Review Article

What do we Need to Start a Multimedia Salt Reduction Campaign?

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Abstract

As reports of the first national study reveal, Iranian salt intake reaches 9.52 g/day (two times more than recommended by World Health Organization). Meanwhile ignoring the consequences of high salt intake has led to an increased rate of cardiovascular diseases (CVD), stroke, stomach cancer, osteoporosis, obesity, etc., To tackle these threatening issues, a nationwide intervention campaign could be an effective solution based on global experiences. A review of previous work in Iran shows that despite numerous efforts conducted in the prevention of CVDs, they were not well reflected in worldwide sources. Furthermore, a comprehensive campaign was not implemented particularly concerning the salt reduction in Iran. As a result, we first reviewed the major successful initiatives conducted in reducing salt intake around the world and Iran. Then we introduced the components of a comprehensive social marketing campaign along with customized actions related to Iranian nutrition habits, their attitude, and behavior toward salt consumption. These employed components were SWOT analysis, identifying target group, determining communication goals and objectives based on models and theories, planning executive plan, designing communication messages and materials, media planning and promotional actions, and determining campaign budget plus monitoring and evaluation.

Keywords: *Health promotion, Iran, salt reduction, social marketing*

Background

The number of people suffering from cardiovascular diseases (strokes, heart attacks, and failure) is constantly increasing all over the world. As the statics indicate, CVDs are the major cause of mortality in Iran[1]; for instance, nearly 24% of Iranians of age over 20 suffer from hypertension[2] which accounts for about 9% of total death in Iran.[3] The major reason behind this fact is a proven change in Iranians' diet patterns, particularly increasing consumption of salty processed food and use of excessive salt during cooking/eating. Moreover, the consumption of too much salt increases the risk of suffering from other diseases like osteoporosis, stomach cancer, renal disease, asthma, and obesity.[4]

The results of different surveys conducted by the World Health Organization (WHO), the European Union, and various government agencies revealed a warning level of salt intake ranging between 5 and 16 grams per day. This value should not exceed 5 grams of salt or 2 grams of sodium since WHO recommended it in its Action Plan for the Prevention and Control of Non-Communicable Diseases 2013–2020. Based on a national survey conducted in Iran in 2016, the daily average salt intake of Iranians reaches approximately 10 grams which is twice as recommended by WHO.[5]

To solve this problem worldwide, plenty of strategies were introduced and numerous successful actions were implemented globally through intervention programs, awareness campaigns, mandatory regulations, and voluntary support.[6] However, reviewing the results of actions taken in Iran reveals that despite various studies and interventions, no satisfactory results have been in reducing salt intake.[7] Moreover, Iran's efforts have not been well reflected in worldwide sources like the World Action on Salt and Health (WASH), WHO.[6,8] As a result, it is necessary to implement a nationwide campaign to reduce the amount of salt intake to 5 g/day, and to maintain the reformed behavior through sustained programs.

In this report, we first begin by introducing major studies that evaluated the amount of salt intake among Iranians. Then in the following sections, the main initiatives and

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papers conducted in reducing salt intake around the world and Iran are reviewed. The search strategies of this study were done in two stages. In the first stage, information related to salt consumption in Iran was collected through international and Iranian databases such as Google Scholar, Web of Science, Scopus, PubMed, and Scientific Information Database, Magiran by following keywords such as multimedia, campaign, program, salt reduction, salt intake, and salt consumption. In the second stage, worldwide and national health intervention programs in relevant and well-known sites related to salt reduction were gathered from WHO, WASH, and World Salt Awareness Week websites. Finally, the components of implementing a comprehensive salt reduction campaign in Iran are presented.

