A scoping review of the use of motivational interviewing in oral healthcare settings

Précis:

Motivational interviewing (MI) training contributes to practitioner confidence and professionalism. Improved dental outcomes in patients were noted. Further research is recommended into developing optimal MI training delivery.

Abstract:

Statement of the problem: Recently, attention has been given to the use of motivational interviewing (MI), a therapeutic approach that helps people to change, in the oral healthcare setting. MI can be used to evoke positive change in oral health practices using a patient-centred approach that supports dental practitioner-patient relationship building. This can include a broad focus on oral hygiene, nutrition and lifestyle behaviours, or can be specific to elements of oral healthcare such as periodontal treatment. However, the research literature on the efficacy of MI in this context is sparse.

Purpose of the study: The purpose of this study is to collate what is currently known on the use of MI in the oral healthcare setting.

Materials and methods: This comprehensive scoping review collated 50 published articles on this topic. Articles were scrutinised and analysed using thematic analysis.

Results: Findings indicate that there is a heterogeneous literature base on the use of MI in the oral healthcare setting of varying quality. However, evidence is building for positive outcomes where MI training has contributed to increased confidence, professionalism and relationship building in oral healthcare practitioners, and improved oral healthcare outcomes in patients across a range of oral health issues and oral healthcare prevention.

Conclusion: Further research is recommended into what constitutes optimal MI training delivery to ensure best practice and outcomes for patients and professionals.

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Introduction

Motivational interviewing (MI) is described as a form of collaborative conversation that strengthens a person's own internal motivation and commitment to change. MI is also a patient-centred but directive intervention that supports people who want to resolve their ambivalence and move towards a healthier lifestyle change.[1] MI uses a person-centred approach[2] that relies critically on an atmosphere of acceptance and compassion in the context of a caring relationship that is experienced as a partnership between a professional and a patient.[1] This is what Miller and Rollnick[1] call the spirit. It is the spirit of MI that brings the technical elements to life.

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MI includes staged processes of engaging, focusing, developing, and planning, which are underpinned by empathic communication. It seeks to dissolve the power imbalance that may exist between a professional and patient, and promotes a collaborative and participatory relationship, which creates an atmosphere favourable to change. It challenges traditional intervention approaches by emphasising that individuals generally know what is best for themselves, and that the professional should work to support an individual's freedom of choice to act on that inner knowledge.[3] Although MI was originally developed as a response to problematic substance use,[4] it has been demonstrated to be effective across a wide range of healthcare settings as a behaviour change method.[5]

A healthcare professional practising MI must make space for the patient's perspective and allow them to self-monitor their own behaviour change process, while acknowledging that they have the right to make no change.[6] Central to the MI technique is the use of OARS (open-ended questions; affirmations; reflective listening; summaries). OARS are used to evoke change talk (talking in the direction of change) and to soften or reduce sustain talk (talking in the direction of sustaining the behaviour) in the patient. Reflecting what the patient is saying demonstrates that the professional is listening and provides clarification for the patient. Affirmations, such as "I appreciate your openness and honesty today"; "I know you really care about your child's oral health"; "your smile is really important to you" are strength focused and notice any positive action on the part of the patient. More advanced techniques within the practice of MI include decisional balancing, which helps a patient to weigh up the benefits and costs of a particular action, and goal setting, which provides the direction for the conversation.[6,7] Traditionally, oral healthcare practitioners have employed methods of health education that relied upon advice giving rather than collaboration. This may lead to a close-ended transaction, which has been found to lack efficacy.[6]

Recently, attention has been given to the use of MI in the oral healthcare setting.[8] MI can be used to evoke positive change in oral health practices using a patient-centred approach that supports dental practitioner/patient relationship building. This can include a broad focus on oral hygiene, nutrition and lifestyle behaviours, or be specific to elements of oral healthcare such as periodontal treatment.[9] Cognitive dissonance may exist in some dental patients around their own dental care. As an example, a patient may want to achieve 'straight teeth' or perfect occlusion, but is fearful or worried about wearing orthodontic appliances for the required time that it would take to achieve their goal. In MI, this cognitive dissonance (ambivalence) is at the heart of behavioural change rather than a barrier to it. Change is accepted as taking place at the patient's pace, and will occur when the patient resolves their ambivalence and embraces the change.[4] As such, MI can be used as a brief intervention around specific oral health behaviours,[10] or as a more comprehensive intervention that encompasses general health and well-being.[11] Challenges in learning MI may include limitations in resources such as time, competence, and ongoing support for oral healthcare practitioners to integrate MI into their established intervention methods.[12] There is a growing body of evidence to support the efficacy of MI in oral healthcare; however, further research is needed.[9] This scoping review aims to collate the relevant literature to answer the research question: "What do we know about the use of motivational interviewing in oral healthcare settings?"

