Journal Abstracts

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Rogers J, Wood J, McCandlish R, *et al.* Active versus expectant management of third stage of labour: the Hunchingbrooke randomized controlled trial. *Lancet.* 1998. 351(9145):693-699.

This randomized controlled trial was undertaken to investigate whether active management of third-stage labour resulted in a lower rate of primary postpartum haemorrhage than expectant labour. Over the three year study period, after excluding women who were at risk of postpartum haemorrhage, 764 women were assigned to expectant management and 748 to active management. Allocation also included upright or supine maternal position within each of the management groups. Analysis was by intention to treat, i.e., comparisons between randomly allocated expectant and active management groups. Women in the two groups were generally similar with respect to socioeconomic characteristics, mean prenatal haemoglobin levels, previous duration of labour and type of deliveries, initial confidence in the midwives and the types of labour management. Approximately 94% of the active management groups received full active management, ie a prophylactic uterotonic, immediate clamping and cutting of the cord, and placental delivery by controlled cord traction, while 63% of the women in the expectant management group had a fully expectant management delivery, no prophylactic uterotonic, no cord clamping until pulsation had ceased, and delivery of the placenta by maternal effort. The rate of the primary outcome, PPH, was 2.4 times greater in the expectant group than in the active management group (RR = 2.4, 95%CI 1.78-3.30). Furthermore, the rate of low postpartum haemoglobin (<10 gm/dl) was 1.86 times greater in the expectant group (RR= 4.9, 95%CI 1.66-14.25). Posture did not affect the risk of postpartum haemorrhage. Active management with oxytocinon is advocated for management of third stage of labour in hospital settings.

Editorial comment

The practice of evidence-base obstetrics through the analysis and interpretation of such randomized controlled trials should help clinicians decide on the validity, appropriateness and effectiveness of current procedures and management strategies during pregnancy, labour and the postpartum period. The incorporation in this article of the concept of the "number needed to treat" in order to prevent certain number of adverse outcomes ie PPH, is an analytical measure that should be easily understood by clinicians unfamiliar with the applicability of the relative risk, attributable risk or tests of statistical significance. While the results of the trial may seem obvious to the experienced clinician, the more conservative, natural and physiological management of labour is increasingly being preferred by the mother. Hence, there is an obligation for clinicians to provide balanced, accurate and up-to-date information to the women during the antenatal period about her options and their possible consequences. The relevance of this study in the developing world setting should be further assessed.

Potts M, Walsh J. Making Cairo work. *Lancet.* 1999. 353(9149): 315-320.

At the 1994 International Conference on Population and Development in Cairo, new goals set for family planning and reproductive health included the need for greater investment especially in the education of women, increased provision of family planning, reproductive health and sexually transmitted diseases services, and the need for improved monitoring and assessment. This article reviews and discusses whether the resources needed for implementation of these recommendations are actually available, the difficulty in assessing provision of such services, especially in developing countries, and administrative and policy changes in order to maximize limited resources. Actual donor assistance for family planning, Aids prevention and reproductive health from selected countries in 1996 is compared to the target needed to meet the IPCD estimates for the year 2000. While the gap between the reality and the targeted need is wide, administrative and policy changes to current programming may enable the achievement of stated conference goals. Suggested changes include ensuring adequate supplies of low cost high quality contraceptives and appropriate antibiotics for STDs, especially in developing countries. Ensuring that the UN and large donor agencies operating in the poorer countries have access to free contraceptives, and enabling bulk purchase and funding management schemes for antibiotics similar to the United Children's Fund vaccination scheme need to be addressed. Development of schemes whereby those who can afford services contribute financially is another option. Support of more cost-effective programmes, e.g., subsidized sales of contraceptives versus clinic-based distribution and the promotion of the most cost-effective family planning methods such as sterilization and intrauterine devices through the use of incentives and coupons should also be considered on a more wide-scale basis. Adhering to up-to-date science-based policies for contraception, incorporating safe abortion methods, exploitation of the media and communication, avoidance of multiple pilot projects are mentioned as other means of meeting the set targets within the current

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financial constraints. Authors also discuss the need to involve persons trained in management and business skills, as well as increased use of private health professionals and experienced non-governmental organizations in the implementation of large reproductive health and family planning programmes.

