LETTER TO EDITOR

IS TODAY’S MALE POPULATION REALLY LESS FERTILE? DECLINING SEMEN QUALITY - A GLOBAL PHENOMENON?

Sir,

Scientific data published in recent time presents a conflicting record on semen quality and sperm count in men around the world. There seems to be a strong controversy on the decline in sperm count and semen quality over the data published since 50 years. Evaluation of semen quality over a period of 11 years in subjects attending a fertility clinic in India contradicts the earlier reports, suggesting the fact of declining sperm count as not a global phenomenon. But meta-analysis of 61 studies between 1938 – 1991, in 14,947 semen samples of fertile men from 23 countries conclusively confirmed a decline in sperm count. In addition a birth cohort study provides a direct evidence of deteriorating semen quality in Scottish men in a chronological order. Reanalysis of data on mean sperm count and their temporal distribution using different statistical tests; quadratic, spline fit and stairstep, suggesting a constant or slightly increase in sperm count over the years argue the fact of data analysis using linear regression model as inappropriate and concludes that, selection bias, variability in semen collection method, lack of adherence to minimum abstinence period, conflicting data from a large laboratory and a variety of statistical analysis models used are the factors responsible for the biased decline in count over the years. But reports on a decline in semen quality seem difficult to reconcile with the absence of any detectable decrease in fertility index. Modern society has been witnessing a rapid growth of chemical, industrial and pharmaceutical hazards. Exposure to environmental pollution, estrogen and estrogenic compounds, endocrine disruptors and potential compounds like pesticides were implicated as the possible factors affecting spermatogenesis. Geographic differences in semen quality with a reduced sperm concentration and motility in semi rural and agricultural areas relative to urban and less agricultural areas is further evidence for the potential environmental pollutants affecting the male fertility. Recent report contradicting the previous reports in the literature on the trend of sperm count and semen quality is quiet interesting and challenges the assertions of past literature. Apart from differences in selection criteria, abstinence period and methodology factors, climate, smoking, alcohol intake, ethnicity, seasonal variation, social and economic status also merit further consideration while investigation. Hence the recent report contradicting the earlier findings, reinforce to critically view the trend of declining semen quality and cannot be concluded on the global status of male fertility on the basis of the report from a single fertility clinic of a vast country with a high population density. On this issue regulatory and research agencies involving reproductive scientists, clinicians need to work on a common platform from different countries around the world and should undertake studies on common guidelines put forth by WHO to confirm or to refute the hypothesis. Current WHO guidelines for normal semen quality also should be used with caution as some men with sperm counts above the lower limit of WHO defined normal range found to be sub fertile. This it cannot be concluded on a whole depending on data from one fertility health clinic in India. Similar epidemiological survey from different parts of India with identical recruitment and selection of men may add support on their findings. Further feasibility of a prospective study of fertility and an established study base is important to provide useful information on risk of fertility. Delay in confirmation of the conflicting reports may compromise the fertility index of future.

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SEROPREVALENCE OF HIV, HBV, HCV AND SYPHILIS IN BLOOD DONORS

Gupta N et al have presented interesting data on seroprevalence of HIV, HBV, HCV and syphilis in blood donors. Although they mention about correlation between HIV and syphilis, no data has been provided for the same. HBV, HIV, HBV and syphilis have similar route of transmission, it is surprising that while there is correlation between HIV and syphilis, there is no correlation between syphilis and HCV or HBV. It would be interesting to see correlation between HIV and syphilis, no data has been provided for the same. HBV, HIV, HBV and syphilis have similar route of transmission, it is surprising that while there is correlation between HIV and syphilis, there is no correlation between syphilis and HCV or HBV. It would be interesting to see correlation between HBV and HCV, between HIV and HBV and HCV. They also mention that positivity for anti-HBc was more than positivity of HbsAg, whereas the data shows Anti-HBc positivity in 0.11% and HbsAg positivity in 0.66%. Although authors state that serological testing for syphilis serves as surrogate test for HIV infected donors, this cannot be accepted in practice and every unit of donated blood has to be tested for HIV irrespective VDRL result. From the same institute, during a six year
period from 1994 to 1999 (60780 donors) prevalence of HCV, HIV and HBsAg was reported to be 0.78%, 0.26% and 1.7% respectively. It is seen that over a period of time prevalence of HCV and HIV has increased whereas that of HBsAg has decreased. Decrease in HBsAg prevalence could perhaps be related to increasing use of HBV vaccine.

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PATTERN OF USE OF TOBACCO BASED PRODUCTS IN URBAN AREA OF CHANDIGARH

Sir,
The World Health Organization (WHO) estimates the number of smokers aged 15 years and above to be 1.1 billion which constitutes a third of world’s population in this age group. In industrialized countries, where the prevalence of smoking is decreasing, 42% men and 24% women smoke. The corresponding figures in developing countries are 47% and 7%, respectively. These nations are witnessing a substantial rise in the number of young adults taking up smoking as also the per-capita consumption of tobacco in its various forms.

Tobacco-based Products (TBPs) have medical, social as well as economic bearings on their users. This differs not only across nations but also within various regions of a country. Although several studies on tobacco use have been reported from different parts of the country, no such study has been conducted in Chandigarh previously, which has its own characteristic socio-demographic profile such as 90% population living in urban area. In the light of these facts, this study was undertaken to know the pattern of TBPs users in Union Territory of Chandigarh, to determine the knowledge, attitude and practices of people regarding TBPs use and to ascertain the knowledge of the users regarding the health hazards due to use of various TBPs.

The Union Territory of Chandigarh, located around 250 k.ms north-west of Delhi, has a total population of 9,00,635 as on March 01, 2001. In toto 1095 (95%) subjects aged > 15 years (532 males and 563 females) were studied using a pre-tested questionnaire designed as per WHO guidelines. The study revealed that nearly 20% subjects aged above 15 years were found to be users of tobacco-based products, predominantly smoking. Maximum prevalence was seen among middle-aged males. The use of tobacco-based products was six times higher among males than females. It also rose with increase in age. Only few subjects were aware of the health hazards related to use of tobacco-based products. Socialisation was seen to be a minor factor for use of tobacco-based products. Key factors identified to be responsible for non-use of tobacco-based products were health risks, bad habit and religious/social sanctions.

However, the prevalence among both the genders is much lower than the average for developing countries as a whole. TBPs use among males in Chandigarh has been found to be comparable to that in Delhi. Higher figures ranging from 53% to 56% have been reported from the Baltic Republics. The prevalence of tobacco use amongst women in this study has been much lower than the reported values of 15% in Bhavnagar and 67% in Andhra Pradesh.

Though the prevalence of TBPs users in Chandigarh is lower than in other cities of India and developing countries as a whole, yet its increasing trend in the middle aged people is disturbing. The situation needs to be controlled and mitigated by carrying out regular antismoking campaign and enforcing the legislation.

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