How oral health educators conceptualise health promotion: a qualitative study.

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Research article

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Abstract

**Background:** Dental diseases, dental caries and periodontal disease, place a significant burden on individual and population health level. These diseases are largely preventable; health promotion initiatives have been shown to decrease the disease rates. However, there is limited implementation of health promotion in dentistry, this could be due to a number of factors, the ethos and philosophy of dentistry is focused on a curative, individualised approach to oral diseases, there is confusion around health promotion as a concept. However, dental professionals are well placed to implement health promotion, but there is a lack of understanding about the training and what dental professionals understand about health promotion.

The aim was to explore conceptualization of health promotion among oral health educators and identifying the barriers and opportunities for health promotion in practice

**Methods:** Nominal group technique (NGT), a highly structured face-to-face meeting, was conducted with 24 oral health educators to explore how they conceptualize health promotion and the barriers and opportunities for health promotion in practice. An additional 4 questions were emailed to oral health educators after the NGT to gather additional data, 6 oral health educators were involved. The data was analyzed using thematic analysis.

**Results:** The oral health educators in this study discussed health promotion in a holistic way, however, health education and behaviour change were mentioned more than other aspects of health promotion. Collaboration with other health professionals and getting involved in already existing health promotion programs were the identified opportunities for health promotion practice. However, the barriers of health promotion practice were identified as the curative approach that underpins dentistry and the lack of funding, time and value placed on health promotion.

**Conclusions:** This study moves beyond a problem describing to problem solving in this space. Collaboration with other health professionals is an opportunity to be capitalised on. However, to see the biggest improvement in health promotion the curative, individualised approach to dentistry needs to be challenged.

**Background**

Dental diseases, including periodontal disease and dental caries, are a significant burden on a population's overall health and wellbeing. Despite the evidence relating to the preventable nature of these diseases, much of the focus is still on treatment (1–4). Health promotion initiatives such as, dietary changes, daily use of fluoridated toothpaste and the use of the systematic (water) and topical fluoride (5–9) have been shown to decrease caries rates. Dental treatment, on the other hand, has had very little effect on these decreasing rates of dental caries (10–12). Contrary to the above evidence on effectiveness of health promotion initiatives in improving oral health, there is limited implementation of health promotion initiatives (1). This situation has been attributed to the lack of understanding of health
promotion within the dental field (2, 13, 14). Additionally the ethos and philosophy of dentistry is focused on a downstream patient-centred, curative and rehabilitative approach to oral diseases (1–4, 15), leading to a focus on behavior change and health education (16). Although there are some very recent initiatives focusing on the upstream approaches for example International Centre for Oral Health Inequalities Research and Policy (ICOHIRP) (17) the majority of focus is on downstream approaches (12).

Within dentistry, health promotion and health education are seen as terms that can be used interchangeably (18, 19). However, there are differences between the two. Health promotion is defined as “the process of enabling people to increase control over, and to improve, their health“ (20), whereas, health education is defined as opportunities for learning which increase a person’s knowledge and develops their skills in relation to healthy behaviours (21). Health promotion, however, encompasses a more holistic view of how to prevent ill health and promote good health. Furthermore, health promotion incorporates prevention and education at the population level as well as the individual level and is concerned with addressing the underlying determinants of health and oral health (2). Clarity around these concepts in the dentistry and oral health education system and teaching is needed for successful implementation of health promotion in the dental field.

Oral health practitioners are well placed to deliver quality health promotion to the populations that they serve. They possess the clinical knowledge and skills on how to care for a person’s teeth (22). There is an expectation they have a role to play, which is demonstrated by the professional competencies around health promotion in Australia and internationally (23). Additionally, there is a growing call to action that the oral health workforce shifts from the individualistic, clinical approach to a more upstream approach focusing on the underlying causes of dental diseases (12). However, there is little understanding of what dental and oral health practitioners know about how to deliver health promotion and how their training prepares them to undertake preventive approaches (23). Due to the limited information available, other professions who have similar experiences (e.g. have a clinical role as well as some expectation of promoting health) can provide insights for dentistry. One such profession is nursing; there is a wealth of literature that explores the role nurses play in the provision of health promotion to their clients (24–26). Additionally, how health promotion is contextualised and delivered to nursing students can influence the practice of health promotion once the nurses graduate (27). However, conceptualization of health promotion by oral health educators is not known and how this training can influence health promotion practice of dental professionals is limited.

