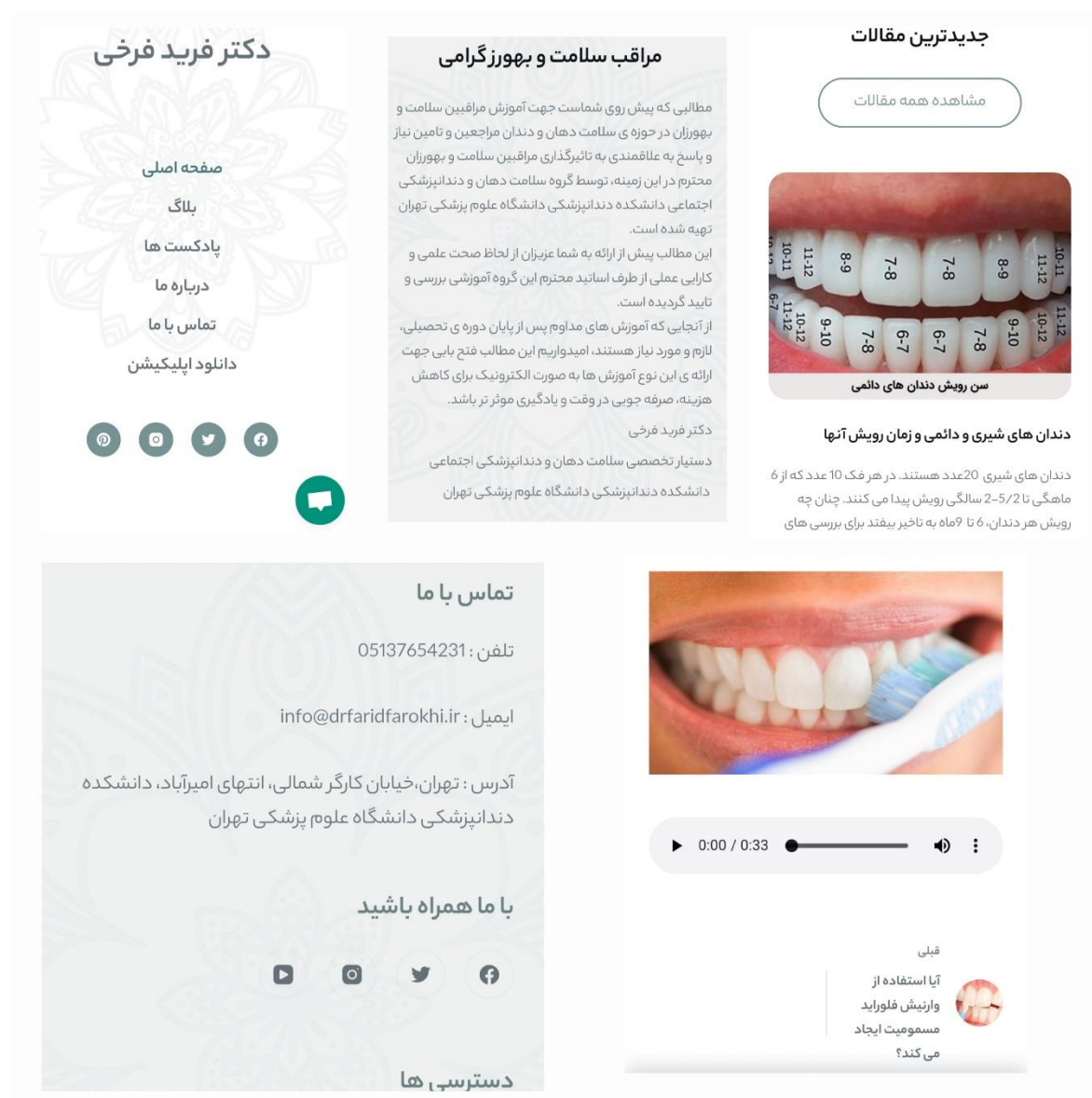
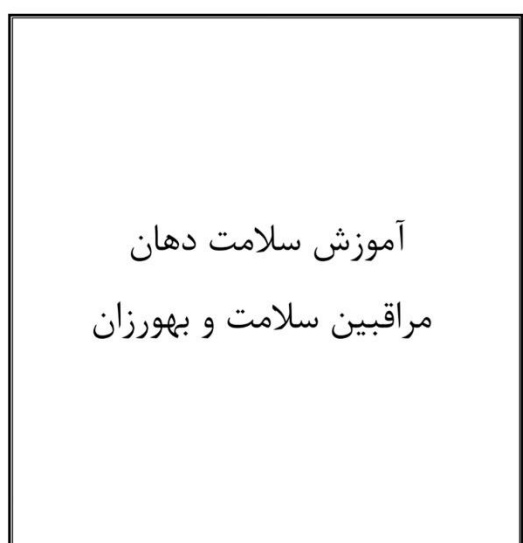


