Policymaking Challenges in the Oral Health in a Low-income Developing Country:A Qualitative Approach

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Abstract

Background: As the strategies proposed for oral health improvement in developed countries do not adapt for the setting of the developing ones, this study aimed to identify the challenges and barriers of oral health policymaking in Iran as a low-income developing country. Methods: This is a qualitative study conducted in 2019 in Iran as a middle-eastern developing country. The study population consisted of all the experts who had enough experience in the oral health and were willing to participate in the study. Snowball sampling was used to select 12 participants for semi-structured interviews and saturation was achieved after 16 interviews with them. Guba and Lincoln criteria including credibility, transferability, confirmability and dependability were used to determine the reliability and transparency, and finally five-step framework analysis method was used to analyze the data. Results: The analysis of the results of the interviews resulted in identification of 7 main themes and 20 sub-themes as the main challenges of achieving oral health in Iran as a developing country. The main themes identified were: policymaking, implementing, educational, stewardship, prevention, insurance, and resource allocating. Conclusion: According to the present results, it seems that the national coverage of oral health and integration of these services in prevention and serious attention to the private sector can be considered as the most important strategies for achieving improved oral health. Keywords: oral health, developing country, policymaking, strategy.

Introduction

In spite of the report of World Health Organization for everyone's health by 2000 as well as significant progress in many fields of public health, there has been little progress in the prevention and improvement of oral health and the burden of diseases is increasing; this is referred to as the silent epidemic[1]. A study on the burden of diseases in 2017 shows that oral diseases affect more than half of the world's population[2], and untreated caries in children is estimated 560 million cases worldwide[2]. In Iran, according to the latest National Oral Health Survey in 2012, the number of Decayed, Missed and Filled Teeth (DMFT) in primary age groups of children aged 5-6 years was 5.16 in the whole country. This index has been reported 4.94 and 5.78 in urban and rural areas, respectively[2].

On the other hand, evidence shows that achieving oral health in different communities poses a great economic burden; for example, a national survey of household expenditure in Iran showed that 15.5% of the total household health expenditure has been related to oral health[3]. These statistics are more important regarding the lack of basic benefit packages and insurance coverage to pay the costs of oral diseases in Iran[4]

In addition to the above-mentioned points, evidence suggests that poor oral health may lead to inevitable consequences, including difficulties in swallowing, sleeping, socializing and social well-being in children[5]. Previous studies have also shown that improving oral health can lead to improved communication, increased quality of life, as well as increased self-esteem and social confidence[5,6].

There are many factors contributing to poor oral health, some of which may include inadequate self-care, lack of access to oral health services, socio-economic factors, and personal obstacles and problems[6-8].

In this regard, World Health Organization has declared policy priorities for improving oral health as follows: effective use of fluoride; healthy nutrition; tobacco use control; and improvements in the children and adolescents' oral health through school, the elderly oral health, the oral health system, AIDS and oral health, the oral health information system, and oral health research[9]. One of the strategies taken to implement these policies is to integrate oral health care with primary health care, so we can say that it has been a leading and correct strategy for accessing oral health care services for children and adolescents including fluoride therapy, dentist visits, and caries prevention[10].

According to the above-mentioned points, it seems that different communities need effective and practical management strategies and practices for achieving effective prevention in the field of oral health as well as reducing inequality and coverage of high-risk age groups. In this regard, Yamalik et al (2014) has compared the policymaking and workforce planning of developed and developing countries. These results showed that the median number of dentists (P=0.005), the numbers of dental practices (P=0.002), dental hygienists (P=0.005), technicians (P=0.013) and graduates per year (P=0.037) was greater in developed countries[11]. As it is obvious, these indicators can lead to different status of oral health among these countries and it also emphasizes that the strategies proposed for developed countries may not work well in developing ones and globally[12], and it is necessary to find local strategies in order to achieve acceptable coverage of oral health specially in low and middle income developing countries. At the same time, reviewing the history of the interventions in Iran, shows that in spite of integrating oral health services in the primary health care (PHC) plan for about two decades and its acceptable achievements in improving the oral health indicators specially in the rural areas, this policymaking experienced a serious failure because of neglecting to train sufficient technicians and lack of tendency in the dentists to deliver services in such areas[13].

