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A CROSS SECTIONAL STUDY ON RELATIONSHIP BETWEEN OCCUPATION & LIFESTYLE MODIFICATION AND INFERTILITY AMONG MALES

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ABSTRACT

In our day-to-day life, change in culture and food habits, adulteration, exposure to various radiations, chemical hazards, pollution, smoking, and alcohol and various diseases like hypertension, diabetes mellitus, obesity, and resultant grave side effects of medication for these conditions, impacts the human species with dangerous and unexpected complications on fertility in life. Based on statistics released by the WHO, the prevalence of Infertility is 10-15%. It meansthat one out of six couples suffer from infertility, among whom 35-40% of cases are related to male infertility disorders and 20% related to couple factors. From these findings, it can be concluded that male fertility disorders play a leading role in half of all infertility cases. My aim ofthe study is to Analyses the impact of Occupation and Lifestyle modification on Male Infertility. This study was conducted in National Institute of Siddha, Chennai with IEC approval. I was selected 100 Male infertility patients with reports. The study details were collected in the data collection form (Questionnaire). My result of the study is Occupation and Lifestyle modifications one of the reasons for Male Infertility.

KEYWORDS: Male infertility, Occupation, Life style.

INTRODUCTION

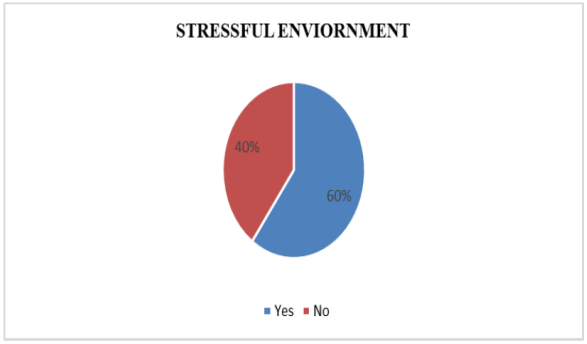
Recent studies reveal the fact that the usage of electronic devices such as mobile phones and its radiations, affect the gonads to a great extent.[1] Ageing is associated with the diminished function of various tissues in the body. This decline in the organism's capacity for optimal functioning may be attributed to changes arising out of involution and wear and tear of the tissues. With age, there are also changes occurring in the cell membrane and chemicals, particularly in the cellular enzymes. The gonadal function declines with age. In the male, there is progressive atrophy of the sperm-producing elements of the testis, resulting in diminished spermatogenesis.[2] In a study by Sadighi *et al.* in an Infertility Research Center in Iran, it is pointed out that some factors in the human environment, such as certain working conditions (occupational and environmental exposures), can put the human reproductive system at risk.[3] The present study aims to investigate the relationship between occupation & lifestyle modification and infertility among males.

Among the known etiologies leading to infertility are occupation and exposure to harmful environmental factors, both of which can be prevented. Preventing damaging occupational effects on the male reproductive system is a high priority for healthcare professionals and can be managed by promoting employee awareness and encouraging appropriate preventive measures when performing hazardous jobs. To this end, a list of hazardous jobs and factors has been provided, and some of those jobs and several related ones were studied.[4]

MATERIALS AND METHODS

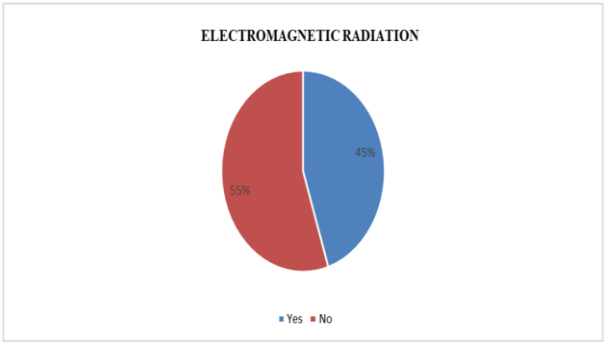
It is a cross-sectional study conducted in Outpatient department of National Institute of Siddha, Ayothidoss Pandithar hospital. The study was approved by IEC (Institutional Ethics Committee)-NIS/IEC/2019/M-31. The study was also registered in CTRI(Clinical Trial Registry India)-CTRI/2019/05/019162.The study takes place from March 2019 to August 2019(6 months). In this study approximately 100 outpatients were selected without any bias for an occupation, Socioeconomic status and duration of disease. A pre-designed self-administrated questionnaire interview method was used for collecting data about the patients. Data on demographic characteristics including Age, Occupation, Family history and Personal habits was obtained.