Salt intake in Iran

Various national surveys were conducted to investigate the amount of salt intake in Iranian's diet. Initially, a study was carried out in 2004–2005 by Yazd Healthy Heart and indicated that women consumed an average of 7.5 g/day salt compared to 10 g/day salt for men.[9] According to the data collected in Isfahan in 2013–2014, the mean salt intake was 10.3 g/day[10]; however, Rezaei *et al*. estimated that the mean salt intake among Isfahan residents decreased to 9.66 g/day in 2016.[5] The results of a recent national survey conducted among 18,624 Iranians showed an average salt intake of 9.52 g/day which is almost twice of the level recommended by WHO.[5] This study also indicated that men and those who live in rural areas consume more salt than women and urban residents. This study also suggested the younger citizens' salt intake (aged 25–34 years old) was lower than seniors in the age-group of 65–70 years. Moreover, the highest salt intake was among men with 65–70 years old with an average daily of 10.07 g/day.[5]

Investigating the incidence of high salt intake in all provinces revealed that citizens living by the sea in the north and south of Iran consumed the lowest amount of salt comparing to those who are inhibiting in other areas.[5] One reason behind this lower salt consumption could be the different dietary habits which consists of eating more spicy foods and predominately fish. Li *et al*. in their recent study indicated that disposition toward spices could reduce salty taste preference in the brain.[11]

Table 1. A review of studies measured salt intake in Iran

Table 1 presents a summary of the studies carried out in Iran regarding salt intake from 2001 through 2020. Authors included in this summary the place, sample size, measurement method, and the salt intake. A quick glance at the present table indicates that the lowest sat intake among Iranian (7.2–7.5 g/day) recorded in Sari and Rasht (two coastal cities in north of Iran)[12] and the highest rate reported in a recent research conducted in Yasuj (14.3 g/day).[13]

Worldwide salt reduction initiatives

The latest review on salt reduction initiatives around the world showed that 75 countries employed a national salt reduction strategy by year 2014.[6] The results of this study revealed the number of countries participated with different initiatives and are as follows:

- Product reformulations (n = 61)
- Consumer educations (n = 71)
- Front of pack labeling (n = 31)
- Interventions in public institution settings (n = 43).

Among all these countries which implemented above strategies, only 12 countries reported salt intake reduction, where UK, Turkey, and Finland showed more significant reduction compared with others (measurement tool was 24 hr urine).[6] Furthermore, the impact of salt reduction initiatives on KAB (knowledge, attitudes, and behavior) regarding salt was remarkable in UK, Portugal, Ireland, and Singapore.[6]

WHO and WASH are two organizations that had the most significant role in planning and implementing worldwide actions to reduce excessive salt consumption. At the Technical Meeting in Paris Elements held in the year 2006, all attended experts introduced a successful national program called WHO's Three Pillars.[14]

1. Product reformulation involving food manufacturers, distributors, and providers in reducing the salt content of commercialized foods and meals.
2. Consumer awareness and education campaigns raising awareness about the harmful effects of excessive salt consumption and educating consumers to read food labels to choose healthier options.
3. Environmental change by building an environment where choosing the healthiest foods is the easiest and most affordable option, e.g., through pricing strategies and development of clear labeling systems.

In addition to WHO's pillars, WASH as an international group was established in 2005 to share to the world the success of Action on Salt in lowering salt intake in the UK.[4]

Among the conducted strategies by different countries, UK actions were somehow leading. The UK programs began in 1996 with setting up an action group called Consensus Action on Salt and Health (CASH) by 22 experts on salt and blood pressure.[4] Since 2001, CASH has held an annual National Salt Awareness week to raise awareness of the dangers of a high-salt diet.[15] This event has now been running for 19 years with a specific theme for each year such as salt in diet in 2001, salt the forgotten element in 2002, salt and elderly in 2005, and salt and children in 2008.[16]

Another successful action of CASH was holding a four-phase consumer awareness campaign launched between 2004 and 2007 by the UK food standard