Methods

Scoping reviews are appropriate where broader research questions exist.[13-16] They are used to identify gaps in knowledge, examine the extent (i.e., size), range (i.e., variety), and nature (i.e., characteristics) of the evidence on a certain topic or question (in this case, use of MI in oral healthcare settings), summarise findings from a wide range of sources, and make research and policy recommendations.[13,15, 17-19] The research team for this review adhered to Arksey and O'Malley's[13] five-stage iterative process scoping review methodology. These stages included the following:

1. Identifying the essential research question.
2. Identifying relevant studies.
3. Study selection.
4. Charting the data.
5. Collecting, summarising, and reporting the results.

The process was underpinned by the research question ("What do we know about the use of motivational interviewing in oral healthcare settings?") and reviewed all available published empirical and grey literature in the English language on this topic. There was no restriction on date of publication or study type. The search was implemented in June 2020. The following databases were accessed: Web of Science; Cochrane Library; MEDLINE; PsycINFO; Social Science Citation Index; PubMed; Science Direct; and, Researchgate. Key search terms informed the search strategy: "motivational interviewing" in conjunction with "oral healthcare", "dental practice", "oral hygiene", and "dental care".

Eligibility criteria focused on the use of MI in oral healthcare settings. Inclusion and exclusion criteria were discussed and agreed with all members of the research team. The initial search identified 8,552 articles, and following initial screening, 5,785 were removed for lack of relevance, with the remaining 2,767 screened for inclusion in the study. Finally, duplicates (1,902) and further records were removed, which were not relevant (815), leaving 50 records in total. The 50 records were charted and thematically analysed, as per Arksey and O'Malley.[13]

A table was created to chart relevant data (year of publication, author, location, method and aim, key findings) and to analyse the extracted data thematically to identify commonalities, emergent issues, and gaps in the literature. The textual dataset was re-read numerous times in order to become familiar with the data, and identify and code emerging themes. Thematic manual coding then organised the data and subsequently structured it into themes through patterns identified in associated categories.[20] Three themes emerged from the review:

1. Suitability of MI training in oral healthcare settings.
2. Evidence of the impact of MI training on oral healthcare outcomes.
3. Challenges encountered in MI training.

Results

Profile of studies reviewed

Fifty studies were included in this scoping review and are comprised of ten randomised controlled trials (RCTs), seven case control studies, four qualitative studies, three quantitative studies, one mixed-methods study, 14 systematic literature reviews, six narrative/scoping literature reviews, four editorials, and one book chapter (**see table here on www.jida.ie**). The findings from these will be presented here under headings that directly relate to the research question: "What do we know about the use of motivational interviewing in oral healthcare settings?"

THEME 1:

Suitability of MI training in oral healthcare settings

While it has previously been suggested that the evidence for suitability of MI training in oral healthcare practice is limited, and perhaps an adapted model should be considered for this setting,[4] this review found that there is a building body of evidence for the suitability of MI training for oral healthcare professionals. Included in this review are RCTs,[3,21-25] which have found positive results in terms of dental practitioner-patient relationships and subsequent oral health outcomes. Further, two case control studies that focused on professionals' experiences of MI training[26,27] found that training was successful in developing MI skills. Some positives noted in the literature are the promotion of self-confidence, professionalism and protection against burnout in oral healthcare professionals.[28,29]

It was also suggested that professionals may reconceptualise their roles as "oral health coaches" to align themselves with the helping nature of their profession, and that MI is a valuable tool in revisiting this ethos.[6,30] The dental team, in order to benefit from MI training, must be open to placing the patient's perspective at the heart of their approach to behaviour change.[27,31] In terms of MI delivery, MI was said to be easiest to adapt into oral healthcare practice when delivered in a structured manner to retain the authenticity of MI.[4] However, one RCT found that one eight-hour training course was sufficient to develop the MI skills of oral healthcare professionals and increased their use of open-ended questions, affirmations, and reflective listening.[21] Conversely, one study found that while improvements were noted in use of open-ended questioning, complex reflections, and MI adherence, there was no impact on change talk or reflections to questions ratio.[32]

THEME 2:

Evidence of the impact of MI training on oral healthcare outcomes

While the heterogeneity of the studies limits a conclusive finding, there is evidence that MI training results in improved oral healthcare outcomes. The most comprehensive literature review conducted on MI and oral health that this study found included 16 studies, and found improvements across oral health outcomes such as carious lesions and oral health prevention.[12] These findings were largely echoed across the reviewed literature. Areas where improvements in specific oral health outcomes were noted included: self-efficacy of interdental cleaning;[27] reduction in plaque;[33,34] enhanced general oral hygiene;[23,35-39] tooth brushing;[24,40] dietary practice and dental attendance;[25] reduction in new dental carious lesions;[41,42] perceptions of oral health; gingival bleeding;[37] reduction in the consumption of sugar-sweetened beverages;[43] periodontal disease;[9,31,44] adolescent oral health behaviours;[45] and, parental efficacy in improving children's oral health behaviours.[22] Some evidence for lasting positive change is in two studies, where improved oral health outcomes remained stable at four-month[25] and six-month dental follow-ups.[23] In one case, a single MI intervention was reported as more successful in changing oral health behaviours when compared to traditional oral health education approaches.[39] However, multiple MI sessions were found to be most effective in another study.[10]

Improvement in oral health outcomes using MI was seen in literature that focused on: people with severe mental health issues;[3] people from lower socioeconomic backgrounds;[7,46] people with alcohol use disorders,[47] and, vulnerable families.[48] However, one study found that MI did not result in higher dental attendance among lower-income females,[49] and the weight and influence of other sociocultural factors on families who struggle to engage with oral healthcare professionals was underscored in Blue *et al.*'s[50] study.

