

Scottish Dental Practice Based Research Network

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Abstracts of Oral Presentations

Setting the Scene **Dr. J.E. Clarkson.**

The Scottish Dental Practice Based Research Network (Scottish Dental PBRN) aims to promote research and the implementation of evidence based practice in Scotland. Its links are with the three dental Institutions in Dundee, Edinburgh, and Glasgow, the Scottish Council for Postgraduate Medical and Dental Education (SCPMDE), the national R&D resource of the Dental Health Services Research Unit (DHSRU), and dental teams in primary care. Research activity in the Scottish primary care community has increased in recent times, with the establishment of the Scottish School of Primary Care (SSPC) and the increased remit of Primary Care Research Networks (PCRNs) to engage the whole of the primary care community. It is hoped that with the establishment of the SDPBRN, dental research in primary care will be an integrated and efficient contributor.

SDPBRN has forged a close working relationship with the SSPC and intends to increase its links with the PCRNs. Many Scottish Dental PBRN aims are consistent with those of the PCRNs and a collaborative way of working is developing. Whilst to date PCRNs aim to be multiprofessional, few dentists are aware of their existence. In an attempt to

address this and stimulate better communication systems, Scottish Dental PBRN has developed a registrar of general and community dental practitioners interested in research.

A registration leaflet was sent out to all community and general dental practitioners in Spring 2001. The database produced provides the most comprehensive resource of current research activity in dental primary care. In addition members have registered areas of particular interest for future research, thereby permitting us to link with potential collaborators. Of the 200 individuals who responded to the leaflet, 37% wanted to receive information only at this stage, whilst 43% were interested in collecting data as part of a developed research project, and 17% were interested in developing their own research proposal.

The registration form is still available on another part of this site. "Tuith Online" (now Scottish Dental) is a dedicated journal created to enhance the network's communication. Items published in Tuith Online range from full peer reviewed research papers to unsolicited letters sent by readers with interesting comments about dental primary care or related subjects.

The aim is for the Scottish Dental PBRN to work Scotland wide to facilitate the expansion of research in dental primary care in Scotland.

Practice-Based Research **Professor Nairn H F Wilson,** **President, GDC.**

Practice based research is fundamental to the advancement of clinical practice. Basic research followed by the development and experimental application of new clinical procedures, materials and devices may be best undertaken in centres of excellence. Research in such centres is however, generally limited to determining the potential of innovations. Practice, and where appropriate, community based research should complete the R&D process, by determining clinical effectiveness and benefits to patients in the "real world".

Practice based research is as demanding as any other type of research. As occurs in centres of excellence, investigations in the practice setting must recognise the need to seek expert advice and assistance in conceiving, planning, and reporting the findings of research projects. Research which fails to contribute to existing knowledge and understanding, and in turn, evidence-based practice is a misuse of opportunity and precious resources. Familiarity with research methods and research networking are important factors in the successful prosecution of practice-based research, let alone securing the funding necessary to pursue high

quality research in a busy primary care setting.

Practice-based research is invariably challenging, and may pose many varied difficulties in its effective execution. Success in such activity through, for example, publication of papers in peer review journals, recognition of the value of the outcome of completed projects, and, above all else, a beneficial change in clinical practice, is tremendously rewarding in terms of professional fulfilment. At one and the same time, practice-based research is an invigorating activity which it is suggested, should form an integral element of a practitioner's continuing professional development.

Management of Snoring using an Intra-Oral Appliance in Primary Dental Care
Gordon Thomson, General Dental Practitioner.

After obtaining Tayside Health Board Ethics Committee approval, this TayRen project started in early 2000. It involved 9 dentists working in 7 practices in 6 towns throughout Tayside, with 100 patients being recruited.

Snoring is described as an involuntary anti-social behaviour which can often be very disturbing to partners sleeping with the patient and often results in these partners not sleeping with the snorer. This can cause stress and tension in relationships. In addition, depending on the cause of the snoring daytime sleepiness of varying severity can occur, leading to loss of concentration at work.