Table 1: A review of studies measured salt intake in Iran

Authors (publication year)	Participants age in years (sample size)	Place of study	Salt or sodium intake measurement method	Mean salt or sodium intake (unit)
Rahmani *et al*., (2001[37]	2-79 (644)	Ilam	Food Frequency Questionnaire	10.3 salt (g/d)
Azizi *et al*., (2001)[12]	2-79 (343)	Sari	Food Frequency Questionnaire	7.7 salt (g/d)
Azizi *et al*.,(2001)[12]	2-79 (340)	Rasht	Food Frequency Questionnaire	7.2 salt (g/d)
Rafiei *et al*., (2008)[38]	20-60 (912)	Isfahan	Sodium in 24-h urine collections	10.5 salt (g/d)
Nazeri *et al*., (2010)[39]	Over 19 (639)	Tehran	Sodium in 24-h urine collections and weighing method	7.6 salt (g/d)
Motlagh *et al*., (2011)[32]	18-45 (247)	Yazd	Urine sodium according to Kawasaki formula	10.09 salt (g/d)
Naghibi *et al*., (2012)[27]	Health centers visitors (416)	Sari	Food Frequency Questionnaire	12.8 salt (g/d)
Khosravi *et al*., (2012[40]	19-55 (2239)	Isfahan	Sodium in 24-h urine collections, 24-hour dietary record, and Food Frequency Questionnaire	10.32 salt (g/d)
Kelishadi *et al*., (2013[41]	3-10 (220)	Isfahan	Spot urine test and three-day dietary recall	2017 sodium (mg/d)
Mirzaei *et al*., (2014)[9]	20-74 (219)	Yazd	24-hour urine	8.75 salt (g/d)
Mohammadifard *et al*., (2017)[10]	Non-hypertensive adults over 18 (796)	Isfahan	Food Frequency Questionnaire data plus 24-hour urinary Na (UNa)	4309 sodium (mg/d)
Rezaei *et al*., (2018)[5]	25 over 70 (18624)	Iran	Lifestyle Risk Factors Questionnaire/spot urine sample for all individuals and 24-h urine sample for a subsample	9.52 salt (g/d)
Reyhani *et al*., (2020)[29]	Hypertensive adults (205)	Tabriz	24-hour urine	4049 sodium (mg/d)
Layeghiasl *et al*., (2020)[42]	Adult 25-50 (166)	Yasuj	Random urine collection method	14.34 salt (g/d)

agency (FSA). The first stage was to raise awareness on too much salt is bad for health. The second stage alerted adults to the fact that they should be consuming no more than 6 g of salt per day. The third phase focused on the fact that 75% of salt consumed comes from processed food and therefore consumers should check the labels. The final stage reinforced messages from the previous campaign phases while highlighted foods with "hidden" salt and offered practical solutions for reducing salt intake. Since launching the program in 2004, there has been a 15% reduction in 24-h urinary sodium (from 9.5 to 8.1 g/day) and decrease in salt content of processed foods.[15]

Despite the UK's successful program, AWASH (Australian division of World Action on Salt and Health) national campaign "Drop the Salt!" aimed to lower salt in food by 25%, raise consumer awareness about how a lower salt diet benefits consumers, and preparing foods packages with a clear salt content labeling. Many actions were taken through this campaign including an interactive event held with around 100 representatives from food industry, health professionals, academics and media, launched an android version of "FoodSwitch" app, and published tips on how to reduce salt intake using Twitter and Facebook.[17]

Salt reduction initiatives in Iran

The first initiative concerning salt reduction in Iran was introduced as part of a comprehensive educational and intervention program by the Hypertension Unit of Isfahan Cardiovascular Research Center on World Hypertension Day in 2008.[8,18,19] This initiative was implemented in two cities of the Isfahan province, namely Isfahan and Najaf-Abad. Many organizations cooperated with this program including the Vice-Chancellery for Treatment of Isfahan University of Medical Sciences, Municipalities of Isfahan and Najaf Abad, Isfahan health centers and clinics, hospitals, factories, offices, and Isfahan Radio and Television Broadcasting Service (IRIB). This program aimed to:

- Raise awareness in society toward hypertension, its relationship with salt intake, and how to prevent and control it.
- Encourage people to check their blood pressure regularly.
- Increase knowledge of health centers staff regarding efficient methods in treatment and prevention of hypertension (e.g., have a healthy diet and adequate daily salt intake).

Some of promotional activities performed over a ten-day period in this program were as follows:

- Planned and executed sports events such as mountain climbing and morning exercise with support of National Group Organization (NGO) and health experts while disseminating educational materials and training people how to measure blood pressure at home.
- Carried out a seminar for health experts about how to prevent and control hypertension.
- Broadcast messages through various programs in mass media such as talk show in local TV channel, radio ads, and crawler TV messages like "measure your blood pressure at home" and "decrease salt = decrease hypertension."
- Placed stalls in 30 health centers of Isfahan province to disseminate educational materials and provide free training on how to measure blood pressure.[8]

Another significant initiative in Iran was introducing national nutrition and food security policy (NFSPS) in 2015.[20] Its main goal was outweighing prevention rather than treatment by 2025. Some specific part of this plan was dedicated to reduce the salt intake by 30%, raise public awareness toward their nutrition, conduct a national salt, fat, and sugar reduction campaign, and persuade bakeries to reduce bread salt content by 22%.

