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REVIEW ARTICLE

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Emerging technologies for home-based semen analysis

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SUMMARY

With about 70 million cases of infertility worldwide, half of which are caused by male factors, sperm analysis is critical to determine male fertility potential. Conventional semen analysis methods involve complex and manual inspection with a microscope, and these methods are labor intensive and can take several days. Due to unavailability of rapid, convenient, and user-friendly semen analysis tools, many men do not seek medical evaluation, especially in resource-constrained settings. Furthermore, as conventional methods have to be conducted in the laboratories, many men are unwilling to be tested as a result of social stigma in certain regions of the world. One solution can be found in at-home sperm analysis, which allows men to test their semen without the hassle of going to and paying for a clinic. Herein, we examine current at-home sperm analysis technologies and compare them to the traditional laboratory-based methods. In addition, we discuss emerging sperm analysis approaches and describe their limitations and future directions.