

TIME TRENDS AND AUTISM

To the Editor:

We would like to comment on the recent paper by Senecky et al. on the change of incidence of autistic spectrum disorders (ASD) in Israel [1]. The rates reported in their paper are based on the annual registration of ASD cases by the Israeli National Insurance Institute (NII) in the years 1984-2004.

The increase in prevalence of ASD is well documented in many countries. During the last two decades an approximately tenfold increase in the prevalence of ASD has been observed, from about 6 to 60 cases per 10,000 children. Senecky et al., however, calculated a much lower prevalence. The peak prevalence they report is 190 per million (1.9 per 10,000) in 2004, considerably lower even than prevalence rates reported before the 1990s, when ASD rates started to rise.

In our view, a possible explanation for this wide discrepancy is the choice of numerator and denominator. The authors state that their study is "The first comprehensive study of the incidence of ASD in Israel." For the purpose of incidence calculations, the denominator should reflect the population at risk of the disorder during a specified time period [2]. Senecky et al. used the *total* population under age 18 in Israel as the denominator. Autism is a developmental disorder, and the expected age at diagnosis of incident cases is much younger than 18. Indeed, the reported average age at diagnosis in this study was 39 months (3.25 years). If lag between diagnosis and registration in the NII is taken into account, the true age at diagnosis is presumably even younger. Therefore, for a more accurate calculation of the incidence of ASD for a specific year, the denominator should have been based on the "at risk" group, namely, the total number of live births during that year.

An additional source of bias that could influence the denominator is the dilution effect due to pooling of sub-populations with very different ascer-

tainment of the disorder under study. The reported proportion of Israeli-Arabs among the ASD cases in the NII registry, as reported by Senecky's group, is 2.5%. The proportion of the Arab population in Israel in 2004, however, was approximately 20% (Central Bureau of Statistics, 2007). Therefore, inclusion of both Jews and Arabs in the population under age 18 might have lowered the observed overall prevalence. In these circumstances, presenting results separately for Jews and Arabs might be more appropriate.

Using the Israeli Ministry of Social Affairs database we found a rate of 36 cases per 10,000 children born in 2001-2004 (Unpublished data). This rate is in concordance with the prevalence estimates reported worldwide [3].

Autism and its spectrum disorders have become a major public health concern [4]. Significant resources are required for research, screening, diagnosis and interventions in autism, and the profound life-long dysfunction it produces. By reporting an incidence rate of 190 per million, Senecky and team might have inadvertently led readers to believe ASD is a very rare, probably negligible condition.

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References

1. Senecky Y, Chodick G, Diamond G, Lobel D, Drachman R, Inbar D. Time trends in reported autistic spectrum disorders in Israel, 1972-2004. *IMAJ Isr Med Assoc J* 2009; 11(1): 30-3.
2. Rothman KJ, Greenland S. *Modern Epidemiology*. 2nd edn. Philadelphia: Lippincott Williams & Wilkins, 1998.
3. Baird G, Simonoff E, Pickles A, et al. Prevalence of disorders of the autism spectrum in a population cohort of children in South Thames: the Special Needs and Autism Project (SNAP). *Lancet* 2006; 368(9531): 210-15.
4. Rice CE, Baio J, Van Naarden Braun K, Doernberg N, Meaney FJ, Kirby RS; ADDM Network. A public health collaboration for the surveillance of autism spectrum disorders. *Paediatr Perinat Epidemiol* 200; 21(2): 179-90.

To the Editor:

In response to the concerns raised by Drs. Gal and Gross, the incidence rate of autism in our study was calculated using the number of cases of ASD against the mean number of children under 14 years old who resided there during the study period, as documented in the records of the Israel Central Bureau of Statistics [1]. Although previous ASD screening studies limited their incidence calculations to young children [2], we used a wider range of ages because many of the patients with ASD who were eligible for disability benefits from the National Insurance Institute had their diagnosis approved at a relatively old age. In addition, by using this population as a dominator we have largely reduced the effect of decreasing age at diagnosis of ASD on the calculated incidence rates during the study period

We agree with the authors that the proportion of patients from the Arab sector are highly underrepresented in our database, probably due to lower awareness and poorer access to care, resulting in a relatively low incidence rate of ASD. To assess the potential effects of the explanations given by the authors to the low incidence rate, we calculated the risk of ASD in the 2000 birth cohort only among Jewish children. The cumulative incidence of ASD by the age of 5 years was 4.7 per 10,000, somewhat lower than in recent studies from western countries. However, a much higher risk was calculated in regions with a high socioeconomic level. Our results underline the importance of ongoing monitoring of ASD in Israel, and we contend that more standardized and high quality investigations should be conducted to improve understanding of these disorders.

