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# Quality of training in oral health educational programs: What do primary healthcare providers think?

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## Abstract:

**INTRODUCTION:** Due to changes in scientific findings and assigned tasks, continuing education and other enabling programs are increasingly critical for primary healthcare providers to keep them up-to-date in delivering oral health services. Planning these educational courses based on actual PHCPs' needs is fundamental to provide effective ones. The purpose of this study was to elucidate the experiences and needs of PHCPs regarding the quality of the oral health training provided in continuing education and other enabling courses.

**SUBJECTS AND METHODS:** A qualitative study with content analysis approach was conducted in Najaf-Abad, Isfahan, Iran, in 2017. Data were gathered through in-depth semi-structured interviews with 19 primary healthcare providers. The sampling was started with purposeful method and continued through snowball method. Qualitative data were coded and analyzed using MAXQDA (VER 12).

**RESULTS:** Factors affecting the quality of oral health training were categorized into three themes and nine subthemes, including instructor's related factors (knowledge, skills, and relevant experiences), educational content (content relevance, content innovation, and content update), and teaching methods and educational tools (fitting educational contents, covering learners' needs, and considering available possibilities).

**CONCLUSION:** Instructors with inadequate level of knowledge, skills, and relevant experiences as well as inappropriate selection of educational content, teaching methods, and educational tools, were recognized as affecting factors on the quality of oral health training and effectiveness of continuous education and enabling programs.

## Keywords:

Continuous education, oral health, primary healthcare provider, qualitative study, teaching, training

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## Introduction

Integrating oral health services with general health ones is introduced as the best solution to improve oral and dental health.<sup>[1,2]</sup> Many healthcare systems have run different kinds of programs to deliver these services for target groups, especially children.<sup>[3,4]</sup> For this reason, the Iranian Ministry of Health and Medical Education has run the oral and dental healthcare as one of the New Well-Child Care Package's parts (this package cover all aspects of children's health) through primary healthcare providers (PHCPs).<sup>[5]</sup>

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Since this group of providers has the first and most contacts with expected mothers and children from birth, they can play a remarkable role in promoting children's health. In this program, PHCPs have several assigned tasks, including educating parents, oral and dental examinations, caries risk assessment, and varnish fluoride therapy, as well as referring children to the dentists. Some of these tasks, such as informing and educating parents, are not new, but some of them, such as varnish fluoride therapy, have recently added.<sup>[6]</sup>

As PHCPs need to have enough knowledge and ability to deliver these services,<sup>[7]</sup> the

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healthcare systems have established educational courses for empowering them before and during running these programs. Atchison *et al.* showed that the quantity and quality of delivered services were affected by the quality of such educational programs.<sup>[8]</sup> Researchers believed that identifying the learners' needs as well as actual barriers and facilitators for improving the quality of enabling programs was essential.<sup>[9]</sup> Qualitative studies are known for their nature in obtaining the views and problems of participants.<sup>[10]</sup> Eslamian *et al.* through a qualitative study classified the continuous education's challenging from the nurses' viewpoint. They emphasized that it was necessary to recognize and control the affecting factors to increase the efficiencies of such educational programs.<sup>[11]</sup> In addition, understanding the participants' values and needs on continuing education and other empowerment programs to ensure that they have received appropriate training was accentuated in Govranos and Newton's study.<sup>[12]</sup>

About 2 years after the implementation of the New Well-Child Care Package, because there were no studies on the quality of oral health training in the conducted enabling programs for PHCPs in Iran, it would be an excellent time to review the views of this group of providers.

By clarifying the strengths and weaknesses affected the quality of training, oral health policymakers can evaluate how these educational courses have implemented.<sup>[13]</sup> With changing affected factors in future planning besides providing other necessities, the goals of the New Well-Child Care Package in the oral health part can achieve. This study aimed to elucidate the experiences and needs of PHCPs about the quality of oral health training in educational programs.

## Subjects and Methods

This qualitative study was carried out in 2017 to explore the training quality in oral health educational programs besides evaluating the PHCPs' experiences about their educational needs using a content analysis method.

