

Challenges of Disaster Assessment of Readiness and Training Guideline (DART) in Iran's Primary Health Care

Abstract

Background: DART (Disaster Assessment of Readiness and Training program) is one of the five Disaster Risk Reduction Management Programs (DRRMP) in Primary Health Care (PHC) of Iran. The guidelines for this program have not been revised in more than 10 years. The aim of this study is to critically evaluate the current guideline. **Methods:** This was A qualitative research by Focus Group Discussion (FGD) using the Eisner's educational connoisseurship and criticism model performed in Isfahan Medical Sciences University, Iran during 2024. The study population included seven experts who are familiar with the DRRMP and Eisner's model. Sampling method was purposeful and the FGD group members were selected by the researcher. Data collection was done through 1) WHO handbook for guideline development, 2) WHO Health Emergency, Disaster Risk Management Framework (H-EDRM), 3) A new framework of Primary Health Care (PHC) disaster preparedness and 4) Comparison of DART guideline with Stanford, FEMA and British Columbia household preparedness guidelines. **Results:** In this study, four main categories were found in the educational criticism of the DART guideline: simplicity in design and development, lack of layout in pages and lack of user-friendly features (descriptions), sharp visual and content criticism for the minimum essential context of a guideline (interpretation), Little conformity of visual criteria and relative conformity of content criteria with global samples (evaluation). Finally, Thematic phase indicated that current guidelines do not meet the expectations of health care providers (HCPs), effective educational promotion of guidelines is needed, and adaptation to lifestyle and cultural customs and actual educational needs were also issues that could be considered. **Conclusions:** Visual and content criticism based on Eisner's model showed some of the basic components of the formulation and implementation of a guideline. Modifying and revising the DART guideline based on this information and scientific processes and continuous needs assessment can create an effective result in the development of improved guidelines.

Keywords: Connoisseurship and criticism, disaster, disaster planning, Eisner's model, focus groups, primary health care, program assessment

Introduction

A Health System comprises all organizations, institutions and resources whose primary intent is to improve health. In most countries, the health system is recognized to include public, private and informal sectors.^[1] Primary Health Care (PHC) is essential care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination.^[2]

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Health education is considered the most important component of PHC.^[3] Health education is one of the most important parts of health promotion provided by Health Care Providers (HCPs), which aims to influence the behavior of people attending health centers, through formal and informal activities.^[4] HCPs (health workers, health experts, midwives, community health nurses) and Behvarzes (Multi-professional health workers at the health center or community health workers) are responsible for providing health-related education and services in Iran.^[5,6]

The Disaster Assessment Readiness and Training Program (DART) as one of the five Disaster Risk Reduction Management Programs (DRRMP) is the only disaster risk management program in Iran's

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Hamzeh Zarei,
Mohammad H.
Yarmohammadian¹,
Nikoo Yamani²,
Golrokh Atighechian³,
Fatemeh Rezaei¹

Department of Health in Disasters and Emergencies, Isfahan University of Medical Sciences (MUI), Isfahan, Iran, ¹Department of Health in Disasters and Emergencies, Health Managements and Economic Research Center (HMERC), Isfahan University of Medical Sciences (MUI), Isfahan, Iran, ²Medical Education Research Center (EDC), Isfahan University of Medical Sciences (MUI), Isfahan, Iran, ³Social Determinants of Health Research Center, Isfahan University of Medical Sciences, Isfahan, Iran

Address for correspondence:
Prof. Mohammad H.
Yarmohammadian,
Department of Health in Disasters and Emergencies, Health Managements and Economic Research Center (HMERC), Isfahan University of Medical Sciences (MUI), Isfahan, Iran.
E-mail: hossyar74@gmail.com

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Ministry of Health and Medical Education (MOHME) that is in direct contact with the people in PHC system.^[7] In 2014, for the first time, according to the beginning Health Transformation Plan (HTP) in the Islamic Republic of Iran, Ardalan *et al.*,^[8] prepared the guideline for the household preparation education and training program. In this 29-page manual, the implementation guidance of the program has been carried out by the health team including HCPs in the network system the main audience of the health team was the Heads Iranian Households (HIH) according to the DART program, who were the women of the family or mothers who were introduced as the heads and were considered the main and final recipients of training and evaluations. Annual disaster assessment and education of Iranian households is one of the important components of the integration program of DRRM in the health system. The basis of evaluation in this program is the household disaster preparedness index. The education/training of this program is based on three tools: drawing a participatory risk map at home, frequent questions and answers, and triple educational boards. All the training of this program to HIH is done verbally and by asking 15 questions for risk assessment.^[9]

Eisner Educational Criticism Model

The Eisner Educational Criticism Model was developed by Eisner, who is recognized as one of the world's leading advocates of the arts.^[10] Eliot Eisner (1976) introduced a new model called educational criticism, which is one of the forms of qualitative research, the implementation method of this model is given in Eisner's Journal of Aesthetic Education.^[11] Eisner's model consists of two components: "connoisseurship," which is the ability to make fine discriminations between complex qualities, and "criticism," which means revealing the perception of the same complex qualities obtained by the expert.^[12,13] "Educational connoisseurship and criticism" research method has been used to criticize the DART Guideline. This research method is qualitative and is done in four stages: description, interpretation, evaluation, and thematic.^[14] "Description" means depicting the existing qualities, and basic and important facts of the educational phenomenon, as well as the wider context in which it is located. Eisner explains that the verbal proposition should be sharp in the descriptive dimension. Therefore, like art criticism, in educational criticism, while explaining the aesthetic dimensions of evaluation, language, and form of speech are used as emphasis.^[11] "Interpretation" means attributing meanings to situations with criteria obtained from historical context, different scientific theories, and other cases. The interpretive dimension of educational criticism is related to trying to understand the meaning and importance of many activities in the social environment. This dimension shows expert knowledge in using multiple theories, perspectives, and models when interpreting activities in that educational

setting.^[15] the evaluative aspect has to do with critically evaluating the educational significance of the discourses described and interpreted in questioning what is taken for granted, drawing attention to the complexity of educational events and the possibility of alternative interpretations. In so doing, the critical task of educational criticism lies not only in the deconstruction of educational discourses but also in their reconstruction by offering alternative interpretations to guide future educational actions. The two concepts of connoisseurship and criticism complement each other. They are combined through the common aspect of evaluation, where the educational value of an activity is in focus. Thus, educational criticism directs attention to the qualitative, rather than quantitative, aspects of schooling, asking the question 'What is the educational import or value of what is going on?'.^[14,16] Thematic dimension: The final dimension of educational criticism provides the reader with larger lessons that a criticism will offer.^[17] Thanks to this dimension, researchers provide the reader with the main themes that can guide future observations of education subjects. These themes offer new theories or guidelines to help readers understand and evaluate the educational environment and/or pedagogy.^[18]

Khanipoor *et al.*^[19] conducted an evaluation study educational program in the Master of Medical Education by Eisner's educational connoisseurship and criticism model. The results of the evaluation by this model show that this curriculum has advantages and disadvantages in the constituent elements of the program. the strengths of this study include the suitability of this field for professors, and its positive impact on professors and students, performance in the classroom. considering the weaknesses, reviewing the curriculum based on the main part of program, the outcomes, curriculum content, teaching strategies, student assessment, and course management are recommended.

