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Dentist's views on incorporating oral health collaborative practice into primary medical care in Ireland

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Background: In order to address the burden of oral disease, the dental profession needs to engage in collaborative practice with medical professionals. The aim of this study was to explore dentists' views on incorporating oral health collaborative practice into primary medical care in Ireland. ***Setting:*** Dublin Dental University Hospital, Ireland. ***Participants:*** Dentists with backgrounds in oral surgery, oral medicine, paediatric dentistry, special care dentistry, prosthodontics, primary care dentistry, hospital dentistry and public dental health. All participants were working in, or had worked in, Dublin Dental University Hospital for a minimum of six months full-time equivalent within the previous 5 years. ***Methods:*** Semi-structured qualitative interviews were undertaken in five phases, transcribed *verbatim* and thematically analyzed. ***Results:*** A total of 17 participants were recruited. After 14 interviews, no new themes were emerging and data saturation was achieved. Eleven codes were identified and organized into four themes; (i) the relative importance of oral health to systemic health, (ii) the role of dentistry in the overall health care team, (iii) oral health interprofessional education and training, (iv) opportunities for oral health collaborative practice. ***Conclusion:*** Dentists felt that the best way to achieve effective oral health collaborative practice with primary medical care would be to educate medical professionals on how to identify the significant risk factors for oral disease, how to promote oral health and how to facilitate access to primary dental care for their patients.

Keywords: *Oral health; oral health promotion; health education; primary health care*

Introduction

In 2007, a World Health Assembly called for oral health to be integrated into chronic systemic disease prevention strategies, because of the many shared common risk factors between oral and systemic disease (Petersen, 2008). Oral disease is largely preventable, and despite its prevalence and many shared common risk factors, it has remained separated from routine medical care, in both practice and education (Lancet, 2009). It is recognised that to address the burden of oral disease, the dental profession must engage in collaborative practice with medical professionals (Sheiham *et al*., 2015), which is an effective way of incorporating the skill set of each member of the health care team to provide the highest quality of patient care (WHO, 2010). Collaborative practice between medical and dental professionals is generally lacking across health systems (Barnett *et al*., 2014; Southerland *et al*., 2016) and there is a need to build oral health capacity among medical professionals (Petersen, 2008). The acquisition of knowledge and skills through interprofessional education is an important part of building capacity among health workers and preparing them for collaborative practice within the broader health care team (WHO, 2010). In 2014, the United States Health Resources and Services Administration developed a "starter set" of oral health core skills for primary care medical professionals to support and enhance interprofessional collaborative practice (U.S. Department of Health & Human Services, 2014). The aim of this study, which is part of a larger initiative to introduce oral health collaborative practice to medical professionals in Ireland, was to explore the views of dentists on the relative importance of oral health to systemic health, oral health education for medical professionals and the perceived opportunities for collaborative practice between medical and dental professionals in Ireland.

Methods

The lead researcher underwent qualitative research methodology training before commencing this study. Ethical approval was granted by the School of Dental Science Research Ethics Committee.

Participants were recruited from dentists working in the Dublin Dental University Hospital, which is the largest university dental hospital in Ireland. This population was chosen because both as a national centre for specialty referral, and as a busy dental accident and emergency centre, the clinical and teaching staff are exposed to a variety of dental and medical professional referrals and are thus well positioned to offer an insight into the relationship between oral health and systemic health. Participants had to be dentists who were working in, or had worked in the Dublin Dental University Hospital, for a minimum

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of 6 months full-time equivalent within the previous 5 years. Purposive sampling was chosen to recruit eligible participants (N = 42). A gatekeeper was identified to contact eligible participants via a standardized email, which contained information about the study. One reminder email was sent to those who did not respond, ten days after the initial recruitment email. The gatekeeper put each interested participant in touch with the lead researcher, who was available to answer further questions about the study and arrange a time and date for the interview. The interviews took place over a three-month period between April and June 2016. Informed consent was obtained before each interview. Each interview took place in a seminar room in the Dublin Dental University Hospital, which served as a neutral venue for both the interviewer and the participant. An interview guide was developed using the published literature. The interview guide was piloted on one dentist, the data from which were excluded from this study. The interview guide was used for all interviews, with various prompts used to supplement the process throughout, which allowed the interviews to be flexible and enabled the researcher to explore themes in greater detail (Barriball *et al*., 1994). The average interview duration was 47 minutes. The interviews were conducted in phases, which allowed for interim analysis; three participants in phases 1 to 4 and two participants in phase 5. Analysis used a qualitative data analysis software package (MAXQDA; a product of Verbi Gmbh). A system of thematic analysis was employed that entailed familiarization with the data, developing a coding frame, generating codes and the compilation into themes (Braun *et al*., 2006). In order to ensure rigour and consistency in the data analysis, multiple coding was introduced. A second trained and experienced qualitative researcher separately coded 4 interview transcripts, to compare codes and discuss emerging themes. The need for respondent validation was considered, and because of logistical challenges, it was decided that participants would be asked to elaborate on points made during the interview to clarify their intended meaning, which avoided the need for transcript validation. The process of reflexivity was considered throughout the study. This meant that the researcher aimed to avoid systematic bias in the collection, interpretation and reporting of the data (Ritchie *et al*., 2003). The interviewer is a dual-qualified clinician in both dentistry and medicine, which helped to reduce reflexive bias.

