



Standardization of Relief and Rescue Services' Iranian Red Crescent Society in the Management of Incidents and Accidents

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Abstract

Introduction: Adherence to standards and requirements is required to promote the quality and quantity of relief and rescue services in incident and accident management and response to local, national, and international crises. This study aims to design a comprehensive model of rescue and rescue standards for the Iranian Red Crescent Society's incident and accident management.

Methods: This applied study used the meta-synthesis method and a 7-step process. The study population included all documents related to the standard topic and 18 Iranian Red Crescent Society experts who were purposefully sampled. We extracted the standard texts using conventional content analysis methods and a data extraction form to draft the standards. Expert opinions and standardization committee members were used for validation and approval through worksheets.

Results: Each standard profile includes the title, standard description, key actions, evaluation criteria and indicators, and accompanying guidelines. The template for relief and rescue standards includes ten main axes: Strategic planning; operational design; resource organization and requirements; shelter space location and design; shelter camp architecture and management; storage items and equipment; supply chain and distribution items; relief and rescue nutrition management; search and technical rescue and transport; and medical emergencies. A total of 77 sub-standards have been extracted, with an average of six per central axis, and their requirements have been formulated in the form of a certificate. Draft standards were approved by the standardization committee with maximum consensus.

Conclusion: The standards for rescue and rescue services state that people involved in crises must continue their lives in stable conditions while maintaining their dignity and honor. These standards can guide planning, implementation, and monitoring and be a tool for evaluating the preparedness and response operations of rescue and relief in managing incidents and accidents.

Keywords: Standardization, Relief & Rescue, Iranian Red Crescent Society, Incidents and Accidents Management, Meta-synthesis

Introduction

"Relief" is a form of continuous and sequential aid used in good deeds, and it also means providing help ¹. "Disaster relief" refers to providing goods and services to meet the urgent needs of disaster-affected communities ². Relief and rescue operations are utilized by the missions of the International Red Cross and Red Crescent Societies (IRCS) and contain any relief and rescue (R&R) and saving of human lives in crises such

as natural disasters, road accidents, famine, displacement, etc., provided by other individuals in organized and unorganized forms, contributing emotionally and compassionately to alleviating human suffering ^{3,4}.

A general overview of the high statistics of incidents, accidents, crises, and natural disasters in Iran, regionally and internationally, highlights the

importance of relief and rescue operations in responding effectively to these events^{5,6}. On the other hand, according to the official statistics of the IRCS, the number and variety of incidents and accidents requiring R&R services increase yearly.

Promoting quality and quantity of desired services in managing incidents and accidents and responding to local, national, and international crises requires adherence to standards and requirements by relief and rescue organizations and service providers to the affected and their communities. Following an incident or accident, initiating vital relief and rescue operations is the most crucial duty of managers and officials, aiming to address the vital and urgent needs of victims and affected individuals. All efforts and activities in relief and rescue operations are geared towards two main objectives: 1) saving lives and ensuring health and 2) ensuring the continuity of human life, which are assessable at national and international levels⁷.

"Relief and Rescue" refers to actions related to sheltering and providing relief and rescue supplies to the victims of incidents and disasters. The IRCS, utilizing human resources and available equipment, identifies and determines safe areas based on geographical location and common incidents in each region of the country, assesses affected areas for relief sheltering of victims, plans and provides relief items (biological, food, and health-related), organizes specialized rescue teams, and updates available information⁸.

Over the years, the IFRC has issued standard procedures, guidelines, and other documents to assist and guide millions of volunteers and staff of the Red Cross and Red Crescent Societies. Previously, guidelines developed by humanitarian agencies did not adhere to precise quality assessment standards⁹⁻¹². A study by Vande Veegaete (2016) evaluating the quality of 77 IFRC guidelines indicates that the highest average scores were in the areas of "scope and purpose," "clarity of presentation," and "applicability." The lowest score ranges were "development potential" and "editorial independence." No guideline can be recommended for immediate use; 23 guidelines are recommended with modifications; and four guidelines are not recommended¹³. However, international organizations such as the WHO and some non-governmental organizations have adopted a more precise and

scientifically based guideline development process^{11,14,15}.

One of the primary missions of the IRCS is rescue and relief, which includes the planning, management, and implementation of a set of measures undertaken in response to accidents and disasters. These actions are carried out with the focus of the Rescue and Relief Organization (RARO) within the framework of organizational, national, and international standards⁴. The International Organization for Standardization (ISO) defines a standard as a document that includes rules, guidelines, or characteristics for activities or their results for public and repeated use, agreed upon through consensus and approved within the organization to achieve a desired level of order in a specific area¹⁶. In crisis management, standards refer to features and characteristics that outline the minimum requirements for producing a product or delivering a quality service^{17,18}.