A study was conducted by Kaysi *et al.*^[20] in 2017 entitled, "Educational Connoisseurship and Criticism: Evaluation of a Cooperation Model between University and the Sector on Vocational Education". As a result of the study, it is found that participants were satisfied with the course, the staff need of the sector was fulfilled, the learners had sector knowledge, and the aim of the teaching process included practice opportunities in the sector. Besides, highlighting the cooperation between the sector and the university and keeping educational programs up-to-date was another expectation.

Proitz and Nordin also in a study entitled, "Learning Outcomes in Scandinavian Education through the Lens of Elliot Eisner" examined the concept of learning outcomes, as interpreted in education policy, and discussed it within Eisner's framing of teaching and learning. The analysis contributes to a widened narrative of what education could be about by illuminating alternative ways of interpreting and conceptual learning outcomes in education.^[21]

Eisner's model has been used to evaluate school courses in different stages of study. The evaluation of English language program,^[22] Life science course,^[18] mathematics,^[23] and physics^[24] have been the subjects that use the mentioned model for their advantages and disadvantages. and it has been determined by educational connoisseurship and criticism methods.

Zafarmand *et al.*^[25] conducted an evaluation study in a Girls Elementary School to investigate hidden curricula in shaping behavior based on resistance economics. The results determined that the school follows resistance economics in the form of "avoidance of squander and luxe" and "thrift in consumer goods and energy." There is no clear effect on creating morale adequate to resistance economy. Based on findings, the necessity to develop a concept of resistance economy and act in all its layers is recommended for all in school.

According to the stated issues, this qualitative study was conducted to evaluate the DART guideline using Eisner's educational connoisseurship and criticism model, to identify the advantages and disadvantages of this guideline and its possible shortcomings to provide practical suggestions to improve the current situation.

Materials and Methods

This was A qualitative content analysis and case study method by Focus Group Discussion (FGD) and Eisner's educational connoisseurship and criticism model, performed in Isfahan Medical Sciences University, Iran in 2024. The study population included seven experts who are familiar with the DRRMP and Eisner's model. The sampling method was purposeful and the FGD group members were selected by the researcher. The study population included four faculty members, including two full professors in the field of medical education, an assistant professor who is proficient in DRRMP, and an assistant professor specializing in disaster and emergency training courses. one expert was the executive manager of the DRRMP in the city health center, one was the specialized and executive expert of the program, and one expert was the program liaison in the health centers.

All members knew the DRRMP well and also mastered the DART program. We listed all guidelines related to disaster for one month through a targeted search and consultation with mentors and advisors. Then we reached a consensus and finally determined the data collection. One week before the FGD, the guideline was thoroughly read by each member. The following questions were asked of the group members:

What is your description of the appearance and content of the DART guideline? How do you interpret and criticize this guideline in terms of content? What is your evaluation according to global examples of this guideline comparatively and analytically? What themes do you

consider to be the advantages or disadvantages of this guideline?

All FGD procedures were fully recorded and all conversations were retrieved and typed in the word program. data collection was summarized in descriptive dimensions and was finalized as a visual description of the guideline. In the description section, the guideline was introduced and its overall appearance was explained. The data obtained from the interpretation and criticism were also brought and considered in the content section. In the interpretation section, the structure, and positive and negative characteristics of the guideline were specified. the comparisons and evaluations were also integrated and reported in a classified manner. In the evaluation section, the content of the guideline was analyzed and judged. Finally, the themes obtained for the criticism of the guideline and the introduction of the advantages and Disadvantages and possible solutions were used. data collection of the thematic stage was done through:

1. WHO Handbook for Guideline Development,
2. WHO Health Emergency, Disaster Risk Management Framework (H-EDRM),
3. A new framework of Primary Health Care (PHC) disaster preparedness and
4. Comparison of DART guideline with Stanford, FEMA and British Columbia household preparedness guidelines.

In the end, the desired themes were obtained from qualitative content analysis in FGD. With the data obtained in the research, the Educational Criticism Model of Eisner, an expert program evaluation model, was considered to evaluate the DART guideline. In this study, guidelines are defined as a written document containing processes and procedures for guiding, providing and managing health services issued by the Ministry of Health. Four dimensions of the mentioned model are given in Table 1 and the research design is shown in Figure 1.

Results

In this section, the DART guideline is evaluated according to the Eisner Educational Criticism Model and they are as follows the titles of the model, "description, interpretation, evaluation and thematic". Themes created according to the coding obtained through a thematic content analysis were interpreted.

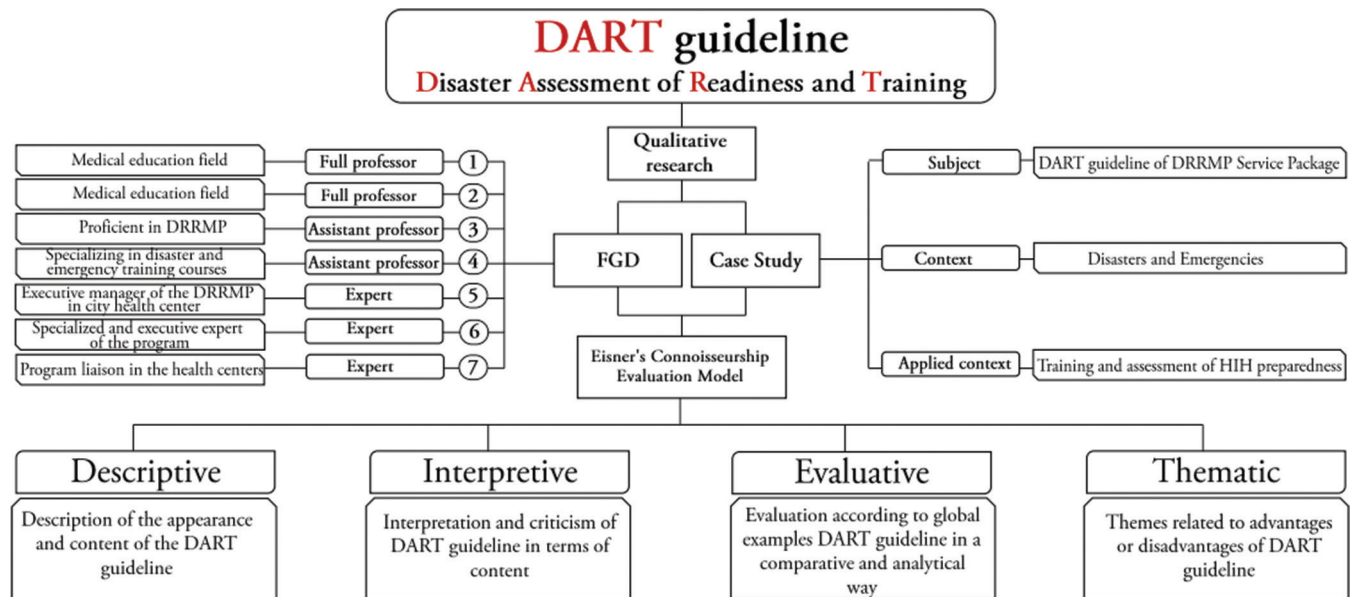
Description

Service package

DART guideline, part of Disaster Risk Management Programs in Network Health System (DRMPNHS) with the title "Service Package in Level One" following the implementation of the Health Transportation Plan (HTP) in the Ministry of Health, and Medical Education (MOHME) of Islamic Republic of Iran, for the first time was published