Results

A total of 17 participants were recruited, representing a 40% response rate. The sample was predominantly female (76%) and there was a broad range in years of experience. The profile was diverse, with participants coming from backgrounds in oral surgery, oral medicine, paediatric dentistry, special care dentistry, prosthodontics, primary care dentistry, hospital dentistry and public dental health. After 14 interviews, no new themes were emerging and data saturation was achieved (Kvale *et al*., 2009). A sample of this size is both practical and efficient and allows the researcher to gain an in-depth understanding of the data (Crouch *et al*., 2006). The thematic analysis produced a frame of 11 codes, organized into four themes:

1) The relative importance of oral health to systemic health:

Dentist opinion

All dentists interviewed felt that oral health was an important part of systemic health:-

"Oral health is integral to general health" I4.2

Most dentists felt that oral health should be incorporated into the overall systemic health management of a patient, especially among patients with chronic systemic disease:-

"*I think one of the most exciting developments recently has been the evidence showing the bidirectional link between oral health and diabetes*" I3.1

Oral cancer was acknowledged as the most significant disease affecting the oral cavity:

"Oral cancer is the main thing really isn't it" I5.2

Perception of medical professional opinion

Dentists perceived a lack of interest in oral health among medical professionals:-

"*It seems to me that most doctors have relatively low interest in oral health and really just see it as something that is the responsibility of the dentist*" I2.1

Most dentists felt that it was related to a lack of knowledge about oral health:-

"*I don't think they have any idea about oral health, and I think it is an education issue*" I5.1

It was also perceived that medical professionals may be used to dealing with more serious systemic health conditions than oral health, and that their perceived lack of interest in oral health might be due to competing systemic health priorities:-

"*I'm sure the doctor has so many things to be thinking about that the mouth sometimes gets overlooked*" I5.2

Perception of patient opinion

Participants thought that the relevance of oral health only became apparent for most patients when they were experiencing symptoms of oral disease:-

"*I think the issue of oral health doesn't really hit home until you have a problem*" I3.2

2) The role of dentistry in the overall health care team:

Dentist opinion

Most dentists thought that the dental profession had moved further away from the health care team, and that generally, dentists did not communicate well with other health professionals:-

"*I think in dentistry we have become very isolated*" I3.1

"*I think dentists and doctors need to have a lot more communication*" I1.1

Dentists perceived an important need for oral health advocacy among other health professionals:-

"*It's been far too easy to ignore dentistry in this country…the dilemma is how to reintegrate dentistry into health care*" I3.1

Perception of medical professional opinion

Participants felt that medical professionals should receive more information about the range of services provided by dental professionals for their patients:-

"*The problem is they think it's just teeth, that dentists can only look at teeth…dentists can diagnose a lot more than just dental caries...the dentist has a much greater awareness of referral pathways for mucosal disease or for other things affecting oral health as opposed to just teeth*" I5.1

Perception of patient opinion

Many patients were thought to be unaware of dentists' diagnostic skills and tended to consult medical professionals for oral health problems, especially those affecting the oral soft tissues:-

"I think there are quite a few patients that go to their GP first, if it's a lump or bump in the mouth" I4.3

3) Oral health interprofessional education and training:

When, What and Who?

There was a view that some basic oral health training should be incorporated at the undergraduate level for medical students:-

"I would like to see a basic oral health component that looked at assessing the risk factors for common oral diseases like caries and periodontal disease, and also for oral cancer" I2.1

"I think they need to be made aware of how oral disease, be it mucosal, be it dental…how it can impact systemic health" I5.1

In addition to undergraduates, participants felt strongly that postgraduate training would be important for medical professionals who work in primary care:-

"I think doctors in the primary care setting can be hugely influential" I1.1

Training goals and expectations

Participants felt that training medical professionals to diagnose oral disease was an unrealistic goal and that it would be impractical to expect them to reliably diagnose oral disease without the appropriate dental equipment in primary medical care:-

"I think it's a bit much to ask them to be able to diagnose oral disease… they don't have a dental chair with lights and instruments, so I think feasibility wise it's impossible" I5.1

Dentists also expressed concerns about expecting medical professionals to screen the oral cavity, especially for potentially malignant disorders or malignant oral lesions:-

"I don't think it's a good idea to be coaxing people along and looking in people's mouths when they're not trained for it…because if they miss something, there would be serious implications for the patient" I4.3

4) Opportunities for oral health collaborative practice:

Oral health promotion and risk factor identification

Dentists felt that the best way to incorporate oral health collaborative practice would be to educate medical professionals on how to identify significant risk factors for oral disease and how to promote oral health:-

"I think it would be much more effective to do a risk factor approach because I don't think it's fair to expect medical professionals to be making decisions about diagnosis and treatment in the mouth" I3.3

In addition to educating their patients on relevant risk factors for oral disease, participants believed the most effective way for medical professionals to promote oral health would be to engage with primary dental care through an appropriate referral process, just as they would for any other specialist branch of medicine.

