Effectiveness of Motivational Interviewing Training for Primary Care Dentists and Dental Health Technicians: Results from a Community Clinical Trial

Daniel Demétrio Faustino-Silva, Elisabeth Meyer, Fernando Neves Hugo, Juliana Balbinot Hilgert

Abstract: Motivational interviewing (MI) is an approach that uses dialogue about behavioral change to encourage a constructive relationship between professionals and patients. The aim of this study was to evaluate the maintenance of basic MI skills in the daily practice of dentists and oral health technicians (OHTs) after a training course and for two years of follow-up in the context of primary health care (PHC). A randomized community trial, from September 2012 to September 2014, was conducted at the Community Health Service of Conceição Hospital Group in Porto Alegre, RS, Brazil. The experimental group consisted of all 41 dentists and OHTs who received an intensive eight-hour training course in basic MI principles; the control group consisted of 31 dentists and OHTs who did not receive MI training. The follow-up assessments were at one and two years using three instruments validated for MI. In the one- and two-year follow-ups, improvement was maintained in responses with a statistically significant difference for use of open questioning, reflective listening, and total percentage of correct answers ($p<0.001$), with a large effect size (ES=1.12). On the Helpful Responses Questionnaire, the participants continued using open questioning and reflective listening ($p<0.001$), maintaining an increase in the percentage of responses compatible with MI ($p<0.001$). Likewise, the effect size remained large (ES=1.33) over time. These results suggest that the training course with dentists and OHTs of the PHC oral health staff was effective over the two-year follow-up in enabling them to act in the spirit and techniques of MI.

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In oral health care as part of primary health care (PHC), health education is an important tool that, when used daily, creates links between health-enhancing actions and the daily thinking and actions of the general population. The most prevalent oral disease, caries, presents behavioral risk factors in common with other chronic diseases and is one of the most common childhood conditions; therefore, it is considered an important public health problem.[1,2] Regarding childhood caries, activities focused on education and guidance should focus on dialogue, using accessible language, and, considering the knowledge of each subject, building healthier alternatives together with parents and caregivers. Therefore, dentists and oral health technicians (OHTs), as professionals integrating the health staff, should develop communication skills to promote holistic health care.

Identifying more effective approaches is essential to helping people change unhealthy habits. Strategies that increase patient motivation and commitment to treatment as a means of maximizing treatment response rates are important. Motivational interviewing (MI) has proven to be effective in changing unhealthy behaviors.[3,4] It is a person-centered method of communication that aims to increase the intrinsic motivation for change by exploring and resolving ambivalence. By taking this approach, the practitioner helps patients to feel involved in

the control of their health and self-care. The use of MI is especially interesting for health professionals who treat people who need to increase adherence to a treatment plan or change inappropriate habits or unhealthy behaviors.[5]

Considering that childhood caries, as well as other oral diseases, have determinant factors strongly related to habits and behaviors, it is plausible that approaches based on MI can have positive results. However, many dental professionals still use traditional prescriptive counseling and information approaches, disregarding the social determinants of oral diseases. Therefore, developing personal skills for an approach in the spirit of MI is crucial.[6] Even when oral diseases show strong components related to habits and behaviors, studies have not evaluated the potential for dentists who use MI-based approaches. Recent systematic reviews have evaluated the outcomes of MI-based interventions for managing periodontal diseases, oral hygiene, and childhood caries with positive results.[7,8] However, the poor methodological quality of the studies limits more conclusive findings. The aim of this study was to evaluate the maintenance of basic MI skills in the daily practice of dentists and OHTs after a training course and for two years of follow-up in the context of PHC.

Methods

This research project was approved by the Conceição Hospital Group Research Ethics Committee, under number 13-063, where the authors committed themselves to the ethical precepts of the universal declarations and national regulations (CNS Resolution 466/12). The professionals previously signed a consent form, authorizing their participation in the study. The study was registered in the Brazilian Registry of Clinical Trials-ReBEC (RBR-8fvwxq) and ClinicalTrial.gov (NCT02578966).