Table 1: Dimensions of main reflecting four qualitative actions

Dimension			
Descriptive	Interpretative	Evaluative	Thematic
Describing the current state of the guideline, informing about the appearance, features, and attributes, discussing about aspects and the brief impression of the guideline and program.	Attempt to understand the meaning and significance of many activities (including DRRM, education, and training and assessments) in program execution environments for households.	Educational significance and effect of the interpreted experience/ activities are evaluated. some educational criteria to judge about the experience. addresses the normative feature of educational criticism.	Provides the reader with larger lessons that a criticism will offer. researchers provide the reader with the main themes of standard guidelines. offer new theories or guidelines to help readers understand and evaluate the educational and executive PHC environment.

**Figure 1: Research design**

in 2014. The service package of DRMPNHS consisting of 101 pages includes the five guidelines, which consist of DART guidelines from pages 13 to 35. Other program guidelines related to DRMPNHS in this package include Disaster Surveillance System (DSS), Emergency Operation Plan (EOP), Safety And Risk Assessment (SARA), and Structural and Non-Structural Safety (SNS).

DART guideline

The DART guideline contains material that guides HCPs in assessing and educating household readiness. This content is very brief (This means that the amount of content included in the guideline is very brief and limited, and only one line of explanation is provided for some content.). Number of pages of this guideline is 29 pages. There are no changes or revisions to the DART guideline until June 2024. The DART program deals specifically with the public. On page 13, the reason for program naming is specified. The different levels of DRRM and DRR education to the general public are like circles that together form a “darts sport” [Figure 2]. In the DART program, special attention has been paid only to the first and second circles (individual and family levels) and addressing other levels is considered for the future. The DART guideline doesn't have a table of

contents. There is no layout and the pages are frameless. Many pages are left blank (pages 11, 12, 14, 20, 21, 22, 24, 27, 28, and 29) and only a short paragraph is allocated for some content (pages 14, 20, 28, and 29). This guideline doesn't have a footnote and a list of sources and references is not intended for it. The connection of the contents with the attachments isn't mentioned. Except for the cover image, there is only a color image on page 27 for firefighting. Finally, DART guidelines are a prototype and are designed very simply and concisely, in addition to being distributed and published in the health system with minimal visual and advertising creativity.

Interpretation

DART guideline visual criticism

DART guideline cover design is very simple and has no graphic background. The font used for guideline title is “B-Mitra20-Bold”, which isn't the usual font for cover titles. Intention of bringing 8 × 8 cm small image of the sport of darts in the middle of the first page is to visualize the name of the desired sport for this program. image quality, size and the lack of coordination and conjunction with the background color make this image not pay much

attention. The expanded title of the program based on its acronym, “Disaster Assessment of Readiness and Training”, is written in “Times New Roman (Headings CS), 22-Bold” font, which isn’t common for cover page. The entire English text on the cover has been tried to be distinguished in red and the letters that make up the word DART in black. But the preposition “OF” is also included in black color, which does not show a favorable appearance for describing and explaining the full name of the program. No part of DART guideline has publication year. Although it is customary to mention authorship time on the cover page or the first page. Not having a table of contents in this guideline will confuse the reader because benefiting from a suitable title’s list, makes it will create overview conditions and make it user-friendly for the readers. Lack of distinguishing colors and lack of creativity in page layout can overshadow its visual appeal. The use of appropriate conceptual images and the use of color educational images with acceptable quality and quantity are required, especially when the

author claims the same educational media to convey the concepts of the content to the users. These training images must first be well understood by HCPs so that they can teach HIH face-to-face. Certainly, face-to-face training requires appropriate skills. If the trainers themselves are not well justified in the beginning, they cannot teach their audience properly. The audience does not have any educational images and even the triple boards, which will be explained later, are only available to HCPs and training is done by showing these boards. Now, if there are no suitable pictures in the guideline that will benefit the trainer in the first step, and are effective for the audience in the second step, then we cannot hope for the effectiveness of the training. the pictures in the form of triple boards are at the disposal of HCPs, and they should show a suitable explanation for that panel and its importance by showing the panels to the audience. In each section, there is a need for specific images of the same subject with the same educational features. This is the point that is neglected in this guideline. visual training by benefiting from the best capabilities, can definitely guide users and audiences well in the training path and give an acceptable appeal to the guideline and the process of its educational implementation.

DART guideline content criticism

Not having a scientific source in guideline text makes the reader unable to refer to the more content, even the ability to study more in the discussed or claimed field isn’t provided for user, and finally user cannot have appropriate research-oriented activities. In fact, HCPs don’t have any means to scientifically justify the household head, especially they may have doubts about the contents written in the guideline. Scientific materials for disasters and emergencies are very specialized, receiving these materials and understanding them by the audience is different, especially when HCPs must go through preliminary and

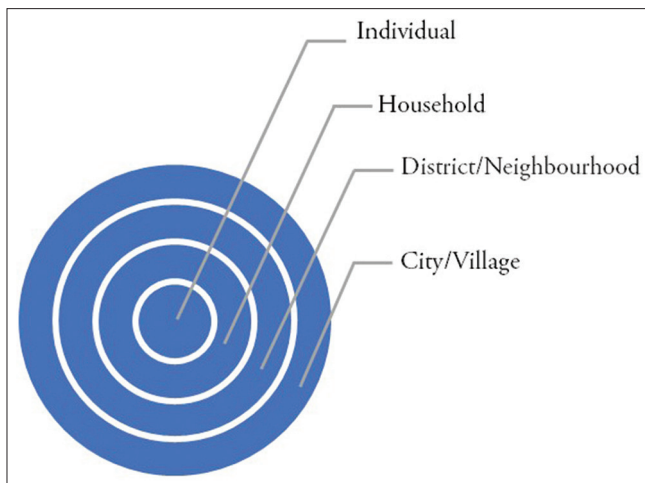


Figure 2: The reason for program naming (darts sport)