The aim of the project was to investigate the effectiveness of a hard acrylic appliance in the control of snoring in primary dental care and the objective

was to measure quantitatively and qualitatively the outcome of wearing the appliance. Data collection was obtained using pre and post 'appliance fitting' questionnaires which were completed by both the patient and their partner. The outcome of the study would be measured by assessing the amount of change in the snoring pattern and an analysis would be made using appropriate parametric and non-parametric methods.

The criteria for patient inclusion in the study were listed as:

Adults aged 18-60 years
Good general health and a partner complaining of snoring

A score of 0-16 on the Epworth Sleepiness Scale
Have sufficient teeth to support the fitting of an appliance.

Have a partner who is willing to complete a questionnaire to assess snoring status.

The sole criterion for exclusion would be if the patient has a malocclusion which precludes an appliance

100 patients have been recruited throughout the practices and supplied with an appliance. These patients have been a mixture of regular attenders at these practices and referrals from both other GPs and the ENT Department at Ninewells Hospital, Dundee.

The Clinical part of the project has now been completed and analysis of all the data collected by the participating GPs is commencing.

Continuing Care For Highlands Elderly
Jennifer Hally (Research undertaken as part of a Higher Training Fellowship in Dental Primary Care from SCPMDE)

This presentation relates to research undertaken by the author as part of a higher training 'Fellowship in Dental Primary Care' at Dundee Dental School. The study, set in the Highland region of Scotland investigates the current practice and attitudes of dentists and home supervisors in relation to continued dental care of elderly residents.

The Highland region covers almost 10,000 square miles and has a widely distributed population group with almost half of its 220,000 inhabitants living in the more remote and rural areas of the region. The unique vastness and diversity of this area presents a number of dental service provision problems for the Highland Primary Care Trust especially in relation to the continuity of dental care for the long term care elderly.

The study, a cross-sectional postal survey of Highland's dentists and homes had a good response rate with 97% of dentists and 79% of homes participating. Results highlighted certain inequalities in dental care provision within the area. Domiciliary patients were less likely to receive a recall appointment compared to elderly patients seen in a surgery with only 48% of dentists claiming to recall even dentate domiciliary patients. The provision of domiciliary care within the area was high with 86% of dentists claiming to provide such a service although only 29% would be willing to undertake dental

restorations on such a basis. For those individuals who required dental treatment at a surgery, 95% of homes claimed to have transport available although the service remained demand driven with 75% of homes having to contact a dentist before their residents received care and 72% claiming to have never been screened. The profile of Highlands long term care of the elderly highlights only a small percentage of bed bound (1%) residents with nursing homes exhibiting the most residents with complex medical and mental disabilities. In terms of the referral of elderly patients 79% of general dental practitioners would refer uncooperative elderly individuals, 75% of salaried dentists would refer those with complex medical histories, and 90% of community dentists would refer those who required complex dental treatments. The majority of general and salaried practitioners would refer to the community dental services, while community dental officers would refer to a special needs colleague. Within the community dental service 100% of dentists claimed that they now needed post-graduate education to help them deal with the progressively more complex elderly patient group.

The final part of this study aimed to address some of these inequalities. A referral form was developed to provide a standardised dental assessment for new home residents. This form was piloted in ten homes within the Highland area with promising results. In conclusion this study highlights the need for a structured, seamless continuing dental care service, tailored to the actual needs of

the elderly individuals it is designed to serve.

SSPC - What Is It and What Will It Do?

Dr Sally Wyke, Director, Scottish School of Primary Care.

What It Is

Primary Care remains at the centre of the NHS in Scotland. Most patient care takes place in community settings and is led by primary care teams. Much of this care depends on the provision of high quality services, themselves dependent upon relevant and effective research evidence. The evidence base however remains sparse in primary care and there are not enough high quality researchers to undertake all of the research and dissemination needed to enhance the delivery of primary care services.