The aim of this study is to understand how oral health educators, oral health professionals who are involved in the teaching of dental and oral health courses, conceptualise health promotion and explore the barriers and possible opportunities for health promotion implementation in dental practice.

Methods

Ethical approval was gained from La Trobe research ethics committee (ethics number FHEC 14/234) prior to the commencement of the study.
Study setting

The study was carried out at the 14th annual meeting of College of Oral Health Academics meeting in 2014 at La Trobe University, Bendigo campus. The college holds annual meetings, which are used for professional development along with sharing ideas and resources on teaching oral health content. In order to be given membership to the College individuals must be involved with teaching or research within an oral health course in Australia, Fiji, Micronesia and New Zealand.

Recruitment of participants

An information pack about the study was sent to the 56 attendees of the conference via email ahead of the College of Oral Health Academics meeting. There was time allocated in the meeting program for the face-to-face meeting for data collection, attendees could opt in to participate. Written consent was gained at the start of the session before data collection began. Out of 56 invited oral health educators, oral health professionals who are involved in the teaching of oral health graduates from Australian and New Zealand universities, 24 accepted to participate in the study.

Nominal group technique

Data was collected using a modified nominal group technique (NGT), a highly structured face-to-face meeting where opinions from experts are captured and combined (28–30). This method is mainly used for item generation and allows for discussion to occur (31). The benefits of NGT are twofold, participants have equal opportunity to present their views (32) and the group process avoids problems associated with other group meetings, such as data being influenced by vocal members and participants conforming to group opinion (29, 32, 33).

NGT was a method first used in the 1960’s in social psychological research, and most commonly involves five stages (30). The five stages are: introduction and explanation, silent generation of ideas, sharing ideas and group discussion and voting and ranking (30). NGT is considered a mixed methods approach with qualitative data generated from group discussions and quantitative data generated from the voting and ranking stage (34). The aim of this study was to explore a broad range of opinions on how oral health educators contextualize health promotion. As this is an under-researched area and all ideas are important to present a four-stage model NGT model was used. The researchers agreed there was no benefit to the research question for using the fifth stage of NGT (voting and ranking. The stages used in this study were: introduction and explanation, silent generation of ideas, sharing ideas and group discussion.

Nominal group procedure

The data collection took place in a tutorial space with round tables, where participants sat in groups of four to five. In the introduction and explanation stage the researcher provided all participants with the questions that would be asked prior to the meeting and instructions on the structure of the meeting via email. In the silent generation of ideas phase, the participants were asked three semi-structured questions: What is health promotion? What health promotion could we do in practice that we are not
already doing? What are the barriers for health promotion implementation in practice? These questions were developed based on the literature available on the knowledge of health promotion among health professionals. Participants’ responses were captured through the use of an audience response system (35). Polleverywhere is an online platform, which allows questions via polls to be displayed to the audience. All polls are assigned a unique code, which participants use to respond to the polls via a webpage or a text message. In the sharing ideas stage, the responses from the polls were then displayed in real time on a PowerPoint or webpage for the participants to see. An audience response system was used as a way of collecting data in an efficient manner, which allowed the data to be presented to the rest of the group instantly and enabled the other participants to see all responses. In the group discussion phase, participants then self-selected groups of four to five people to discuss the questions and responses collected via the audience response system. The ideas that were generated from this discussion were noted via a scribe (one participant from each group) in each group on an iPad. These discussions were not audio recorded.

Data analysis

The data collected using Poll Everywhere was downloaded into excel spreadsheets from the Poll Everywhere website. The key points noted down by scribes on iPad’s during group discussion phase were emailed to the research team. This data was imported into Nvivo 10 and analysed using thematic analysis. After initial thematic analysis and a meeting between the research team, further clarification and depth of some of the key findings was needed. The researchers sent four additional questions along with the initial findings from stage one, via email, to participants that consented to be contacted by the researchers. The questions were; Overall health promotion was defined and viewed holistically; however, health education and behaviour change were mentioned more times than other strategies. Do you feel this is true representation of how health promotion is seen within dentistry? Collaboration was a strong theme that came out of analysis when talking about opportunities for health promotion. How can our profession capitalise on this opportunity? Are there any barriers which you feel are relevant that have not been mentioned? There were quite a few barriers mentioned, what are some strategies that could overcome some of the barriers? The email was sent to 24 participants, six participants responded. Data collected from the email responses were imported into Nvivo 10 and was analysed using thematic analysis.