RESULTS



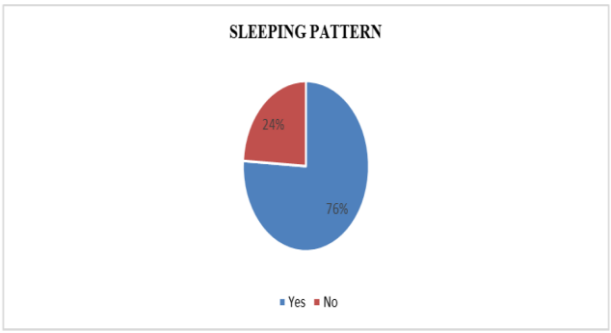
Among 100 cases, 40% of the patients were working in a stressful environment.

Figure 1: Distribution of the sample patients reporting NIS OPD according to StressfulEnvironment at work.



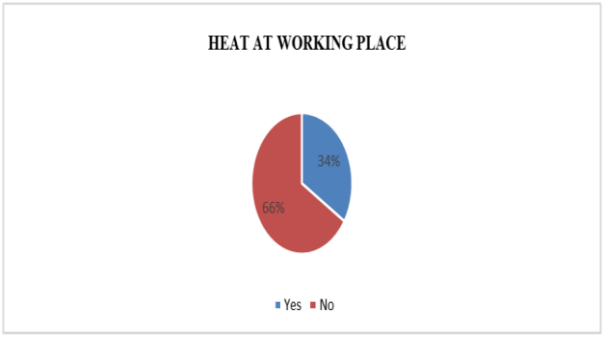
Among 100 cases studied, 45% of cases were in the environment where they are likely tobe exposed to electromagnetic radiation.

Figure 2: Distribution of the sample patients reporting NIS OPD according to Exposure of Electromagnetic Radiation.



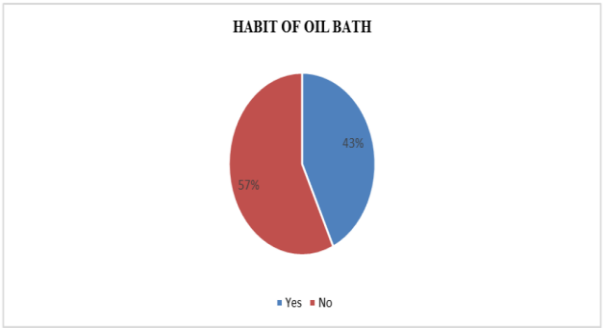
Among 100 cases studied, 24% of cases had a regular sleeping habit and remaining 76%had irregular sleeping time.

Figure 3: Distribution of the sample patients reporting NIS OPD according to Sleeping patternchanges.



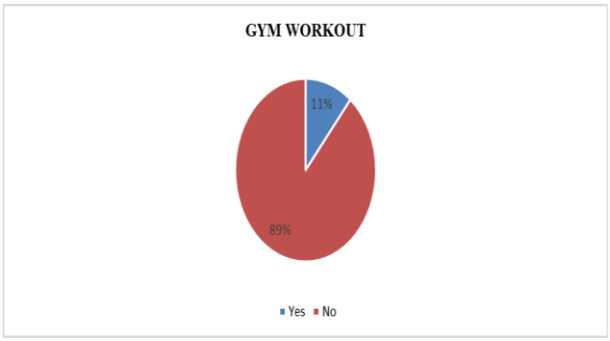
Among 100 patients, 34% of patients were working in a heat-related environment.

Figure 4: Distribution of the sample patients reporting NIS OPD according to Heat at workingplace.



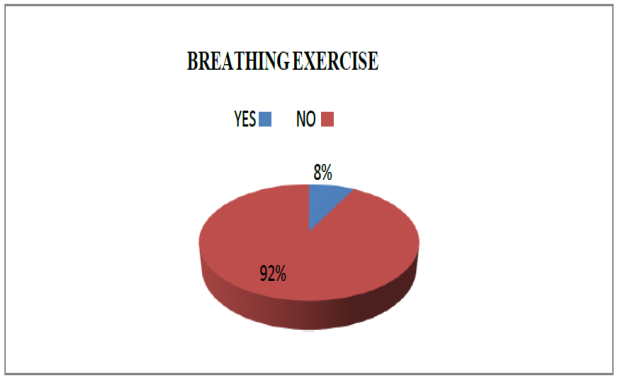
Among 100 patients studied, 43% had the habit of taking regular oil bath, and theremaining 57% did not have the habit of taking oil bath.