Standardization plays a crucial role in managing incidents and accidents. Responding to crises, especially when human needs and life preservation are at stake, without reliable benchmarks will lead to severe challenges. Adherence to standards and comprehensive criteria can help relief and rescue service providers and responders establish uniform procedures and serve as suitable indicators for evaluations and assessments^{19,20}.

Standardizing Relief & Rescue Services aims to have a clear and defined framework for the components of the Relief & Rescue system in structural, process, and outcome dimensions, which assists the Relief & Rescue organization in achieving its goals. The standards and criteria defined for the management, support of operations, and relief and rescue services are widely used in assessing the needs of victims and affected individuals in crises and designing essential operational and contingency planning. In crisis management and response to hazards, there are many organizational, national, and international standards²¹.

Using these standards contributes to creating coherence at national and international levels, ensuring organizations and individuals benefit from professional competencies in crisis management. This ensures that minimum requirements are considered in training and skill development and that incidents and accidents are handled systematically. In this regard, designing and developing indigenous standards in relief and rescue services using innovative scientific methods such as

meta-study for integrating study results and creating comprehensive and interpretive findings is highly valuable. Moreover, the country's crisis management laws emphasize the need to develop technical regulations and necessary guidelines to standardize the services of relief and rescue organizations at the national level. Given the legal and specialized responsibility of the Red Crescent Society in providing incident and accident management services, the formulation and clarification of relief and rescue service standards are essential to achieving maximum efficiency and effectiveness in service delivery and meeting societal expectations. This study aims to design standards for the Iranian Red Crescent Society in managing incidents and accidents and provide a model for relief and rescue organizations.

Methods

This applied study used the meta-synthesis method to design and develop the Iranian Red Crescent Society's relief and rescue services standards for incident and accident management in 2024. Meta-synthesis is a qualitative study that examines information and findings extracted from other relevant qualitative studies on the same or similar topic. It provides researchers with a systematic approach to uncovering new and fundamental themes and insights through synthesizing findings. Meta-synthesis, or meta-study, combines the interpretation of selected studies' main findings to produce comprehensive and interpretive findings^{22, 23}. Synthesizing requires a researcher to conduct a thorough review, combining relevant qualitative research findings. Like a systematic approach, the synthesis result is greater than the sum of its parts²². Nobel and Hare (1977) propose three main phases: selecting studies based on systematic search and final selection, finding similarities and differences to analyze, and presenting synthesized findings in group categorization for synthesis. Sandelowski and Barros (2007) introduce a seven-step method²⁴ (Figure 1).

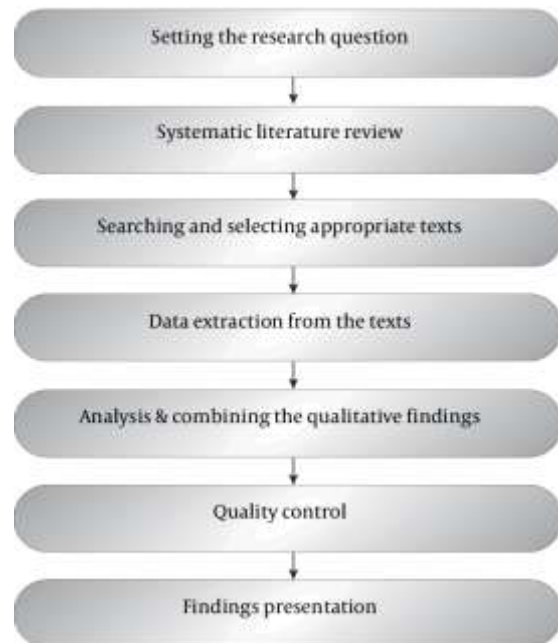


Figure 1: Meta-synthesis steps in the research²⁴

The following explains the steps of designing relief and rescue service standards based on the stages in Figure 1. Stage 1: Setting the question and the standardization domain:

Various parameters, such as the study population (who), what, when, and how, are used to set the research question. In this study, a specification standard was utilized, which includes requirements for a product, material, process, or system, usually referring to the methods of compliance control with these requirements.

Stage 2: Comprehensive review of literature and subject background:

The literature on the subject was reviewed using a comprehensive review method of documents and references, study results, books, papers, and reports published in library resources and electronic databases. The subject literature and related materials were initially examined by referring to library documents and then accessing scientific databases.

The search process for articles related to the topic was conducted in Persian and English electronic databases. Critical terms under review included relief, rescue, standard, incident, accident, guideline, crisis, and their English equivalents for articles in reputable journals.

Stage 3: Search and Selection of Texts and References to Standards:

The search for Relief and rescue standards resources was carried out based on entry and exit criteria,

keywords, and search strategies until the end of 2023, obtaining a wide range of standard sources in international, national, and organizational documents and databases (Table 1).