Results

Twenty-four people participated in the nominal group and six participants responded to questions sent via email. The participants were all involved in the teaching of oral health students, roles varied from clinical educators, lecturers, subject and course coordinators. Thematic analysis of the participant responses demonstrates positive views about health promotion and possible opportunities for health promotion in practice. These themes are reported below using participant words (in italics) to illuminate the themes. The data will be identified with a tag (Polleverywhere, group discussion or email), which indicates where the data was collected. There was also a range of perceived barriers faced by oral health
educators when trying to implement health promotion, such as, the curative approach to dentistry, lack of funding and time. The participants had ideas about how these barriers could be overcome. Using a thematic approach to data analysis of participant responses through the Polleverywhere, group discussions and email responses four main themes were identified.

Defining health promotion

Overall, the way health promotion was viewed and defined was holistic. All of the participants believed that health promotion was about improving health and ways to do so included advocacy, working with communities, behaviour change, empowering, looking at the social determinants of health and education. When asked what health promotion is, participants demonstrated a holistic understanding, however, collectively education and behaviour change were mentioned more times than the other health promotion strategies.

Participants were asked to comment on whether they believed that this was a true representation of health promotion within dentistry when further explanation was sort through email and all the participants agreed.

“Dentistry does see education & behaviour change as the main idea of health promotion”- question sent via email

A range of reasons were mentioned by participants in the email responses about why this is the case. They included: training at university is directed at education and behaviour change; there is a lack of support for other types of health promotion; clinicians feel more competent in behaviour change and feel this is where they will make the biggest impact and that spending time within a clinical setting is limiting to health promotion efforts.

“This probably stems from curriculum focus during their university training”- question sent via email

Opportunities

The participants discussed possible opportunities for health promotion in practice. These opportunities included; collaborating with health professionals and primary and secondary educators, capacity building for professionals outside of dentistry and innovative strategies including the use of social media and mass media.

Collaboration was identified by the participants as an important factor for developing health promotion opportunities. Participants highlighted the need for dental professionals to work with other professionals (allied health and education) in order to provide a more holistic approach.

“Actively working with health professionals, integrating oral health as an underpinning thread of all health promotion ... Getting back to ‘we”- Polleverywhere
Although participants were interested in collaborations with practitioners outside of oral health, they were also interested in collaborating more with other oral health professionals.

“Linking health promotion strategies between BOH [Bachelor of Oral Health] students and MOD [Dentistry] students” - Polleverywhere

Participants offered some useful suggestions for increasing opportunities for collaboration. The ways to increase collaboration included trust to be built with other health professionals and collaboration needing to occur not just on dental issues but other health issues. Furthermore, participants mentioned that the training of dental and health professionals needs to be interdisciplinary, to increase collaboration once students have graduated. However, participants commented on the perceived difficulties when collaborating with other health professionals. These were the lack of opportunities when working clinically and health professionals tending to work in silos.

“Each health profession sees their area as more important (work in silos)” - question sent via email

**Barriers to health promotion**

Participants mentioned barriers to oral health promotion. The most common barrier cited was the current curative based treatment approach that underpins the field of dentistry and oral health. That treatment is more important than prevention.

“Private practice employers want “bums on seats” not community service” - Polleverywhere

“Biomedical approach supported by agenda of professional guilds” – group discussions

Another barrier mentioned was the lack of funding for health promotion within dentistry. Several participants mentioned the structure of funding within dentistry, which limits health promotion initiatives and promotes clinical treatment.

“[No] insurance rebates for health promotion interventions” – Polleverywhere

“Limited public resources - prioritised on treating current disease first” – Polleverywhere

The lack of time practitioners have to implement health promotion was another barrier. There is limited time given to health promotion practice and participants felt that they required more time than they are given to plan and implement health promotion. This lack of time could be attributed or linked the lack of funding.

