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Short Communication

Role of diet in fertility: a descriptive cross-sectional study on the knowledge among medical practitioners in South India

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ABSTRACT

Background: Adherence to healthy diets favouring seafood, poultry, whole grains, fruits and vegetables, are related to better fertility in women and better semen quality in men. Along with pharmaceutical treatment, the role of a proper diet and lifestyle has been highlighted in many diseases like hypertension and diabetes. Likewise, the role of diet in fertility is a less explored area which holds great potential. The first step towards implementation of this fact will be increasing the awareness about the same among healthcare professionals, mainly doctors.
Methods: A cross-sectional study including medical practitioners in 3 hospitals each in Tamil Nadu and Kerala. Assuming 50% prevalence and 8% allowable error, sample size was calculated to be 156. Data collection was done using a semi-structured and self-administered questionnaire.
Results: Among the total, 80.1% of the medical practitioners responded that diet played an important role in boosting fertility of an individual and 72.1% had faced questions regarding the foods to improve fertility. In terms of knowledge, 28% of the respondents were able to score more than 60 out of a maximum score of 100.
Conclusions: Future efforts should concentrate on solidifying emerging evidence and to jointly consider female and male diets along with other interventions for infertility management.

Keywords: Infertility, Knowledge, Diet, Nutrition, Fecundity

INTRODUCTION

Identifying modifiable lifestyle factors, such as diet, that influence human fertility, is of major clinical and public health significance.[1] Infertility affects up to 15% of reproductive-aged couples worldwide.[2] According to World Health Organization, the overall prevalence of primary infertility in India is between 3.9 to 16.8%.[3,4] In Indian states, the prevalence of infertility varies from state to state such as 3.7 per cent in Uttar Pradesh, Himachal Pradesh and Maharashtra, to 5 per cent in Andhra Pradesh, and 15 per cent in Kashmir and prevalence was known to vary in the same region across different tribes and caste.[4]

The high prevalence of impaired fecundity combined with the high financial costs and limited geographic access to infertility treatment motivates the need to identify modifiable predictors of couple fertility.[5,6] While there is a growing acceptance that nutrition may be related to reproductive performance in both men and women, there is still no official guidance for reproductive-aged couples.[7]

The purpose of this study is to summarize the epidemiologic literature on nutrition and fertility and assess the practical dietary knowledge of medical practitioners to facilitate better patient recommendations based on the best available evidence.

METHODS

A cross-sectional study was conducted across 3 hospitals in Tamil Nadu and Kerala during a period of 1 month. General practitioners and specialists who were having an active clinical practice were chosen for the study, based on their willingness to participate. A minimum sample size of 156 was calculated, assuming 50% prevalence and 8% allowable error and finally, a total of 201 participants contributed to the study.

Data collection was done using a pre-tested and validated questionnaire, which was constructed by reviewing existing evidence about role of nutrition in infertility. The questionnaire largely dealt with the role of specific food items in boosting fertility, special diets which have a positive effect on fertility of an individual and specific food items which can decrease positive pregnancy outcomes.[8-12] The questionnaire was validated by an expert panel consisting of a specialist from reproductive medicine, a nutritionist and a public health specialist. Data was collected using self-administered questionnaire and the responses were recorded in Microsoft excel spreadsheets. Data are expressed in frequency/percentages and analyzed using IBM-statistical package for the social sciences (SPSS) version 21.

RESULTS

The distribution of the study participants was such that 29.4%(n=59) were specialists, 38.3% (n=77) were PG students and 32.3% (n=65) were general practitioners. Of the total, 35.8% (n=72) had more than 5 years of experience and 44.3% (n=89) had 2 to 5 years of clinical experience. During the study period, 72.1% (n=145) of the participants responded that they had faced questions regarding good/ideal foods during the conception period and 100% (n=210) of the participants had been enquired about the safe foods during pregnancy.

Amongst the respondents, 80.1% (n=161) of the participants had believed that diet played an important role in modifying the fertility status of an individual and while 8.4% (n=17) believed that food played a role in determining the gender of a baby, 11.4% (n=23) were not sure about the role of diet in gender determination. When asked to pick, which foods according to them were positive fertility modifiers, the popular items were found out to be fish and green leafy vegetables with 86.6% (n=174) and 80.6% (n=162) respectively and the lesser of the choice was red meat with 7.9% (n=16) (Figure 1).