These evidences emphasized on the importance of reviewing the challenges of local policies in this significant scope, so according to what was said, the aim of this study was to identify the challenges and barriers of oral health policymaking in Iran as a low-income developing country in the Middle East.

Methods

The present study was a qualitative one conducted in 2019 using content analysis. We used semi-structured interviews with the most diversity including policymakers, oral health professors, managers and assistants involved in this field in this study. The purpose of performing these interviews was to explain the challenges of policymaking in the field of oral health and the reasons for neglecting oral health in the upstream documents of the Islamic Republic of Iran. The interviewees were selected by snowball sampling method. First, Oral Health Officer of Shiraz University of Medical Sciences as the metropolitan area of the southern part of the country and his deputies were interviewed and then asked to

identify those who were experts in the field. Table 1 shows the relationships of these participants to oral health.

The study participants were well-informed and experienced in the field of oral health and policymaking; they spoke well and were willing to share their information. At this stage of the work, the interviews were performed with the participants after arrangements with them in person and preferably at their workplace. At the beginning of the interview, explanations were provided verbally about the study and its purpose, and they were assured about the confidentiality of their information. A written informed consent form was also obtained from all the participants, and they were assured that they were free to withdraw from the study at any stage of the research in case they did not wish to continue. The interviews lasted for at least 50 minutes and all the interviews were performed by one of the researchers. The interviews were recorded with the consent of the participants and transcribed word by word shortly after the interview. The interviews continued until saturation and after performing 16 interviews with 12 interviewees, saturation was reached. For catching this saturation level, we had 2 separate interviews with 4 of the participants that had the most information and cooperation with the research team. In order to provide a semi-structured interview topic guide consisting of 10 questions, we used literature review approved by two managers and policy experts in Shiraz University of Medical Sciences. The face validity and meaningfulness of the contents of the interview topic guide was also confirmed by performing three initial interviews with the interviewees.

Four Guba and Lincoln criteria including credibility, transferability, dependability (consistency) and confirmability were used to confirm the transparency and reliability of qualitative research[14]

In order to enhance the credibility of the study, long-term engagement and continuous observation were used, so that the researcher was fully engaged in the study, made proper communication with the participants, and accepted the deeper concepts that emerged in the study process. The method of the combination of interview and literature review was also used to triangulate the data sources and increase the credibility. In order to increase the confirmability of the results, the coded data were provided to the participants to confirm the validity and accurateness of the results. In order to improve the transferability of the study results, the conditions of the informed participants of the study and the method of interviewing were clearly defined. There was an attempt to select the sample population based on the purpose of the study without any bias, also, collecting and analyzing the data occurred simultaneously, Meanwhile, the researchers tried to be fully aware of the theoretical foundations of the study to increase the transferability. Finally, in order to enhance the dependability of the study results, the process of coding the transcriptions to create concepts and themes, as well as textual and audio information will be available. Also, in order to ensure dependability, two members of the research team individually analyzed the content and discussed for agreement on disagreements.

Five-stage framework analysis method was used to analyze the data. In order to identify the data at the first stage, the audio files of the interview meetings were heard several times by the researcher and the texts were read several times. At the second stage, in order to identify a thematic framework, the repeated

ideas in the familiarization process were transformed into groups of similar ideas or codes. At the third stage, indexing, units, or parts of the data associated with a particular code were identified. At the fourth stage, after indexing, the data were summarized as a code table based on the thematic framework, and finally at the fifth stage, the data were finally combined, mapped and interpreted to define the concepts and show the relationship between them to identify the nature of the phenomenon and provide explanations and suggestions[15]. The data were coded and categorized manually instead of using software because of the Persian text of the interviews and increased creativity. For this purpose, the challenges of oral health policymaking and the reasons for its neglect in the upstream documents of the Islamic Republic of Iran were identified.