"I think getting the patient to engage with a dentist is the best approach" I4.3

"They should have enough awareness to be able to refer to a dentist, just like they have for other medical specialties" I3.2

Screening high-risk oral cancer patients

Participants thought that oral health collaborative practice was especially important for high-risk oral cancer patients:-

"The doctors probably have more exposure to the 'at risk' oral cancer patients, in the sense that they are very often smokers and drinkers, and more likely to be attending a doctor than a dentist" I2.3

Dentists believed that medical doctors in primary care were in an optimal position to contribute to the early diagnosis of potentially malignant disorders or malignant oral lesions:-

"If they have a patient who is a smoker, they should inform them on the link between smoking and oral cancer, and then say look, I am not in a position to check your mouth accurately, so it is advisable to go to your dentist, and I can write you a letter for that" I4.1

Chronic systemic disease co-management

Participants felt that medical professionals should incorporate oral health as part of their chronic systemic disease management, especially for patients with diabetes:-

"As a general rule of thumb, patients with diabetes should be advised to see their dentist" I1.3

Discussion

The dentists recruited to take part in this research were from purposive sample from one university dental hospital, which is a limitation of this study. However, this paper does not seek to represent the opinion of all dentists in Ireland, but rather to gain a deeper understanding of this topic (Ritchie *et al*., 2003). Another consideration is that collaborative practice by its nature involves multiple health care workers, and so it would have been beneficial to gather qualitative data from primary care medical professionals as part of this study to compare and contrast views.

Interprofessional education is an important step in preparing medical professionals for oral health collaborative practice (WHO, 2010). The oral health education and training recommended should reflect the desired goals and expectations of collaborative practice (WHO, 2010),

and participants seemed cognizant of this throughout the interviews. Dentists perceived a lack of interest in oral health among medical professionals and suggested both a paucity of oral health education and competing systemic health priorities as reasons for this perception. Oral health education has been shown to improve oral health knowledge, attitudes and practices among health professionals in training (Peker *et al*., 2009). Participants in this study recommended some basic oral health training for undergraduate medical students because it is important to expose students to interprofessional education at an early stage (WHO, 2010). They also recommended some postgraduate training for medical professionals, especially those who work in primary medical care, as they have great potential to develop collaborative practice relationships with dental professionals (U.S. Department of Health & Human Services, 2014); Hummel *et al*., 2015).

Dentists perceived a low level of oral health knowledge among patients and it has been shown that attending a dental clinic is the best source of oral health information for patients (Taniguchi-Tabata *et al*., 2017). It was thought that patients had limited awareness of what diagnostic skills were accessible in a dental clinic, and that many patients still consulted medical doctors instead of dentists for oral health problems, especially those affecting the oral soft tissues.

It was felt that most patients attributed little value to oral health until they were experiencing symptoms of oral disease and that promoting oral health in an emergency situation is not a good way to improve oral health awareness among patients (Barnett *et al*., 2014).

Dentists felt that the best way to achieve effective oral health collaborative practice would be to educate medical professionals, especially those who work in primary care, on how to identify the significant risk factors for oral disease, how to promote oral health and how to facilitate access to a dental professional. There is strong evidence from a systematic review that personalised advice, based on the individual's risk factors, is more effective in promoting uptake of screening than generalised advice (Edwards *et al*., 2013). As such, participants felt that this would be a good way of encouraging patients at high-risk of oral cancer, who are unlikely to visit a dentist on a regular basis (Netuveli *et al*., 2006), to attend a dentist for an oral cancer screening examination. This could contribute to the early diagnosis of potentially malignant or malignant oral lesions. Participants also suggested the incorporation of oral health as part of overall diabetes management and felt that medical professionals could send a powerful message to patients with diabetes, by promoting oral health in the context of overall systemic health (Lalla *et al*., 2011). It was thought that medical professionals would be more likely to refer patients to dental professionals if the referral environment was more supportive of them (de la Cruz *et al*., 2004). Developing "primary care-dentistry referral" networks has been suggested as a way to enable medical professionals to facilitate access to dental professionals. This can be as simple as identifying a local dentist or dental practice and establishing a professional relationship to support effective communication (Hummel *et al*., 2015).

Finally, participants felt that dentistry has become isolated from the health care team in Ireland and that there is a need for oral health advocacy by members of the dental profession. This would entail promoting the role of the dental professional as part of the health care team and striving to foster a greater interest in oral health among medical professionals, patients and policy makers (Boechler *et al*., 2015).

Conclusion

The dentists interviewed in this study felt that the best way to achieve effective oral health collaborative practice in the primary medical care setting would be to educate medical professionals on how to identify the significant risk factors for oral disease, how to promote oral health and how to facilitate access to primary dental care for their patients.

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