

**EFFECTS OF SOCIO-DEMOGRAPHIC, LIFESTYLE AND ENVIRONMENTAL
FACTORS ON SEMEN QUALITY OF MEN ATTENDING THE SUBFERTILITY CLINIC
IN NATIONAL POPULATION AND FAMILY DEVELOPMENT BOARD**

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EXECUTIVE SUMMARY

Couples are considered infertile if they are unable to conceive after one year of regular unprotected sex. The impact of lifestyle and environment on human fertility may vary depending on aetiology, demographic characteristics, genetic variation and other factors. As used by previous researchers, semen parameters were used to measure male infertility. Therefore, a decrease in semen quality is considered as a major factor in male infertility (http://en.wikipedia.org/wiki/Semen_quality).

Previous studies (Kidd et al. 2001, Eskenazi et al. 2003, de La Rochebrochard and Thonneau 2003) have found that older men tend to have lower semen quality than younger ones. Testicular hyperthermia (elevated temperature) also has been known to affect male fertility. Men who like taking hot baths or sit in a sedentary position for a long time are at risk of having infertility. The objectives of this study are to identify the relationship between socio-demographic profile, lifestyle and environmental factors and semen quality, and to identify risk factors of poor semen quality among men attending the National Population and Family Development Board's (NPFDB) Subfertility Clinic.

This study was done in Andrology Laboratory, NPFDB. Five hundred men from couples having their first infertility consultation between September 2010 and June 2011 were recruited. Each patient was required to register, deposit semen and fill in the

questionnaire. Sperm concentration, morphology and motility from semen analysis were used to study the relationship between semen quality and independent variables. Reference limits used were $15 \text{ cells} \times 10^6/\text{ml}$, 4% and 40%, respectively (World Health Organization, 2010). For statistical analysis, descriptive statistic, t test and ANOVA were used; 0.05 alpha value was chosen.

Results showed that one-third of the study population were between 26 to 30 years of age and another one-third were aged between 31 to 35 years old; mean age was 33.2. Majority were Malays (71.2%), resided in Selangor (64.3%) and are professionals (41.6%). Semen quality showed a negative relationship ($p < 0.05$) with age. Meanwhile, sperm motility varied significantly for different ethnic group. Chinese (57.75%) had the highest motile-sperm compared to Malays (53.44%) and Indians (46.60%). Among lifestyles variables, frequency of sexual intercourse had a positive relationship ($p < 0.05$) with sperm motility, whilst sedentary position had negative relationship ($p < 0.05$) with the latter. Regression analysis was used to predict the risk factors of poor semen quality. This study found that men above 30 years old were two times more likely to have low sperm motility than men in the twenties. Moreover, less frequent sexual activity between couples was more likely ($p < 0.05$) to have abnormal sperm compared to those who had sexual intercourse more frequently.

In conclusion, this study suggested that age over 30 years and infrequent sexual activity were the risk factors to lower semen quality. Even though not regarded as a risk factor, sedentary work position had a negative impact on sperm motility. These factors may affect male fertility and cause difficulty in conception. Public awareness through advocacy programs and talks on infertility and its risk factors should be carried out regularly. Public education should be carried out to advice men to practice a healthy lifestyle and work life balance. This study has shown encouraging results, and should be replicated in the general population in Malaysia.