

DOI: <https://doi.org/10.56936/18290825-2025.19v.4-70>**INFLUENCE OF DIETARY IODINE ON SEMEN QUALITY PARAMETERS IN GENERAL MALE POPULATION: A PILOT STUDY****DUNDOVIĆ M.<sup>1,3§</sup>, FERENAC KIŠ M.<sup>2,3§</sup>, MARCIJUŠ L.<sup>1</sup>, KLAPEC T.<sup>4</sup>, BANJARI I.<sup>5\*</sup>**<sup>1</sup> Department of Human and Medically Assisted Reproduction, University Hospital Centre Osijek, Osijek, Croatia<sup>2</sup> University Hospital Centre Osijek, Clinical Institute for Transfusion Medicine, Osijek, Croatia<sup>3</sup> Josip Juraj Strossmayer University of Osijek, Faculty of Medicine, Osijek, Croatia<sup>4</sup> Department of Applied Chemistry and Ecology, Faculty of Food Technology, Josip Juraj Strossmayer University of Osijek, D Osijek, Croatia<sup>5</sup> Department of Food and Nutrition Research, Faculty of Food Technology, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia*Received 4.03.2024; Accepted for printing 21.10.2025***ABSTRACT**

*Iodine is an important trace element in the human body and plays a key role in the overall metabolism and growth. Global iodization programmes resulted in remarkable improvement of iodine status and nowadays almost 90% of global population use iodized salt, suggesting adequate iodine status. However, this iodization programmes could have led to excessive iodine consumption in some population groups, but remains sparsely researched. Reproduction is altered with iodine deficiency and hypothyroidism causes anovulation, infertility, gestational hypertension, increased first trimester abortions, stillbirths and is linked to male infertility.*

*The aim of this research was to assess the relationship between dietary iodine consumption, iodine status and parameters of semen quality in men. The study was conducted on general male population from Eastern Croatia. Participants completed study-specific questionnaire, along with dietary iodine consumption assessment and provided samples of semen and morning urine. Iodine content was determined with a standardized method.*

*Only 33.3% of men had normal semen analysis while others had some type of altered semen analysis which is linked to infertility. After comparing men with normal and altered semen analysis, those with normal findings had lower iodine concentration in urine and seminal fluid. However, men with altered semen analysis consumed less iodine from diet, but the difference was not statistically significant. Also, men preferring saltier foods had higher total sperm count.*

*These are the first results for iodine in urine and seminal fluid of men undergoing semen analysis within potential infertility treatment from Croatia. Despite small sample, the results provide interesting insights into relationship between iodine and semen quality. Also, dietary iodine assessment needs to be thoroughly reassessed to enable more accurate calculations.*

**KEYWORDS:** iodine; diet; semen analysis; sperm count; fertility**CITE THIS ARTICLE AS:**

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