This study was a longitudinal follow-up of the training for dentists and OHT who participated in a randomized controlled community trial focused on the prevention of early childhood caries (Cárie Zero Cohort) to evaluate the effectiveness of MI compared with conventional health education (CE). The study was conducted at the Community Health Service (SSC) of Conceição Hospital Group (GHC) linked to the Brazilian Ministry of Health in the city of Porto Alegre, Rio Grande do Sul, Brazil. The SSC GHC is a PHC service comprised of 12 health care services and includes professionals from the

minimum family health staff (family physicians, dentists, OHTs, nurses, and nursing technicians and assistants) and by professionals from the Family Health Support Center (social assistants, psychologists, nutritionists, and pharmacists), who provide care to approximately 105,000 registered patients. In the community trial, six of the 12 health care services of the SSC GHC were randomized by computer using a random number table, whose oral health staff (OHS) professionals received MI training, and the others followed CE according to protocol and service routine of the Child Programmatic Action.[9,10] Oral health care is included in the program to guarantee access to dental consultation from the first year of a child's life and provides preventive guidance to mothers, parents, or caregivers with a focus on early childhood caries prevention.

This study presents the results regarding MI training. To that end, it included all 41 dentists (hired and residents) and OHTs in the health care services in the test group (MI) who received the training and the 31 dentists and OHTs of the control group, who were not MI-trained.

MI Training

In the test group (MI), the professionals received intensive training for active learning of basic MI principles. The training was held in an experiential format divided into two four-hour shifts, with a one-week interval in September 2012, on-site and during the professionals' working hours. The training provided practical guidelines for topics such as the use of empathic communication skills, use of simple and complex reflexive listening to work with resistance and ambivalence, developing discrepancy, listening, and provoking "conversation about change" as recommended by Moyers et al.[11] and Moyers et al.[12] and confirmed by the systematic review of Soderlund et al.[13] MI principles of motivation, methods, and strategies have been developed through a combination of dialogue, case studies, video, dramatization, and exercises in pairs and small groups. The activity was conducted by one of the study staff members who has a PhD in psychiatry and extensive experience in conducting MI training workshops for various areas of health care.

Basic MI skills included the following: 1) open questioning (allowing answers with more real information about the patient); 2) empathy (the professional perceives and/or strives to accurately assimilate the patient's point of view); 3) affirmation

(saying something positive or that instigates the patient to maintain a certain behavior during the consultation); 4) reflective listening (involves capturing and giving back a response to a patient's statement); and 5) summary (aggregates everything that was said by the patient, which facilitates the transition to the next topic).[14] Professional behaviors not in line with MI include the following: use of closed question (the patient responds with a short yes or no type answer, a number, etc.); advises, that is, gives advice, makes a suggestion, offers a solution; judges (listens to what is said by the patient in a condemnatory manner); and confrontation (the relationship established with the patient is unequal and is characterized by a discourse that questions, disagrees, or disapproves of the honesty of the patient).

Before starting the training and after the end of the second meeting, three instruments validated for MI were applied individually and in the same room. The first was the Importance and Confidence Ruler, a visual-analog method of measuring each of the dimensions (importance and confidence), using a ruler.[15] To assess importance, the question was "How important would you say it is for you to use MI?" Responses were on a scale from 0 to 10, with 0=not important at all and 10=extremely important. To observe confidence (self-efficacy), the question was "How confident of success would you say you are if you decide to use MI in your calls?" Responses were on a scale from 0 to 10, with 0=not at all confident and 10=extremely confident.

The second instrument was the Dialogue Interview.[5] To identify basic MI skills, a dialogue interview was used in which the participant was asked to read the material and to identify an example for each of the following items: open questioning, affirmation, reflective listening, summary, and resistance. The answer was scored as right or wrong.

The third instrument was the Helpful Responses Questionnaire, which presents six hypothetical statements of patient problem situations, asking the question "What would you tell the patient next?" in response to each statement, without restriction.[16] This made it possible to gauge the extent to which open/closed questioning, affirmation, reflection listening, summary, empathy, advice, or judgment was used. The total scores were the sum by category in responses (maximum score=6). In addition, each response was rated 1 to 5, using a scoring algorithm, by which high scores were found to be consistent with MI (empathy, open questioning, affirmation, reflexive listening, summary) and low scores indicated that the participant was inconsistent with MI (closed question, advising, judging, or confrontation). The deep reflection score was determined by the sum of the scores of the answers (maximum score=30) and classified them as consistent or inconsistent with MI. If the participant wrote more than one sentence for each question, only the first one was considered in the analysis.