Results

The analysis of the results of the interviews resulted in identification of 7 main themes and 20 sub-themes, as described in Table 2. The main themes identified were challenges in policymaking, implementation, education, stewardship, prevention, insurance, and resource allocation.

As shown in Table 2, policymaking challenges included four sub-themes: lack of policymakers, weakness in evidence-based policymaking, differences in target groups, and conflicts of interest. The participants stated that lack of relevant policymakers in the field of oral health has caused weaknesses and problems in improving the oral health. In this regard, a participant stated:

"After the Islamic Revolution, a number of physicians were specialized. In addition to specialization and becoming a surgeon, internist, ophthalmologist and so on, they became familiar with the management requirements of the modern world, health policymaking and health economics. In this way, advances in the field of medicine and management were occurred but such an improvement didn`t occurred in dentistry, in another word, they went on to pursue a career in dentistry, specialization, residency and business in the dental market with no attention to management and policymaking in the field of dentistry. This is our major challenge: no manager and policymaker in the field of oral health"(P_1).

In this regard, another interviewee stated:

"We educate social dentists here who study management and health policymaking and become familiar with public concepts like new methods of prevention, new ways of social grouping, and many topics that are related to the health system, and then coming into the field when practicing just education or finally a responsibility with no maneuver and who will go after is not a specialist, just a clinician, when dealing with a patient has no vision of community and health. A prosthodontist is not aware of the problems of the community and those with low social status do not know what they need in terms of oral health and cannot properly plan and execute prevention and health"(P_2).

Another sub-theme of policymaking was the lack of attention to evidence in oral health policymaking. In this regard, one of the interviewees stated:

"When we ignore the evidence that proves preventive packages can improve oral health today, but we, for example, put free restoration packages, assuming that everyone does this, the oral health won't improve. It becomes endo; then, it breaks down and the root is removed. We have this problem as long as there is no therapeutic approach and policymakers don't take preventive measures"(P_3).

In this regard, another interviewee said:

"I believe that in the Ministry of Health plans, Oral Health is ignored because the Ministry of Health is not on the right track as people don't. Because the policies of the Ministry of Health do not follow evidence-based policymaking, the policies of the Ministry of Health are passive, i.e. they act when there is budget, discontent or collapse, but there is no public demand for oral health. There is no need to change it. The Ministry of Health, either because of resource constraints or lack of understanding of complete benefit packages, does not seriously pay attention to dental health or public demand"(P_6).

Other major themes in this study were educational challenges in the field of oral health which led to the identification of the sub-themes of "lack of appropriate educational curriculum"; "inefficiency of educational rules"; "educational structure" and "Training of intermediate forces". Here is the statement of a participant:

"Dental curriculum is problematic; it is not community-oriented. This is a debate in our dental education. Let's see, in developed countries we have that number of trained dentists and the country may have had a successful dental education, but this was not tailored to the needs of our community. The distribution of the sources is not just" (P_{11}).

Or in another place, the other interviewee said:

"Educational curriculum is not based on community needs. The curriculum should be changed and demographic conditions such as population aging and preventive approaches should be considered, and attention to the burden of non-communicable diseases should be emphasized by relying on common risk factors"(P_1).

One of the sub-themes was the inefficiency of educational rules. In this regard, one of the interviewees stated:

"For years, the Ministry of Health accepted and trained some people with lower dental facilities and ranks in dentistry who, after graduating, provided dental services in underpriviledged areas the same as rural and urban fringe ones, but due to lack of proper education, this goal has not been achieved. Now we are faced with a shortage of dentists in deprived and underprivileged areas. On the other hand, dentists studying abroad have returned to the country due to a lack of specific legal mechanisms and have been educated in domestic colleges, so that, for example, in Shiraz there are 800 extra dentists according to international standards"(P_{12}).

