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Tristan da Cunha

Sir,- I read the research summary Dental health and fluoride supplements on Tristan da Cunha (*BDJ* 2003, **195**: 149) with interest as I am the present St. Helena Government Dental Officer. The comments by Dr I G Chestnutt recognise the difficulties in study design in determining the effects of an intervention in a multifactorial disease. This is especially so in a remote community like Tristan where the prime objective of any dentist must be to deliver effective care to the population in the most practicable way.

Dr Chestnutt further comments that to provide rigorous scientific evidence a number of factors must be addressed including an adequate control group. In fact Tristan da Cunha (population 300) is a distant dependency of the British Overseas Territory of St. Helena (population 3800), a similar small isolated island some 1500 miles to the north and could be considered as a control group in this remote part of the South Atlantic Ocean.

The two populations have similar cultural, social and economic environments, although St. Helena enjoys marginally more contact with the UK with four 'lifeline' voyages each year by the mailship the RMS St. Helena, compared with Tristan's one visit per year. Both islands have some foodstuffs imported on the RMS St. Helena from South Africa. Neither island has an airport and the communities each demonstrate little immigration, although there has been significant emigration from St. Helena very recently.

It is with this in mind that I would point out that St. Helena also instituted a fluoride tablet distribution programme in all schools on the island during the 1970s. As in Tristan, one cannot be certain about compliance with the fluoride tablet regimen administered by teachers each day in school, however concern was expressed in 1998 by the then Dental Officer on St. Helena, about the widespread use of fluoride dentifrices and the prevalence of fluorosis and enamel opacities in school children on the island.

The school fluoride tablet distribution programme was consequently abandoned in that year. There is scant epidemiological data available about dental health on St. Helena, however an unpublished survey completed to BASCD criteria in 1989 indicates numbers of caries-free children similar to that found on Tristan more recently.

Age	% caries	Mean DMF (def for 5 year olds)
5 years	32%	4.29 (def)
12 years	66%	0.7
14 years	44%	1.74

Figure 1. Percentage of children with no evidence of caries, and mean numbers of decayed, missing (or extracted), or filled teeth (1989).

A further unpublished survey using the WHO methodology completed just after discontinuation of the fluoride tablet distribution programme in 1998 gives confirmation of these data.

However in the intervening nine years the cohort of five year olds in 1989 with a high def index who have become 14 year olds in 1998, have maintained a high level of dental disease experience, despite the school fluoride tablet distribution programme.

Age	% caries	Mean DMF
12 years	40% (n=70)	5.1
14 years	47% (n=69)	5.4

Figure 2. Percentage of children with no evidence of caries, and mean numbers of decayed, missing, or filled permanent teeth (1998).

I have recently completed a survey to BASCD criteria of five year old children on St. Helena. This is five years after discontinuation of fluoride tablet distribution in schools. A few children are given fluoride tablets as a targeted preventive measure but there is no possibility that any of these children could have received any fluoride tablets from the school fluoride tablet distribution programme. Although the data is still being fully analysed by the Dental Health

Services Research Unit of the University of Dundee, there are very early indications that the number of five year old children with no evidence of dental caries remains at about 36 per cent, with an indication of a mean number of about 4.7 decayed, missing or filled deciduous teeth.

Further research and analysis is clearly required to draw any firm conclusions about the dental health of children on St. Helena Island and the Tristan Da Cunha Dependency, and the efficacy or not of fluoride tablet distribution programmes in schools.

However I would tentatively surmise that the data available from a broadly similar population in St. Helena does not support the conclusions of P A Mossey *et al* in the Tristan study, that 'appropriate fluoride supplementation regimes may have conferred a protective effect on a group of children with a cariogenic diet'.

It seems likely that on Tristan da Cunha, as on St. Helena, other confounding factors are playing their part in this multifactorial disease, but abandonment of the fluoride supplementation regime on St. Helena would appear to have had little effect on caries experience of school children.

N. Entwistle  
St. Helena

One of the authors of the paper, C. A. P. Southwick also comments on Dr Chestnutt's research summary about the paper: One of the greatest needs in dentistry at this time is 'real world' research involving primary care practitioners in general practice situations. Of course, as Dr Chestnutt indicates, it is important in conducting this research that rigorous scientific principles are applied where possible, but such research is not easy to conduct, as is evidenced by the dearth that exists in dentistry including the field of dental public health.