The data were collected through in-depth, semi-structured interviews. At the beginning of the interviews, some general open questions about the PHCPs' experiences in participating oral health educational courses were asked to start the conversation. The next questions were chosen according to participants' answers. The time of the interviews was arranged by agreement with the interviewees. The locations were at the workplace of the participants. All interviews were conducted in one or two sessions (each of them was 30–45 min), in a relaxed environment, taking into account the time and tolerance of the PHCPs.

The population of the study consisted of 19 PHCPs from Najaf-Abad County's public health centers (Najaf-Abad County was one of the four sites of the New Well-Child Care Package's pilot study), Isfahan, Iran. The sampling was started with purposeful method and continued through snowball method. Participants were selected with wide variety in age, educational level and field, work experience, and job performance assessment status to cover the maximum diversity.

The inclusion criteria for this study were working as a PHCP, being a Well-Child Care Package provider, together with the willingness to attend the survey. Unwillingness to stay in the study was also considered as exclusion criteria.

Nineteen interviews were carried out, recorded, verbatim typed, reviewed, coded, and immediately analyzed by researchers. For data analysis, a content analysis method was used. Based on the content analysis process, each interview was read several times carefully to gain a primary and universal perception. Then, by underlining the important statements, initial codes or meaning units in the typed interviews were identified. After that, by abstracting and labeling the similar meaning units, the transparency of the meanings was obtained and all themes and subthemes were formed. Data analysis was performed in a constant and concurrent way in company with the data collection. The data collection process was extended after the data saturation. Although the last nine interviews did not play a role in the formation of the new categories, they were done only to cover a variety of participants' demographic factors to ensure that the data saturation was achieved and the generalizability of the findings was increased. Finally, the main themes were extracted. MAXQDA 12 was used for ease of data analysis.

Validity and reliability of the research were examined by the Guba and Lincoln criteria. Sufficient cooperation and interaction among interviewer and participants established credibility. Reviews were controlled by external supervisors, and the experts' comments were used as well. The researchers examined the dependability of the data through consulting experts to review the material. For conducting the conformability and auditing of the research, by setting aside all presumptions and prejudices, the interviewer recorded and reported carefully and thoroughly the steps and the study process to achieve the possibility of following up the study by other researchers. Furthermore, the participants approved the results' validity. Selecting multiple samples in this study took the advantages of the maximum diversity of participants and ultimately increased the generalizability of the findings.

The Ethics Committee of Isfahan University of Medical Sciences approved this study (No. 173059). For all PHCPs, study aims, information confidentiality, and their right to leave the study at any time were explained. Oral consent was taken from all participants to cooperate in the study and record their voice.

## Results

In total, 19 interviews with 17 women and 2 men were carried out. The participants' age mean was  $36.6 \pm 9.3$  years with a range of 24–52 years. Their years of work experience was between 6 months and 29 years, with an average of  $12.1 \pm 10.3$  years. Table 1 summarizes PHCPs' demographic factors. Although they have different levels and fields of education, the majority of them had university degrees. Table 2 presents participants' level and field of education. After merging the overlapped codes, 680 ones were extracted out of 19 interviews.

Factors affecting the quality of training in conducted oral health educational programs consisted of three main

**Table 1: Demographic factors of participants (n=19)**

Characteristic	Number participants
Sex	
Male	2
Female	17
Age (years)	
20-30	6
31-40	5
41-50	6
51-60	2
Work experience (years)	
Under 5	6
5-10	4
10-20	5
20-30	4
Job performance assessment status	
Poor	5
Moderate	8
Good	6

**Table 2: Participants' level and field of education (n=19)**

Characteristic	Participant number
Level	
Diploma	2
Two-year university degree	11
BSc.	5
MSc.	1
Field	
Public health	3
Family health	11
Midwifery	2
Diseases control	1

themes and nine subthemes. The main themes were instructors' related factors, educational contents, and teaching methods and educational tools. Figure 1 shows the themes and subthemes schematically.