Following approval of this policy, Iran's Health Ministry launched a nationwide campaign with the message "1, 2, 3 healthy foods" aiming to encourage a healthier public diet. The campaign aimed to raise public awareness about how to modify their diet to reduce the consumption of sugar, salt, and fat, which are the most important causes of cancer, diabetes, and cardiovascular disease. The campaign ran from September to December 2015 throughout the country.

Some of the implemented actions in this campaign were:

- Giving free diet consultation to public by 800 nutritionists at the healthcare centers.
- Holding training for the teachers, students, and their parents to inform them about healthy diet.
- Conducting training sessions in schools.
- Distributing educational materials (poster/pamphlet/booklet).
- Holding festivals at medical sciences universities all over the country.
- Launching outdoor advertising to promote healthy diets by the municipalities health departments through bus advertising and banners in the cities.

Moreover, the Supreme Council for Health & Food Security revised the standards of 14 food additives in 2016.[21] These additives included salt, trans-fats, and sugar, and manufacturers were urged to reformulate their products by reducing them. The council's recommendation also included introducing a "traffic light" food labeling scheme.

The components of comprehensive salt reduction campaign in Iran

In determining the principles of an effective intervention campaign, answering questions on why, who, what, how, where, and when is required.[22] The components of a comprehensive salt reduction campaign in Iran are given in Table 2.

1) Identifying the issue by SWOT analysis

Key components of a successful intervention program begin by thoroughly describing the current problems we have in designing a social marketing plan and implementing it. In another word, SWOT analysis gives us a better understanding of internal (strengths, weaknesses) and external (opportunities, threats) factors affecting our problem. Table 3 presents an overview of analyzing strengths, weaknesses, opportunities, and threats which health authorities in Iran face in executing a nationwide salt reduction campaign.

2) Identifying the target audiences and determining target group segmentation

Target audience literally affects any decision a communicator make in what, how, when, where the messages are presented. In identifying the target audience, the question of who is the most at risk is not enough. Additional considerations need to be considered. These considerations include: people's readiness to change, who benefits the most, level of vulnerability, easy to reach, and impressive to other audiences.

Despite the segmentation of target audience, it is required to describe audience by features such as the socio-economic status, attitudes and behaviors related to salt consumption among other things.

As the findings of recent study conducted in Tehran, one-third of participants (women) were in the pre-contemplation stage and mostly prepared (contemplation and preparation) to change their behavior regarding salt intake.

Trans-theoretical model (stages of change) describes the process of changing behavior and the level of readiness to change until maintaining the changed behavior. The stages include: pre-contemplation, contemplation, preparation, action, maintenance, and termination.[23,24]

Therefore, it is recommended to raise the awareness of the whole population targeted in this campaign and lead them to change their wrong behavior in salt intake. However, for a more effective result, particular groups could be emphasized. For instance, as mentioned before salt intake among men particularly seniors and rural area population are higher than women and urban residents.[5] Consequently, these following groups are recommended to target as the main audiences for delivering campaign messages.

- Men (as the highest consumers of salt specially when eating)
- Women/mothers (due to their responsibility in preparing family meals and mostly add salt while cooking)
- Children (easily adoption to a healthy diet and effecting on their parents as well)
- Senior citizens (more vulnerable to disease and accessible in retirement houses)
- Rural residents (low health literacy and higher salt intake).

