Role of Occupational Background over Fertility Issues among Males in Vidarbha Region: A Letter to the Editor

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It is a pleasure writing a Letter to the Editor for the published article: **Tayawade AK, More A, Salve M, Shrivastava D. Effect of Occupational Environment on Male Infertility. Int J Curr Res Rev. 2020;12(22):S117-S121.**

As stated by the authors, the objective was a comparative study of the occupational environment and its effect on the genome for influencing infertility in the male as it affects 13-18% of couples of reproductive age worldwide and is treatable in many cases. Although both male and female contribute to the factors influencing infertility, the focus has been on male infertility under the following heads:

1. To study occupational environmental factors affecting male infertility in the Vidarbha region.
2. To check methylation status for MTHFR gene polymorphism in males having infertility factor.
3. To correlate MTHFR gene polymorphism and occupational environmental factors with defects in morphology, count, and motility of sperm by normal sperm.
4. To study idiopathic factors for male infertility.

This was to be compared with the control that had a healthy baby without any infertility treatment.

The study design has been as follows:

Subject: Male partner of the infertile couple.

Intervention: Identification of genetic defects in infertile male partner and its correlation with corresponding Occupational environment.

Comparison: MTHFR gene polymorphism and corresponding occupational environmental factors will be compared with patients facing male infertility and a normal (healthy) sample.

Outcome: Outcome will be seen in the form of "Relation between occupational environmental factors and genome of the male was having infertility factors".

The following types of persons had been excluded from the study:

The patient having systemic organic disease, endocrine factors, reproductive tract disease, patients not giving consent for research, and those having infections like HIV, HBsAg, etc.

Males having infertility factors (as the subject of study) and healthy males (as a control) were to be done based on Environmental and Epigenetic Data. In case of availing effect of Occupational Environment on male infertility, variables in form of semen sample of male with abnormal semen profile are to be most expected to be included in the study will be "exposure to heat, telecommunication radiations, and chemicals". In the case of an Epigenetic assessment of elements of groups, variables will be considered in the form of number bands of gene samples observed in complete electrophoresis run after being digested by the restriction enzyme. The elements of each group (experimental samples) will be compared for digested band ratio with one with a healthy semen profile having the same occupation environmental exposure (control sample).

As per the authors: Taking geographical, physiological, and working culture of the zone where the study of samples are collected into consideration, the factor for studying the occupational environment impact is kept limited to heat, telecommunication radiation, and chemical exposure. However, no details have been mentioned regarding the difference in the level of these factors on the study group and the control group over a similar time period. These data should then be subjected to the Chi-square test to implicate these environmental factors as likely the cause of infertility. This study lacks statistical tables on different variables / parameters to compare the study and control groups. However, the epigenetic study is commendable and it will be better to associate the Community Medicine department of the Institute for further studies on this subject as that will not only make this study more meaningful but open up a much higher level of scientific study.