“In practice it is at times difficult for management to see value in a operator [sic] taking time out to provide health promotion to the community” – Polleverywhere

Other barriers were the lack of value placed on health promotion within dentistry, the delayed benefits of health promotion and lack of skills within the profession.
“Lack of value placed on health- at the patient level, at a managerial level- public and private practice”-
group discussion

“Health promotion does not produce instant measurable results. Therefore, unable to measure benefit-
Polleverywhere

“Lack of opportunities and support for clinicians to participate in health promotion activities”-
Polleverywhere

**Ways to overcome these barriers**

The participants were given the opportunity to provide possible solutions to overcoming the above-
mentioned barriers. Suggestions from participants included opportunities for qualified dental
professionals to gain skills in oral health promotion; the training of dental professionals to move away
from the biomedical model; opportunities to engage with existing already successful programs and
further research into oral health promotion.

“Further education opportunities for people to develop their health promotion skills after their degree”-
email

“Understand what is already occurring in your local community and to work with members to build on
those successes”- email

**Discussion**

This exploratory study investigated how health promotion is conceptualised by oral health educators and
the possible barriers and opportunities to the implementation of health promotion within clinical practice.

**Health promotion in dentistry and oral health**

Participants identified health promotion, as broad range of activities at an individual, community and
population level. The participants within the study were able to state and identify the key ideas that are
associated with health promotion, which are wide-ranging strategies that focus on socio-political
approaches and empowerment of a person to improve their health and wellbeing (36). The understanding
of the term health promotion has varied widely within dentistry, so it is positive that the participants of
this study demonstrated a comprehensive understanding of health promotion (18). Yet the most
mentioned theme or strategy in this definition was health education and behaviour change. This is not
surprising as it is well documented that dentistry has a heavy reliance on behaviour change and health
education for prevention (2, 12, 18, 37). This behavioural approach is not incorrect, but incomplete that
requires to combine with upstream approaches (2).

Dentistry is not the only profession to struggle with this narrow approach to health promotion. Another
profession where this same debate is happening is nursing (25, 36, 38). There are shared similarities
between nursing and dentistry, with the main being both professions work within the biomedical paradigm (36). The biomedical model does not lend itself to broader health promotion, instead it focuses on individuals and behavioural frameworks of practice (39). Resulting in a focus on individual behaviours and lifestyle factors without taking into consideration broad social factors which influence health (2). The other similarity seen between nursing and dentistry is the confusion between health promotion and health education. These two concepts are mistakenly used interchangeably (36, 38). However, this was not the case for participants within this study.

An understanding of health promotion and health education and the relationship between the two is needed. One is no better than the other (40), yet for an improvement in disease rates there needs to be a range of health promotion strategies utilised, including health education (12, 41). The Ottawa Charter of health promotion sets this out clearly, by highlighting the importance of a comprehensive approach, which includes multiple action areas. The Ottawa Charter for Health Promotion was developed in 1986 to improve public health by preventing chronic conditions (42). Five action areas are set out within the Charter, these range from population approaches like building health public policy to individual approaches such as developing personal skills. It clearly states in the Ottawa Charter the need for a range of approaches both at an individual, community and population level if there will be a decrease in disease rates. However, there is a range of barriers previously reported in the literature (12, 41, 43) and reiterated by participants within this study that inhibits this approach to happen.

**Barriers to health promotion implementation**

Participants in this study highlighted the lack of training within the university setting as a barrier to health promotion practice. This finding is supported by previous research (23, 43, 44). Studies, which have reported on the health promotion preparation of oral health professionals, have highlighted that the training focuses mainly on education or behaviour change approach, such as, providing oral hygiene instructions to patients in hospitals and delivering health education sessions (23, 45, 46). This is not unsurprising as the culture of dentistry is focused on individuals and behaviour change (2). Another influence on the lack of health promotion training is health promotion competencies set out by accrediting bodies. In Australia there has been a revision of these competencies, with a reduction in the level of knowledge graduates need in health promotion (47). However, for in Europe there has been an expansion of health promotion competencies for European dentists (48, 49).

The ethos of dentistry focuses on a curative approach to dental diseases. This philosophy is one of an individual, behavioural, curative approach, which is reactive rather than proactive (2, 12, 15). The participants within this study mentioned this as a barrier to implementation of health promotion as the focus of clinical practice is on treatment. This is confirmed by a study conducted by Sbaraini (1) which found that dentists define their professional identity as performing surgery, therefore they felt their job was to intervene and to mechanically repair and restore teeth. The ethos of dentistry does not fit well with the philosophy underpinning health promotion. Health promotion philosophy is focused on health as a
positive concept and focuses on improving health via a range of strategies that goes beyond the health care system (42). Due to the culture of dentistry the value placed on health promotion interventions is low.