Knowledge scores had a mean (standard deviation) of 53.8 (17.6), with a maximum score of 100 and a minimum score of 0. Good knowledge scores between 60-80 was obtained by 19.9% (n=40) and a score more than 80 was obtained by 8.5% (n=17) of the participants. A poor knowledge score of less than 40 was seen in 11.9% (n=24) of the participants.

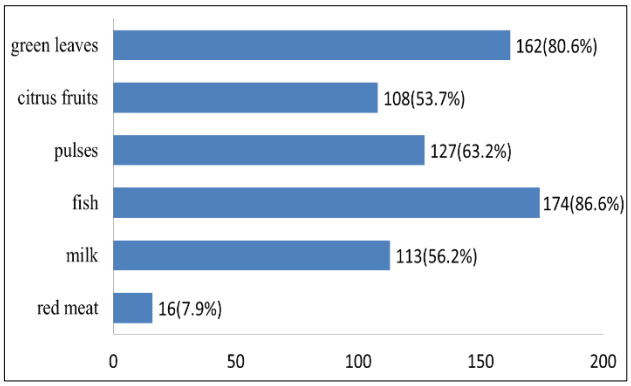

Figure 1: Food items which are positive modifiers of fertility status.

DISCUSSION

The role of dietary modifications and nutrient supplementation in as a part of interventions for infertility management is a less explored area. Even though 80.1% of the participants felt that diet played an important role in boosting the fertility of an individual, only 28.4% of the respondents were able to score more than 60 out of 100. While taking into consideration the practical need for an understanding about the role of diet in fertility, it's significant that 72.1% of the participants reported having to face questions regarding foods which could improve fertility and chances for pregnancy during their routine practice.

CONCLUSION

The literature on the relation between diet and human fertility has greatly expanded over the last decade and led to the emergence of some clear patterns. It also calls for a greater need for increasing the understanding about dietary modifications among patients as well as healthcare professionals. Future efforts should concentrate on solidifying emerging evidence and jointly considering female and male diets along with other interventions for infertility management.

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REFERENCES

1. National Health Portal of India. Infertility. 2019. Available at: https://www.nhp.gov.in/disease/reproductive-system/infertility. Accessed on 20 November 2022.
2. Chambers GM, Sullivan EA, Ishihara O, Chapman MG, Adamson GD. The economic impact of assisted reproductive technology: a review of selected developed countries. Fertil Steril. 2009;91:2281-94.
3. Harris JA, Menke MN, Haefner JK, Moniz MH, Perumalswami CR. Geographic access to assisted reproductive technology health care in the United

States: a population-based cross-sectional study. Fertil Steril. 2017;107:1023-7.
4. Rossi BV, Bressler LH, Correia KF, Lipskind S, Hornstein MD, Missmer SA. Lifestyle and in vitro fertilization: what do patients believe? Fertil Res Pract. 2016;2:11.
5. Chavarro JE, Minguez-Alarcon L, Mendiola J, Cutillas-Tolin A, Lopez-Espin JJ, Torres-Cantero AM. Trans fatty acid intake is inversely related to total sperm count in young healthy men. Hum Reprod. 2014;29:429-40.
6. Greenwood DC, Thatcher NJ, Ye J, Garrard L, Keogh G, King LG, et al. Caffeine intake during pregnancy and adverse birth outcomes: a systematic review and dose-response meta-analysis. Eur J Epidemiol. 2014;29:725-34.
7. Cramer DW, Xu H, Sahi T. Adult hypolactasia, milk consumption, and age-specific fertility. Am J Epidemiol. 1994;139:282-9.
8. Showell MG, Brown J, Clarke J, Hart RJ. Antioxidants for female subfertility. Cochrane Database Syst Rev. 2013;Cd007807.
9. Ozkan S, Jindal S, Greenseid K, Shu J, Zeitlian G, Hickmon C, et al. Replete vitamin D stores predict reproductive success following in vitro fertilization. Fertil Steril. 2010;94:1314-9.

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