

- 5 Wadsworth ME, Hardy RJ, Paul AA, *et al.* Leg and trunk length at 43 years in relation to childhood health, diet and family circumstances; evidence from the 1946 national birth cohort. *Int J Epidemiol* 2002; 31: 383–390.
- 6 Corak M. Do poor children become poor adults? Lessons from a cross country comparison of generational earnings mobility. IZA Discussion Paper No. 1993. <http://ftp.iza.org/dp1993.pdf> Date last updated: March 2006.

Eur Respir J 2015; 45: 856–857 | DOI: 10.1183/09031936.00178414 | Copyright ©ERS 2015



From the authors:

We thank P.H. Quanjer for his comments regarding our paper, in which we apply a novel modelling approach to lung function data from the unique Danish cystic fibrosis registry and show that low socioeconomic status (SES), as measured by parental education level, is associated with an increased rate of decline of % predicted forced expiratory volume in 1 s in the Danish cystic fibrosis population [1]. We agree that it is important to develop a better understanding of the pathways to social inequalities in cystic fibrosis outcomes.

P.H. Quanjer points out that chest circumference may be an important mediator of the association between SES at birth and later lung function. Malnutrition and poor growth are major concerns in children with cystic fibrosis and optimising nutritional status is clearly important for subsequent lung health. Our analyses have shown social gradients in growth outcomes in children with cystic fibrosis in the UK, evident from around the time of diagnosis [2]. These findings point to important effects of SES *in utero* or in the initial period prior to diagnosis. Both are plausible, but a limitation of studies thus far has been a lack of data on social gradients in birth weight, which would complete the picture. Further data on SES gradients in birth weight in cystic fibrosis would clarify the extent to which the early growth differentials are simply a reflection of the broader SES effects on birth weight in the general population.

On a related point, height has been independently related to survival in people with cystic fibrosis and it has been suggested that this may be mediated through greater lung capacity in taller people [3]. Furthermore, FOGARTY and co-workers [4, 5] have suggested that measures of body habitus may partially explain the male survival advantage in cystic fibrosis. In the UK, SES has an important effect on height from the outset in children with cystic fibrosis and this difference tracks through to adulthood [2]. Further longitudinal analyses are required to understand how inequalities in birth length, and the factors that influence it, may influence chest capacity and lung function in adulthood, and ultimately survival, in cystic fibrosis.

P.H. Quanjer also points to the complex interaction between measures of SES and health over the life-course. The Diderichsen model of pathways to health inequalities has informed our analyses in cystic fibrosis [6, 7]. A key feature of the Diderichsen model is that it incorporates both social causation and social selection mechanisms within a common framework, across the life-course. We encourage further studies that use this approach, in order to better unpick the complex causal chains that link social inequalities and health.



@ERSpublications

Studies should use the Diderichsen approach to unpick the causal chains that link social inequalities and health <http://ow.ly/H406C>

David C. Taylor-Robinson¹, Karsten Thielen², Tania Pressler³, Hanne V. Olesen⁴ and Peter J. Diggle⁵

¹Dept of Public Health and Policy, University of Liverpool, Liverpool, UK. ²Dept of Social Medicine, University of Copenhagen, Copenhagen, Denmark. ³Cystic Fibrosis Center, Rigshospitalet, Copenhagen, Denmark. ⁴Pediatric Dept A, Cystic Fibrosis Center, Aarhus University Hospital, Aarhus, Denmark. ⁵Institute of Infection and Global Health, University of Liverpool, Liverpool, UK.

David Taylor-Robinson, Dept of Public Health and Policy, Whelan Building, University of Liverpool, Liverpool, L69 3GB, UK. E-mail: dctr@liv.ac.uk

Received: Dec 18 2014 | Accepted: Dec 18 2014

Support statement: This work was supported by an MRC Population Health Scientist Fellowship to D.C. Taylor-Robinson (grant G0802448). The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript. Funding information for this article has been deposited with FundRef.

Conflict of interest: Disclosures can be found alongside the online version of this article at erj.ersjournals.com

References

- 1 Taylor-Robinson DC, Thielen K, Pressler T, *et al.* Low socioeconomic status is associated with worse lung function in the Danish cystic fibrosis population. *Eur Respir J* 2014; 44: 1363–1366.