Regarding the structure and infrastructure of oral health education, the interviewees stated:

"At one point, parliamentarians put pressure on building a dentistry school in every city. A huge budget that should be spent on preventative dental health had been used for dental colleges, which now stands forever to educate students and no administrator dares to close these colleges. These colleges devour huge budgets every year without any attempt to reach to the national oral health goals"(P_1).

Another interviewee stated:

"There are a lot of oral health budgets now spent for colleges that are not needed much. I think the number of colleges and students is much higher than our need. I remember, for example, a few years ago, a field work on oral health focused on increasing the number of colleges and students were monitored by the World Health Organization; it was found that increasing the number of dentists and dental colleges did not have an effect on oral health state. In another word, the need assessment for dental care is different and is not like medicine. For example, we can say that for per 1000 persons we need a physician; but in dental field, it is better to train multiple workforces instead of increasing in general and special dentists, of course these workforces can be trained with limited responsibility but complete supervision that do not go beyond the scope of duties"(P_2).

One of the sub-themes in the educational challenges was training oral health care forces; in this regard one of the participants stated:

"It was very interesting that at the beginning of the revolution, the health system focused on training of health workers along with dental hygienists, and we spent a lot for this health work; they went to deprived areas; but after some years, the entrance was made to convert the health workers to dentists and then the training program of health workers stopped. This would indicate that the system should train health workers on an ongoing basis, so that when some of these dental technicians changed to dentist via complementary studies, the mechanism of training intermediate workforce (dental technicians) would not be stopped. This is very important because dental services are expensive, so if there is no intermediate force for oral hygiene to work on prevention, lifestyle and tooth brushing, we will have no advance in this field, and just having access to the dentist does not help. In other words, no relationship was found between the development of dental colleges and oral and dental indices. We must remember that, these technicians were trained and become available in the golden age of the health network system. But unfortunately, it did not continue because of the conflict of interest, which means that the dental colleges considered this program [training dental technicians] as a rival and hindered it"(P_4).

The interviewees emphasized the topic of educating oral health practitioners or dental technicians and believed that training these forces could improve and develop the oral health state. In this regard, another participant stated:

"In order to promote the oral health, we need to have intermediate forces, such as a dental technician's hygienists, not like the present case. Dental technicians at some universities are now trained in an

scattered manner, but due to lack of proper supervision, they move to dentistry schools to become dentists and sometimes they do specialized work, while they have to do preventive and educational work despite having a commitment to serve in deprived areas, but this has not actually happened. The intermediate forces can be very effective; for example, in many developed countries due to high costs of training dentists, intermediate forces are trained to do the related tasks of preventing, educating and surface restorations that are very effective of course if there is a proper monitoring system" (P_7).

The executive challenges were one of the main themes that led to the identification of sub-themes in the field of "service delivery", "health interventions" and "monitoring and evaluation":

In this regard, one of the interviewees stated:

"In the provision of dental services, no relationship is found between the private and public sectors, such as public and special problems in this field. Dentistry, as a luxury field of study, has its own costly services, difficulty and easy access is not yet fully established; network structure was available for this monitoring and now there seems to be a wandering of the structure of the sources, etc."(P_4).

Or elsewhere, an interviewee said:

"In service delivery, there should be a leveling service and referral system. If the referral system is implemented, the service delivery will be improved as well, which of course requires intermediate forces to provide basic services; if necessary, referring the patient to the dentist will save money and provide him with timely services" (P_3).

Monitoring and evaluation was another sub-theme stated in this regard:

"Monitoring and evaluating are very important, especially in national plans, and if the plans are not implemented effectively, I think, due to lack of proper monitoring after implementation, some of the prevention plans that have been implemented so far have failed. For example, we send our dentistry students for education of the children to schools and observe that for example, a 200-student school would have fluoride therapy one day, which would practically not yield a good result, indicating improper monitoring"(P_4).

In this regard, another interviewee added:

"Much attention should be paid to the evaluation and monitoring of oral health plans, and the point to be made in this regard is the need for a supervisor and evaluator to be separated, which is unfortunately not the case now"(P_9).