Little value is placed on health promotion within dental practice. Participants within this study expressed this view and previous studies support this finding (1, 2). Dyer and Robinson (50) reported participants viewed health promotion and preventative practices to be unrewarding and therefore were not valued. This lack of value acts as a barrier to health promotion implementation (43). A reason that could be attributed to this lack of value is the low or no monetary figure placed on health promotion interventions (51).

There is a lack of financial support for health promotion with dentistry. The dental field in most developed nations is structured on the fee-for-service basis meaning restorative treatment attracts a larger sum of money than providing toothbrushing instructions. Consequently, undertaking health promotion is discouraged within this system (50). This barrier occurs in most developed nations, as the funding model for dental care is similar between countries (52). This does not only apply to health promotion; funding has been highlighted as barrier for making any change in a dental clinic (41). The lack of funding for health promotion activities was mentioned by participants within this study as a barrier alongside a range of other ones. This study found that the barriers in implementing health promotion activities in improving oral health is lack of knowledge and skills among dental professionals, concerns of the effectiveness of health promotion initiatives, time pressure, lack of supporting resources and insufficient financial incentives (24, 50).

Opportunities for health promotion

For oral health promotion to be embedded as part of dental practice, a move from problem defining to problem solving is needed. There needs to be a shift from focusing on the barriers to health promotion, to how these can be overcome. The results from this study adds this to the literature, with opportunities for increased health promotion in dentistry and how these can be capitalised on. Collaboration was one of the major opportunities that was cited by participants. This idea is not new, however, dentistry has struggled with isolation from other professions (53), and it has been mentioned as a barrier when trying to promote oral health (52, 54). There is a well-documented historical divide between dentistry and other health professions which has been reinforced through legislation, education and service delivery (55). Oral health professionals tend to work in silos, separate from other health professionals. One reason for this could be due to educational silos which in turn lead to practice silos (56, 57). However, there has been a move towards interprofessional education (56, 57) and dental public health as an approach to try and address these silos (12). To enable collaboration in dentistry, structural changes in the field are needed (12, 53), enabling other health professionals to be involved in prevention efforts (52). An example of how collaboration between dental professionals and public health nurses can bring about a reduction in dental caries rates in children and reduce inequalities is the ‘childsmile’ initiative in Scotland. Where a
settings approach was used which included tooth brushing in schools and nurseries, improving access to dental care and fluoride varnish application (58, 59).

Limitations

Limitations of this study include the inability to probe for further detail during the NGT section of the study. To account for this, the email data collection stage was added, however, there was a low response rate. As only six of the twenty-four participants responded to the second stage of data collection, there may be some response bias. The participants who responded may have a strong opinion/passion about health promotion and therefore the results may be skewed. Another limitation was the lack of educators involved in the training of dentists, participants in this study were primarily a part of the education of dental therapists, dental hygienists and oral health therapists. Dental therapists and hygienists are known in the dental field as the preventative profession (60). If dentists and educators who primarily teach into dental degrees were included this may have significantly changed the results of this study.

Conclusion

Within dentistry there is a deficit model of thinking in terms of disease and this is no different regarding oral health promotion. The barriers to implementing health promotion in clinical practice has been documented, this paper supports those findings but also moves beyond problem describing to problem solving. To increase

e health promotion in clinical practice possible opportunities have been reported and include collaborating within the dental field and with other health professionals and engaging with already existing health promotion programs. For change to occur, the curative culture of dentistry needs to be challenged. This needs to happen on all levels. Competencies set out by accrediting bodies for dental and oral health need to reflect the breadth of health promotion and training of dental professionals needs to become more holistic and move beyond behaviour change and individual prevention strategies. Additionally, training for practicing dental professionals on health promotion needs to become widely available. Funding models for dentistry need to incorporate health promotion as an integral part.

Abbreviations

NGT – Nominal Group Technique

ICOHIRP - International Centre for Oral Health Inequalities Research and Policy

Declarations

Ethics
Ethical approval was gained from La Trobe research ethics committee (ethics number FHEC 14/234) prior to the commencement of the study.

**Consent for publication**

Not applicable

**Availability of data and materials**

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

**Competing interests**

The authors declare that they have no competing interests.

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**Authors' contributions**

SBO collected all the data for this paper. SBO and KA contributed to the analysis of the data. All authors read and approved the final manuscript.

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