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References

5. Israel Central Bureau of Statistics. <http://www.cbs.gov.il/>.
6. Rutter M. Incidence of autism spectrum disorders: changes over time and their meaning. *Acta Paediatrica* 2-15 :94 ;2005 .

UNICOMPARTMENTAL KNEE ARTHROPLASTY

To the Editor:

Your editorial (May 2009, p. 306) on unicompartmental knee arthroplasty includes a comprehensive review of the history and clinical indications for this procedure. This not very common surgery has become an important part of the knee surgeon's armamentarium. With excellent long-term results and technically easier revision to total knee arthroplasty than after high tibial osteotomies, many surgeons elect to perform this surgery on younger patients than is traditionally recommended [1]. Although lateral unicompartmental replacement and isolated patellofemoral resurfacing are available, the vast majority of partial knee replacements are still performed on the medial compartment. Heller et al., in the same issue of *IMAJ* (May 2009, p. 266) present a large series of unicompartmental arthroplasties with a respectable follow-up.

I agree with the authors that success is dependent on careful patient selection and adequate surgical experience with this demanding procedure. However, I would like to stress a few points that may not be completely clear to a physician reading these articles. First, it is essential to recognize that this surgery is contraindicated in any patient with a

significant risk of considerable involvement of the other compartments of the knee. Second, it is very important that by performing this surgery one does not increase the risk of involvement of the other compartments. Thus, unicompartmental knee arthroplasty is contraindicated in patients with any kind of inflammatory arthritis and in patients with symptomatic patellofemoral arthrosis [2]. When performing the surgery it is important to avoid overcorrection of any malalignment in order to prevent overloading of the adjacent compartment. This usually means avoiding overcorrection of varus deformity, which may accelerate the deterioration of the not-operated-on lateral compartment. It is also critical to avoid impingement of the femoral implant on the patella, which may be painful and lead to failure of the procedure [2].

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References

1. Stukenborg-Colsman C, Wirth CJ, Lazovic D, Wefer A. High tibial osteotomy versus unicompartmental joint replacement in unicompartmental knee joint osteoarthritis: 7-10-year follow-up prospective randomised study. *Knee* 2001; 8(3): 187-94.
2. Borus T, Thornhill T. Unicompartmental knee arthroplasty. *J Am Acad Orthop Surg* 2008; 16(1): 9-18.

To the Editor:

I thank Dr. Lakstein for his interest and for raising important points regarding the editorial review of unicompartmental knee arthroplasty (May 2009, p. 306). I agree that this operation is not very common, but there are satisfactory long-term results and it is easier to perform revision of total knee arthroplasty than after high tibial osteotomies, and this is mentioned in the Editorial.

Based on the literature, as mentioned in the editorial and also in this letter, it seems that unicompartmental arthroplasty is a favorable procedure in patients with localized osteoarthritis or avascular necrosis of the medial or lateral compartment. Recovery and rehabilitation are quick and ambulation is early. The ideal patient is a relatively young person with a stable knee and intact cruciate ligaments, a flexion contracture less than 15 degrees, and a change of mechanical axis of less than 5–10 degrees from neutral. The success rate is high following these operations. Survivorship up to 10 years is about 90% and up to 20 years it is about 85%. The prerequisites for improved outcome of unicompartmental knee arthroplasty are therefore the proper selection of the patients and the prosthetic design, and use of the minimally invasive technique.

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Capsule

In group dynamics – carrots are better than sticks

The challenge of dealing with freeloaders – who benefit from a common good but refuse to pay their "fair share" of the costs – has often been met in theoretical and laboratory studies by sanctioning costly punishment, in which contributors pay a portion of their benefit so that freeloaders lose theirs. Rand and co-researchers added a private interaction session after each round of the public goods game during which participants

were allowed to reward or punish other members of their group. The outcome showed that reward was as effective as punishment in maintaining a cooperative mindset, and doing so via rewarding interactions allowed the entire group to prosper because less is lost to the costs of punishing.

Science 2009; 325: 1272

Eitan Israeli

“A good leader can't get too far ahead of his followers”

Franklin D. Roosevelt (1882-1945), 32nd U.S. President