Designing health interventions was another sub-theme and the emphasis of the interviewees was on the need to serious attention to preventive interventions. For example, an interviewee stated:

"In terms of interventions, there has been an experience in Thailand. Thailand in terms of health system is among good countries. They have been increasing tools and dentists for many years, but no change in dental health has occurred and some of the indicators became worse. So they decided to invest in two areas of insurance based on training and providing simple tools such as toothbrushes, extensively at school level, where people work as a team, and after a few years this changed the indicators. It seems that it is the best thing to do because the simple tool for a lot of people costs a lot and for some people may not be affordable so, if such interventions are done certainly we will obtain better results"(P_3).

The insurance challenges were the other themes of the study that included the sub-themes of "target group coverage", "basic insurance package reform" and "attention to cost effectiveness of services". In this regard, the participants stated:

"In many European countries, children are insured since birth, examined every three or six months until the age of 18, and children and their parents are trained to do preventive activities the same as fluoride therapy or fissure-sealant. These are compulsory interventions just like vaccination even if a person does not refer, the system, follows them. This prevents the burden of treatment. Nowhere else in the world dental insurance coverage is free because expensive services and high costs cannot be insured. The insurance coverage for dental problems may be possible only when we take preventive measures and provide coverage to persons under 12 years of age or surface repair. In Iran, restoration of teeth was implemented for 6 teeth but due to lack of proper supervision they all refer for the restoration of teeth even if it is not required the dentists do it because they receive their per case. This leads to the supply induced demand "(P_6).

Another important challenge in this field that has been addressed in this study is the challenges of stewardship. Some participants stated:

"The stewardship should coordinate all the three sectors of education, health and treatment. It is suggested to manage an office by the Minister to run all the three sectors and coordinate accordingly. In the health sector in the twelfth government, an enormous and unprecedented amount of funding was provided to the oral health, over 300 billion, but unfortunately no one evaluated the cost-effectiveness of such allocations. Therefore, stewardship is poor in this sector. There is another major problem for treatment sector as well, in this sector the allocation of human recourses is not fair among private and public centers"(P_2).

Or another interviewee stated:

"No one is responsible of stewardship. The universities have different practices, in fact, because the principal executives do not hire those who have both knowledge and expertise, so we have these problems. That is to say, we need a single stewardship to control all fields of treatment and education" (P4).

And another interviewee noted:

"The task of the dentistry college is finally to train the human resources. The stewardship should return to the Ministry of Health. In this regard, it is better to have an integrated stewardship for both health and treatment services; but now, as you see, treatment sector has no dominance or interest for health. If treatment stewardship returns to health, health has no ability to manage the private sector and maybe its best is to separate the health and treatment and coordinate. Thus, I believe that if health department is established, these two offices should be one to increase monitoring, and then experts in the field of prevention and treatment should work separately"(P_5).

The challenges related to prevention were another topic stated by the interviewees in this regard:

"In the field of health and prevention, the attraction of the treatment sector caused an increase in the willingness to treatment and wealth. And the health care sector is not considered. At the same time, the therapists are influential and take jobs for policymaking. For example, the highest level of oral health policymaking is done by a prosthodontist, who cures a patient who has lost all of his/her teeth at the last stages and need to have artificial teeth. Definitely, a person with this concept can`t be a good steward for the community oral health, or for years the principal for oral health policymaking in the country was an endodontist, while policymakers in the developed countries are specialized in oral health or social oral health. Many years ago, the government funded 6 or 7 persons as a scholarship in developed countries in the field of social dentistry in the hope of returning later to managing the country's oral health policies. All of them returned and became professors at universities, and all they did was publishing papers! In the Oral Health Policy finally, there should be somebody to point out these problems but unfortunately some are illiterate and those with related education and experience do not employed!" (P_1).

Another interviewee mentioned elsewhere:

"The statistics presented are inaccurate. The layout looks appealing, but when we get into the treatment cycle, the amount of support we receive for dentistry is not enough, because these services are so expensive and the imposed costs are inevitable for everyone who goes into the treatment cycle. So, the treatment package with a therapeutic approach can` be very effective and it is necessary to have a shift to a preventive approach with a comprehensive monitoring and supervision" (P_4).