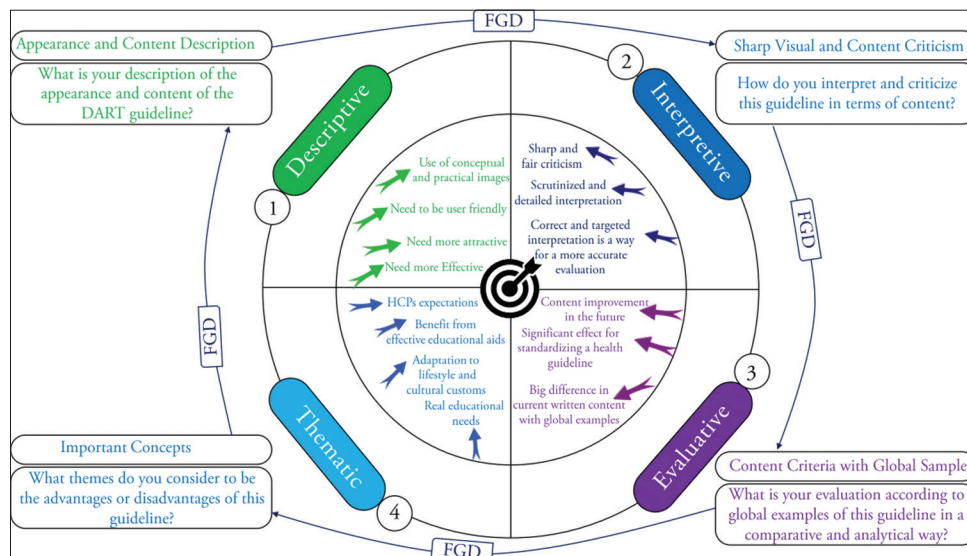


Figure 3: Schematic of overall results

supplementary training for each subject. In Iran's PHC system, it is difficult and sometimes impossible for an executive unit to spend many hours of training. so, if the current guide can have resources that can show the clues to the trainers when needed and lead them to receive more advanced training, it can be useful and valuable. Trainers should first master the content themselves and HHI will benefit them if needed.

Not using scientific resources and educational images/infographics, lack of additional explanation for some topics such as: (the DRRM cycle, differences in structural assessment), not paying attention to the all-hazard approach in Iran's health system, not defining some practical terms, are some of the disadvantages of program content. also, the contents of the DART guideline cover the main parts of the guide for household education but it has been tried to state the minimums. Most of the content is short and concise.

Educations/trainings show the path, but it does not explain well how to go through this path. Using the term "Disaster Vaccine," benefiting from household meetings, household preparedness maneuvers, and drawing a risk map with the cooperation of all family members are some of the advantages of program content.

Visual design

DART guideline design is very simple and ordinary. It does not have the expected appeal and is not user-friendly. Considering the newness of DART in its time, the attraction of contacts or users should be prioritized. In some parts, there is a suitable space for more explanations or bringing an explanatory table or conceptual forms or creating a link to attach the contents, but these spaces have not been used.

Introduction

No source is mentioned for the statistics and levels of household readiness and these statistics are stated without context. the importance of the issue is expressed by bringing the number of people killed in disasters, which is still without a source. The position of the network system has not been explained with scientific facts and reliable sources, including articles or books in the field of DRRM. The image of the pedestrian line is recognized only by the text description. While the purpose of bringing it, according to the author, was to recognize and understand at a glance, at the bottom of page 2, we are faced with a black and white image:

"What do you remember when you see the picture below? Yes, the pedestrian lane. This picture is one of the best educational models".

Here, at first glance, the image is not seen as a pedestrian line, and the text should be referred to to create this feeling in the viewer. There is no frame for the image and no caption or description for it. despite the author's claim, who considers this image to be one of the best educational

models, no source of scientific truth or explanatory subtitle can be seen for this claim. The methods of using guidelines and their tools are given without background or general introduction or even related definitions for each.

Terminology

English equivalents for Persian terms are not provided. There are no images to visually explain the definitions. In this section, the authors violate the claim of the previous section and only deal with the definitions of the words without using educational images. The classification of hazards into two categories—natural hazards and man-made hazards—is given with related but very brief examples. The definition of the term DRRM cycle is very brief and without proper explanation. The cycle figure could be helpful in this section to understand the content.

Disaster vaccine

"Disaster Vaccine" is a unique title. The same title was given earlier in the introduction section on the second page of the guideline. This time, however, the disaster vaccine is described by comparing the injection process of other common vaccines. Here, the safety criterion is the main factor for describing targeted training. Even the effective period of conventional vaccines is compared with the effective period of family preparedness education against disasters, and it is stated that a long time should be considered for the effect of these educations.

Second paragraph of the second page:

"To inject disaster vaccine into the family, we have to act delicately."

Before and after this sentence, there is no explanation about the disaster vaccine. The meaning of disaster vaccine injection in this text is that education/training should be simple and understandable, and the simpler we teach for households, the easier and more successful it will be to understand. In the guide, this section is explained in more detail below. Here it is pointed out that:

"People prefer to be educated with images and take an active role in their education, not just a listener. For this reason, three main methods are used to educate families": drawing a participatory risk map at home, frequent questions and answers, and triple educational boards.

The content of the program intends to prepare an opportunity for users to understand learning importance for all categories of people, even children, young and old people with different levels of education and various economic, social, and cultural differences. In this way, anyone in the society can easily have a similar and correct understanding of the contents or the training provided. In DRRM approaches section, the author asks a question like this:

"What does the world experience about disaster risk management approaches?"

Global experience for benefiting from people's presence in DRRM is mentioned and government-centered, people-centered, and participatory (government and people) approaches are presented. The author even asks the reader to express his opinion. However, in this section, there is no appropriate description for these approaches, these approaches aren't compared for their strengths and weaknesses, and the advantages or disadvantages of each are not explained.

Program naming reason

Here, for the first time, the levels of providing education or "Immunity" are expressed, and these levels are shown in the form of Siebel circles in the darts sport [Figure 2].

"This figure is the reason why this program is named as Dart. These levels with the general name of "safety levels" are intended for the individual, family, neighborhood, city, and village."

Siebel Center focuses on education and its effects on an individual. It is stated in this section that:

"If we want to have individual education, we should consider studying about earthquakes, getting familiar with the actions that a person should take during an earthquake."

The next circle of Sibel is the safety level in the household. This circle surrounds individual safety levels and shows that household-level training can be wider, more important, and more valuable than individual-level training (household immunity is more important than individual immunity) Conducting an earthquake maneuver in the family, drawing a participatory risk map at home is one of the things that must be implemented at this level of immunity obtained from the disaster vaccine, or better said, it should be done by a household. The next circle is the neighborhood safety level. Determining people gathering, creating relief equipment places, and forming local relief teams, are among the tasks of this level. The neighborhood safety level circle surrounds the household circle, and in this way, the importance of this part is also visible. But the higher level is the city/village safety level. this level encompasses all other levels and includes supervising construction and equipping relief teams. In the table given on page 12 of the directive, while introducing different safety levels for disaster education and community immunity with disaster vaccines, HCPs are requested to give their examples, because this is part of the learning process. By bringing a sentence at the end of this page, the author expresses all that should be done in the future:

"In this program phase, our focus is on the individual and household level"

(That is, the small arrow in our hand must hit the middle point of the Sibel). The author clearly states that:

"In the next step, in cooperation with local authorities such as the municipality, Basij (an organization for people mobilization), Red Crescent, mosques, etc., we will deal with the neighborhood, city, or village levels".

By presenting the initial explanations and the things that have been stated in this guideline finally states his purpose of choosing the name of the program, but does not explain that the abbreviation of words is also considered for the name of the program.