Title: Effectiveness of Interactive Smartphone Application-Based Learning on Oral Health Education in Primary Health Care: A Randomized Controlled Trial

Additional file 1: Screenshots of Smart Phone Application for oral health education of primary health care personnel



Additional file 2: Screenshots of E-booklet for oral health education of primary health care personnel





Tehran University of Medical Science

Faculty of Dentistry

Title: The effect of interactive learning of health care providers and behvarzes in the field of oral health through smartphone software in comparison with the electronic booklet in the health network of Tehran University of Medical Sciences in 2023

Dear colleagues,

The aim of this questionnaire survey is to assess Health care providers and Behvarses' information about oral health. The questionnaire is anonymous and we appreciate your complete and precise responses, although you can leave any question you want un-answered. Your thorough answers to these questions would play an important role in designing oral health training programs for healthcare personnel.

Participants are asked to choose a code for themselves and write it on the questionnaire for further communications. Please keep the code in your memory since it is confidential.

More information has been provided for you in the informed consent form.

Thank you in advance for participating in this study

Participants code:

Knowledge of oral health

1.1. The mean age of infant when the first deciduous teeth erupt in the mouth is:

- 1) 3 months 2) 6 months 3) 9 months 4) 12 month

1.2. Which permanent teeth do usually erupt first?

- 1) Lower first molar or anterior teeth 2) Upper first molar or anterior teeth
3) Upper first and second premolar 4) Lower first and second premolar

1.3. The mean age of children when the first permanent teeth erupt in the mouth is:

- 1) 5 years 2) 6 years 3) 7 years 4) 8 years

1.4. The bacteria that causes dental decay usually transmit from mother to the child.

- 1) Strongly agree 2) Agree 3) Do not know 4) Disagree 5) Strongly disagree

1.5. Toothpastes which contain fluoride should not be used for children under 3 years old.

- 1) Strongly agree 2) Agree 3) Do not know 4) Disagree 5) Strongly disagree

1.6. The first signs of decay are white spots or lines on teeth surfaces.

- 1) Strongly agree 2) Agree 3) Do not know 4) Disagree 5) Strongly disagree

1.7. Teeth cleaning and brushing should be started from 2- to 3- years old, when deciduous dentition is completed.

- 1) Strongly agree 2) Agree 3) Do not know 4) Disagree 5) Strongly disagree

1.8. Dental plaque on teeth surfaces in pre-school children is the strongest predictor of having decay in future.

- 1) Strongly agree 2) Agree 3) Do not know 4) Disagree 5) Strongly disagree

1.9. Why fluoride is added to toothpaste?

- 1) Better taste 2) Making soft consistency 3) Preventing dental decay
4) Anti-microbial effect 5) Do not know

1.10. Breast milk is less cariogenic than formula.

- 1) Strongly agree 2) Agree 3) Do not know 4) Disagree 5) Strongly disagree

1.11. Pacifier sucking in under-4-year-old children is a risk factor for dento-alveolar malformation.

- 1) Strongly agree 2) Agree 3) Do not know 4) Disagree 5) Strongly disagree

1.12. Mouth breathing is a risk factor for dento-alveolar malformation.

- 1) Strongly agree 2) Agree 3) Do not know 4) Disagree 5) Strongly disagree

1.13. Using fluoride varnish on under-5-year-olds teeth causes fluorosis and poisoning.

- 1) Strongly agree 2) Agree 3) Do not know 4) Disagree 5) Strongly disagree

1.14. Sealants are effective in the prevention of pit and fissure caries in newly erupted molars.

- ### Attitude toward oral health

1) Strongly agree 2) Agree 3) Do not know 4) Disagree 5) Strongly disagree

1) Strongly agree 2) Agree 3) Do not know 4) Disagree 5) Strongly disagree

1) Strongly agree 2) Agree 3) Do not know 4) Disagree 5) Strongly disagree

1) Strongly agree 2) Agree 3) Do not know 4) Disagree 5) Strongly disagree

1) Strongly agree 2) Agree 3) Do not know 4) Disagree 5) Strongly disagree

1) Strongly agree 2) Agree 3) Do not know 4) Disagree 5) Strongly disagree

1) Strongly agree 2) Agree 3) Do not know 4) Disagree 5) Strongly disagree

1) Strongly agree 2) Agree 3) Do not know 4) Disagree 5) Strongly disagree

3.1. As part of your regular practice do you refer children to dentists for dental care?

- 3.2. How likely are you to refer a child younger than 3 years of age who:

	Very Likely	likely	Medium	Unlikely	Very Unlikely
Has extensive tooth decay?					
Has a few teeth that you believe they have dental plaque					
Has a chipped tooth, probably the result of a fall?					
Has a draining fistula caused by a decayed tooth?					
Has other soft tissue pathology?					
Has a low probability of existing dental disease based on your screening?					
Can't be thoroughly screened?					
His mother or sister or brother has extensive tooth decay but his teeth are sound.					