The answers to the Dialogue Interview and the Helpful Responses Questionnaire were assessed individually by three independent evaluators blinded regarding the professional category and to which group (test or control) the participants belonged; all of them had PhDs in psychology with advanced training in MI at Squaretop (Albuquerque, NM, USA). The three evaluators were compared for reliability among judges, whose kappa correlation coefficients showed substantial agreement, of 0.78 for judge 1 vs. judge 2, 0.82 between judges 1 and 3, and 0.95 between judges 2 and 3, using the Helpful Responses Questionnaire.

The same three instruments were also applied to the dentists and OHTs of the control health care services that did not receive training and were evaluated by the same methods and judges. All 72 professionals completed a structured questionnaire, containing socioeconomic and professional questions, such as age, gender, experience, level of education, and professional category.

The flowchart of the follow-up of the 41 dentists and OHTs who received MI training and were followed up for a period of two years is shown in Figure 1. To evaluate the retention of basic MI skills and techniques, the same three instruments that were validated and used in pre- and post-training were applied. Follow-up was done one and two years after the initial eight-hour training. The follow-up to the initial MI training was made through a reinforcement of training once a year. For this purpose, a meeting was held with the professionals of the oral health team of the test group (MI) lasting one hour in their own health care services. Therefore, a dialogue interview was conducted involving a case of early childhood caries conducted by the same MI-trained professional who provided the initial training. At that time, essential MI concepts and early strategies were reviewed. Prior to this conversation, the dentists and OHTs responded to the same validated instruments that were corrected with the same criteria and by the same pre- and post-training judges. The loss of follow-up of professionals was 20% and 60% after one and two years, respectively.
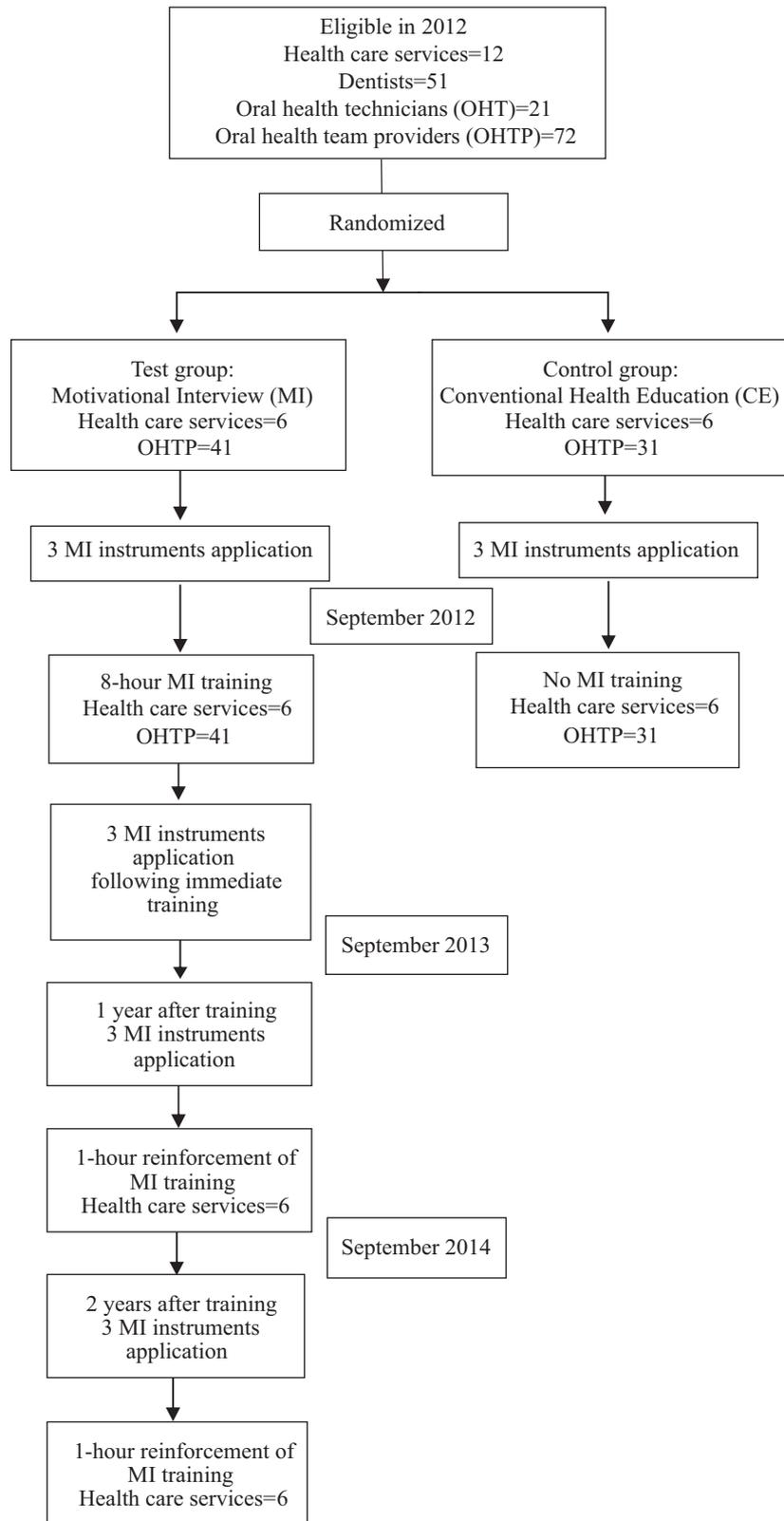
Figure 1. Flowchart of health care services randomization, distribution of professionals in test or control group, and follow-up