Discussion

The present study was conducted aiming to identify the challenges of oral health policymaking in Iran. The identified challenges were policymaking, implementation, education, stewardship, prevention, insurance, and resource allocation.

According to the present results, neglecting oral health in policymaking and upstream documentation is one of the challenges in this field. In this regard evidences indicate that attention to oral health for allocating resources and cost-effectiveness of its services is not as much of a concern for health decision makers and policymakers in the world, especially in developing countries [14,15]. Other evidences show that ignoring oral health in policymaking of the developing countries` health sectors is considered as a

real challenge. This challenge, leads to some degrees of failure in these countries in order to implement a national plan for oral health [16]. Moreover, neglecting oral health in these countries policymaking may lead to increase out of pocket payments for the patients [17]. In spite of the above statements, the evidence-based policymaking is one of the key topics highlighted by the World Health Organization. It develops strategies that should be the basis for policymaking in developing countries, such as reducing the burden of oral diseases, improving lifestyles, developing a system of fair service in oral health, and developing a program-based policymaking framework for community health promotions [16].

One of the policymaking challenges in this study was the lack of effective health interventions and dentists' willingness to treat as well as the lack of effective policymaking in the field of prevention. The dentists' willingness to work in the private sector and generate income in this sector is a common theme in most countries[18]. As the evidence shows, in developing countries, applying a preventive approach for all the population is more cost-effective than therapeutic and restoration approaches[19]. In this regard, WHO recommends to develop oral health services with a health care approach and integrate them in primary health care system. In Iran, in spite of preventive policies by the Ministry of Health, as well as some emphasis in national documents, these interventions appear to still have weaknesses, including proper post-implementation evaluation and monitoring; it is essential for the Ministry of Health to adopt effective policies and payment system reform to eliminate this shortcoming.

One of the other challenges identified in this study was the high cost of training general practitioners and specialist dentists and not paying attention to the training of intermediate forces (oral hygienist, oral health care provider, and oral technician). It was found that the policy of increasing the number of dental colleges and training of dental specialists did not lead to improvement of oral health state. It is also emphasized that increasing the number of dentistry colleges in developing countries, not only causes high costs for health care system, but also makes serious concern to decrease the quality of services and education [20] Another evidence also suggests that in developing countries the policy of increasing and training intermediate forces can provide better results and help improve the oral health state of the community [18], so that this policy can reduce caries, increase and improve restoration and reduce dental emergencies, especially in children.

According to the results, another challenge was the current educational curriculum, which is not community-based nor based on the epidemiology of oral diseases. Many studies around the world have also emphasized the importance of changing the educational curriculum of dentistry and the need to have goals such as effective prevention, health promotion, high communication skills, recognition of the social environment, etc.[21,22]. The therapeutic approach in educational curriculum of dentistry with its over emphasis on therapeutic interventions based on technology instead of attention to preventive education is one of the main challenges and barriers of community based dentistry[23-25] It is obvious that revising educational curriculum of dentistry concerning community needs and socio-economic condition specially in developing countries should be mentioned carefully by their policy makers.

Insurance coverage in oral diseases is a global challenge due to the high cost of services and the luxury nature of services. Some evidence suggests that insurance coverage emphasizes and prioritizes early prevention and treatment services with target groups' priority. It also results in lower cost to the health system and has more health-related consequences[26]. Although some developed countries, including Japan, have covered their dental services under their insurance plan and have achieved good results in adopting uniform tariff policies in the private and public sectors[27]. The challenge of access and utilization of oral health services in most of developing countries, is considered as a serious barrier. For instance, according to a utilization study, the results of implementing oral health program in the European developing countries have indicated that access to oral health services was very low and most of the refers to dentists were related to extraction of teeth and therapeutic interventions, in contrast, the rate of preventive services` utilization was reported less than 10%[28]. However, utilization of oral health services was more based on preventive interventions and insurance coverage can be used as a facilitator in this regard[29]. This topic; insurance coverage of preventive services for developing countries including Iran, is mentioned in the present results too which could cause a better effectiveness.