3.3. At what age do you recommend the first oral health examination?

- | | |
|-----------------------------|-------------------------------|
| 1) I do not recommend | 2) Under one year |
| 3) Between one and two year | 4) Around three year or later |

3.4. How frequently do you or your staff perform the following tasks for infants and toddlers?

	Very frequently	Occasionally	Rarely	Never
1) Ask mothers about problems with breast feeding.				
2) Conduct visual oral screening.				
3) Counsel parents on the importance of regular tooth brushing.				
4) Discuss the use of fluoride toothpaste with parents.				
5) Inquire whether a child is taking the bottle to bed.				
6) Counsel parents on the importance of going to a dentist on a regular basis.				
7) Inquire about mother's dental health.				
8) Assess the potential for developing tooth decay in infants and toddlers.				
9) Evaluate nutritional behavior of patients.				

10) Inform parents about deciduous teeth importance.				
11) Counsel pregnant women about oral health importance.				
12) Discuss about xerostomia and oral health importance in patients who take special drugs.				

3.5. A 2-year-old child from low socio-economic family has come to you with his mother and brother. His teeth look sound but his mother and brother's teeth are decayed. His mother's chief complaint is about the child's poor appetite and asks for prescribing the appetizer. The child likes to eat flavored and sweet milk with bottle and almost does not eat solid food. What do you recommend to his mother?

	Strongly agree	Agree	Do not know	Disagree	Strongly disagree
1) substituting flavored milk with plain milk instead of					
2) brushing with fluoride toothpaste					
3) separating his dishes from his mother and brother					
4) referring him to dentist					
5) not to bottle feed in bed					
6) force him to eat solid foods					
7) refer to physician for prescribing appetizer drug					

3.6. A 2-year-old child who has fell down, has come to you. His two anterior teeth have exfoliated. What are your recommendations?

	Strongly agree	Agree	Do not know	Disagree	Strongly disagree
1) tetanus prophylaxis					
2) replacing teeth in its socket and refer to dentist					
3) only refer to dentist					
4) refer to physician for prescribing antibiotics (without replacing)					

Oral health self-care behavior

4.1. How often do you usually brush your teeth?

- 1) Irregularly or never
- 2) Once a week
- 3) A few (2-3) times a week

- 4) Once a day
- 5) More than once a day

4.2. Do you use toothpaste containing fluoride, while brushing?

- 1) Always or almost always
- 2) Rather often
- 3) Seldom
- 4) Not at all

4.3. How often do you floss your teeth?

- 1) Not at all
- 2) Occasionally
- 3) A few (2-3) times a week
- 4) Once a day
- 5) More than once a day

4.4. How often do you eat sugar-containing snacks or drinks (cold or hot) between your main meals?

- 1) About 3 times a day or more
- 2) About twice a day
- 3) About once a day
- 4) Occasionally; not every day
- 5) Rarely or never eat between meals

4.5. When was your most recent dental check-up?

- 1) Within 6 months
- 2) 6 months to one year ago
- 3) 1 to 2 years ago
- 4) 2 to 5 years ago
- 5) More than 5 years ago
- 6) Never
- 7) Do not remember

4.6. Do you smoke cigarettes?

- 1) No, I have never smoked at all.
- 2) No, I used to smoke before, but now I have stopped.
- 3) Once a month or less
- 4) A few times (2-3) a month
- 5) A few times (2-3) a week
- 6) Once a day
- 7) More than once a day

Demographic information

5.1. Your gender: ☐ Male ☐ Female

5.2. Your year of birth:

5.3. Your Cell-phone number:

5.4. Your last academic document and in which year you got it? (Please write).....

5.5. Which university did you graduate from?

5.6. How long have you been working as a Health care provider/Behvarz?

5.7. What is your main task in health care center?

1) Official work 2) Visiting patients 3) Both of them 4) None of them

5.8. Do you work in private sector too?

1) Yes 2) No

5.9. In your point of view, healthcare personnel in which sector have more opportunity to visit oral cavity and educate oral health care to patients?

1) Private sector 2) Public sector

5.10. On average, how many hours do you visit people per week?

In the public sector(hours)

In the private sector(hours)

5.11. On average, how many people do you visit per week?

In the public sector

In the private sector

5.12. On average, how many infants and toddlers (younger than 36 months) do you visit per week?

In the public sector

In the private sector

5.13. Is there any dentist in your family?

1) Yes 2) No