Statistical Analysis

In the data analysis, the quantitative variables were described by mean and standard deviation, and the qualitative variables by absolute and relative frequencies. To compare means between groups, the t-student test was applied. In the comparison of proportions, Pearson's chi-square test was used. In the comparisons before and after the training, the McNemar tests (categorical variables) and paired t-student (quantitative variables) were applied. The association between the sociodemographic variables and the three instruments was evaluated by the Pearson (quantitative variables) or Spearman (ordinal variables) correlation coefficients. The association between the Importance and Confidence Rulers with the instruments was evaluated using the Pearson correlation coefficient.

For the comparisons between the follow-ups, the generalized estimating equations (GEE) model with binomial distribution was used for the categorical variables and normal distribution for the continuous ones. If there was statistical significance, the Bonferroni test was applied to differentiate the moments. To assess the effect of training, Cohen's measure was applied. The most commonly used interpretation is that if the standardized effect size is less than 0.5, it is considered small; between 0.5 and 0.79 is considered moderate; and equal to or above 0.8 is considered large.[17] The significance level adopted was 5% ($p \leq 0.05$), and the analyses were performed in the SPSS program version 21.0.

Results

Table 1 presents characteristics of the test and control groups. Some differences were statistically significant. The control group consisted of a greater number of hired dentists (p<0.001), higher average age (p=0.018), more experience (p=0.018), and a specialist education level (p=0.012).

The level of MI knowledge of the participants in the control and test groups before training is shown in Table 2, with results of the variables of the three instruments. No MI skills showed a statistically significant difference, demonstrating the homogeneity of knowledge before training. The only variable in which there was a statistically significant difference was the Confidence Ruler, where the control group seemed to be more confident in the use of MI (p=0.003), but with an average value considered equally low (less than 7 on the scale).

Table 3 shows the outcomes of the three instruments applied to professionals before and after training. In the Dialogue Interview, professionals

Table 1. Characteristics of participating dentists and oral health technicians, total and by intervention and control groups

Variable	Total (n=72)	Intervention (n=41)	Control (n=31)	p-value
Age in years: average±SD	33.9±10.1	31.4±9.0	37.1±10.8	0.018*
Gender: n (%)				0.981**
Men	15 (20.8%)	8 (19.5%)	7 (22.6%)	
Women	57 (79.2%)	33 (80.5%)	24 (77.4%)	
Experience: n (%)				0.018**
Recent graduate	25 (34.7%)	19 (46.3%)†	6 (19.4%)	
1 to 5 years	16 (22.2%)	9 (22.0%)	7 (22.6%)	
6 to 10 years	13 (18.1%)	8 (19.5%)	5 (16.1%)	
>10 years	18 (25.0%)	5 (12.2%)	13 (41.9%)†	
Education level: n (%)				0.012**
Technician	12 (16.7%)	8 (19.5%)	4 (12.9%)	
Undergraduate studies	31 (43.1%)	23 (56.1%)†	8 (25.8%)	
Specialization	15 (20.8%)	4 (9.8%)	11 (35.5%)†	
Specialization + master's/PhD	14 (19.4%)	6 (14.6%)	8 (25.8%)	
Professional category: n (%)				<0.001**
Resident dentist	28 (38.9%)	24 (58.5%)†	4 (12.9%)	
Dentist	33 (45.8%)	10 (24.4%)	23 (74.2%)†	
Oral health technician	11 (15.3%)	7 (17.1%)	4 (12.9%)	