Household meetings for preparedness planning in disasters

Encouraging family planning meetings against disasters with the presence of all family members, sharing personal feelings and opinions, empathy, and home management, creates a group education. How the culture of creating family consensus should be formed what quantity and quality these meetings should be held and exactly what actions should be taken to create such meetings are not mentioned in this guideline. This is the household head who will be responsible for holding annual meetings (preferably every three months). The fact that the implementation of such meetings is foreseen in the guidelines is a positive and worth emphasizing, but the characteristics of the meetings and their content, and especially how to create such meetings, have not been stated. We must consider that in every region of Iran, this issue is different and unique. On page 23, the title of Household Maneuver Design is given, which is also very useful for household education. It is mentioned that this maneuver does not take much time from the household, but he did not mention the minimum and maximum time for it. Even using the word "maneuver" instead of "exercise" is surprising, because there are many differences between these two words. The family's compliance with these exercises, how to justify the implementation of the maneuver, its practical and objective examples in Iran and outside of Iran, and reference to visual or animated or even real examples or educational videos, none of them have been mentioned in this section.

Drawing a participatory risk map at home

The fact that risk map drawing skill is so simple and accessible that it can be completed with the cooperation of children and with children's drawings is one of the milestones of this section. The authors have only mentioned this amount to develop this skill, but haven't explained how the HCP can use their creativity to involve the family in drawing a risk map or how to encourage children with simple drawings for this important part. For these cases, there was no discussion and even no source was mentioned: How was the drawing of the risk map in the studies of different countries? How did this issue happen in Iran? What methods can be used to teach or encourage to draw a map? How have the effects of these maps been evaluated? Have these maps been reviewed and used by researchers,

officials, health custodians, or people or families? The absence of one or two samples of the completed map or the lack of a drawing of a complete map in this section has left many unanswered questions in the minds of the readers.

Structural and Nonstructural risk assessment

There is no explanation given in the guideline for the types of houses that are mentioned below, in fact, the structural and non-structural assessment of the types of houses are different and it is very important to pay attention to this difference:

An adobe house, a rural wooden house, a house without pillars and frames, institutional houses, rental houses, high-rise buildings and low-rise buildings, complex buildings, framed buildings, multistory buildings, and unreinforced buildings. Providing or facilitating or following up on the financial part of the credit part of structural evaluation has not been addressed.

In the guide there is this claim:

“Reducing the vulnerability of non-structural factors has little or no cost and greatly reduces death and injuries”

This is only comparison between formative and non-formative assessment in this guideline. No scientific source is given for the following claim:

“non-structural factors are death and injury caused by natural disasters”

The following questions have not been answered:

How many of these injuries are related to non-structural factors? Is it demarcation between structural and non-structural factors important? How can we understand these two assessments simply? no specific figures, training images or posters are provided to demonstrate non-structural vulnerability. There is no reference to the educational boards of non-structural safety in the program, for example, in board number two, (pictures 1, 2, 3, 5, 6, and 7), and in (pictures 8, 9, and 10).

Household emergency kit

Many important items that should be included in an emergency kit are not listed. The image of a bag/backpack/kit is not given for example. There is no explanation given for providing these items and simplifying their preparation and use or placing them in an emergency kit. The training to provide this kit or its importance for emergency cases is not stated.

Household communication program in emergency situations

No specific explanation has been given for the exercise of this program. household communication management ways or its improvement, even its updating according to modern technology (such as mobile phones and communication devices) has not been considered.

Home evacuation plan in emergency situations

Multi-story and single-story buildings difference for evacuation is given briefly, which is very useful:

“During an earthquake, take shelter only in the safe parts of the building, except in one-story houses where you are sure to enter the yard immediately”

Important points are also given during emergency evacuation, but there is an urgent need in this section for the HCP to establish a proper educational link between these points and educational board No. 1 (pictures 8, 9, 10, 11, and 12) and board No. 2 (picture 4).

Successful early warning system

According to the manual, the early warning system is defined as follows:

Fortunately, we can learn about the risk of weather hazards such as floods, storms, forest fires, etc. earlier, and ourselves and save our families This is called early warning.

Delineating the process of the early warning system, similar examples, and using effective images could have created a better space for the text of this section, but the lack of differentiation between early warning systems, the explanation of system performance, successful internal and external examples, and how other warning systems are accompanied in this section is not visible.

Fire extinguishing

This section has educational images and only these images are related to how to use fire extinguishers, but these images are not of good quality. The following items are not covered in the text: There is no nearest exit door in many buildings (emergency exit door), the definition of small and large fire, and the difference between a normal and electrical appliance fire. the steps to use the fire extinguisher (PASS) are given in English words. The fact that household heads don't all have English knowledge and because we will have an educational audience of heterogeneous groups is an important point of criticism in this section.

This refers to not using the elevator during the fire and using the stairs for emergency evacuation, closing the door and windows to limit the transfer of oxygen when things are on fire, and not holding liquid bottles during evacuation due to leakage or possible spillage. and paying attention to the authorities' order to return to the building is one of the positive, useful, and significant points mentioned in the DART guideline.

Medical first aid

Except for a short sentence that describes the importance of first aid, other parts of the page are empty. The lack of appropriate educational explanations and the lack of guide images in this section are criticized.

District/Neighborhood level disaster management plan

Only one paragraph is given in this section and it is a recommendation to all family members who:

“Actively participate in the administrative, educational, and relief stages of the neighborhood, because this participation and helping the neighbors and fellow locals are very attractive and enjoyable”.

The lack of neighborhood definition and interactions at its level, the functions of societies in old or traditional neighborhoods, and the neighborhood-centered nature of some cultural and value activities in the past and in Iranian-Islamic rituals are not given in this section. The impact of all these things on disaster risk management is not explained in this section.

Evaluation

Compared with The WHO Handbook for Guideline Development

The WHO Handbook for Guideline Development, Second Edition states that a guideline is any document developed by the World Health Organization containing recommendations for clinical practice or public health policy. A recommendation tells the intended end-user of the guideline what he or she can or should do in specific situations to achieve the best health outcomes possible, individually or collectively. It offers a choice among different interventions or measures having an anticipated positive impact on health and implications for the use of resources. Recommendations help the user of the guideline to make informed decisions on whether to undertake specific interventions, clinical tests, or public health measures and on where and when to do so. Recommendations also help the user to select and prioritize across a range of potential interventions.^[26] A guideline contains processes and procedures intended to guide health service delivery. However, the presence of guidelines may not guarantee their implementation, which may be a result of weaknesses in the development process.^[27] The DART guideline is a health guide intended for service delivery by the HCP to the HIH. Nearly a decade has passed since the formulation, design, and implementation of the DART guidelines, it has brought many positive and negative consequences. In this section, while comparing the principles of developing a standard guideline, based on the recommendations of the WHO, what should be close to the example of the WHO is first introduced with a perfectionist view, and then a realistic view replaces the previous view and possible minimums for DART have been evaluated.