Table 1: Specifications and frequency of documents and references in the provision of R&R standards

Row	Type of Document	Notification authority	Frequency
1	Organizational and strategic documents	Iranian Red Crescent Society	8
2	National laws and national strategic documents	Ministry of Interior - Crisis Management Organization	11
3	Laws, regulations and regulations	President of Iran	3
	Guidelines for compiling the national standards of Iran	National Standard Organization of Iran	3
4	Standard Operating Instructions (SOP)	Red Crescent Relief & Rescue and Rescue Organization of RCS-IR	27
5	Research projects	Red Crescent Society of Islamic Republic of Iran	15
6	IFRC documents	International Federation of Red Cross	22
7	ICRC documents	International Committee of the Red Cross	3
8	Sphere standards	Sphere Association	2
9	NFPA Standards	National Fire Protection Association	4
10	ISO_Standards	International Organization for Standardization	2
11	Other documents in the field of standardization	UNHCR, EFQM, APQC...	15
Total			115

The criteria for standard documents include only those presented or communicated with the mention of a specific and valid reference, which were reviewed, and invalid documents were excluded from the study. The selection of documents has been made purposefully, considering the four criteria of JUPP, including authenticity (originality and correctness), validity (accuracy), representation (representative of all documents in its class), and meaning (what it says).

The search for Relief & Rescue Services standards resources was carried out based on entry and exit

criteria, keywords, and search strategies until the end of 2023. A wide range of standard sources were obtained from international, national, and organizational documents and databases. The most relevant documentary resources were selected based on criteria related to the study objectives (Table 1).

In this study, the Critical Appraisal Skills Program (CASP) was utilized, which is commonly used as a tool for assessing the quality of qualitative primary research studies. The CASP tool consists of a 10-item scale designed to assist researchers in determining the accuracy, validity, and importance of qualitative research studies. The questions focus on research objectives, methodological rationale, study design, sampling method, data collection, reflexivity, ethical considerations, data analysis precision, clarity of findings, and research significance. Researchers evaluated articles based on a quantitative scoring scale provided by CASP. The CASP 50-point scoring criteria include: (41–50), very good (31–40), good (21–30), average (11–20), and poor (0–10)²⁵. The appropriate texts were evaluated and selected using the CASP tool, aligning with specific standard criteria, and relevant resources and references were chosen and analyzed. Texts with the highest scores were selected for reference in the next stage.

Stage 4: Extraction of Information from Standard Texts
In this stage, to extract intrinsic findings, the selected and finalized resources for each standard criterion were repeatedly reviewed, and a "Data Extraction Form" was designed by researchers according to the research objective. This form includes document code, title/guideline, author/authors, publication year, target population, standard type and level, formulation method, standard information, and summary of results and outputs related to standard criteria. In this stage, five experts participated in selecting content, extracting information from standard texts, and drafting for the standardization committee.

Extracting standard texts involves

- reviewing existing texts in the field of relevant patterns and standard documents at national and international levels,
- formulating a theoretical framework to extract agreed-upon axes and
- preparing draft content.

The standards draft is prepared using regular group meetings centered on the research team, and the RARO-

IRCS standardization commission must approve the content.

Stage 5: Analysis and Synthesis of Findings

Meta-synthesis aims to create a unified and novel interpretation of the findings. This method has been accepted for clarifying concepts and patterns and refining existing knowledge by generating operational models and accepted theories²⁵. Therefore, this study aimed to examine and qualify the standards of relief and rescue services and provide a structural model for relief and rescue organizations in crises. Using the meta-synthesis method, a unified and novel interpretation of qualitative findings in valid international, national, and organizational documents (such as the IRCS) should be achieved. Besides addressing the main topics, there may be a need to delve into subsidiary subjects, which may require the use of a coding stage (open, axial, or selective). During the analysis, the researcher seeks "thematic analysis," which involves searching for themes that have emerged from the existing meta-synthesis studies. Once the themes are identified and defined, the examiner creates a classification and places similar and relevant classifications under a theme that best describes them²⁶.

All extracted factors from the studies were initially considered codes in this study. Then, by considering the concept of each of these codes, they were categorized into a similar concept (component). Dimensions were obtained by combining several components to shape the research conceptual pattern. At this stage, the findings within the context of data extraction forms were repeatedly reviewed, and to achieve the drafting standards, the "worksheet" form designed by researchers based on the research objective was used. This form included sections of standard specifications such as title, introduction, importance and necessity, standard-related sources, standard text description, figures, tables, and standard-related questions. In this stage, five experts participated in selecting content and extracting information from the texts. Group sessions of the standardization committee members were used to complete the draft and summarize the opinions.

Stage 6: Quality Control and Validation of Standard Content

To maintain quality in this study, the following were fully adhered to:

1. Utilizing both electronic and manual search strategies to access information relevant to the subject;

2. using the CASP tool to evaluate the quality of initial qualitative research studies;

3. employing credibility indicators and qualitative findings to integrate and present concepts and patterns;

1. The researcher meticulously documented and reported the stages and processes for research validation and auditing to enable others to follow up on the research.