*T-student test; **Pearson's chi-square test; †Statistically significant association by test of residuals adjusted to 5% significance

Table 2. Comparison of motivational interviewing (MI) instrument variables for control and intervention groups before training

Variable	Intervention (n=41)	Control (n=31)	p-value
Dialogue interview: n (%)			
Open question	29 (70.7%)	28 (90.3%)	0.083
Affirmation	11 (26.8%)	10 (32.3%)	0.810
Summary	16 (39.0%)	12 (38.7%)	1.000
Reflective listening	14 (34.1%)	9 (29.0%)	0.837
Resistance	24 (58.5%)	13 (41.9%)	0.247
Percentage total right answers: mean±SD	45.9±24.6	46.5±19.6	0.912
Useful response questionnaire: mean±SD			
Percentage of open questions	17.5±27.9	19.9±26.3	0.711
Percentage of affirmations	1.63±5.00	1.61±6.60	0.992
Percentage of closed questions	19.5±24.7	19.9±22.1	0.946
Percentage of reflective listening	3.25±7.66	1.61±6.60	0.344
Consistent with MI	23.6±27.6	27.2±26.8	0.580
Importance ruler	7.98±1.75	8.26±1.51	0.493
Confidence ruler	4.46±2.58	6.44±2.69	0.003

Note: The p-values were determined by Student's t-test for independent samples.

Table 3. Comparison of motivational interviewing (MI) instrument variables in pre- and post-training of dentists and oral health technicians in intervention group

Variable	Pre-Training (n=41)	Post-Training (n=41)	p-value	ES
Dialogue interview: n (%)				
Open question	29 (70.7%)	39 (93.1%)	0.013*	–
Affirmation	11 (26.8%)	29 (68.3%)	0.002*	–
Summary	16 (39.0%)	20 (48.8%)	0.503*	–
Reflective listening	14 (34.1%)	30 (73.2%)	<0.001**	–
Resistance	24 (58.5%)	30 (73.2%)	0.146*	–
Percentage total right answers: mean±SD	45.9±24.6	71.7±21.4	<0.001**	0.89
Useful response questionnaire: mean±SD				
Percentage of open questions	17.5±27.9	46.3±36.2	<0.001**	0.69
Percentage of affirmations	1.6±5.0	14.2±19.6	<0.001**	0.64
Percentage of closed questions	19.5±24.7	5.7±16.1	0.001**	0.58
Percentage of reflective listening	3.3±7.7	17.1±23.1	0.001**	0.56
Consistent with MI	23.6±27.6	85.8±24.0	<0.001**	2.00
Importance ruler	7.98±1.75	9.32±0.79	<0.001**	0.90
Confidence ruler	4.46±2.58	7.71±1.23	<0.001**	1.37

ES=Effect Size by Cohen

*McMenar test, **paired t-student test

significantly increased their ability to identify open questions (p=0.013), affirmations (p=0.002), and reflective listening (p<0.001). The percentage of total right answers with this tool increased from 45.9% to 71.7% (p<0.001), with a large effect size (ES=0.89). But with the Helpful Responses Questionnaire, there were statistically significant differences in all variables, such that professionals started to use more open questions and affirmations (p<0.001), more reflective listening, and fewer closed questions (p=0.001) after training. The percentage of responses consistent with MI rose from 23.6% to 85.8%, with a large intervention effect size (ES=2.00). In addition, the statistically significant increase in the Importance and Confidence Rulers is evident (p<0.001) and relevant from the point of view of effect size, considered large for both (Importance ES=0.90 and Confidence ES=1.37).