In a table entitled: “Characteristics of the types of guidelines produced by WHO”, four types of guidelines for health programs are introduced. According to the definitions given in it, the DART guidelines seem to include Interim guidelines, which are defined as: produced when asked to

provide guidance when the available data and information are most certainly incomplete, especially if additional data are anticipated in the near future. Interim guidelines usually have a very focused scope and a short shelf life. They should always clearly indicate when additional evidence affecting the interim recommendation(s) is expected to be reported, and thus when an update is anticipated. Although the target audience or other stakeholders may demand that interim guidance be generated quickly, this type of guideline fully complies with all processes and procedures and meets the standards set out in this handbook.^[28,29] The DART guideline is an Interim guideline because the data and information are still incomplete and there is a possibility of knowledge development in the field of disaster preparedness in the future, its updating is definite and certain. This guideline was quickly developed at the request of the stakeholders in MOHME due to the initiation of HTP and it was tried to be consistent with all procedures and processes of education/training and household preparedness in the field of disasters. However, there are no manuals or explanations including helpful appendices in this guideline, and only educational appendices including boards, evaluation question forms, and drawing a risk map are considered for its implementation, which is not enough to create a standard guideline. Below is a checklist for Planning Guidelines that is desired by the WHO, at the same time, it is a comparison with the DART guidelines to determine the compliance of the WHO criteria with the current guidelines. This section has been evaluated briefly in Table 2.

Health guideline development for low-income countries

There is a framework that highlights the chain of events for producing effective guidelines: choice of topic; development group; development and presentation of guidelines; dissemination of guidelines; implementation of guidelines; and evaluation and revision of guidelines. This framework is not as strict as the WHO framework, and they are more focused on the internal processes of each country, and it is more feasible in low-income countries.^[31,32] In this study, we followed this framework as much as possible to pursue the evaluation of the DART guideline more realistically. In the following the facilitating factors in different stages of development of health guidelines based on this framework, at the same time, a comparison has been made with the development of DART guidelines in Iran's health system. This section has been evaluated briefly in Table 3.

WHO criteria for developing health guidelines for disasters and emergencies

This is the third criterion that was used for evaluation. PHC preparedness against disasters plays an important role in ensuring the continuity of care and responding to the health needs of vulnerable populations during disasters. These preparations can be carried out in the form of different guidelines with various implementation approaches to

Table 2: Planning criteria for WHO guidelines development and its compliance with DART guideline

WHO criteria	DART guideline
Needs assessment (Is this guideline needed?)	Iran service package development is a political and legal requirement, as in Article 38 of the 7th development program of the country.
Purposes (What is the purpose of this guideline?)	Made to educate users on what to do and how to do it in the field of disaster education and assessment. The household assessment index with the topic of earthquake and flood, as well as the same index is intended for education.
Target audience (What audience does the guideline serve?)	The implementer of the program (HCPs), Program associate (health liaison, environmental health engineer, nutrition expert, mental health expert), program supervisor (physician or health center administrator), and the final recipient of the service (HIH)
Time (When did the program start?)	Started simultaneously with HTP
Implementation (Who are the executive officers of the program?)	DRRM unit staff in MOHME, the officials of the DRRM units in the Health Vice-Presidency in Medical Sciences Universities, the health managers and deputies of the health networks of the cities, and experts responsible for the program in the headquarters in health networks and HCPs.
Development (Who should be involved in developing a guideline?)	Except for the authors of the DART guide, other people who have been present in this path and have done systematic research have not been identified, and for the authors, the research mentioned has many ambiguities.
Publication format (What publication types and formats were considered?)	From the beginning, this guideline was communicated and published electronically and in WORD and PDF files, and it was printed at the level of healthcare networks.
Translation (What translations are you planning?)	DART guideline was designed only for Iranian households and a translation of it was never produced and published. However, from a research point of view, Junidi Jafari <i>et al</i> (2020), and Najafi <i>et al.</i> (2020), In the publication of their articles, explained the relevant parts of the guideline in English. ^[9,30]
Scoping the guideline (What the guideline will and will not include?)	DART especially emphasizes the two natural disasters of floods and earthquakes. The program and its guidelines had management capability, sufficient focus, and implementation capability in the allotted time frame and with available resources at the beginning, but its effects have faded over time. From the beginning, the all-hazards approach and the specific-hazards approach have been disputed. Although the guideline tries to use an all-hazards approach, the focus on floods and earthquakes - even for areas that are not at risk - has caused a tangible weakness in the guideline.

Table 3: Criteria for the development of health guidelines for low-income countries and their comparison with the DART guideline

Criteria	DART guideline
Guidelines development group	The authors of the guideline are people who have scientific and executive credentials in MOHME and their supervisor (Dr. Ali Ardalan) has effective experiences and valuable scientific learning.
Development and presentation of guidelines	The presentation and development of the DART guideline were not satisfactory, and after years, it still has many ambiguities both in terms of education and assessment/evaluation and even in terms of implementation.
Dissemination of guidelines	The publication of guide forms and educational triple boards in printed form and installation on the notice board of health centers could have helped to some extent, although this happened in some provinces, very soon the work process remained static and unchanged.
Implementing guidelines	Since this guideline was a part of HTP, it had an implementation guarantee, but its directive process to the target employees gradually included only less important matters such as mere indexing without regard to the quality of providing education and assessments.
Evaluation and revision of guidelines	For the DART guideline, the evaluation of HCPs in the implementation of the program has been done periodically, but no special evaluation or review has been considered for its provisions. HCP evaluation forms are only intended to check their functional indicators. The annual evaluation form for the household has gradually lost its practical value. There is no modern review and assessment of DART guidelines. Examining the indicators of household evaluation and education in the Sib system quantitatively and not paying attention to the level of implementation quality has reduced the importance of the evaluation of the program. The expected outcome should be obtained by surveys, cross-sectional studies, and scientific research, which are less addressed.

advance the goals of community awareness and disaster risk management.^[33] One of these guidelines is called “WHO Health Emergency, Disaster Risk Management Framework (H-EDRM). this guideline highlights the important roles and functions that PHC play in responding to disasters and emphasizes that these activities should be integrated into disaster and emergency management of countries.^[34] Lamberti *et al.* (2022),^[32] in a study, sought to

propose a new framework that describes the key features of PHC disaster preparedness and provides the basis for providing operational recommendations to assess and improve PHC disaster preparedness. The findings of Lamberti’s study help develop a set of guidelines for PHC systems to follow to assess and then enhance disaster preparedness. Dealing with one or two special disasters such as floods and earthquakes cannot cover all the needs

related to education and assessment of Iranian households and placed in the form of a guideline. what is intended here is that a guideline by the provision of primary health services in the field of disasters and emergencies is an urgent need for countries like Iran. This guideline can include at least a part of Lamberti's study framework and based on the real needs of the vulnerable population, it can be considered as similar as possible to the World Health Organization's framework and its upgraded framework, and finally, suggestions for improving the current guidelines in studies are to be presented in the future. In the following, the World Health Organization framework (H-EDRM) and the Lamberti framework are integrated and presented to evaluate the DART guideline.