- 2 Taylor-Robinson D, Smyth RL, Diggle P, *et al.* The effect of social deprivation on clinical outcomes and the use of treatments in the UK cystic fibrosis population: a longitudinal study. *Lancet Respir Med* 2013; 1: 121–128.
- 3 Beker LT, Russek-Cohen E, Fink RJ. Stature as a prognostic factor in cystic fibrosis survival. *J Am Diet Assoc* 2001; 101: 438–442.
- 4 Fogarty AW, Britton J, Clayton A, *et al.* Are measures of body habitus associated with mortality in cystic fibrosis? *Chest* 2012; 142: 712–717.
- 5 Fogarty AW, Lewis SA, McKeever TM, *et al.* The association of two different measures of body habitus with lung function: a population-based study. *Respir Med* 2011; 105: 1896–1901.
- 6 Diderichsen F, Evans T, Whitehead M. The social origins of disparities in health. Challenging inequities in health. New York, Oxford University Press, 2001.
- 7 Taylor-Robinson DC, Smyth R, Diggle PJ, *et al.* A longitudinal study of the impact of social deprivation and disease severity on employment status in the UK cystic fibrosis population. *PLoS One* 2013; 8: e73322.

Eur Respir J 2015; 45: 857–858 | DOI: 10.1183/09031936.00232014 | Copyright ©ERS 2015

Electronic nicotine delivery systems



CrossMark

To the Editor:

While reading the editorial on electronic nicotine delivery systems by BLASI and WARD [1], we noticed an inaccuracy in the section on The post-2016 regimen (p. 586). It is wrongly stated that “there will be a maximum nicotine volume for e-cigarettes of 10 mL for refillable cartridges”. The volume of 10 mL was stated by the European Union in its 2014/40/EU Directive to be applicable to “refill containers” for the e-liquids that are used to refill the (maximally) 2 mL-containing refillable cartridges of an e-cigarette [2]. In the EU Directive 2014/40/EU, it is stated in article 20.3a that “nicotine-containing liquid is only placed on the market in dedicated refill containers not exceeding a volume of 10 ml, in disposable electronic cigarettes or in single use cartridges and that the cartridges or tanks do not exceed a volume of 2 ml” and in article 20.3b that “the nicotine-containing liquid does not contain nicotine in excess of 20 mg/ml.”



@ERSpublications

A correction is needed on electronic nicotine delivery systems <http://ow.ly/EWkzj>

Kristiaan Nackaerts¹ and Luk Joossens²

¹Dept of Respiratory Diseases, KU Leuven – University of Leuven, University Hospitals, Leuven, Belgium. ²Foundation against Cancer, Brussels, Belgium.

Correspondence: Kristiaan Nackaerts, University Hospital Gasthuisberg - Respiratory Oncology Herestraat 49 Leuven B-3000 Belgium. E-mail: kristiaan.nackaerts@uzleuven.be

Received: Nov 05 2014 | Accepted: Nov 06 2014

Conflict of interest: None declared.

References

- 1 Blasi F, Ward B. Electronic nicotine delivery systems (ENDS): the beginning of the end or the end of the beginning? *Eur Respir J* 2014; 44: 585–588.
- 2 Directive 2014/40/EU of the European Parliament and of the Council of 3 April 2014 on the approximation of the laws, regulations and administrative provisions of the Member States concerning the manufacture, presentation and sale of tobacco and related products and repealing Directive 2001/37/EC. *Off J Eur Union* 2014; L127: 1–38.

Eur Respir J 2015; 45: 858 | DOI: 10.1183/09031936.00205414 | Copyright ©ERS 2015

From the authors:

We thank K. Nackaerts and L. Joossens for correctly pointing out an error in our editorial “Electronic nicotine delivery systems (ENDS): the beginning of the end or the end of the beginning?” [1]. Where the Editorial states that “there will be a maximum nicotine volume for e-cigarettes (2 mL for single use and 10 mL for refillable cartridges), and a maximum nicotine concentration for refillable cartridges, tanks and containers of nicotine liquids (20 mg·mL⁻¹)”, it should read “according to Article 20 3 (a) and 20 3 (b) of Directive 2014/40/EU [2], ‘Member States shall ensure that: (a) nicotine-containing liquid is only placed on the market in dedicated refill containers not exceeding a volume of 10 ml, in disposable electronic cigarettes or in single use cartridges and that the cartridges or tanks do not exceed a volume of 2 ml;



CrossMark