According to PHCPs, some deficiencies in these concepts commonly have been in the most training programs and educational courses. They believed that these shortages have led to decreasing the impacts of the educational programs on empowering PHCPs to perform their assigned tasks properly.

### Instructors' Related Factors

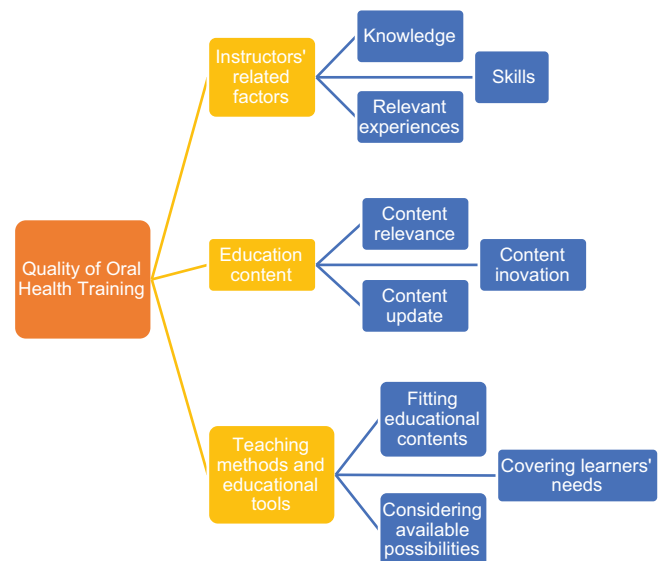
From the participants' viewpoints, instructors have a remarkable role in the quality of training. The instructors' related factors declared by the PHCPs providers were categorized into three subthemes: instructors' "knowledge," "skills," and "relevant experiences." Both new and experienced PHCPs had some issues in this subject.

#### Instructors' knowledge

Knowledge and mastery of educational contents were in the leading educational programs' weaknesses mentioned by participants. Based on interviewees' opinions, some instructors could not explain the reasons for what they teach in educational programs. In this regard, one of the PHCPs mentioned:

"Sometimes, it seems that instructors preserve the contents only and have no idea about the reasons and causes."(p3)

Some instructors were neither a dentist nor dental practitioner, and they had not enough relevant knowledge about oral health and PHCPs' assigned



**Figure 1: Factors affecting the quality of oral health training**

tasks in this part. In this regard, one of the participants claimed that:

"She could not answer my question because she was not a dentist. She said: I taught you all I knew in this subject." (p7)

Many interviewees believed that some instructors had not up-to-date knowledge, so they could not help PHCPs to solve their problems with new topics. In this case, one of them mentioned:

"We had a lot of problems with our clients about nonscientific advices from nonphysicians' individuals. PHCPs expected the instructors to consider these new issues in their oral health training courses, but it did not happen."

### *Instructors' skills*

Participants believed that the unacceptable quality of oral health training in oral health programs was due to the lack of instructors' necessary skills. Based on their opinions, instructors' skills were categorized in the name of "practical skills," "communication skills," and "presentation skills."

Practical skills hinted at instructors' ability to perform what they try to teach to the learners. The study results showed that some instructors had some difficulty in practicing the educational content practically. About this problem, participant No. 12 stated:

"I expected the teacher to teach me practically about how I can solve my problem. In the case of the patients' oral health records in the Integrated Health System, I felt he did not know how it works by detail."

The way the instructors communicate with learners was another skill that some instructors were not good at. In the case of the instructors' low communication skills, a PHCP remarked:

"In the last course, the teacher just taught the lesson. He did not pay attention to whether we were in the class or not." (p5)

Some weaknesses regard with instructors' presentation skills, along with low mastery on the educational contents, were another factor touching the quality of teaching according to the participants' views. Concerning this topic, interviewee No. 11 asserted:

"I believed that our oral health instructors were not a good lecturer. In my opinion, the teacher should know how to teach. Not only reading from some papers or slides, but also attracting the learners to the subjects."