3) Determining communication goals and objective

The ultimate goal of any health promotion campaign is to increase people's understanding toward various types of diseases and to encourage them in modifying their lifestyle and consequently stay healthier. One key point to achieve this goal is that all the actions in campaign should be established based on a theoretical context. Hence, it is recommended to use three main theories as an effective

Table 2: Components of comprehensive salt reduction campaign in Iran (at a glance)

Variable	Action/result
SWOT analysis	Identifying internal (strengths, weaknesses) and external (opportunities, threats) factors contributing in designing and implementing a social marketing plan regarding salt intake reduction
Identifying the target audiences and determining target group segment	Focusing on all Iranians as target audience, due to findings of previous studies which indicated the majority of people are in the level of pre-contemplation regarding salt intake and its risks.
	Plus, highlighting on particular target groups:
	Men (the highest consumers of salt), women/mothers (due their responsibility in preparing family meals), children (due to easily adaption to a healthy diet and their impacts on parents), senior citizens (most vulnerable group of CVDs), and rural residents (low health literacy and higher salt intake).
Determining communication goals and objectives based on models and theories	Utilizing trans-theoretical model (stages of change), the health belief model, and the theory of reasoned action
Developing an executive plan	Establishing a national multi-sector scientific steering committee with a combination of partners/ stakeholders from various sections (e.g., government, health professionals, educators, broadcasting media, private foundations, corporations, and the food industry as a managing center of the campaign).
	Planning a four-phase campaign based on above-mentioned theories, including raising awareness, changing attitude and belief, inviting to take action, and maintaining a healthy behavior.
Designing communicative messages	Considering target audience groups (such as age and gender) and four campaign phases' goals.
Designing communication materials	Being creative and attractive to invite audience toward stages of changing behavior.
	Creating a visual/verbal identity which encompassed the essence of the campaign (in other word logo/slogan).
	Designing an animated character to motivate children and teenagers to follow campaign actions.
	Considering campaign phases and audience groups in creating media advertisements.
Media planning and promotional actions	Following an integrated marketing communication tool which refers to integrate various marketing tools in sending messages to audience.
	Not confining to a limited number of media; conversely, benefit each medium capabilities to cover all target audience groups.
Determining campaign budget	It is an ideal choice that estimating budget based on all we need to implement a successful health campaign, not taking actions based on what we already can afford to invest.
Monitoring and evaluation	Guarantee the survival of the campaign with a regular evaluation and monitoring (e.g., per six months) which should be conducted in two steps; firstly evaluation the effectiveness of plans before implementing actions, secondly evaluation of the campaign in terms of media effectiveness, model evaluations, and health status changes.

guideline for setting up objectives, campaign phases, and evaluating actions namely. These theories are: stages of change,[23] health belief model,[25] and the theory of reasoned action.[26]

In investigating Iranians salt consumption pattern, a study evaluated knowledge and attitudes toward salt intake among 416 residents of a northern city in Iran. The results indicated that almost 53.67% of the respondents had knowledge of the ways salt enters the body, less than 40% had attitude, following 47.4% behavior toward salt intake.[27] However, another study conducted by Kamran *et al*. highlighted a below average level of knowledge regarding salt intake among 215 female residents of Ardebil.[28] Unfortunately, the majority of people in both studies believed that food without salt is tasteless and agreed with adding salt as a necessary item on the table. Reyhani *et al*., in their study among hypertensive patients, revealed this salt intake pattern (adding salt at the table) is more frequent between men.[29]

According to a recent study carried out among 561 female participants in Tehran, only less than half of them were ready to change their behavior in reducing salt intake. Pirasteh *et al*. suggested that most women preferred adding salt during cooking instead of adding during eating.[29,30] The evaluation based on stages of change showed that 31.9% were in pre-contemplation, 22.3% in contemplation, 18.9% in preparation, 8.2% in action, and 18.7% in maintenance.[30]

In general, salt is a key flavoring ingredient in Iranian cuisine and their food habits, which may contribute to their higher salt intake.[13] As a result, variety of perceived salty food is consumed which include pickles (it tastes salty in comparison with other countries), roasted nuts, snacks (chips, puffs, etc.), cheese, yogurt, yogurt drinks plus a variety of sauces and pastes such as tomato paste, pomegranate paste, and other local salty sauces.[31] Moreover, the majority of salt intake based on previous

studies rooted in adding salt to food while cooking rather than eating.[32]

With consideration of consuming salt twice and in some cases triple[13] as recommended by WHO among Iranians, the following major objectives for any initiative are recommended:

- A gradual 50 percent reduction in salt intake
- Raising awareness regarding the risk of excessive salt intake and its role in increasing the cardiovascular diseases
- Informing about permissible salt intake (5 g/day).
- Promoting less-salty taste preference
- Persuading to incline to other substitute for salt
- Encouraging to modify their salt intake pattern
- Developing better label-reading skills among consumers
- Supporting and sustaining the changed behavior among people.

