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NON-HORMONAL MALE CONTRACEPTIVES: A PROMISING PHARMACOLOGICAL ALTERNATIVE

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INTRODUCTION: The need to diversify the contraceptive methods usually used, due to the side effects resulting from their administration, is widely discussed. As male contraceptives are generally analogues of endogenous hormones[1], the development of medications with milder side effects and reversible contraceptive efficacy has become necessary[1,2,3,4]. The pharmaceutical industry has therefore begun experimental research into enzymes and peptides that can inhibit the mechanisms of spermatogenesis or prevent fertilization without endocrine alterations[1]. **OBJECTIVE:** To present an overview of non-hormonal male contraceptives. **METHODS:** A qualitative and quantitative descriptive study was carried out, based on a search for scientific productions in the BVS and PubMed databases. To this end, the descriptors “Contraceptive Agents”, “Male”, “Serine Proteases” and “Serine Kinases” articulated by the Boolean operators “AND” and “OR” were used to filter out studies with the desired characteristics. In addition, the inclusion criteria were the length of time the articles had been written, up to five years, and the language used: English or Portuguese. A total of 36 studies were found. By analyzing the titles and abstracts of the texts, exclusion criteria were applied: duplicate, incomplete or disconnected articles were excluded. From this, 9 articles were selected for full reading and preparation of this review. **RESULTS:** The studies analyzed confirm that the use of hormonal contraceptive methods has major harmful effects[1]. As non-hormonal male methods are still in the process of research and development, they have little uptake and are not in demand[4]. From this perspective, the main mechanisms of action of drugs with this objective are that they inhibit the activity of prostate-specific antigen (PSA), which is essential for semen liquefaction prior to fertilization[2,3]; protein kinase anchor 4, crucial for sperm motility[4]; serine/threonine kinase 33 (STK33)[5] or testis-specific serine/threonine kinase 2 (TSSK2)[1], both critical for spermatogenesis. **DISCUSSION:** The identified drugs represent alternative mechanisms for male contraception which, although still undergoing testing, are promising technologies for avoiding the side effects of hormone-based medications[1], such as weight gain, decreased sexual performance, and mood changes[2]. These factors are essential for increasing adherence to these medications, despite their current limited availability on the market[4,1]. **CONCLUSION:** As analyzed, studies and experiments involving innovative contraceptive medications are on the rise. Considering that this is a field still undergoing refinement, eliminating dependence on hormonal or surgical methods relies on the continuation of ongoing research and the emergence of new, even more innovative studies.

KEY-WORDS: Contraceptive Agents; Hormones; Male; Fertility.

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