Moreover, the next sentences in this regard were from other participants:

"The teachers should be able to teach intelligently to all learners. It is necessary that they capable of expressing meaning very easily and attractively during the course. It was obvious that some of them (instructors) had not such abilities." (p19)

"Unfortunately, our instructors could not present all of the oral health topics well, especially in non-dental treatment parts." (p1)

### *Instructors' relevant experiences*

Lack or inadequate in shared experiences about providing oral health services was the other affecting factor on the quality of oral health training, and it was also problematic for PHCPs. In this case, one of the participants indicated:

"The instructors did not have relevant experience in delivering oral health services to clients. How they can solve our work's bugs?" (p1)

### *Educational content*

From the perspective of the study participants, inappropriate or even sometimes incorrect selection of educational material was one of the reasons for the poor quality of oral health training, and its shortages were summarized in three subthemes: "content relevance," "content innovation," and "content update."

#### *Content relevance*

Many PHCPs emphasized that relevancy of contents with their fields and education levels and work experiences alongside with actual needs are necessary. These providers need such pieces of training that enable them to perform their daily tasks better. According to the participants, the lack of planners and instructors' attention to this point in held educational training programs was apparent. For instance, one of the interviewees asserted:

"The PHCPs have different fields and levels of education as well as work experience, but the same oral health training courses were held for all of us."

Participant No. 4 about the teaching topics related to dentistry in enabling programs told:

"We are not a dentist, and we are not going to be a dentist, so why are we taught about root canal therapy and different kinds of restorations or implants?"

Another deficiency that PHCPs mentioned was about their unmet educational needs for performing their oral health tasks. One of them in this regard said:

"They did not teach me something that helps me to do a better oral examination or give a better advice to mothers." (p10)

### *Content innovation*

Based on the participants' view, duplicating previous enabling programs' contents for the next ones had happened in many oral health continuous education programs. In this regard, one of them mentioned:

"These classes and tutorials were repetitive for my other colleagues with similar work experience and me." (p13)

Another compliance in this topic was about when the instructors had to teach a series of principles repeatedly due to using the same description, examples, and even PowerPoint slides many times. In this issue, participant No. 15 declared:

"If it is necessary to repeat important subjects, again and again, why they do not change the slides and examples?"

Although duplicating the courses' content had happened routinely, all of the interviewees believed that content innovation is vital for the quality of training programs. In this case, a PHCP asserted:

"I think one reason for the low quality of oral health training is lack of educational content innovation. This innovation is essential for every course." (p6)

### *Content update*

The last point in selecting educational content was to keep it up-to-date with PHCPs' demands. The adverse finding in this area included a lack of updating materials not only for new scientific advices, but also for covering new tasks and duties. An interviewee noted:

"They are teaching the same things that they taught 10 years ago. Has nothing changed in these 10 years?" (p2)

Another one stated as well:

"In the past years, varnish fluoride therapy or working with the Integrated Health System were not in our assigned tasks; now, they should teach us according to the new ones." (p6)

### **Teaching methods and educational tools**

Items related to low attention in selecting suitable teaching methods and educational tools were classified into three subthemes: "fitting with educational contents," "Covering learners' needs," and "considering available possibilities."

#### *Fitting with educational contents*

According to interviews, lecture or a spiritual way from the relevant textbooks or slides was not suitable for

training all oral health subjects such as oral and dental examination and varnish fluoride therapy. Because these assigned tasks should perform practically, used teaching methods and educational tools could not meet what participants want. In this regard, one of them cited:

"For example, the training we received for varnish fluoride therapy was theoretical and useless." (p11)

Alternatively, another PHCP said:

"In providing an oral and dental examination, I might be doing something wrong since I have not received any practical training for an oral examination. By verbal explanation, I think not only me, but also my colleagues could not." (p3)

#### *Covering learners' needs*

From interviewees' opinions, passing educational content through lectures or reading some parts of references was not sufficient in meeting their needs. Participant No. 3 mentioned:

"They should change their teaching methods and selection of educational tools. By these methods and tools used in oral health training courses, our needs have not been met."