One of the other challenges identified in this study was resource challenges consisting of human, physical and financial resources. Evidence shows structural problems in developing countries is considered as a serious problem that can have a significant impact on the quality and access to oral health services, so implementing national programs of oral health the same as screening, is mentioned as a high priority concern in these countries[30].

Access to dental services includes fair and equitable distribution of dentists and physical infrastructure, especially in the deprived and underprivileged areas is considered as one of the oral health promotion problems. This phenomenon is named care inversion. Various studies around the world have also addressed this problem; care inversion, and have doubled the need for attention[31, 32]. In this regard, one of the important challenges to reach equitable distribution of services is the number and allocation of workforce in a delivery system. This is reported as a significant challenge in developing countries. Concerning unfair distribution of services and workforce specially in deprived and rural areas along with the correlation between socioeconomic factors and access to oral health services, a fundamental change in policymaking in order to make equity becomes inevitable[11].

One of the problems raised in this study was the weakness of the integrated information system and the accuracy of the data. Previous studies have also emphasized the importance of an integrated system for collecting and analyzing information in this field, which requires the serious policymakers' attention[33].

Finally, another challenge discussed in this study was attention to proper stewardship of the oral health. It seems that having an integrated stewardship in oral health is an important and influential issue in this field. Previous studies in this scope suggest that stewardship should be integrated under the supervision of the Office of Oral Health, so that the tasks of policymaking and enforcing these policies in the public and private sectors are considered[34].

Conclusion

The study results showed that serious attention to the oral health and efforts to improve it in macro health policymaking is neglected and regarding the importance of oral health, serious review of educational, preventive and therapeutic policies is needed. On the other hand, according to the present results, it seems that national coverage of oral health and the integration of these services in preventive services and serious attention to the private sector can be considered as the most important strategies for achieving improved oral health.

Limitations

This study has some limitations the same as; lack of possibility to triangulate the viewpoints of the participants with the quantitative indicators specially in deprived and rural parts of the country because of the lack of integrated information system, also the results may be useful and applicable only for those underdeveloped and developing countries with the similar context of health and its determinants factors like Iran.

Declarations

Ethic approval and consent to participate

The article`s proposal was approved by ethics committee affiliated with Shiraz University of Medical Sciences with the ID of SUMS-98-01-07-20930.

Consent to publish

Not applicable

Availability of data and materials

All The data is available in a form of data extraction sheets considering the confidential and personal information of the participants.

Competing interests

All authors declare that they have no conflict of interest regarding this study.

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Authors' Information

PB is an associate Professor, she has designed the study and finalized the whole data analysis. She also supervised the study. MMP and JB are PhD candidates in Health Service Management. They have collected the data and extracted and initially analyzed them. They also prepared the initial draft of the manuscript. AG is a dentist, he has translated, technically edited and finalized the whole article.

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Table

Table 1- The characteristics of participants in the study

Relationship of participants to oral health	Number
Head of oral health department	1
Experts of oral health department	3
Health assistant of the University	1
Head of social dentistry department	1
Head of health policy making department	1
Social dentists professors	4
Head of dentistry school	1

Table 2- Main themes and sub-themes of policy making challenges in the field of oral health of the Islamic Republic of Iran