5. Validating the results in the standardization committee to maintain study quality and establish group consensus.

Stage 7: Summarizing the draft and presenting it to the standardization committee

In this phase of the meta-synthesis method, the findings from completing the worksheets by the research team were presented in a draft summary for approval by the standardization committee and finalized through collective agreement in committee meetings.

Committee members, following a judgmental approach and based on the decision of the research user (Relief & Rescue Organization of IRCS), included the organization's head and deputy as committee chairpersons, experienced managers, and specialists in relief and rescue response and crisis management. After necessary coordination through physical meetings and communication on social media platforms, surveys were conducted until a final agreement was reached. In the group and commission meetings, 80% of the members' votes were unanimous on the draft standard approval criteria.

One of the ethical considerations of this research is to maintain the confidentiality of the content of organizational documents, participants' information, and experts' opinions in conducting individual and group interviews.

In this study, the international format and framework were used, and Instruction No. 5 of the National Standards Organization of Iran was used to create a common national literature on the expression of standards.

Results

The 18 members of the committee to develop relief and rescue standards are demographically diverse, with an average age of 45 years, 15 males and three females, and an average work experience of 20 years. Their

educational backgrounds include four PhDs in disaster health, two in professional medicine, one in sociology, one in health education and promotion, and one in international relations. Other participants hold MScs in disaster management, health economics, crisis nursing, and healthcare management. All the participants in the research were working in the IRCS organization and had sufficient operational and managerial experience in rescue and rescue in accidents and incidents.

Standard References List

Table 1 presents the specifications and frequency of the documents and references provided. Considering the relevant criteria, the most related document sources to the study objectives were selected and coded to be referenced in standard content development.

Standard Structure of Relief and Rescue (Standard Profiles)

The standard axes based on technical processes consist of critical activities that must be carried out in each phase of R&R services management, requiring

compliance with requirements, conditions, and minimum standards of feature and quality performance. Each standard axis profile includes the following information: standard title, standard description, description of key actions or sub-standards, standard evaluation criteria and indicators, and attachments of guides and checklists.

The IRCS Relief & Rescue standards utilize international frameworks and a common conceptual structure. They include a set of key actions and activities, criteria and indicators, guiding points, national guidelines for Relief and rescue organizations, and strategic documents for achieving them.

Based on the integration of these frameworks, each standard has a certificate (profile), and the structure is shown in Figure 2.