For promoting oral health training courses' quality, PHCPs suggested different kinds of teaching methods and educational tools such as what participant No. 16 remarked:

"By using a proper training video or by using replica in practical training, instructors can make learning easier for me."

Or notified by another one:

"Or with a booklet or handwriting, so we can review the important things after they taught us completely. However, it must be right to the point and colorful with relevant photographs, but not redundant or useless." (p13)

All PHCPs mentioned practical and group discussion training methods as one of the best ways to train oral health issues. A participant with more than 20-year job experience believed:

"Practical training is better than all training. With hands-on training, we can fix our mistakes." (p17)

#### *Considering available possibilities*

Interviewees also referred to a lack of using available options and opportunities for optimal apply in oral health education. For example, a participant about not using health centers' internet access noted:

“In all health centers, PHCPs have access to the internet via the Isfahan University of Medical Science. This opportunity for conducting virtual or online oral health training was never used.” (p16)

Utilizing the health centers facilities to improve the quality of oral health training was suggested by several interviewees. In this regard, participant No. 4 recommended:

“Online education is better than others; we do not just focus on PowerPoint slides; we can save time and benefit from other experienced instructors.”

Another neglected option was social networks. One of the interviewees pointed out the ease of access to social networks and remarked:

“Although misinformation publishes in the Telegram (a popular social network in Iran) easily, it can be used and managed for oral health training properly. For example, appropriate training videos, texts, and images can be forwarded by oral health instructors in one Telegram channel or other popular social networks for PHCPs.” (p8)

## Discussion

According to the PHCPs, instructors’ related factors, selection of educational contents, and teaching methods and educational tools were influencing factors on the quality of oral health training.

Instructors’ related factors, such as inadequate knowledge to cover subjects completely, had reduced the quality of training plus the amount of useful information transferred to the learners. According to the results, instructors’ unfamiliarity with the required topics led to teaching many optional subjects beyond their assigned tasks while such essential topics such as tooth brushing techniques and ways to prevent caries were unmet or neglected. Eslamian *et al.* showed that teachers need to have the right level of knowledge about educational topics to enhance their teaching ability.<sup>[11]</sup> Furthermore, Fairchild *et al.* represented that one of the disadvantages of the held training courses for PHCPs was instructors’ inadequate knowledge and unfamiliarity with required subjects.<sup>[14]</sup>

Instructors’ lack of similar experiences had made the participants’ problems unsolved. Whereas some of the instructors were neither a dentist nor a dental practitioner, had no experience in providing oral health services. Therefore, they could not assist learners in working out the problems that may arise during the implementation of their tasks. Jain *et al.* found that

teachers with no common experiences with learners can touch the productivity of the educational courses.<sup>[15]</sup>

Based on the results, instructors’ skills, such as practical skills, communication skills, and presentation skills, were among the factors that had a significant impact on training quality. Insufficient instructors’ practical skills made learners many difficulties because a considerable number of oral and dental health topics require practical training in the process of empowering PHCPs. This problem had happened due to some of the instructors who were neither a dentist nor a dental practitioner. Griscti *et al.* have stated that the proper practical demonstration of what taught to healthcare providers as one of the critical missing elements in many educational courses and programs.<sup>[16]</sup> The instructors with less practical skills also were addressed as a reason for such happenings by Robinson, as well.<sup>[17]</sup>

In this study, the PHCPs were taught by instructors with low communication skills. They asserted that the instructors only focused on presenting the content without any attention to learners and their needs during the class. The necessity of establishing a reciprocal relationship between teacher and learner recognized as an essential factor in numerous studies.<sup>[18-20]</sup> Meyer *et al.* emphasized in their findings that one of the reasons for learners’ dissatisfaction with the quality of teaching was the lack of effective communication between them and their instructors.<sup>[21]</sup>

Effective communication with participants in the classroom plus the instructors’ excellent presentation skills could help to attract learners to the educational material besides providing their educational needs and solving their problems.<sup>[22]</sup> As noted in other studies,<sup>[18,19]</sup> this study’s participants believed that instructors’ inadequate verbal skills could not make educational content easy to understand for them or even attract them to some topics. In their opinion, the low quality of training was the result of these kinds of deficiencies.