Outcomes of the three instruments applied to the professionals of the test group (MI) in the pre- and post-training, as well as the one- and two-year follow-up, are shown in Table 4. Results of the pre- and post-dialogue interviews showed that the

Table 4. Comparison of pre- and post-training outcomes and follow-ups of dentists and oral health technicians in intervention group

Variable	Pre-Training (n=41)	Post-Training (n=41)	1 Year (n=33)	2 Years (n=16)	p-value	ES
Dialogue interview: n (%)						
Open question	29 (70.7%)[a]	39 (95.1%)[b]	32 (97.0%)[b]	16 (100%)[b]	<0.001	–
Affirmation	11 (26.8%)[a]	28 (68.3%)[bc]	17 (51.5%)[ab]	14 (87.5%)[c]	0.001	–
Summary	16 (39.0%)	20 (48.8%)	16 (48.5%)	10 (62.5%)	0.342	–
Reflective listening	14 (34.1%)[a]	30 (73.2%)[b]	26 (78.8%)[b]	11 (68.8%)[b]	<0.001	–
Resistance	24 (58.5%)	30 (73.2%)	25 (75.8%)	10 (62.5%)	0.231	–
Percentage total right answers: mean±SD	45.9±24.6[a]	71.7±21.4[b]	70.3±21.3[b]	76.3±13.1[b]	<0.001	1.12
Useful response questionnaire: mean±SD						
Percentage of open questions	17.5±27.9[a]	46.3±36.2[b]	39.4±30.0[b]	47.9±28.5[b]	<0.001	0.77
Percentage of affirmations	1.6±5.0[a]	14.2±19.6[b]	3.5±8.1[a]	3.1±9.1[a]	<0.001	0.13
Percentage of closed questions	19.5±24.7[b]	5.7±16.1[a]	19.2±26.1[b]	14.6±20.1[ab]	<0.001	0.15
Percentage of reflective listening	3.3±7.7[a]	17.1±23.1[b]	17.2±23.0[b]	17.7±20.6[b]	<0.001	0.63
Consistent with motivational interview	23.6±27.6[a]	85.8±24.0[b]	69.2±35.9[b]	77.1±27.1[b]	<0.001	1.33
Importance ruler	7.98±1.75[a]	9.32±0.79[b]	8.55±1.39[a]	8.25±1.57[a]	<0.001	0.14
Confidence ruler	4.46±2.58[a]	7.71±1.23[c]	6.94±1.68[a]	7.13±1.46[bc]	<0.001	1.05

ES=Effect Size by Cohen; [a,b]Equal letters do not differ by Bonferroni test at 5% significance

Note: The p-values were determined by Generalized Estimating Equation Model.

professionals significantly increased their ability to identify open questions (p<0.001), affirmations (p=0.001), and reflective listening (p<0.001). The percentage of total right answers with this tool increased from 45.9% to 71.7% (p<0.001). In all variables in the Helpful Responses Questionnaire, there were statistically significant differences, so that professionals started to use more open questions and affirmations (p<0.001), more reflective listening, and fewer closed questions (p<0.001) after the training. The percentage of responses consistent with MI increased from 23.6% to 85.8%.

In the one- and two-year follow-up (Table 4), the improvement was maintained for the responses in the dialogue interview, with a statistically significant difference for open questions, reflective listening, and total percentage of correct answers (p<0.001), with a large effect size (ES=1.12). In the follow-up, for the Helpful Responses Questionnaire, professionals continued to use more open questions and reflective listening (p<0.001), maintaining an increase in the percentage of responses compatible with MI (p<0.001). Likewise, the effect size remained large (ES=1.33) over time. In addition, the results of the Importance and Confidence Rulers varied during the two-year follow-up, with a statistically significant increase for the two rulers (p<0.001), whose effect sizes were Importance ES=0.14 and Confidence ES=1.05.