THEME 3:

Challenges encountered in MI training

Challenges described in the reviewed literature included an increased need for resources to deliver MI training, specifically time,[7,51] financial cost,[49] and ensuring that training is appropriately delivered, for example by a skilled MI practitioner.[7] The need for training programmes to be evaluated to test the fidelity of the intervention was noted by Asimakopoulou and Newton,[4] but evaluation was not commonplace across training programmes. A need for stakeholder engagement to ensure the success of MI programmes was highlighted by Murphy *et al.*[52] Specific challenges were described when working with people from lower socioeconomic backgrounds experiencing adversity and marginalisation, and the need for wraparound services and support was highlighted.[46,50] Attitudes among oral healthcare professionals towards MI were also noted as a potential barrier to success in implementation of MI programmes in two studies,[53,54] where the authors found that prior experience or knowledge of MI, and experience of difficulty with initiating behaviour change in patients through traditional oral health education modalities, resulted in better outcomes.

Discussion

While MI is a longstanding therapeutic approach, which originated in the treatment of problematic substance use,[1] use of this approach in the oral healthcare setting has attracted recent research attention.[8] Traditionally, oral healthcare practitioners have employed methods of health education that relied on advice giving rather than collaboration, which is at the heart of the MI approach. This may alienate some patients, particularly those with reduced literacy or other difficulties,[48] and has been seen to lack efficacy where patients struggle to engage with this potentially closed-ended approach.[6] The benefits intended through using MI are to evoke positive change in patient oral healthcare behaviours, and this is largely achieved through successfully strengthening the dental professional–patient relationship, creating a space where the patient feels heard and their perspective is understood and valued. This is achieved through utilising a number of techniques, including OARS in the context of a collaborative relationship where the patient feels accepted, and the clinician is compassionate and empathic in their communication.[1] It is recommended that the role of the oral healthcare professional be aligned with MI principles of patient-centred collaboration and empathy.[6,30]

While limited in its conclusions due to the heterogeneity of the studies reviewed, this comprehensive scoping review is one of the largest conducted to date on the literature on use of MI in oral healthcare settings and included 50 studies conducted internationally. Although the quality of the studies included varies, there is some strong evidence, including from RCTs and case control studies, that MI results in positive outcomes compared to traditional oral healthcare education techniques employed in the oral healthcare setting. These outcomes include increased work satisfaction among professionals through developing confidence, relationship building and observing better outcomes in patients,[28,29] and improved oral health in patients across a range of dental issues.[9] The efficacy of MI in this setting appears to be reliant on a structured approach,[4] open-mindedness towards professionals' using MI, and adequate resources and time to deliver a quality programme,[7,49,51] although some success

has been evidenced even with short-term training. Moreover, MI may be seen as a good investment for the oral healthcare setting to evoke behaviour change in patients[55] and to promote inclusive healthcare in general.

The need for further research is clear, particularly in the Irish context, where the literature base is particularly sparse on use of MI in the oral healthcare setting. This review was unable to identify any empirical research conducted in Ireland on this topic. Evaluation of such programmes is recommended in order to continue to build quality evidence in this area, including the suitability of the busy oral healthcare sector for MI delivery, whether oral healthcare practitioners are already practising some elements of MI without calling it such, and the impact of the current climate of Covid-19 on MI delivery in this sector.

Conclusion

There is a heterogeneous literature base on the use of MI in the oral healthcare setting of varying quality. However, evidence is building for positive outcomes where MI training has contributed to increased confidence, professionalism and relationship building in oral healthcare practitioners, and improved oral healthcare outcomes in patients across a range of oral health issues and oral healthcare prevention. Further research is recommended into what constitutes optimal MI training delivery to ensure best practice and more longitudinal research with follow-ups into professional and patient progress and behaviour change sustainment.

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CPD questions

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CPD

1. In motivational interviewing (MI), what does OARS stand for?

- ○ A: Open-ended questions, affirmations, reflective listening, summaries
- ○ B: Observing, attending, reflective listening, summaries
- ○ C: Open-ended questions, affirmations, rationalisation, summaries

2. What does the research show that oral health practitioners gain from using MI?

- ○ A: Relationship building with colleagues
- ○ B: Self-confidence, professionalism and protection against burnout
- ○ C: Counselling skills

3. What are the key benefits of MI in oral healthcare?

- ○ A: To evoke compliance in the patient
- ○ B: To upskill oral healthcare practitioners
- ○ C: To evoke positive change in patient oral healthcare behaviours and strengthen the dental professional–patient relationship