Leadership and governance

It's recommended to develop a Comprehensive Disaster Preparedness Plan (CDPP) for the entire community that integrates all components of the health sector. Creating such a comprehensive and integrated preparedness program is conditional on having a clear governance structure -which we call Disaster Risk Governance (DRG)- that can coordinate multiple internal and external actions. CDPP for the PHC system should be designed to respond to different types of disasters. Certainly, the guidelines related to household preparedness should be formulated based on DRG to have executive support, bring organizations together, and create a suitable culture.

Service delivery

CDPP should be developed to use multiple strategies for the health system to ensure that there is no disruption in the care of people (especially those who are unable to receive PHC services). we call it Continuous Service (CS). Integration of health care with DRR special care and active community participation along with household preparedness can be used as leverages in this sector to facilitate continuity of services during disasters.

Health information

CDPP should use two important tools of vulnerability assessment (VA) and incident response plan (IRP) to provide and access proper health information. The household plays an important role in obtaining useful information in the health sector, especially during disasters. If we can define the ICP in the CDPP and explain the rapid assessment at the time of the incident, the level of individual, family, and social preparedness will be improved at the same time.

Health workforce

Having a multidisciplinary team in PHC centers is very important to develop optimal disaster preparedness strategies. Also, each PHC center should adopt a clear strategy (called Surge capacity) for how to maintain staff to continue operations during disasters and their aftermath. an emergency plan that includes consideration

of specific employee qualifications, contact information, and availability should always be available. As the capacity to increase human resources should be considered at the social, regional, or national levels, we can also look at the household members' capacity. They can be potentially useful forces for relief, rescue, and management during disasters. Their presence as volunteer forces is an important part of structured and planned instruction that completely disrupts the equation of manpower shortage in vulnerable areas.

Comparison of visual and content criteria of Stafford, FEMA, British Columbia, and DART guidelines

[Table 4], the visual criteria of the three household preparation guidelines are compared with the DART guidelines. Although other guidelines existed for this comparison and could have been used, due to its timing with the start of DART (Stanford), due to comparison with a comprehensive standard guideline (FEMA), and due to the introduction of a series of dependent and continuously guidelines (British Columbia), these three guidelines were used.

Themes

HCPs expectations of a health guideline

Health workers have always proven their cooperation to provide the best services to the people. Undoubtedly, benefiting from the most and best knowledge in the field of how to provide services can be a bright light that determines the path of health program implementation for them. The DART program, despite its novelty and innovation at the time of its implementation, soon became routine, which deprived HCPs of the level of creativity and innovation and did not provide them with the knowledge expected to provide competent services. Users expect that the best guideline or service package is provided to them in terms of visuals and content so that they can provide the best health services to the people. From the remotest parts of the country in inaccessible villages to urban areas and big cities, there is a path that makes the network system available to people in every sector, which is undoubtedly one of these accesses, education/training against disasters emergencies.

Benefit from effective educational aids

In the process of implementing the DART program with the existing guidelines, the lack of a series of education aids or tools was felt very early. Despite having useful and valuable content, triple boards lost their effectiveness very quickly. The immediate design without feedback from these boards and the way they are distributed and published in the network system were criticized a lot, but this criticism was never dealt with. Also, the lack of educational content to describe the DART guide (for example, a visual PowerPoint containing the user guide) and the lack of creative posters, animations, videos, and

Table 4: A visual comparison of the Stanford, FEMA, and British Columbia guidelines with the DART guideline

Appearance details	Stanford	FEMA	British Columbia	DART
Country	USA	USA	Canada	Iran
Title	Ready! A household preparedness guide	Are You Ready? An In-Depth Guide to Citizen Preparedness	Home Preparedness Guide	Disaster Assessment Readiness and Training (DART)
Home page background	Yellow with fire, earthquake, and first aid logos	Bold blue with a black-and-white image of a happy family	The top of the page is yellow and black and the background is gray. The image of a house containing household emergency equipment	Without background, the top of the page has supporter logos and the middle of the page is one image of Darts sport
Text language	English	English	English	Persian
Title font	DIN Pro-Black 144	Cambria-Bold 58	Myriad Pro -Bold Cond 36	B Mitra 20
Title description font	DIN Pro-Black 19	Arial (Body) 22	A Garamond Pro-Regular 20	Tahoma 20
Latest update	May 2014	September 2020	May 2023	September 2014
Number of pages	28	36	Guideline (16), Plan (12)	Guideline (29) Service Package (16) DRMPNHS service package (101)
Page layout	Header-Banded-Bold color (Red and Yellow) with document title in text	Without layout and Blue title for each page	Header-Banded-Bold color (Black and Yellow) with document title in text	Without layout
Page number position	Sideline with vertical accent bar	Right and left footer of the page every other one	Sideline with vertical accent bar	Banded Centered page number
Preface/Introduction	Page 2	Page 1 next list of titles	Page 2	Page 2
Table of Contents	Page 1	Page ii and iii	-	-
Appendix	-	-	A series of consecutive guidelines	Triple boards, assessment form

educational teasers, caused the users and the target group to dislike the DART program and its services.

Adaptation to lifestyle and cultural customs

Holding seasonal family meetings to check the level of family preparedness against disasters, conducting household maneuvers, and checking the structural and non-structural vulnerability of family members, are among the things in the guidelines for which initial culture building is necessary. The fact that Iranian families in every region of the country have a great diversity in family meetings and family consensus requires that the type of education is also different for this diversity. Various ethnic and linguistic differences in Iran, while being considered a great advantage for racial and cultural diversity, are also a great challenge to provide them with different education. The type of life of households is very diverse in terms of the number of members or family relations, and it needs to be equally justified and educational. The residence of families is also different from each other, urban and rural life, nomadic, renting, apartment living, etc., it can be considered serious and basic needs to justify each of these cases separately.

Real educational needs

The general content of DART is related to earthquake and flood education and preparedness. this is even though

in some parts of Iran, the hazard of earthquakes and floods isn't very important. Instead, there are serious and widespread hazards in some places such as subsidence, dust storms, wildfires, droughts, epidemics of infectious diseases, storms, and blizzards in cold regions, man-made accidents such as road accidents, electronics, and technology, are not seen in this guideline. While these cases are serious, education is a basic need in areas that have been suffering from it for years. addressing an all-hazards approach in disaster preparedness education/training guidelines is necessary and unavoidable. Schematic of overall results is shown in Figure 3.

Discussion

Targeted strategies are needed to promote preparedness in communities, it should be noted that types of preparedness differ depending on household characteristics. One of the important and effective strategies is to increase the awareness and knowledge of households.^[35] DART guideline was created according to its program, which was one of the five programs of DRMPNHS, to provide education to Iranian households and improve their awareness and knowledge. To enhance disaster preparedness, more community-based preparedness education campaigns targeting vulnerable populations are needed.^[36] DART program, emphasizing the education of the head of the

family, who is a female householder, considers her need as serious and places her among the vulnerable populations, and considers the reason for its selection to be more referrals of this group to Iran's health system. One of the main goals of the program founders has been to create a family campaign with the help of the household head with the aim of raising of family's knowledge and awareness level, then the community, and as a result, creating appropriate preparations in a continuous method.

