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rjh/mm

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Ms F Chamberlain
Solicitor to the Inquiry
The Inquiry into Hyponatraemia-related Deaths
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Dear Ms Chamberlain

Inquiry into Hyponatraemia-related Deaths

Further to my recent response to your letter the following information was gathered with the help of colleagues in the School of Medicine in Renal Medicine and Paediatrics in particular.

- 1. To what extent was teaching/training in Northern Ireland provided to medical students in fluid management and hyponatraemia in the 20 years prior to 1995 both as part of their qualification and continuous professional development?**

The principles of fluid and electrolyte physiology would have been introduced in pre-clinical lectures in year 1 delivered by the Department of Physiology. From 1988 to 1997 there was a lecture course in clinical biochemistry in year 2 and year 3 with an MCQ assessment at end of year 3 (an online study guide can still be found at <http://www.qub.ac.uk/cm/cb/text/studguide/index.htm>)

These lectures would have dealt with general principles but would not have equipped a medical graduate with detailed knowledge of how to manage the variety of clinical presentations of hyponatraemia. The clinical management of fluid and electrolyte disorders is part of postgraduate medical education ie after qualification and would form a component of the curriculum for higher professional qualifications e.g. MRCP (medicine), FRCS (surgery), FRCA (anaesthetics), MRCP (Paeds) (paediatrics).

- 2. How was the subject incorporated within the teaching/training provided to medical students?**

The principles of fluid and electrolyte physiology are introduced in pre-clinical lectures in year 1 delivered by the Department of Physiology. In year 2 and 3, from 1988-1997, a lecture course in clinical biochemistry included teaching on fluid and electrolyte balance. General principles of fluid balance (matching fluid and electrolyte intake with fluid and electrolyte output) would have

been covered during surgical and medical attachments in clinical years 3, 4 and 5. Detailed tuition in the clinical management of all the situations that may be associated with hyponatraemia would unlikely to have been considered in great detail at undergraduate medical student level.

3. How did the teaching/training in this area in Northern Ireland at that time compare with the rest of the United Kingdom?

The General Medical Council reviews in detail and on a regular basis medical school curricula throughout the United Kingdom. The teaching/training in this area in Northern Ireland is comparable with the rest of the United Kingdom.

4. Have there been any changes since 1995 to the education of medical students in fluid management and hyponatraemia, if so, when did the changes take place, for what reason and how did the changes in teaching manifest themselves in the content of education provided to medical students in Northern Ireland?

Basic principles of fluid and electrolyte balance continue to be taught in year 1 by physiologists. The basic medical curriculum was revised in line with GMC guidelines. In addition to formal lectures there are smaller group tutorials in year 1 that cover some physiological aspects of fluid and electrolyte balance. A year 1 student would not have sufficient knowledge to manage hyponatremia in a clinical setting.

In year 3 students spend a one week clinical attachment in nephrology and receive some instruction on fluid management in relation to patients with kidney diseases. In year 4 during an attachment to maternal and child health, students receive limited instruction in fluid and electrolyte balance for children. This is not covered in detail since only senior house officers (not pre-registration house officers i.e. new medical graduates) can work in paediatrics. However there is a publication developed for hospital staff at the Royal Belfast Hospital for Sick Children called Paediatric Medical Guidelines and this has been included in the study guides for undergraduate students in recent years. There is a section on hydration and prescribing fluids.

In year 5 there is a compulsory fluid and electrolyte revision class for students that has been running since 2000. All 4 clinical cases, which make up the teaching material for this seminar, have abnormal sodium concentrations (3 feature hyponatraemia and 1 features hypernatraemia).

These changes to the curriculum were part of an overall re-structuring of medical education introduced nationally on the advice of the General Medical Council with stated aims of reducing the factual overload of undergraduate medical students. The reduction in core course content is supplemented by increased student choice of student-selected components (SSCs) of medical education. Teaching of the basic principles of fluid and electrolyte balance remains part of the core medical curriculum.

Pre-registration house officers (recent medical graduates) will not have sufficient clinical expertise to manage all situations in which hyponatremia might emerge. The management of such clinical situations is often complex requiring detailed input from more senior colleagues.

5. How have medical students been educated in the need for accurate and contemporaneous record keeping on patient files in the 20 years prior to 1995.

This would have been part of standard clinical clerkships, ie medical students would have been encouraged to keep accurate and contemporaneous notes whilst on clinical placements. This would have been reinforced by case histories submitted for assessments detailing medical history, examination findings, proposed investigations, possible diagnoses and initial

management plans. Tutors would assess case histories with written and verbal feedback provided.

6. **To what extent has the education provided to medical students of the importance of record keeping and record keeping techniques changed since 1995 and for what reason have those changes been made?**

The importance of record keeping remains a key communication skill reinforced in clinical clerkships.

Is there a system in place whereby lessons may be learned from inquests and untoward deaths in Northern Ireland and in the rest of the United Kingdom so that such lessons may be incorporated into the education of medical students? If such a system exists please provide details

There is no formal system whereby lessons learned from inquests and untoward deaths in Northern Ireland and in the rest of the United Kingdom are incorporated into the education of medical students. Nevertheless the Clinical Resource Efficiency Support Team (CREST) has reviewed important subjects, such as the management of hyponatraemia in adults (<http://www.crestni.org.uk>). Clinical guidelines regarding hyponatraemia have been widely disseminated in Northern Ireland by the DHSSPSNI from 2003. The medical school had already initiated fluid and electrolyte revision classes (including cases of hyponatraemia) for final year students from 2000. This teaching aims to consolidate basic principles taught to students in their earlier undergraduate years. In general however the learning environment in Medicine leads to the incorporation of contemporary issues in practice as exemplars in the curriculum or a review of lessons to be learned from these issues. For instance MMR immunization and MRSA are both used as such examples. The human organs inquiry led to a review of the teaching of consent within the undergraduate medical course.

I hope this information is useful to the enquiry but if you need anything further, please let me know.

Yours sincerely

A handwritten signature in black ink, appearing to be 'R J Hay', with a long horizontal flourish extending to the right.

Professor R J Hay, Dean