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Making public health interventions more evidence based

TREND statement for non-randomised designs will make a difference

The movement towards evidence based public health policy has been gaining momentum over the past decade. It takes an important step forward with the recent publication of the TREND statement (transparent reporting of evaluations with non-randomised designs). Its aim is to improve the quality of reporting of non-randomised evaluations so that the conduct and findings of such research are transparent and information that is critical for research on the conduct and findings of such research is not missing, and to do for public health interventions what the CONSORT statement has done for randomised clinical trials evaluating public health interventions.

The reasons for using such interventions include the order of introduction chosen at random. This issue was overcome in the Gambia hepatitis B vaccine trial of the long term impact on liver cancer, by using a “stepped wedge design,” with the vaccine introduced district by district on a staggered basis and the order of introduction chosen at random.

The TREND statement follows the exact format of the revised CONSORT statement, retaining the same 22 items, with revised descriptions relevant to non-randomised designs. Some important enhancements have been made that are also relevant to randomised controlled trials evaluating public health interventions. Item 2 (background) now includes the underlying behavioural or social science theory used to develop the intervention, and item 4 (interventions) encourages a more detailed description of both the content and the delivery of the intervention.

The authors’ vision is that adoption of the TREND reporting guidelines will ensure that comparable results are reported in this class of studies.

The varicocele is an enigma in the treatment of male infertility. Despite over 30 years of evidence that repair of varicoceles results in improved fertility,1 the retrospective nature of most of these reports has led to controversy regarding the utility of treatment. This is compounded by the fact that not all varicoceles cause infertility. Varicocele is present in approximately 15% of men, and, although it is the most commonly diagnosed cause of male infertility, nearly two thirds of men with varicoceles remain fertile. The reason for this discrepancy remains unknown, although it is postulated that the cause of infertility is related to both temperature and time.2 The anatomical and physiological principles of the testicular vasculature and the evidence base regarding surgical treatment are outlined here.

The blood supply to the testis, as well as the resulting counter current heat exchange, results in cooler intratesticular temperatures compared with body temperature.3 Disruption of this system can result in hyperthermia of the testes.4 As the left side drains into a system with higher resistance, small venules may persist or open during embryogenesis. Testicular blood flow remains low before puberty, and therefore these veins do not become clinically apparent until adolescence when testicular blood flow increases, which explains the appearance of most varicoceles around puberty.5 Endocrine dysfunction may contribute to varicocele related infertility. Studies have shown altered function of the Leydig, Sertoli, and germ cells in men with notable varicoceles.6 Whether this is due to the increased intratesticular temperature or other factors is unknown.

Treatments vary from radiological ablation to surgical ligation of the varicocele, although most urologists reserve the radiological approach for the rare surgical failures. Numerous studies have examined various operative methods, attempting to show a difference in efficacy and outcome. Although most of these methods result in similar short term results, the open microsurgical methods tend to yield fewer long term complications, such as recurrences and hydroceles.7 Although laparoscopic varicose ligation was once touted as a minimally invasive method compared with open surgical repair, several authors have shown similar recovery rates, equal efficacy, fewer complications, and the advantage of not having to enter the abdomen.8 Most experts agree that only clinically significant varicoceles should be treated. Although subclinical varicoceles (those identified by imaging studies only) may result in improvement in some seminal variables, evidence of efficacy is lacking regarding pregnancy rates.

A Cochrane review identified five randomised controlled trials that examined the outcomes in couples with male factor infertility and varicoceles and...