Some variables worsened their performance after one year, with values similar to pre-training, but they improved performance again after the MI review meeting (two years). They were affirmation (Dialogue Interview), closed questions (Helpful Responses Questionnaire), and Confidence Ruler (Table 4). Oral health professionals who increased their score for answers consistent with MI in the Helpful Responses Questionnaire were not necessarily the same as those who increased the score in the percentage of correct answers to the dialogue, because the association between the instruments was not significant (r=-0.122, p=0.664). The professional's age, experience, and specialty, as well as the professional category, did not significantly influence the improvement of the dialogue interview responses or the Helpful Responses Questionnaire at follow-up (p>0.05). The initial values of the Importance and Confidence Ruler were not related to better follow-up results (data not shown).

There was a significant inverse association between the Confidence Ruler and the percentage of correct answers during the Dialogue Interview (r=-0.330; p=0.035), i.e., the less the professional trusted MI before training, the higher the percentage of correct answers after training (Figure 2). No statistically significant association with any of the variables (p>0.25) was found relative to the sociodemographic variables of the professionals with improvement in the dialogue interview scores and the Helpful Responses Questionnaire.
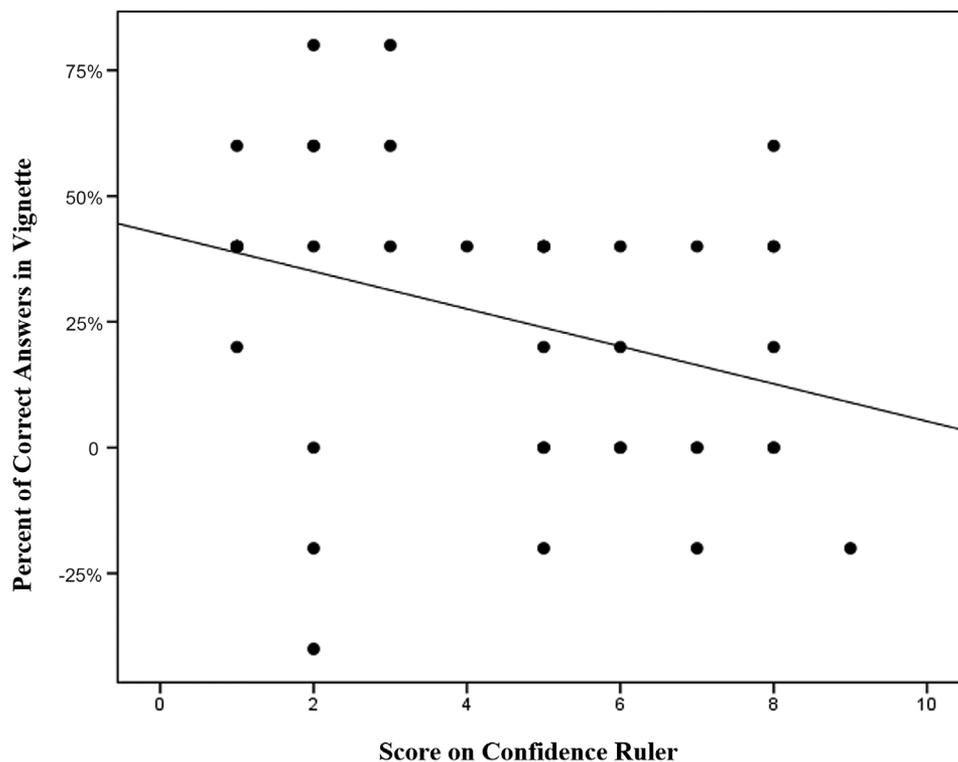
Figure 2. Association of intervention group's confidence score with percentage of correct answers

Discussion

This study demonstrated that the eight-hour training course was sufficient to increase MI skills of the OHS working in PHC. This finding is evident in the results of the Helpful Responses Questionnaire, where dentists and OHTs began to use more open questions, affirmations, and reflective listening instead of closed-ended questions. With these skills, the likelihood of professionals' directing the conversation toward changes in their patients' oral health behavior has been found to be greater: they understand and explore the patient's motivations, listen with empathy, strengthen the patient, and stimulate hope and optimism.[18]

Previous studies found that the use of MI was effective for behavioral change in oral health regarding early childhood caries and periodontal disease.[19-22] Those studies also showed that MI was effectively learned and used by oral health professionals. However, the studies suggested that professionals with training in MI not only improved their skills, but also had an impact on the care of their patients.