The level of preparedness of households against disasters is often low even in disaster-prone areas. Factors that can affect this preparation include determinants of personal disaster preparedness and the interplay between education and experience in shaping preparedness actions.^[37] The factors that are needed to improve the knowledge level and preparation of the household head are mentioned in the guideline and continuous recommendations are made to transfer this education to other members of the household. The interaction between the HCP and the household head is a service-oriented relationship, and at the same time, it is a valuable experience to achieve an effort that can change health behavior. Household preparedness education through small group meetings, by HCPs can have a different effect on the level of household readiness.^[38] Group meetings by HCPs and household head and group meetings between household head and other family members are strongly emphasized by the DART program, which is also mentioned in the guideline and implementation method of its explained. Even in the guideline, specific days are given for such education/training. In addition, it is emphasized that the development and dissemination of these meetings by household head to other family members is important and influential. Therefore, it seems that drawing a risk map by all family members, especially children, is one of these goals. This work, while creating an educational environment, allows a skill to be implemented in a practical way and, the result is exposed to feedback. Seasonal consultation meetings also fulfill such conditions. It is very important for HCPs to be able to have instructions for evaluating and training household readiness, which will meet their job needs and on the other hand, create an effective intervention in the context of families. The DART guideline met a large part of this need, but although it was considered a new program at the time, it was soon forgotten to update and deviated from the global guidelines. The comparisons made between DART and other household preparedness education guidelines showed in which criteria this guideline is close to its global examples and in which items it is far away. Although examples like FEMA and British Columbia are far ahead of other examples in the world, DART's alignment and proximity to them can solve a large part of the current educational needs of Iranian society.

The DART guideline with the approach of integrating disaster health management in PHC is the first type of such guideline that has implemented training and evaluation for the first time with a new and unique mechanism. As the authors of this work believe, in the region Middle

East this guideline and its example does not exist until the date of publication.^[8] In the first study related to this program, it is directly stated that the DART program is one of the most important programs of DRMPNHS. According to the statistics of the MOHME at the time of writing this article, the average preparedness of Iranian households against disasters was estimated at 9.3%. A series of studies conducted before the time of drafting the guideline note the low level of preparedness of Iranian households in disasters and emphasize that the creation of effective solutions to increase this preparedness is based on education.^[39-44] Looking at the research process before and after the development of DART in Iran, the importance of education/training and assessment households is seen. The fact that the main author of the DART guide and program (Dr. Ali Ardalan) has also written articles on the importance of household preparation in many subsequent researches shows that he and his research group had a great and valuable concern in this field.^[44,45]

Natural disaster education tends to impart knowledge in most cases but lacks attractiveness and effective features.^[46] This feature becomes important when there is no taste for educational methods, tools, and products. After a short period of implementation of DART at the headquarters and environmental level, its defects and problems have been identified and the basic defects of the guideline have been revealed both in the design phase and in the compilation and implementation phase. Even though the Stafford guideline has not been updated and published for years, it still has a special appeal when reviewed by users. The yellow and red color on the cover, and the use of a short and effective sentence, as seen in the FEMA guideline, the same short sentence, causes special attention for users. Compared to other similar guidelines in developed countries, the DART guideline has defects in appearance that can be easily compensated for by preparing and compiling them in an attractive and user-friendly manner. Beautiful page layout, the use of defined colors, and the expression of important, applicable points and scientific and operational attention to the education/training of preparation processes of the family members can meet the appearance and content expectations to a great extent.

A large part of the households' lack of attention to preparing for disasters can be related to the lack of effective training and lack of proper culture.^[47] Paying special attention to this point in a special health guideline for disasters and emergencies for the household can be a good help to create a disaster culture. The prominent role of community-oriented education and promotion of health literacy in different areas such as rural areas for families can help improve the level of people's preparedness against disasters.^[48] This is the same issue that has not been addressed in DART.

Failure to update DART guidelines has made the type, means, methods, and characteristics of education topics

change significantly over the years, and greatly diminish the effects of knowledge improvement. These effects are visible both among HCPs and among the household. Failure to provide timely and effective educational materials continuously can cause a lack of motivation, a negative attitude towards preparation, and a lack of knowledge, these are the main but compensable obstacles for household preparation.^[49]

The public awareness of a society needs scientific and research solutions and the implementation of effective governance policies.^[50] One of these policies is the development of guidelines that have a free, continuous, and effective view on the dissemination of public information in the community in the field of health, especially in disasters and emergencies.

The importance of promoting public awareness for preventive measures in households should never be underestimated, and by the way, increasing public awareness and helping to build a safer and more flexible future in countries can be done in this way.

Strengths and limitations of study

One of the strengths of this study was the presence of specialized experts in medical education fields. In addition to having medical education expertise, these experts also had executive experience. The company of all FGD members before, during, and after the study was very good and effective. the mastery of all members of the Eisner model was also very effective in advancing the research goals. Criticizing a guideline for the first time with the educational critique method was an interesting and unique experience.

Weaknesses include the time limit for continuing the FGD meetings and developing a sample guideline with improved criteria. Also, the absence of MOHME experts for various reasons was considered another limitation.

Conclusions

As stated in the DART guidelines, proper education/training can be an effective vaccine with high immunity for households. The more attractive and practical these trainings are, the more effective they will be in attracting audiences. use of conceptual and practical images in the guideline and emphasis on the implementation of the education/training process with effective images and photos by HCPs contribute to the richness of a disaster preparedness guideline. Visual and content criticism based on Eisner's model can to a large extent examine a health guideline in the field of disasters and emergencies for education and household preparation in a scrutinized and targeted manner. compare with The WHO Handbook for Guideline Development, showed: Needs assessment, Purposes, Target audience, Time, Implementation, Development, Publication format, Translation, Scoping

the guideline and matching these criteria with the DART guideline can be effective for its modification and content improvement in the future. compare with health guideline development for low-income countries implied that: Guidelines development group, Development and presentation of guidelines, Dissemination of guidelines, Implementation guidelines and Evaluation and revision of guidelines, can be important items in designing, compiling, developing, and promoting a guideline despite all the limitations. WHO criteria for developing health guidelines for disasters and emergencies, revealed important issues for evaluating the DART guidelines. these criteria were included: leadership and governance, Service delivery, Health information, and Health workforce all these items have a significant effect on standardizing a health guideline and can be effective for the DART guideline as well.

Comparing the DART guideline with important global examples showed how much there are visual and content differences in this field. The results of qualitative content analysis of FGD indicated that there is a big difference in the written content of the current guidelines in Iran with global examples, which can be mentioned in the form of four main themes:

HCPs expectations of a health guideline, benefit from effective educational aids, adaptation to lifestyle and cultural customs, and real educational needs. Finally, it can be said that current information helps to plan the development of an improved and updated guideline for the Iranian PHC system.

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Ethical considerations

The Ethics Committee of Isfahan University of Medical Sciences approved the research protocol.

Code of Ethics

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Authors' contribution

Designing the study, data analysis: H Z

Drafting the manuscript, Final Approval: All authors.

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Conflicts of interest

There are no conflicts of interest.

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