The creation of the Scottish School of Care was envisaged to plug some of these gaps. Initiated in January 2002, the School has undergone a two-year foundation phase with the support of all professional organisations and the Scottish Executive Health Department. The School is a 'virtual' organisation - A 'School without Walls' delivering through partnerships with Primary Care Research Networks NHS Trusts, Research Practices, and Universities amongst others. It has a small core Directorate, which includes a Director, Business Manager, Projects Officer, and Administrator (the last two posts are shared with Scottish Dental PBRN) providing an element of facilitation and coordination to the Scottish primary care research community.

Focusing on a multi-disciplinary and multi-professional approach, the School aims to:

Provide and interpret the high quality research evidence needed to inform decisions made by patients, practitioners, managers, and policy makers;

Increase research capacity and capability within Scotland through increasing the accessibility of education and training in primary care research.

What It Will Do

The School will provide a national perspective for primary care R & D in Scotland and a strategy to increase research capacity and capability.

It is already working to devise a research agenda to match the needs of Scottish primary care by developing programmes of research.

Acting as a focus for future investment, it now seeks to achieve a more synergistic relationship between D & R.

In details the School will coordinate and provide added value through shared working to the following projects:

- A Platform for Primary Care Research in Scotland
- The effect of remuneration and education on the implementation of research evidence to reduce inequalities in oral health *
- Primary Care Organisational Responses to Mental Health Needs
- An evaluation of NHS 24
- An evaluation of a local Managed Clinical Network in Cardiology

*This programme includes the research project investigating the effect of remuneration and education on the implementation of research evidence to reduce inequalities in oral health, led by Dr Jan Clarkson as the Principle Investigator.

In tandem with Primary Care Research Networks, the School will continue to promote research training and offer access to national courses. In 2001 and 2002, the following courses were/will be on offer:

- MSc in Primary Care module: Primary Care Research - from Idea to Proposal
- Masterclasses:
 - Health Economics
 - Health Informatics
- Qualitative Methods for Primary Care Research
- Learning to teach EBP

By focusing on the 'primary care professional's research journey', the School promises to be active and encourage network memberships (PCRN and SDPBRN), attendance at courses, support proposal development and funding applications, publications, and the adoption of CPD evidence-based practice.

Finally, in relation to the development of a more synergistic relationship between service development and research, the School is working with all of the Scottish Primary Care Trusts on a programme of work that brings experienced researchers to groups of professionals engaged in developing services across Scotland. The researchers bring research evidence and evaluative skills whilst the NHS staff bring experience of 'on-the-ground' delivery of care to the service development process. One of the most exciting aspects of this programme is the opportunity it offers for mutual learning amongst NHS staff. Three projects have so far emerged from this programme:

1. Improving care for chronically mentally ill patients - developing integrated care in a community setting
2. Improving integration between health and social care for older people
3. Integration of diabetes care through the use of information management

The Scottish School of Primary Care aims to further collaborative approaches designed to improve the research base amongst dentistry in Scotland. It is committed to working with the Federation of Dental General Practitioners, DHSRU, SDPBRN, and other Scottish Consortium for Development and Education in Dental Primary Care partners.

Funding has been secured for another 8 years in which the School will hope to consolidate a solid base and a successful start.

For further information on the current activities of SSPC, please visit our website.

Ethics in the Preparation and Participation of Research in Primary Care Practice
Dr James Rodger, Medical Adviser, MDDUS.

The concept of research ethics has become more prolific over the years: this presentation highlighted the importance of ethics and ethical considerations in research, from research preparation to participation.

The presentation began with a definition of ethics and research. The ethical concepts requiring consideration in preparing and undertaking research were then summarised and the following

three key areas were highlighted for further discussion:

- Consent
- Confidentiality
- Research fraud

One of the most important ethical considerations within research is consent and gaining the consent of individuals participating within a research study. It is important that individuals are provided with sufficient information about a research study so they can make an informed choice about consent. Equally important is the level at which the information is pitched; it should be based on the individual's own needs and priorities. Any questions an individual has should be addressed and no information should be withheld from them. The final aspect of consent is the capacity to consent - special attention should be given when gaining the consent of children or the mentally incapacitated.