4) Developing executive plan

Before commencing any action, a managing center (a national multi-sectors scientific steering committee) with a combination of partners and stakeholders from various sections (e.g., government, health professionals, educators, the media, private foundations, corporations, and the food industry) should be established. Each section should introduce a reliable member to participate in meetings and corporate in making decisions.[33] This committee is required to hold regular meetings to determine the duties and responsibilities of each partner, plus asking reports from their implemented actions. This integration and coordination among the stakeholders could ultimately result in a successful interventional program.

For achieving the purposes and objectives of any campaign, all executive plans should be divided into different phases.[34] A four-phase campaign is designed [Table 4] which acts as a guideline in making all decisions, from designing messages and producing educational/promotional materials to the media for delivering messages.

5, 6) Designing communicative messages and materials

The primary considerations in writing the content of educational and communication materials are to be

Table 3: SWOT analysis and reduce salt intake

Variable	Action/result
Strengths	Availability of professional experts in health sectors to train and raise people's awareness regarding salt intake and resulting diseases
	Nearly all products equipped with traffic light label to estimating the amount of salt intake by consumers
	Already some processed foods contained too much salt have been reformulated
Weaknesses	Lack of a permanent strategic plan to reduce salt intake in long term
	Lack of continuous national studies regarding salt intake, salt habits, etc.,
Opportunities	Raising health literacy among people
	Attention of health authorities and government to tackle the health issues
	Existence of high council for health and food security presided by the president of Iran
	The potential of social media (celebrities, influencers) to impact people's attitude and behavior
Threats	People's taste preference to salt in most traditional dishes
	High consumption of fast foods, snacks, and nuts
	Lack of permanent control over producing and promoting high salty products
	Growing number of Iranians who suffer from hypertension and prehypertension

Table 4: Executive plan of salt reduction campaign in Iran

Stage	Main goal	Secondary objectives
Phase one	Raising awareness	Emphasizing the number of fatality as a result of cardiovascular diseases
		Educating the relationship between excessive salt intake and various diseases like elevated blood pressure, stomach cancer, etc.
		Acknowledging the major sources of sodium in diets
Phase two	Changing attitude and belief	Excessive salt intake threats our health (what happened if I don't reduce salt intake?)
		Positive outcomes associated with reducing salt intake (what happened if I reduce salt intake?)
		Giving motivation to change their wrong attitude and belief
		Helping to identify barriers to reducing salt intake
Phase three	Invite to take action	Motivating to check product labels for lower-salt options while shopping
		Replacing other substitutes with ordinary salt like sea salt
		Supporting to estimate their daily salt intake
		Introducing new methods in cooking with less salt
		Encouraging to change their diet/eat more vegetables/fish
		Inviting to eliminate salt shaker on the table
		Raising people's confidence in reducing salt intake
Phase four	Maintain healthy behavior	Reminding the valuable change, they made in reducing salt intake
		Supporting participants to maintain their less-salty diet
		Persuading them that going back to previous behavior seems weird

appropriate for each target audience group (age, gender, etc.) and campaign phases (raising knowledge, changing attitudes/beliefs, or behavior).[33] The messages could describe the risks of excessive sodium intake, required actions to tackle the issue, and the best methods to modify salt intake, for instance:

- To raise awareness, it could say "About a fifth of our people in country suffers from hypertension."
- To change attitudes/beliefs, it could say "Worried about your health?… Consume less salt."
- To change behavior, it could say "Remove salt from table." Or "Read labels every time purchase."