Editorial comment

In this thought provoking discussion a key public health issue, reproductive health and family planning, emphasis is drawn to the importance of following up the ICPD's goals and projections through the recalculation of currently available global resources and the determination of how these resources can be better utilized within the allotted time frame. While general endorsement of the suggested strategies may appear reasonable, complete adoption and inclusion of the aforementioned strategies in individual countries' national programmes may be difficult to implement due to numerous socio-cultural obstacles, especially in the poorer countries, where need is greatest. Despite this, the authors' perspective should provide an interesting focus for discussion among public health professionals interested in bringing about equitable, affordable and appropriate family planning and reproductive health services to women in the Pacific.

Eastell R. Treatment of osteoporosis. *New England Journal of Medicine.* 1998. 338(11) : 736-746.

This review article discusses the current state-of-the-art knowledge on treatment of osteoporosis. The limitations of definitions of osteoporosis in clinical practice are discussed, a comprehensive list of known risk factors and strategies for diagnostic evaluation are considered. Measurement of bone mineral density through various techniques such as single and dual energy xray absorptiometry, quantitative computed tomography and ultrasonography are compared in terms of expense, precision, need for skilled operators, and sites best measured by the method. The pathophysiology of osteoporosis is discussed in terms of the bone resorption:bone formation mismatch phenomenon. The need to select the most appropriate treatment for the postmenopausal woman was highlighted. Hormonal Replacement Therapy remains the treatment of choice for women with osteoporosis. However, general benefits and risks must be considered when choosing estrogen as a therapy for postmenopausal women. Other current therapies include Bisphosphonates such as Etidronate, Alendronate, Calcium and Vitamin D, Calcitonin and Fluoride are discussed with emphasis on mechanism of action, relative effectiveness and results of relevant clinical trials and adverse side effects. Future possible therapies included raloxifene, parathyroid hormone and drugs that stimulate its secretion, cytokine growth factors, vitamin D analogues, strontium salts and ipiflavone. In this article, lifestyle factors such as increased physical exercise, dietary supplementation, avoidance of excessive consumption of alcohol and elimination of tobacco use are recommended.

Editorial comment

This review article with more than 95 references was easy to read, logically discussed and current. It provided a comprehensive list and assessment of various types of treatments with results of clinical trials of postmenopausal women with osteoporosis where fractures have been used as the endpoints. It is an excellent article for clinicians, medical students and other allied health professionals who are interested in conditions afflicting postmenopausal women.

Li D, Wi S. Tobacco smoke exposure at one month of age and subsequent risk of SIDS - a prospective study. *American Journal of Epidemiology.* 1999. 149(7): 593-602.

In this prospective cohort study the hypothesis that postnatal exposure to smoke increases the risk of sudden infant death syndrome (SIDS) was investigated. A total of 9,826 infants participated in the study which involved hospital and home interviews. There were thirty five SIDS of a total 53 cases included in the final analysis. Validation of the smoking history was provided by infant urinary cotinine assays in 105 infants. Logistic regression analysis was used to assess the associations between exposure to tobacco smoke and SIDS while controlling for other relevant covariates. Cotinine levels were significantly higher in infants who reported exposure to smoke postnatally and infants whose mothers smoked prenatally. The risk for SIDS in infants whose mothers smoked postnatally was almost four times the risk in infants of mothers who did not smoke prenatally (RR= 3.67, 95%CI 1.65-8.18). A similar risk estimate was observed for prenatal maternal smoking. The investigators were unable to fully separate the effects of prenatal and postnatal smoke exposure due to the predominance of similar smoking behaviour before and after delivery. A dose response relationship was observed for the number of cigarettes smoked per day. Smoking by other residents were not independently associated with risk of SIDS. Although the exposure to other adult smokers was associated with an increase in urinary cotinine, there was no increased risk of SIDS. Among postnatal smoking mothers, the effect of smoking in the same room as the infant was significantly modified by age of mothers with younger mothers having a significantly higher risk. However, in older mothers, postnatal smoking in the same room as the infant was associated with SIDS. Although the effect of prenatal and postnatal smoking could not be fully separated, as smoking by mothers is associated with an increased risk of SIDS, smoking cessation programs should be implemented. Such smoking cessation programs may impact the incidence of SIDS.