Once an individual has provided their consent, it is important to ensure confidentiality and adherence to the Data Protection Act (1998). The researcher has a duty to provide confidentiality to the individuals participating in their study. This duty includes making the participants aware of the uses to which their information is put, anonymising data and ensuring data security.

Although it is rare, research fraud is an important ethical consideration when preparing or participating in research. Failing to gain consent, falsification of results, and exposing those participating in research to risk are all examples of research fraud. Research fraud represents

serious professional misconduct and is a matter for the General Medical Council or General Dental Council.

If you would like further guidance on research ethics contact your nearest Local Research Ethics Committee (LREC) or Multi-centre Research Ethics Committee MREC. For details of your nearest LREC or MREC visit the Central Office for Research Ethics Committees (COREC) website.

A Randomised Control Trial to Investigate Patients' Views of a Scale and Polish
Julie Kilgariff, SHO, Dundee Dental Hospital.

28 vocational trainees in Aberdeen, Perth, and Dundee and 420 patients participated in this randomised controlled trial. For each dentist, patients were randomised to have a scale either by hand or using ultrasonic instruments. The objectives of the randomised controlled trial were:

- To investigate patients' and dentists' attitudes towards the costs and benefits of routine scale and polish.
- To compare the experience of using manual versus ultrasonic instruments to scale teeth from both patients' and dentists' viewpoints.
- To evaluate the educational and training experiences of trainees participating in a randomised controlled trial.

Costs and benefits of routine scale and polish:

Patient response to the question "How much did the scale and polish cost?" (to the

nearest £) indicates that many patients are unaware of the price paid for individual items of treatment. While 34% of patients correctly answered that a scale and polish cost £8, the remaining 66% of patients gave an incorrect response with 39% answering 'don't know'.

Patients were asked "What do you think is the benefit to you of having a scale and polish?" and, for the same patients, the dentist was asked "What do you think the patient will feel they benefited from having this scale and polish?" The results suggest that very few patients believe a scale and polish is 'of no benefit' to them, 46% believe a scale and polish 'improves appearance' and 78% believe a scale and polish will keep their 'gums healthy'. Within these three response categories the dentist was a good judge of patients' feelings. However, within the remaining two categories dentists' judgements of patients' feelings were less accurate. Although 58% of patients believe that scaling and polishing is instrumental in arresting tooth decay, dentists predicted that only 19% of patients held this belief. Also, a lower number of patients (64%) than expected by the dentists (84%) felt that a scale and polish made their mouths 'feel good'.

Patients' experience:

Patients were asked "What did the scale and polish feel like?" and for each patient the dentist was asked "How do you think the patient felt during the scale and polish?" Comfort levels, for the patients, did not differ markedly between

treatments. There was, evidently, marginally more discomfort felt with the ultrasonic treatment with 70% of patients feeling a little uncomfortable or worse compared with 63% undergoing manual scaling. The dentists were inclined to attribute a slightly greater level of discomfort than the patients claimed to feel but identified correctly how many patients were very uncomfortable. 8 patients 'in pain' were not spotted by the dentist.

Training experience of trainees:

Dentists were asked whether they thought it would be easy to recruit patients for their study. Though most thought that it would be, some had doubts. After the study, there was more of a conviction that it had been easy, with only a minority experiencing difficulties (Significant $p < 0.05$ using Wilcoxon Signed Rank Test).

Dentists were asked if administration of the study would significantly disrupt their routine. Prior to the study 43% did not expect disruption and 42% were not sure. Post studies, many of the doubters were reassured with 67% responding that the study did not significantly disturb the routine of the clinic. However, a few were discouraged and three dentists indicated that the study had caused more disruption than anticipated. (Not significant) An encouraging result is that the majority of dentists (82%) agree that clinical trials should be carried out in general practice.