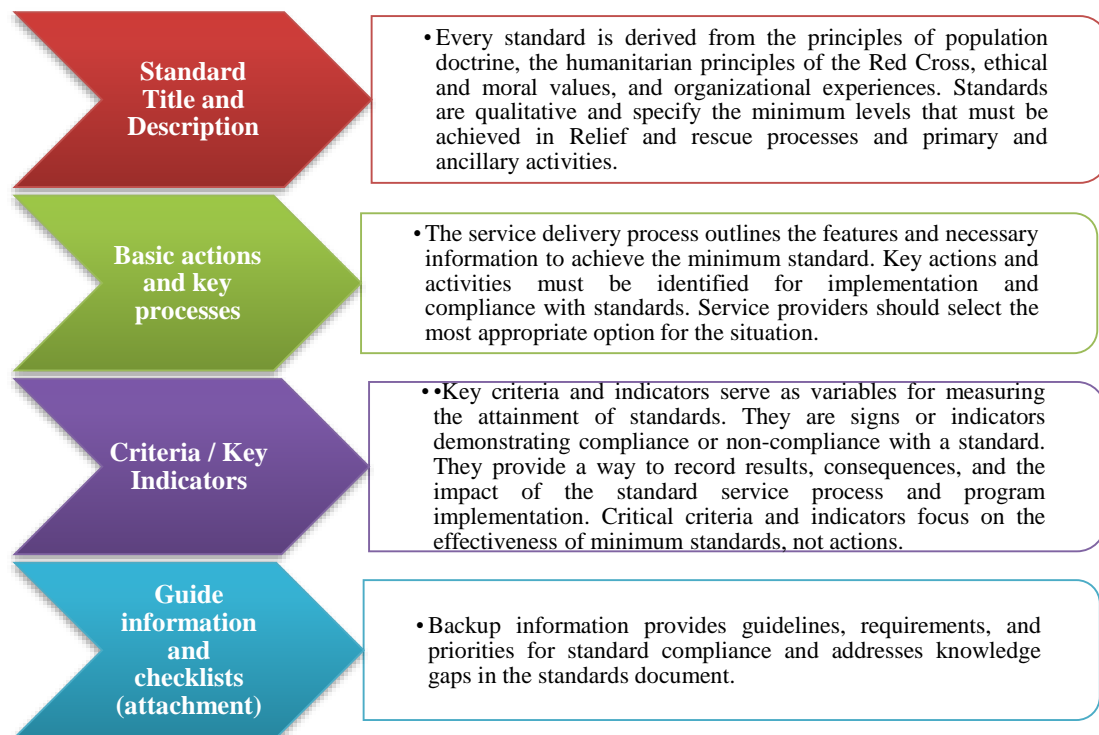


Figure 2: Profile structure of standards

The relief and rescue service standards form the core framework

The aim is to define the requirements for the components of the relief and rescue sheltering process, the management of relief and rescue accommodation, the provision, storage, and distribution of relief and rescue items (food and non-food) for the injured in accidents and disasters, as well as the operational characteristics and critical indicators for measurement and evaluation. This set of standards gathers and compiles requirements from various sources, including the framework of the country's crisis management standards, the International Federation of Red Cross and Red Crescent Societies (IFRC, ICRC), the Sphere Project standards (Handbook 2018), standard guidelines

prepared by the Red Crescent Society, and reviews of various reputable scientific documents, lessons learned, and expert team assessments. The core framework of Relief and rescue response standards and the principal axes of Relief and rescue service standards are shown in Figure 3.

Table 2 displays the results of the objectives and primary standards formulated on each axis. These criteria and standards serve as a suitable index and guide for relief and rescue organizations, enabling them to meet needs and evaluate their activities. Moreover, these criteria act as a practical method and roadmap for them, guiding them towards achieving their goals.

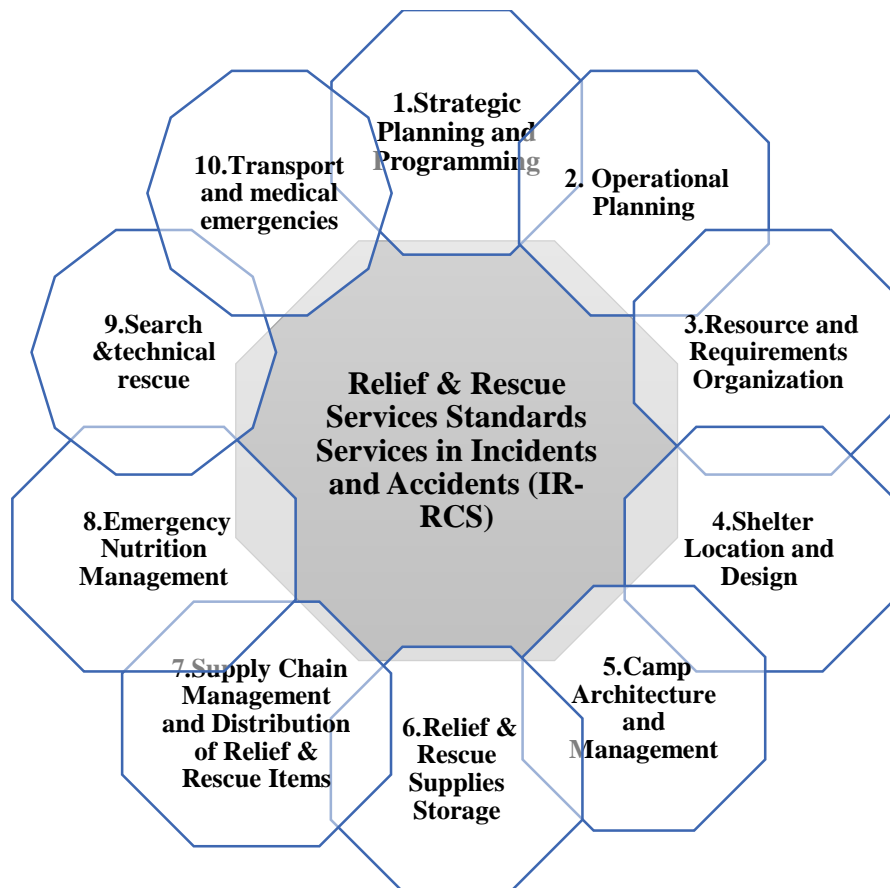


Figure 3: Main Standards of Relief & Rescue service's IRCS in Incidents and Accidents

Table 2: Characteristics of the main Standards of Relief and Rescue Services' IRCS.

