. In addition to the standard concepts of survival analysis like Kaplan-Meier, log-rank, modified log-rank, Cox regression, etc., and diagnostics, the book also covers advanced topics such as competing risks, cutpoint analysis using bootstrap and regression quantiles, which is uncommon for an introductory text book.

The book introduces the basics of survival analysis, thereby targeting the beginners. On a similar note an introduction to S-PLUS commands either in an appendix or as part of the first chapter would have been helpful. All the commands are intrinsic to survival analysis that a reader with no background in S-PLUS might find it difficult to follow. The concepts and the commands are intermingled in the chapters resulting in a loss of continuity of the thought process in a few places. Supplementing the concepts with example(s) and reserving the S-PLUS commands and outputs to the end of each chapter would have made it more coherent.

Overall, this “practical” book on survival analysis using S-PLUS is well suited for an introductory course in applied statistics for students with some background in S-PLUS.

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