Editorial comment

The association between maternal smoking and risk for SIDS has been the subject of numerous studies; however, to date, it has been difficult to fully separate the effects of prenatal and postnatal smoke exposure in prospective data. The possibility of residual confounding due to socioeconomic status and other risk factors also exists in most of these studies. The validation of smoking history by urinary cotinine levels is an interesting aspect of this well-designed study. Although this study has limited power to fully explore the association, data is consistent with several other studies which appear to suggest that prenatal smoking may be more likely to be associated with SIDS through the induction of chronic fetal hypoxia and subsequent adverse effects on the fetus's neurological development.

Walsh T, Grimes D, Frezieres R, *et al.* Randomized controlled trial of prophylactic antibiotics before insertion of intrauterine devices. *Lancet.* 1998. 351:1005-1008.

This triple-masked, randomized, placebo controlled trial was undertaken at selected clinic sites in California to determine whether antibiotic prophylaxis decreases the rate of IUD removal within 90 days. Women who had a previous history of sexually transmitted diseases were not included in the study. A total of 1985 women participated in the study with 934 receiving IUD insertions in the placebo arm and 933 receiving IUD insertions following azithromycin assignment. Baseline characteristics, reproductive and gynaecological history, and socioeconomic characteristics were similar in both groups. IUD, specifically Copper T, removal within 90 days for any reason other than partial spontaneous removal, was the primary outcome of interest. Analysis was done by intention to treat. Approximately 3.8% in the azithromycin group and 3.4% of the placebo group had their IUD removed within 90 days of insertion. Only one woman from each group had salpingitis. Although they did not meet the diagnostic criteria for salpingitis six women in the antibiotics group and 12 in the placebo group were prescribed antibiotics by their physicians after insertion within the 90 day period. There were few complications from IUD insertion in this well screened population. No overall effect of antibiotics on IUD continuation rates within 90 days was observed.

Editorial comment

The results of this study are encouraging as they indicate that prophylactic antibiotics prior to IUD insertions are unnecessary if the patients are well-screened and at low risk of pelvic infection. The generalizability of the findings of this study to clinical settings in the developing world needs further exploration. The practice of evidence-based obstetrics and the utilization of current existing studies to justify diagnostic and treatment procedures is not new to most obstetricians. However, the utilization of an organized, systematic approach to the analysis of journal articles, particularly randomized controlled trials, would assist clinicians accomplish the task of interpretation more efficiently. Sackett's Evidence-based Medicine handbook, the series of Analysis of the Literature articles in the BMJ and the Cochrane Library database are excellent resources that should assist clinicians to formulate clinical questions, search, analyze and interpret results of studies more efficiently.

Muller I, Smith T, Meller S, *et al.* Effect of distance from home on attendance at a small rural health center in Papua New Guinea. *International Journal of Epidemiology.* 1998. 27 : 878-884.

Information on demographics, clinic attendances and location of households in rural villages in North West Papua New Guinea was used to determine whether distance from the health center affected patterns of attendance, and whether any observed effects differed among gender and age specific groups of patients with different diagnostic categories. Demographic and house position data from seven villages with a total population of 1921 persons were included and 4348 attendances at the Kunjunguini Health Center between May 1991 and October 1992 were linked for analyses from the study villages. Log-linear models were used to determine distance effects and differences between sex and age groups in attendance frequencies. Males had a higher attendance rate than females. An age effect was also evidence with infants having the highest attendance rate and adolescents and young adults between 20 and 39 years having the lowest. There was a highly significant decrease in attendance with increasing distance from health center. Distance effects appeared to be influenced by gender in the various age groups. Attendance at health centers by adolescent females appear to be less affected by distance than males while attendance at the health centers by female infants appeared to be more influenced by distance than male infants. For both malaria and respiratory infections, attendance at the health center decreased significantly with increasing distance from home. Spatial and temporal clustering as well as family and individual variation in clinic attendances were noted. Distance effects did not display any seasonal variation.

Editorial comment

This well written, well designed study was interesting. While the sophisticated statistical modelling techniques may be difficult for most clinicians to understand, they represent an increasingly popular method of modelling given the distribution and nature of the data. The inclusion of covariates representing severity of illness, psychosocial factors and cultural beliefs, and mosquito density may have lead to a more accurate assessment of the effect distance on clinic attendance. However, such a study can be a useful resource for planning of future health clinics in the Pacific.□