We found no other published study evaluating MI training results for dentists and OHTs in health services. Thus, the findings of this somewhat unprecedented study indicate that PHC professionals can achieve significant improvement in their MI skills in talking with mothers of young children about a behavioral change related to early childhood caries, just as found in other studies with positive and promising results through the use of MI.[20-22]

The comparison with the control group that did not receive training showed that all of the professionals (test and control groups) had little knowledge of MI and that training was able to prepare them with the techniques and assumptions of MI regardless of age, experience, and type of professional training. The University of Missouri in the U.S. includes MI in the OHT curriculum, and a qualitative study with graduates of that course found that MI training increased their communication skills and the acceptance rate of their patients for their proposed treatments.[23] The graduates recommended inclusion of this content in all training courses in the dental area. In countries such as England and the U.S., the teaching of MI

in dentistry and in training auxiliary professionals has been successful: short MI training courses were applied to students to change their own behavior,[24] to apply to their clinic patients for behaviors they deemed necessary,[25] and to quit smoking.[26]

MI training has been studied for other professional categories. This includes PHC, advocating longitudinal care and person-centered approaches, for which a good professional-patient connection is essential.[27] In that study, professionals from a PHC health staff (physicians, psychologists, social workers, and nurses) received a brief, one-day MI training session on obesity control. Compared with the controls, they gained greater confidence and skills using MI, which still remained at the six-month follow-up.

Our study also found a statistically significant increase in Importance and Confidence Rulers, with an effect size considered large for both. Our results suggest that the participants believed that learning MI skills was important and that training had enhanced their confidence in using those skills. Decker and Martino's study also reported that, after the training, physicians significantly increased interest and confidence in using MI techniques in the management of alcohol and drug abuse.[28] In addition, our study found that strategies and techniques acquired in the training of a group of oral health professionals from PHC were maintained two years after the first training. These findings agree with other studies on using MI in other professional categories.[27,29]

The quality of training and verification of the assessment tools are extremely important for maintaining long-term results. In our study, training was performed with a highly qualified and experienced MI practitioner. In addition, the instruments in all phases of the study were evaluated by the same calibrated judges. According to the systematic review by Soderlund et al., the methodology used in our study was adequate because it included the basic skills and spirit of MI, as well as recognizing the conversation about change that is part of most training sessions.[13]

With continued education in mind, providing training that is feasible and cost-effective for health services is essential. Other studies held MI training courses that were 15 to 20 hours long,[28,30] double the length of training in our study, which might not be attractive to professionals and especially managers. In addition, we used critical-reflexive and participative methodologies, focusing on early childhood caries and other chronic behavioral diseases, which are frequent problems faced by health services and oral health professionals in PHCs. These characteristics are consistent with the principles of Continuing Health Education and have been recommended for health training.[31]

To maintain the appropriate standard of MI skills, reviews and follow-ups are essential. In our study, a one-hour annual meeting with the professionals in their teams was sufficient to maintain the basic skills and techniques of MI or to resume the post-training skills status that diminished after one year, such as affirmations and use of closed questions. These two strategies improved after the reinforcement meeting, returning to the same percentage of immediate post-training use. A community trial compared physicians who received only one training with another group that received additional teleconference supervision or recordings.[29] In that study, the latter group had greater and increasing results over time, reinforcing the importance of contemplating mechanisms for review, follow-up, and reinforcement of the main training.

A limitation of this study was the loss of part of the sample of professionals during a long follow-up, which is expected in longitudinal evaluations. The losses were mainly the result of the exit of the resident dentists who, at the end of two years, completed their postgraduate qualification and did not join the health staff; this did not prevent the continuity of the intervention, because the hired dentists and OHTs took care of the children's oral health. Another limitation was the difference in sample size in the test and control groups from the randomization of health care units. Each oral health team is composed according to the number of patients for whom they are responsible, which explains this difference. However, this factor was considered in the statistical adjustments. Future studies need to be performed with dentists who work in other contexts and countries to confirm the possibility of using MI in their oral health settings. In addition, studies should evaluate the clinical results of this professional training.

Conclusion

Our study found that the training for dentists and OHTs in primary health care was effective over the two years of follow-up in enabling them to act according to the spirit of MI and use its basic techniques. We highly recommend inclusion of this strategy in public policies, training, and continuing education in oral health.

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Disclosure

The authors declared that they have no conflicts of interest.

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