Code	Standard Axis	Standard Explanation and Purpose
1	Strategic Planning for Shelter and Relief & Rescue Items	Foresight, complete population information systems, risk assessments, geographical location, common incidents, prioritized risk maps, vulnerability levels, and available capacities in each region should all be used to make designs, plans, estimates, and guidelines for being ready to provide housing services, manage housing operations, and get relief and rescue supplies to people who have been affected by accidents and incidents.
2	Operational Design of Relief & Rescue Operations	Shelter and relief accommodation are provided based on needs assessment and estimation, with coordinated physical design and planning to ensure services for affected individuals in line with available capacities and tailored to safety, security, health, and well-being response scenarios, enhancing recovery.
3	Organization of Resources and Requirements for Relief	Planning, defining roles, organizing necessary resources (human, financial, equipment, and infrastructure), and establishing the operational requirements for relief sheltering are all designed, planned, and implemented to respond at national and international levels.
4	Location and Design of Relief & Rescue Shelter Spaces	Relief shelter location and physical design should ensure that people have safe and adequate enclosed spaces to enjoy a dignified life, carry out daily activities comfortably, and satisfactorily meet their essential needs. The structure of spaces should adhere to safety principles, cater to the needs of the affected individuals, provide suitable warmth, lighting, fresh air, access to shelter, essential facilities and services, and respect the privacy of the affected individuals.
5	Architecture and Management of Relief & Rescue Shelter Camps	Through responsible camp management, we plan for the vulnerable population until relief housing provides equitable access to essential services such as clean water supply, food provision, hygiene items, sanitary facilities, educational services, healthcare, safety and security measures, and humanitarian relief.
6	Storage of Relief & Rescue Items and Equipment	Proper procurement and storage of necessary relief and rescue items and rescue equipment should be planned and estimated based on standard reserve criteria in relief warehouses. Utilizing experienced human resources and responsible management should provide the grounds for the recovery and maintenance of health, dignity, and safety, as well as the facilitation of daily household activities for the affected individuals.
7	Supply Chain and Distribution of Relief & Rescue Items	The supply chain should involve sourcing and supplying relief and rescue items, storing food, hygiene, and biological items, transportation and communication, identifying households, and distributing relief items based on existing criteria and indicators. Financial resources and requirements for supporting efficient response operations and resilience should be anticipated and estimated.
8	Emergency Nutrition Management	Proper procurement and distribution of relief supplies, including relief nutrition, hygiene items, and essential life (biological) supplies, should provide the basis for recovery and maintenance of health, dignity, safety, and performance of daily household activities inside and around the place of residence.
9	Search & technical rescue and	At local, regional, national, and international levels, we design, plan, practice, and implement search operations for missing persons and survivors in the urban, interurban, mountain, and water environment missions, incidents, and accidents.
10	Transport and medical emergencies	The specialized emergency treatment team will provide first aid in the hot zone, triage the injured at the scene of a large accident, establish medical camps and evacuate the injured, transfer emergency supplies (ground, air, and water areas) to medical centers or field hospitals, and organize units. Operation and provision of required resources (human, equipment, information, space, and facilities), training requirements, skills, and individual and group preparations of the specialized emergency transfer team should be based on managerial and professional standards for local, regional, and national levels and be designed, planned, practiced, and implemented internationally.

In the initial sessions, all experts approved the standards' main axes. Some experts provided corrective opinions and suggestions for removing or rearranging some sub-standards due to their lack of relevance or topicality. These suggestions were incorporated into the final standards through amendments, and all levels of standards received approval.

The Key Actions and Activities (Sub standards) of Relief & Rescue services' IRCS

Table 3 shows the primary standards and substandard of relief and rescue operations emphasized in the relevant

documents and agreed upon by the standardization committee.

According to the comprehensive review results, 64 standard sub-criteria (sub-standards) have been designed and developed under the primary relief standards. Because it is impossible to give the full text of standards and full details on standard profiles (including descriptions of sub-standards, key actions, criteria and indicators, and guidelines' appendices), only an outline of sub-standards has been mentioned (Table 3).

Table 3 :Main standard and substandard of Relief & Rescue Service's IRCS.