Figure 5: Distribution of the sample patients reporting NIS OPD according to Habit of the Oilbath.



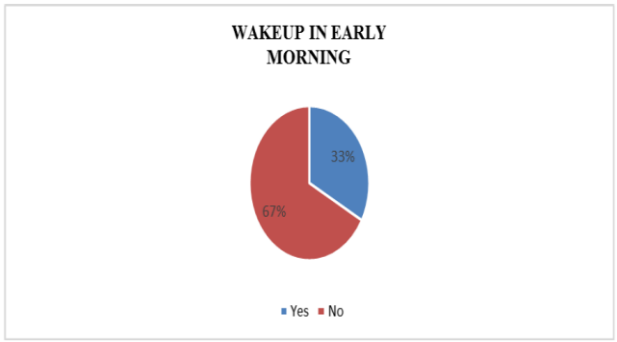
Among 100 cases, only 11% of patients had the habit of doing gym workout.

Figure 6: Distribution of the sample patients reporting NIS OPD according to Gym workout.



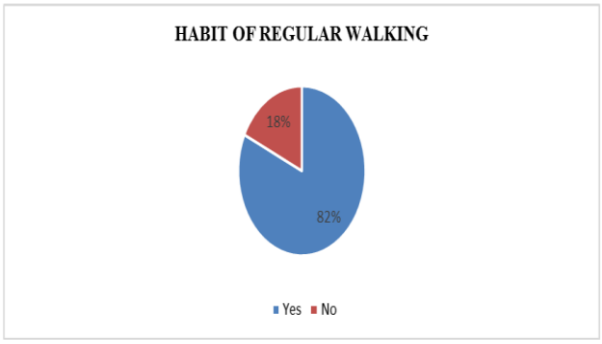
Among 100 patients, only 8% of patients had the habit of doing breathing exercise, andthe remaining 92% didn't have that habit

Figure 7: Distribution of the sample patients reporting NIS OPD according to Breathing Exercise.[5,6,7]



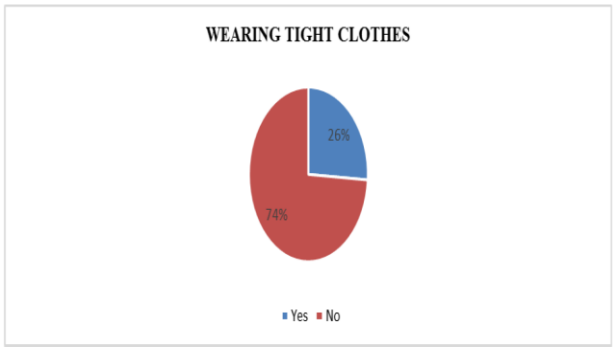
Among 100 patients. 33% of patients had a habit of wake up in early morning, and 66%didn't have that habit.

Figure 8: Distribution of habit of wakeup in Early morning.



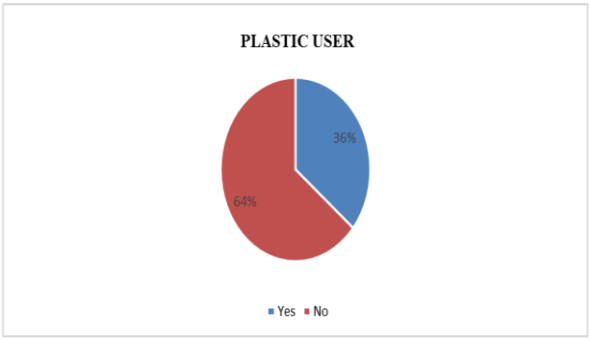
Among 100 patients observed, 18% of the patients have the habit of regular walking, and the remaining 82% didn't have walking habit.

Figure 9: Distribution of the sample patients reporting NIS OPD according to Habit of Regularwalking.