The paper does report the results of a cross sectional observational study but one that had added value by virtue of a number of unique features:

1. Firstly, the population is unique being an enclosed community,

2. There is a unique and characterisable gene pool with full pedigree analysis available,
3. Relevant dental health data are available because of previous studies,
4. There is a relatively co-operative population by virtue of the rapport that has been built up through exposure to the same dental officer over the past seven years,
5. Manageable numbers that has enabled a single experienced clinician to gather the dental health data using a standardised protocol.

While it is true that this clinician was not formally calibrated, he is however experienced in the field of child dental health and is a visiting practitioner to a hospital paediatric dentistry department. He is also familiar with research and the principles of calibration for epidemiology and, indeed, has participated in a number of calibration projects.

In the light of the inter-examiner variation that is typical of such calibration, I believe that the single operator consistency and the experience of the clinician are at least as important factors as calibration in this context. A future paper will also report that in 1999 two calibrated dentists reproduced the findings on caries free experience in the 13-19 year old age group.

With regard to the control population, we did in fact identify an age matched cohort in Dundee and examined the diet and, in particular, the number of sugar eating episodes in order to obtain some idea of a comparative or control group and of course examine the dental health in this cohort from a non-fluoridated area. We found that the refined carbohydrate component of the diets were remarkably similar yet there were highly significant differences in the DMF and the proportions of caries free children.

We felt however that, while this may serve as a comparison group, it could certainly not be described as a control group in the research sense because of numerous other confounding factors. I would therefore challenge Dr Chestnutt or anyone else to suggest how we would go about obtaining an appropriate control for this unique population.

It is also interesting that Dr Chestnutt begins his comment with reference to previous studies on dental health on the Island of Tristan da Cunha. The deterioration in oral health following the change to a diet rich in fermentable carbohydrates was also an observational study but for all the reasons mentioned above it was regarded as significant. I believe the same arguments can be made in this context and readers should note

that this paper is presenting data with regard to the implementation of a supervised fluoride supplementation regime by the island's physician in the one and only school on the island.

Some statistics on dental health are provided, but there is no claim that this is definitive evidence, rather a simple statement that 'appropriate fluoride supplementation regimes may have conferred a protective effect'.

The last paragraph in this commentary is indicative of the 'ivory towers' attitude and remoteness from reality that surrounds Dr Chestnutt's comments. In a community such as Tristan da Cunha the most relevant and valuable feature in this context is its remoteness. Access to the island is by boat from Cape Town in South Africa, a journey that takes seven days, and the average stay on the island is two to three weeks.

Therefore, introducing research projects that include scientifically rigorous evaluation following a defined cohort of children on a longitudinal basis with adequate controls is simply not possible.

It is nevertheless important that the dental profession is aware of the facts and the evidence such as it is, and this was an opportunistic study presenting some statistical data on dental health following a fluoride supplementation initiative that predates the authors' involvement in the dental care of the islanders.

It is also important to point out that the humanitarian objective and primary purpose of sending a dentist to Tristan da Cunha for a couple of weeks per year is to look after the dental wellbeing of the islanders, not to carry out research.

**C. A. P. Southwick**  
Dundee

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**Dr I. G. Chestnutt, author of the research summary about the paper responds:** My experience in health services research over many years has taught me about the numerous practical difficulties of conducting research in the 'real world'. However, if the findings of such studies are to lead to improved patient care and contribute to the scientific evidence base, then adherence to basic scientific principles is important.

The decline in caries prevalence seen in Tristan da Cunha, does instinctively lead to the impression that children on the island benefited from the fluoride supplements. However, a study involving only 32 children, with a large age range (6-19 years), where the baseline clinical examinations were conducted some 16 years prior to the implementation of the fluoride supplementation programme, by a

non-calibrated dentist and lacking a control group, contravenes some very basic principles in oral epidemiology and study design. None of the features cited in Dr Southwick's letter, however unique, overcome this problem.

In my view, this study has failed to account for confounding factors sufficiently to allow the authors to conclude that their findings 'are highly suggestive of the effectiveness of the introduction of a fluoride supplementation programme in addition to fluoride toothpaste use' (BDJ 2003 195: 161).

As I documented in my original commentary, if claims are to be made of the efficacy of therapeutic agents, then adherence to fundamental epidemiological principles is important. An editorial in a particular issue of Evidence-Based Dentistry, reports that most systematic reviews published in dentistry have been inconclusive.<sup>1</sup> This is frequently attributed to the poor design of the studies which contribute to these reviews.

My comments on this paper were therefore directed at policy makers and the dental research community in general, not solely on the limitations of Dr Southwick and his colleagues' work.