Standard	Substandard	Standard	Substandard
1.Strategic Planning for Shelter and Relief & Rescue Items	1.1Compilation of plan and program of preparation and response 1.2. Revisionof related laws regulations and regulations 1.3Preparation of standard operating instructions(SOP) 1.4. Gatheringand analyzing information (information elite system) 1.5. Appliedstudies and research and technology system 1.6Risk assessment and estimation of accidents and disasters	6.Storage of Relief & Rescue Items and Equipment	6.1. Categorization and classification of Relief & Rescue items 6.2. Standardrelief package and food baskets 6.3.Storage index of relief items 6.4. Locatingand building relief warehouses 6.5. Management of warehouses of Relief & Rescue items and equipment 6.6.Classification of relief warehouses
2.Operational Design of Relief & Rescue Operations	2.1. Estimatethe needs and priorities of accommodation andRelief & Rescue items 2.2. Emergencyaccommodation scenarios and relief items 2.3. Localcapacity measurement and people's participation in relief 2.4. Operationalplanning appropriate to crises and accidents 2.5. Criteriafor choosing accommodation and providing relief items 2.6. Entry and exit strategy in Relief & Rescue accommodation	7.Supply Chain and Distribution of Relief & Rescue Items	7.1. Planning the supply of required Relief & Rescue items 7.2. Identification of affected people and households 7.3. Registratationof family information and issuance ofRelief & Rescue birth certificate 7.4. Fair distribution of Relief & Rescue items 7.5. Donated items and public Relief 7.6.Complementary actions and cooperation
3.Organizational Resources and Requirements for Relief	3.1. Operationalteaming for accommodation and distribution of Relief & Rescue items 3.2. Leveling of accommodation and Relief & Rescue relief operations 3.3. Communicationwith the incident management and command system 3.4. Equipmentnecessities of the , operational team (individual and group) 3.5. Specialized and public training in Relief & Rescue relief 3.6. Exerciseand evaluation to maintain readiness and effective response	8.Emergency Nutrition Management	8.1.Estimation of food needs 8.2. Feedingvulnerable groups 8.3.Food supply and storage 8.4. Basket of food and Relief & Rescue rations 8.5. Distributionof food and water to the victims 8.6. Hygieneof food and feeding places
4.Location and Design of Relief & Rescue Shelter Spaces	4.1. Geographicalrisk assessment 4.2. Culturaland social adaptation 4.3. Accessto essential facilities 4.4.Estimation and selection of the land for setting up tents and camps 4.5. Placementof individual and group accommodation 4.6. Siteimprovement engineering	9.Search &technical rescue and	9.1. Search operation methods 9.2. Training and evaluation of search team readiness 9.3. Training and keeping of spy dogs 9.4. Process of implementing its operations 9.5. Equipment and facilities required for access and rescue 9.6. Establish communication with the chain of command and coordination 9.7. Evaluation and monitoring of rescue operations
5.Strategic Planning for Shelter and Relief & Rescue Items	5.1. Campdesign planning 5.2. Mappingand location of the camp 5.3.The master plan of the camp 5.4.Placement of shelters and parts of the camp 5.5. Necessaryfacilities and infrastructure 5.6.Managing the provision of food in the camp	10.Transport and medical emergencies	10.1. Equipment and technical facilities of the emergency team 10.2. Activities and requirements of the emergency medical team 10.3. Coordination of technical-therapeutic stabilization operations 10.4. Emergency transfer methods 10.5. Coordination and strategy of entry and exit 10.6. Emergency transfer facilities and equipment

Discussion

We have designed and formulated the findings of the current study into eight main axes and 64 sub-axes based on the Population Charter, the duties outlined in the Relief & Rescue regulations, the review of upper-level documents, particularly the provisions of the Crisis Management Law, the main functions of the Relief & Rescue Organization, and the executive duties and requirements in the National Preparedness and Response Plan of the Red Crescent Society in emergencies (IRCS-EOP). Each standard axis represents a specific service and a set of specialized processes and activities, which the sub-service standard considers. Implementing actions and activities within their framework ensures compliance with standards. These actions are carried out by leveraging the capabilities of all population units by organizational, national, and international standards.

The standards of relief and rescue response in incidents and accidents are based on the principle that affected populations of accidents, and crises have the fundamental right to a dignified life. These standards are qualitative and universal, applicable in any environment²⁸. Despite the numerous challenges in rescue operations and the implementation of humanitarian principles, utilizing standard methods for integrated management in Relief and rescue services, distributing relief items to victims in accidents and disasters, and utilizing all relief capacities are crucial to achieving goals such as providing relief shelter and essential life necessities, necessary food supplies, medical and health services, ensuring emotional and mental well-being of victims, retrieving belongings from under rubble, reconstructing and renewing life infrastructures, determining suitable housing for victims, protecting against adverse climatic conditions, and maintaining security while respecting the human dignity of the affected individuals based on minimum standards^{29,30}. The findings of the Sharifi study (2020) indicate four main assumptions for estimating relief and rescue items, including risk studies (uncertainty and estimation), infrastructure (transportation and structural), financial resources, and socio-political factors. This study aligns with strategic and operational planning standards, Relief and rescue item storage, and supply chain synchronization³¹.

These standards have helped to create communications,

coordination, and coherence at local, national, and international levels while also ensuring that organizations and individuals benefit from professional competencies in the field of standards of relief and rescue services in incidents and accidents. Similar harmonious study findings emphasize the importance of strengthening intra-organizational and inter-organizational communications to address operational challenges in relief and rescue management³². Limited horizontal communication and information exchange exist between the Iranian Red Crescent Society and the Iranian Relief & Rescue Organization through landline phones, mobile phones, and wireless radios in response to disasters. Therefore, disruptions in timely communication and information exchange between organizations, especially in the first 24 hours of a disaster, and disagreements between organizations and communication infrastructures lead to increased vulnerability for victims, Red Crescent aid workers, and Relief and rescue technicians³³⁻³⁶. Implementing standards 1 to 3 of the strategic, operational, and organizational planning axes ensures that minimum requirements are considered in training, skills, and exercises, enabling a systematic approach to crisis management.