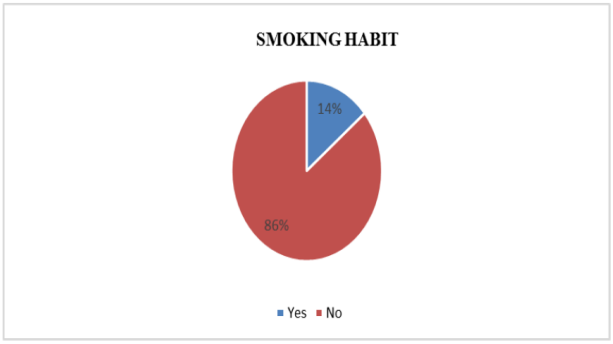
Among 100 patients observed, 26% of patients preferred to wear tight clothes and the remaining 74% didn't give preference to tight clothes.

Figure 10: Distribution of the sample patients reporting NIS OPD according toWearing tight clothes.



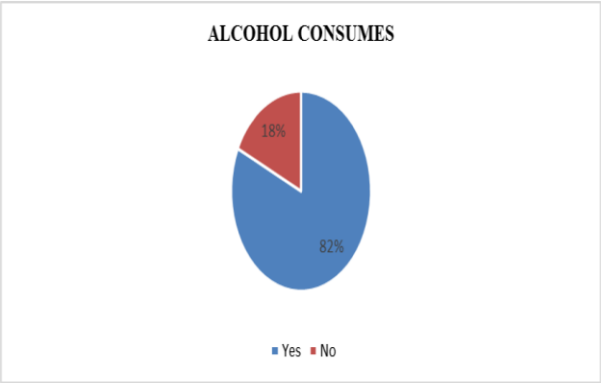
Among 100 patients observed, 36% of patients had been using plastics, and the remaining 64% hadn't been using plastics.

Figure 11: Distribution of the sample patients reporting NIS OPD according to Plastic user.



Among 100 patients, only 14% of patients had a smoking habit, and remaining 86%didn't have smoking habit.

Figure 12: Distribution of the sample patients reporting NIS OPD according to Smoking Habits.



Among 100 patients, 18% had the habit of consuming alcohol, and the remaining 82%were non-alcoholic.

Figure 13: Distribution of the sample patients reporting NIS OPD according to AlcoholConsumes.[8,9,10,11]

DISCUSSION

About 40% of patient with infertility reporting to NIS OPD were affected by stress. According to the article, lifestyle causes of male infertility, stress is associated with reduced paternity & abnormal semen parameters and thus could be a causative factor in affecting male infertility. In our study, majority of patient was free from stress may be due to our counselling during treatment period as well as due to smaller number of sample size. Despite there being no concrete potential relationship between smoking and male infertility as of yet, available evidence on cigarette smoking and male fertility support the recommendation of smoking cessation. Minimizing exposure to tobacco smoke amongst couples who are trying to conceive. In this study around 14% had the habit of smoking. It implies the above statement that there is no relationship between smoking and infertility. Alcohol intake and cigarette smoking alone did not affect sperm parameters. Both habits together appear to exert an additive effect that could adversely alter sperm parameters. In our study, 18% were alcoholic whereas 82% are non- alcohol. The percentage of patient with the habit of smoking and alcoholic ranges from 14-18% which meant that smoking alcoholic has no significant cause for infertility. The study Sedentary Time and Its Association with Risk for Disease Incidence, Mortality, and Hospitalization in Adults: A Systemic Review and Meta-Analysis, suggest that sedentary behavior and physical inactivity would be two independent factors to consider regarding fertility, as has exercise performed, it appears that the frequency, duration intensity and the type of patient may affect infertility parameters differently in men. In this study, 11% were during gym workout, 18% were, doing regular walking which implies that they were in sedentary lifestyle. In this study, 43% were during Oil bath whereas 57% didn't follow the oil bath. Alteration in the thermoregulation may affect sperm parameters. Oil bath may maintain the thermoregulation of the body and scrotum. That 43 % had the knowledge of oil bath and its benefits after visiting NIS OPD.

CONCLUSION

The present study reveals that the modern lifestyle can be a significant factor to cause infertility in males. Some factors such as alcohol, smoking, wearing tight clothes didn't show any association with fertility in this study. The patients with less physical activity, sedentary lifestyle such as early wakeup, without regular exercise and usage of moderate level of plastics in their routine life have infertility compared with active lifestyle patients among my sample. A further extensive study should be conducted to find out the association of the riskfactors discussed in the study and infertility.

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