The educational content selection was another factor that affected the quality of oral health training. Participants believed that the taught oral health contents were not innovative and up-to-date. They considered the inconsistency of the selected contents with their needs as the other weaknesses in this theme. Same as this study’s findings, Giddens *et al.* have mentioned that neglecting to select the appropriate and up-to-date educational contents and their incompatibility with the primary and new occupational needs of the participants had caused that many chances to transfer essential points were wasted by teaching the unnecessary and impractical issues.<sup>[23]</sup> On the other hand, the educational contents should tailor to the level and field of participates’

education, coupled with their experiences,<sup>[24]</sup> while the finding of the present study did not address such points. Fitzgerald and Townsend, in their research about the continuing education needs of nurses, suggested a close and productive relationship between university experts and the course planner. Therefore, providing up-to-date materials based on learners' needs can help manage this problem.<sup>[25]</sup>

The teaching methods and educational tools used to empower PHCPs, including lectures and reading of the references by the instructors or self-learning, as well as the PowerPoint slides, were not appropriate and effective for all educational content topics. Given that many oral and dental health services such as fluoride therapy and oral examination need to be implemented practically, the mentioned training methods could not provide benefits like that of practical or hands-on training methods.<sup>[26,27]</sup>

The World Health Organization stated that the inadequacy of the teaching methods and educational tools used for training courses was one of the factors that decline in the quality of teaching.<sup>[28]</sup> Moreover, it showed that the best teaching method is one that can enable providers to perform services correctly, and it depends on a certain extent on the learners. In tandem with, Wood and Rosenberg emphasized that time should be taken to consider the aims of the educational activity and the type of learners and use the most appropriate tools needed to reach the goals.<sup>[29]</sup>

One of the major grievances of the participants was the lack of innovation in the content presentation and the repeated and consistent use of educational content from previous years, using the same teaching methods and tools. Hence, it made them less motivated to attend the classes ahead and pay less attention when forced to attend the programs. Considered by Ni *et al.*, the duplicity and lack of innovation in the presentation of educational materials as one of the weaknesses of the courses and workshops held.<sup>[30]</sup> In this case, Eslamian *et al.* stated that if repetition was necessary, different teaching methods and tools should be used to engage the audiences and show the importance of the subjects.<sup>[11]</sup>

Forasmuch as PHCPs had access to the computers and internet to record provided service in the Integrated Health System, this opportunity was not used to educating the oral health topics. Participants indicated utilizing existing computers and even social networks to share instructional videos and short experts' educational programs as the ways of saving time and having standard instructors. They mentioned replicas besides handbooks containing essential notes with colorful pictures as the best options for using in the oral health courses. The results of other studies about education

for healthcare providers relieved a similar finding.<sup>[31,32]</sup> Moreover, they have notified that constant reassessment of tools is important to discover innovation and reforms that improve teaching and learning.<sup>[29]</sup>

## Conclusion

Based on the results about the low quality of oral health training in empowerment courses for PHCPs, instructors should be provided with sufficient and relevant knowledge as well as excellent communication and practical skills.

Instructors and planners should avoid choosing repetitive educational content because of the inconvenience of the participants and the loss of opportunity to transmit relevant ones. For repeating some crucial subjects, utilizing different teaching methods and tools besides innovating in the presentation can also attract the learners.

The suitable teaching methods from the participants' perspectives were practical ones. Hands-on training, in addition to the group discussion, was noted as well. Using instructional videos, summarized educational handbooks, educational replicas, along with useful PowerPoint slides, were of the best and most effective educational tools.

Since deficiencies in the instructors' related factors, selection of content, teaching methods, and educational tools eventually led to inadequate learning, and the inability of PHCPs to perform the oral health tasks correctly, it seems necessary that course planners and educators should control and correct these factors in the subsequent enabling programs and continuous courses.

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## Conflicts of interest

There are no conflicts of interest.

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