IJE vol.33 no.6 © International Epidemiological Association 2004; all rights reserved. *International Journal of Epidemiology* 2004;**33**:1165–1166
doi:10.1093/ije/dyh368

EDITOR'S CHOICE

# Cohorts, infants and children

In this issue we launch a new section called 'Cohort Profile'. We plan to profile a cohort study in each issue, providing information on how and why the cohort was set-up, how it has developed and its major outcomes. Cohort studies provide the foundations of epidemiology and we hope that this new section will provide valuable information for readers, irrespective of how well they feel they know the particular cohort being profiled. For example, many readers may not be aware that the initial hypothesis for setting up the British Regional Heart Study (see pages 1185–92) was to determine the effect of water softness on cardiovascular disease risk. We request contributors to be open and honest in their experience of running a cohort study and therefore hope that readers will learn from past experience. The profiles provide details of how to access the cohort data or collaborate with those who run the study and we hope that these profiles will stimulate valuable collaborative work. The success of the section very much depends upon our acquisition of profiles of cohort studies from across the world. Details of how to submit a cohort profile are provided in the 'Cohort Profile' section and these details will be published with future profiles.

The value of collaboration among European birth cohorts is considered—for reasons of statistical power, design efficiency, and replication of findings.[1] But how can these convincing aims be achieved? Our editors suggest that collaboration should be built on existing cohorts, involve data-sharing, and large amounts of European Union research funding. This last point is certain to receive wide support and was discussed in some detail by Saracci on behalf of International Epidemiology Association council recently.[2]

Our theme in this issue concerns perinatal and paediatric epidemiology, and perhaps, not surprisingly much of the research reported is derived from cohort studies. The richness of cohorts is demonstrated by yet another paper from the Hertfordshire birth cohort of births occurring between 1923 and 1939—it shows the relationship of birth weight, but not post-natal weight gain, to poverty.[3] Another study using an intergenerational design shows how maternal growth—in terms of mother's birth weight, height, and pre-pregnancy weight—influences infant birth weight.[4] Reinforcing the importance of intergenerational effects, the same authors demonstrate that grandmothers' height is associated with mothers' birth weight which in turn influences infant birth weight—leading to the tantalising conclusion that 'determinants of some birth outcomes are already established before a prospective mother is conceived or born'.[5] There is no end in sight to researchers' interest in finding explanations for social inequalities in every outcome imaginable. This issue's contribution is a cohort in which behavioural factors (usual suspects: drinking, smoking, physical activity) and socio-economic factors operating from adolescence to early adult life predict musculo-skeletal disorders at age 30.[6]

Several papers focus on child health in Africa. In Senegal, verbal autopsy methods were able to help in explaining a peak in mortality, distinguishing the differential effects of malaria from other underlying causes of child death.[7] In Tanzania, it is claimed that the differences in birth weight between women having their first baby and other mothers provides a useful indicator of malaria exposure—in this case, it seems the El Nino phenomenon was responsible for increasing the likelihood of malaria epidemics and this was reflected in a sudden increase in first-born low-birth-weight babies.[8] An interesting study from Senegal shows that despite large reductions in child mortality between 1969 and 1992, child growth, as indexed by weight for age, showed no improvement, forcing the authors to speculate that growth monitoring may have done more for child health than it did for growth.[9] In Zimbabwe, using a case–control study, Feresu and colleagues have examined the determinants of prematurity, important because it is the major cause of infant mortality and morbidity. In addition to the usual obstetric factors, nutrition and malaria exerted important effects.[10]

If babies and children are not your thing, try our article by Armitage and Doll—reprinted from the British Journal of Cancer in 1954.[11] They describe a multi-stage model of carcinogenesis derived from observation of cancer mortality data showing that the death rate increased proportionally with the sixth power of age. From this simple observation the long-lasting hypothesis that cancers arise from critical mutations was made, and extended the hypothesis to include the effects of carcinogens operating at different stages. Moolgavkar, one of our commentators, rightly applauds this major contribution to understanding of carcinogenesis, and helpfully shows how Armitage and Doll paved the way for the work of others.[12,13]

Finally, plans are well underway for the World Congress of Epidemiology 2005 which will be held in Bangkok from August 21 to 25, 2005. This promises to be an important occasion as it will celebrate the 50th anniversary of the establishment of the International Epidemiology Association. Visit the website www.wce2005.org, and do try to take part!

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