Main themes	Sub-themes	Final codes
Executive challenges	Health care interventions	Design of therapeutic interventions
		The high cost of treatment centered plans
		The need to design comprehensive and fair plans
		Fair access to services
		Pay attention to prevention in the design of intervention
		Leveling Services
		Considering the cost effectiveness of package design
	Monitoring and evaluation	Lack of cost-effectiveness assessments of oral health plans
		Separation of the evaluation team from the implementation
		Lack of a proper evaluation system
		Lack of a proper monitoring and evaluation protocol
		Problem monitoring due to the complexity of services
	Service delivery	Pay attention to the burden of diseases
		Serious attention to the referral system
		Necessary to design appropriate service structure
		Provide preventive and effective care by intermediate forces
	Oral Health Information System	Inappropriate analysis of oral health state
		Mismatch of statistics and information with existing situation
		Necessity of designing a strong and efficient information system
		Lack of an integrated information system
Educational challenges	Educational curriculum	Treatment-based education curriculum
		The educational curriculum is not community-based
		Need-based curriculum Change
		Attention to prevention in students' curriculum
	Educational rules	Educational wrong policy making
		Lack of policy-making for oral health education
		Inefficiency of the Human Resources Plan Act
		Strong regulatory for hiring intermediate forces
		Necessity of intervention and implementation of the obligations of trained forces
	Educational infrastructure	Weaknesses in educational need assessment
		Hiring Social Dentistry Graduates
		Declining dental schools
		The cost of undesired effectiveness of increasing dental colleges
		Dental colleges beyond need
		Training of a dental specialist is overly needed
		Convert some colleges to clinics
		Lack of impact of increasing colleges on improving indicators
	Training of intermediate forces (technician, hygienist, and oral health care)	Oral Health worker Education
		Using educational interfaces for schools

		The Cost of training a Dentist
		Effectiveness of intermediate forces
		Low cost of training intermediate forces
		Successful experiences of intermediate forces
Policy making challenges	Lack of policy makers	Lack of policy maker in the field of oral health
		The presence of therapists at the top of policy making
		Non-hire of social dentists
		Weakness in policy making knowledge and health economics among policymakers
		Lack of relevant policymakers
		Neglecting Social Dentistry in Policy Making
		Lack of relevant policymakers
	Evidence-based policy making	The policymaker's view of dentistry as a luxury service
		The therapeutic approach in policy making
		Designing native health packages
		Lack of evidence-based policymaking
		Lack of awareness of full service package of policy making
		Serious attention to supply and demand in policymaking
	Conflict of interest	Necessity to reduce profession and union look
		Conflict of interest in training intermediate forces
		Conflict of interest in policy making
		Transparency in the public and private sectors
		Protecting corporate interests in the face of wrong measures
Trusteeship challenge	Unit trusteeship	Multiple trusteeship in the field of oral health
		Necessity of coordination of all three departments of education, health and treatment
		Difficult to enforce policies
		Multiple decision making in the field of oral health
		Single trusteeship with separate experts
		Private sector trusteeship
		Wandering over resources and structure
	Monitoring and coordination	Dividing tasks in the trusteeship
		Appropriate trusteeship and attention to the private sector
		Coordination and monitoring of public and private sectors in service provision
		No oral health plan at the Ministry of Health
Prevention challenges	Priority of treatment to prevention in policy making	Dentists' desire for treatment
		More revenue in the field of treatment
		Resource allocation to prevention
		Pay attention to self-care
	Ignore the prevention debate	Not paying attention to prevention
		Design of prevention-based interventions
		Prioritize for prevention
		Lack of prevention attitude in policymakers
		Use inexpensive prevention tools

		Lack of proper prioritization in oral health
		Inadequate understanding of prevention in intervention design and policy making
Insurance challenges	Target groups	Pay attention to target groups
		High-risk age group coverage
		Lack of coverage for high disease burden age group
		Elderly insurance coverage
	Correction of basic benefit package	Dental services under insurance coverage
		Need to modify basic insurance package
		Expensive services and unwillingness of insurance
		Target groups basic insurance
		Pay attention to the burden of diseases on the insurance package
		Poor insurance coverage
Resource challenges	Financial resources	Lack of optimal allocation of funds
		Lack of clear financial resources
	Human resources	Dentist training as needed
		Density of dentists in centers
		HR Needs Assessment
		Improper distribution of dentists
	Physical Resources	Necessary equipment and infrastructure
		Infrastructure and equipment needed in deprived areas
		Lack of infrastructure and facilities at prevention centers
		Infrastructure burnout in deprived areas