Far from writing in an ivory tower as Dr Southwick suggests, my practical experience in commissioning and evaluating oral health services, shows that we will in the twenty-first century, be expected to demonstrate evidence of the highest scientific standard, if we are to fulfil the expectations of bodies such as NICE (National Institute for Clinical Excellence) and SIGN (Scottish Intercollegiate Guidelines Network) and to rebuff the claims made by those opposed to fluoride and fluoridation.

In summary, I whole-heartedly agree with the need for 'real world' research. However, if we are to provide the evidence that will ultimately lead to better care for our patients and improvements in oral health, then logistical and practical difficulties should not form a barrier to science that will stand up to expert scrutiny, within dentistry and beyond. That was the point of my Commentary.

**I. G. Chestnutt,**  
Cardiff

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<sup>1</sup> Richards, D. I know nothing. *Evid-Based Dent* 2003; 4: 47.

## GDC fees for the retired

Sir,- Colleagues will know of the increase in their annual GDC retention fee. This particularly affects dentists over the age of 65 whose retention fee has risen by 900% from £40 to £388. No account is

taken on whether anyone in this age group is fully retired or if they are still working. Those who like myself are fully retired prefer to keep their name on the register on a matter of principle and also because they like to be accessible to colleagues or past patients.

There has been a surreptitious change in the register. It was a register of qualified dentists but it has now changed to a register only of dentists who have the right to practise by the production of CPDs – a subtle but significant change. I recall no consultation on the subject.

**R. A. Standing**

Staffordshire

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Sir, – Callous and uncaring are the only words to describe the decision of the General Council to give a massive uplift in the ARF for the over 65's, from £40 to the full £388. The explanation given in the accompanying notes: 'confers the right to practise and prescribe...' does not – I suggest – apply to the majority of the over 65's and is petty.

Reading the letter from the President gives the real reason, i.e. the GDC is strapped for cash, and whose fault is that? I remember, suggesting to Council that as all conduct matters had been taken away, they should not meekly accept the full cost of running the cases. Similarly, I suggested that as Government had insisted some form of Private Patient Complaints Scheme be implemented, the GDC should not pick up the full cost.

Returning to the older practitioner, I argued that retired dentists should not have to do CPD, and it would be easy to accommodate them on the register in the

same manner as the pharmacists.

After all, the mere non issue of a practising certificate would address the issue of a return to practice, and the retirees could be incorporated in the Register either as a 'bold' entry or (Ret) after their name. Any dentist wishing to return to active dentistry would, of course, have to embark on the required CPD. At a stroke, I reckon the dental register will lose around 3000 names if all the retired over 65's quite understandably refuse to pay this iniquitous £388, for they receive nothing in return. The decision makers at GDC should hang their heads in shame.

**B. Lux**

Llandudno

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Sir, – I am writing to draw your attention to one aspect of this year's retention fee increase, which has the potential to wreak untold havoc and deprive many patients of dental treatment. There is a chronic manpower shortage in dentistry. Many practices rely on the service of semi-retired dentists or lady dentists with young children to assist with domiciliary visits or holiday locum cover. Most of these very part time dentists are motivated primarily by a desire to help or to feel useful rather than by the remuneration involved. Many of them will earn less than £500 a year. Raising their retention fee to the full £388 level will simply mean that they are practically paying to work. The losers will be housebound patients who may no longer have a dentist available to treat them in their homes.

**M. Hawkins**

Dorset

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## Consensus on training

Sir, – Upon reading the article by Eaton, Newman and Widstrom, *A survey on dental hygienist numbers in Canada, the European Economic area, Japan and the United States of America in 1998* (BDJ 2003, 195: 595) I was surprised to note that Greece had the lowest ratio of number of inhabitants per active dentist at 833.

Moreover, Greece is one of the countries in the EEA without dental hygienists, as the advice of periodontists has not yet persuaded the authorities to legalise this valued member of the dental team. As a Greek national, I find this data very intriguing.

What is needed to remedy this is a consensus on hygienist work and training that extends throughout the whole of the EBA, including the 10 new member countries which are to join the

European Union on the 1st of May 2004. Standardisation in education, in my opinion, is an essential aspect of such a body and this should include unanimity and agreement in areas such as formal training, registration, employment, and the remit of dental hygienists.

It may also have been interesting within the data presented to include DMFT values. It is remarkable to note here that Greece has the 2nd highest DMFT score at 12 years of age at 2.70 despite having the highest number of dentists per population. It is only exceeded by Portugal with a DMFT at 12 years of 3.081 who simultaneously has the highest population per active dentist ratio at 3164.

**G. S. Antonarakis**

Cardiff

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1. //www.doh.ie/publications/fluoridation/chapter5.html