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Focusing on male infertility

The burden of male infertility is often unrecognized and its causes are poorly understood. Efforts to increase awareness and understanding are being undertaken to improve fertility outcomes and overall health for affected men.

Globally, at least one in seven heterosexual couples of reproductive age is affected by infertility[1]. Infertility is often perceived as an issue that affects women, but male factor infertility contributes to approximately half of instances[2]. Unfortunately, the burden of male infertility is often unrecognized and its causes are poorly understood, meaning men can be sidelined during treatment and the burden of medically assisted reproductive techniques falls on the woman, even if she herself has no reproductive issues. This lack of understanding and information means that substantial emotional stress is put on both members of the couple seeking infertility treatment.

For most men with infertility, no cause of the issue is given, which can add further stress and uncertainty. However, men usually receive a classification based on their semen phenotype, such as azoospermia (no sperm in the ejaculate), oligozoospermia (<15 million sperm per ml), asthenozoospermia (reduced sperm motility), teratozoospermia (abnormal sperm morphology) or a combination of these phenotypes. These categories are defined according to criteria outlined by the WHO in their laboratory manual for processing human semen[3]. Semen analysis is essential for infertility evaluation and subsequent referral, diagnosis and treatment, but tests to provide a precise diagnosis of male infertility are rare. Thus, the best pathway to fertility can be missed, and few targeted treatment options exist[4].

The presence of male infertility could be an indicator of men's health in general[5,6]. Evidence suggests that an infertility diagnosis is associated with an increased risk of current comorbidities, future diagnosis of metabolic diseases and cancer and even of mortality[5]. Thus, all men dealing with couple infertility should undergo a full andrological assessment by a reproductive urologist that includes a detailed history, physical examination, semen analysis, endocrine assessment and other tests if required. This assessment should also involve lifestyle counselling and information on chronic disease prevention, disease management and health maintenance[4,5]. This undertaking has the potential to improve men's health outcomes overall.

> "the personal and societal burdens of male infertility are underappreciated"

Knowledge and understanding of male fertility issues are poor in the general public, but some efforts to improve public awareness have been made, such as the HIMfertility campaign in the UK, which provides men faced with this issue with information and a support network. Despite these efforts, the personal and societal burdens of male infertility are underappreciated[6,7]. In this environment, organizations, such as the Male Reproductive Health Initiative and the International Male Infertility Genomics Consortium, and researchers are working to advance knowledge and understanding. By investigating the underlying causes of male infertility — from the genetic and epigenetic to the physiological — discerning the most pressing questions in male infertility research and providing standardized terminology, outstanding questions concerning male infertility can be answered and new treatment options developed.

At *Nature Reviews Urology*, we want to support these endeavours and are proud to publish articles from experts in this field that raise awareness and improve knowledge and comprehension of male infertility. In doing so, we hope that we can contribute to enhancing collaboration and progressing research in this area, ultimately improving options and outcomes for men with a diagnosis of male infertility.

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