Planning and ensuring the minimum standards of Relief and rescue to provide shelter, manage relief housing, and distribute Relief and rescue items are essential for meeting the basic needs of those exposed to risks and affected by crises. On the other hand, providing facilities such as shelter, water, sanitation, nutrition, and mental care plays a crucial role in preserving and sustaining human life in the early stages of crises^{29,36}. The presence of shelter for protection against adverse conditions and safeguarding against various hazards while maintaining human dignity within the family and social framework in challenging circumstances is imperative and of great importance. To ensure minimum relief shelter, numerous challenges are confronted by Relief and rescue management, including decisions on accommodating the affected individuals. The first step in providing and establishing shelter involves acquiring the minimum standards of tools and necessities for disaster-affected individuals, including individual housing, group housing, and camp housing^{17, 29, 36-39}.

Hazards primarily affect shelter and human habitation,

with homelessness and settlement problems among the most prominent impacts of disasters and crises. Therefore, providing shelter in relief situations is one of the most valuable actions of relief organizations, and it has been addressed in the standard Relief & Rescue axes 1 to 5. Emphasizing community participation and utilizing local capacities (CBDRM) in preparedness and crisis response is fundamental in providing relief and rescue services, as evidenced by studies and crisis experiences^{8, 40, 41}.

The standards developed in each axis determine the needs of affected people for shelter, accommodation, and relief supplies, considering the impact and severity of the crisis and the extent of displacement from the settlement area. In disasters, evacuation of residents and provision of accommodation facilities with basic life amenities are among the most critical actions and key components of crisis management, including providing suitable space for settlement or accommodation of individuals, arranging evacuation routes, establishing warning and communication systems, and planning for transfer, return, and support^{42, 43}.

Among these components, providing suitable space for individual and group settlements and camp settlements for vulnerable individuals holds significant importance. The minimum required space standard has been specified in the Sphere Handbook and other standard sources^{29, 44, 45}. Standard Axis 4 outlines the criteria for location, specific indicators of the physical space for each household, and the necessary public and sanitary spaces in detail. Relief and rescue services should be provided by employing appropriate housing methods, ensuring the essential minimum for the affected individuals, and identifying them.

An organization must have a comprehensive system for evaluating its relief and rescue services. It guides organizational performance toward excellence. Validation models, ISO global standards, the European Foundation for Quality Management (EFQM) model, and the organization visitation model are all mechanisms for evaluating and controlling service systems. However, environmental and organizational changes and their impacts on service provision have drawn severe attention from officials and policymakers to the responsiveness gap created between service providers on one side and service recipients and stakeholders on the other. Performance measurement models and evaluation standards are one of the

mechanisms that have received special attention from governments in the past two decades to fill the responsiveness gap between providers and stakeholders, each tailored with indigenous features and considering the specific mission, cultural, social, and economic factors of each country⁴⁵⁻⁴⁷. Given this study's comprehensive approach and the scope of the primary and secondary axes of the standards, future studies should conduct a more detailed investigation to quantify their indicators.

Standardization can be achieved by creating and establishing a template, but it must also be flexible. It should be able to adapt to the needs and changes in environmental conditions where it is used and be reviewed and updated as necessary. The standard service template in this study can serve as a basis for evaluating and assessing standard services in relief and rescue organizations.

Conclusion

The standards of relief and rescue organizations describe the requirements and conditions that must be present in all relief and rescue activities and services so that people affected by crises can sustainably continue their lives while maintaining their dignity. These standards guide planning, implementation, monitoring, and even evaluating preparedness and relief and rescue response operations. The Relief & Rescue standards model can be a reference for crisis planners, managers, and Relief and rescue organizations in managing natural and artificial disasters and crises. In this regard, the research results, which integrate standard documents study findings and create comprehensive and interpretive findings based on field experiences and decades of Red Crescent Society relief and rescue workers, serve as a guiding standard document for relief and rescue organizations at various levels. This document primarily focuses on the requirements for maintaining preparedness, enhancing response capabilities, and protecting people's assets and the environment in response to hazards. It also aims to increase the resilience of people and society to incidents and disasters, both natural and artificial. The Relief & Rescue standards model can serve as a reference for crisis planners, managers, and Relief & Rescue organizations.

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Conflict of Interest Disclosures

The authors declare no conflict of interest.

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Authors' Contributions

Conceptualization, design and project administration: Mazyar Karamali. Study validation and supervision: Pirhossein Kolivand. Data handling, data analysis, provision of study materials and equipment and study consultation: Azadeh Soleimaninejad. Data presentation, draft preparation writing and reviewing: Razie Norouzi.

Ethical Statement

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