

# LABORATORY REPORTS

## Fructose Concentration in Seminal Fluids and the Deoxyribonucleic Acid Content of Spermatozoa from Infertile Human Males

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### ABSTRACT

Seminal fructose concentration and deoxyribonucleic acid (DNA) content of spermatozoa from a group of 35 infertile male patients were measured. While six patients were azoospermic, 29 (83%) had oligospermia whose seminal fluid analysis showed (1) higher fructose levels and (2) higher DNA content per spermatozoon compared with normospermic age-matched 24 male controls who were similarly investigated within the same period. There was no significant quantitative correlation between sperm density, plasma testosterone, and seminal fructose concentration among the normospermic and oligospermic subjects. The oligospermia was probably caused by spermatogenic arrest which could explain the higher spermatogenic DNA content in the oligospermic than in normospermic subjects. (*Afr J Reprod Health* 1997;1(1):89-96)

### RÉSUMÉ

**La concentration du sperme en fructose et la teneur des spermatozoïdes en acide déoxyribonucléique chez les hommes infertiles**

La concentration du sperme en fructose et la teneur des spermatozoïdes en acide déoxyribonucléique (ADN) ont été estimées chez 35 hommes infertiles. Tandis que six patients se sont révélés azoospermes, l'oligospermie s'est vu confirmée chez vingt-neuf (83%). L'analyse du sperme de ces derniers a mis en évidence des degrés plus forts du fructose et de la teneur en ADN par spermatozoïde en comparaison avec 24 hommes normospermes d'un groupe témoin d'âge semblable étudiés pendant la même période. On n'a pas constaté de corrélation quantitative significative entre la densité du sperme, la testostérone du plasma et la concentration du sperme en fructose chez les sujets oligospermes et normospermes. Il est possible que l'arrêt de la spermatide ait fait survenir l'oligospermie, ce qui pourrait expliquer la plus forte concentration de l'ADN spermatique chez les sujets oligospermes que chez les normospermes. (*Afr J Reprod Health* 1997;1(1):89-96)

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KEY WORDS: *Fructose, DNA, oligospermia, infertile, semen*

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study group who were oligospermic would also have low zinc semen levels.<sup>35</sup> The causes of infertility as a result of oligospermia in our patients may thus be multifactorial and not only one mechanism could explain the results we obtained. But bacteriospermia and spermatidic arrest are strong suspects as the causes of the oligospermia, infertility, and elevated DNA as we observed in this study. The diagnostic potential of our findings in oligospermic infertility are currently under further investigation and evaluation.

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