Designing materials is a creative part trying to reach the audience through the most effective and attractive visual appearance. For being successful in a promotional campaign, a creative concept should be developed.[35] This concept is then repeated across every promotional materials of campaign, like the UK's Sid the Slug. The requirements of this part include:

- Brand Image and Identity: making a visible image of brand through using elements such as colors, design, logotype, name, and symbol. This image not only distinguishes the brand in the audiences' mind, but also acts as glue that holds all promotional actions of a campaign together.
- Slogan: creating a memorable, short, jingle, well-written, and relevant to target audience by utilizing from the deep ocean of Persian literature proverbs related to salt.
- Character design for children and teenagers.[35]

7) Media planning and promotional actions

For implementing a nationwide campaign, it is essential to follow an integrated marketing communication which refers to integrate various marketing tools to send messages to audience.[22] This strategy does not confine to a limited number of media but benefits from each medium capability to cover all the target audience groups. Besides, delivering communication materials to the target audience should be planned at the right time and right place. The communication tools and channels are as follows:

- Print media: newspaper, magazines, pamphlets, booklets-leaflets, etc.
- Broadcast media: TV, radio
- Outdoor advertising: poster, billboard, point of purchase, etc.
- Digital: websites, social media, mobile app, games, etc.
- Public outlets: conferences, entertainment programs, and competitions.

8) Determining campaign budget

The campaign budget is the most important part of the campaign, and there are approaches to fund it. The first approach is through annual budget given by government to the Ministry of Health and Medical Education (MOHME) for health promotion. The second and a more ideal one is through a sponsor that can support the whole campaign budget. The first choice could limit the extent of our goals and makes us to think economically and to implement actions selectively. However, second one is more ideal and gives us freedom to fulfill our goals.[35]

In developing campaign budget, the following costs should be considered:

- Management and executing staff's payments (headcounters, advertising team, events planners, etc.)
- Elementary researches, pre-testing, evaluation, and follow-up costs
- Creation, production, and dissemination of promotional/educational materials charges
- Media distribution (prices of time/place specified for delivering advertisements on media)
- Conducting events
- Training ambassadors and staffs.

9) Monitoring and evaluation

Monitoring the progress and evaluating results on a regular basis (e.g., every six-month) guarantee the survival of any campaign. Before taking any action, all strategies, tactics, and executive plans need a thorough review by experts to prevent any possible mistake in carrying out the campaign. After introduction of campaign, evaluation should be classified into two steps; first, assessing the effectiveness of plans before implementing actions, and second, evaluation of the campaign in terms of media effectiveness, behavioral and health status changes.[36]

In assessing media effectiveness, variables such as awareness (audience ability to recall campaign messages in four levels) and media exposure (seeing/hearing/reading campaign messages) are recommended. Evaluating behavioral changes requires to compare people's attitude/belief/intention before and after campaign plus their readiness level toward accepting salt reduction campaign. Besides, changes in health status (comparing the changes in the average salt intake of adult population by measuring 24-h urinary sodium) and morbidity and mortality levels in adults (hypertension, stroke, and other cardiovascular diseases rates, before and after campaign) could consider as a follow-up study.[33]

Conclusion

Constantly increasing the number of people suffering from cardiovascular diseases (as a result of excessive salt intake) warns governments all over the world to tackle this issue by taking effective actions. Hopefully, plenty of strategies were introduced, and numerous successful actions were implemented globally through intervention programs, awareness campaigns, mandatory regulations, and voluntary supports. However, despite the high amount of salt intake in Iran (about 10 g/d) associating to numerous diseases, all previous interventional and educational initiatives have not been resulted effectively in reducing salt intake. Therefore,

by reviewing global initiatives and considering Iranian eating habit and their readiness stage to change wrong behavior, a comprehensive Salt Reduction Campaign with nine steps recommended: SWOT analysis, identifying the target audiences and determining target group segment, determining communication goals and objectives based on models and theories, developing an executive plan, designing communicative messages, designing communication materials, media planning and promotional actions, determining campaign budget, monitoring, and evaluation.

Ethical issues

This study was approved by NIMAD ethical committee, and the number is: IR.NIMAD.REC.1397, 134.

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Authors' contributions

FS and HP designed the study; HP, FA, and ML gathered the data; HP and FA provide first draft of the manuscript, and the last version of manuscript has been read and confirmed by all authors under supervision of FS.

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Conflicts of interest

There are no conflicts of interest.

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