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Design and psychometric of risk assessment tool for makeshift hospitals: Focusing on pandemics

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Research article

Design and psychometrics of risk assessment tool for makeshift hospitals: Focusing on pandemics



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ABSTRACT

Pandemics caused a change in the health service delivery system. In disasters with massive injuries or epidemic, the capacity to admit the injured and infected patients to provide health services faces the challenges. Covid-19 virus is a respiratory disease that from its emergence until January 16, 2023, the Covid-19 virus has infected more than 672 million people worldwide. In most countries, makeshift hospital has been set up as intermediate medical centers to keep people who are likely to be carriers of the disease to control communicable diseases. Most makeshift hospitals already have alternative uses and, have changed into temporary or intermediate care centers. Based on the search of research team, any standard tools were found to assess the makeshift hospitals safety. All the safety assessment tools were related to the hospital, but since makeshift hospitals are mostly non-hospital structures, the research team has designed and validate a makeshift hospital safety assessment tool for the first time in this study.

The present study is a mixed method that was conducted in 3 phases including: a document review, explaining the components affecting non-structural and functional safety of the makeshift hospital, designing makeshift hospital safety assessment tools and analyzing the results and validating it in 2022. Content validity and reliability were measured by CVR and CVI, ICC and Cronbach's alpha. In the fourth phase, with the participation of 15 specialists, managers, experts, qualitative and quantitative validity of content was done. Data were analyzed by SPSS version 21 software.

The final tool contains 186 items and a 5-point Likert designed for very low safety (1), low safety (2), moderate safety (3), good safety (4), and very good safety (5). The scores of each makeshift hospital were calculated based on the items and the degree of safety. Cronbach's alpha coefficient for tool was 0.98. Retesting the questionnaire after two weeks confirmed the stability of tool (ICC = 0.98). The validity and reliability of this tool were confirmed with 186 items in 2 factors and 26 subcategories including risk of disaster, non-structural safety, safety of windows and shutters, hospital access, information and communication management, patient safety and hygiene and etc.

All centers providing health services, whether temporarily or permanently, must have safety to continue their activities in disaster and maintain the safety and health of staff and inpatients. The makeshift hospital safety tool can be a suitable tool for assessing the risk and eliminating their

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Research Article



Emergency Medicine Specialists' Knowledge of Hospital Emergency Department Indicators and Their Role in Patient Treatment: A Qualitative Study

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Abstract

Background: National indicators have been defined for the satisfaction and efficiency of emergency services and for evaluating their functionality. These indicators enlighten strengths and areas where improvements can help improve emergency ward quality. **Objectives:** This study assessed the knowledge of medical specialists and their experiences, especially concerning the effects of these protocols.

Methods: This qualitative study was conducted in 2019 in the emergency departments of hospitals affiliated with the Iran University of Medical Sciences. During semi-structured interviews with 20 professors of emergency medicine in 2019, their experiences regarding the effects of these indicators on providing emergency services were evaluated. The data were collected until saturation. All interviews were recorded with the participant's permission and then transcribed verbatim and analyzed by content analysis method, and their semantic codes were extracted.

Results: By analyzing the interviews, 14 subcategories, and four main categories were obtained. Categories and subcategories consisted of providing services to patients (with three subcategories: Improving the quality of medical services, waiting time reduction, and increasing satisfaction), improving emergency efficiency and performance (with five subcategories: Improving conditions, services, communication improvement, resource management, and facilities and equipment), accreditation (with three subcategories: Performance improvement, management and planning, and service quality improvement), and proposed indicators (with three subcategories: Time, capacity, and resources).

Conclusions: The recognition of emergency medicine specialists in hospital emergencies is below average, which can affect the manner of providing health services and upgrading national indicators. With more and more familiarity of emergency medicine specialists with the indicators, a step can be taken to improve the status of hospital emergencies, thus determining patients' tasks faster, reducing the length of stay in the emergency department, increasing patient satisfaction, and improving the performance of the emergency department.

Keywords: Recognition, Specialists, Emergency Medicine, National Hospital Emergency Indicators

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Identifying Organizations Providing Healthcare Services in Floods and Explaining Their Duties to Children

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Dear Editor,

Flood is one of the most important natural disasters that have significantly damaged lives, properties, and the environment (1). Based on the Global Bank assessments, earthquakes, drought, and flood are the most important disasters in Iran (2). In 2019, flash floods affected 200 cities and 4,300 villages and had 80 deaths and 1,136 injured (3).

Based on the standards defined in the SPHERE project, children are known as one of the vulnerable groups in disasters due to their lack of physical development, lack of self-care ability, and dependence on parents to meet basic needs (4, 5). Studies show that children in floods are exposed to infectious diseases such as measles, cholera, colds, diarrhea, and diseases transmitted through water and food. Problems caused by disruptions in the process of receiving healthcare services, such as interruption or delay in vaccination, as well as disruptions in receiving oral and dental health services, impairment of food security, along with mental injuries caused by disasters, such as post-traumatic stress disorder (PTSD) (6).

Children's health will be affected by any flaws, ignorance, parallelism, and irrelevant interventions made throughout the process of holding accountable responsible and helpful organizations (7). Different organizations are involved in obtaining health services for children in floods, such as the Ministry of Health and Medical Education (MOH), the Red Crescent Society of the Islamic Republic of Iran (RCS), and the Welfare Organization (8).

(1) Ministry of Health and Medical Education:

The MOH is responsible for managing health sector emergencies and disasters in accordance with Article 14 of

the Law on the Formation of the National Disaster Management Organization (approved in 2019), with the goal of reducing deaths, illnesses, and disabilities. In this regard, a program called "National Disaster Response Program in the Health System" has been developed that specifies the principles, duties, and regulations, general and specific functions of all different parts of the health system. Due to the recurrence of floods in various provinces and increasing intensity and frequency, it is crucial to develop specialized programs for disasters like floods and target population, which includes children.

(2) Red Crescent Society of the Islamic Republic of Iran (RCS):

The RCS is a non-governmental organization and should help in providing relief and rescuing the injured in a disaster such as floods (9). The RCS has compiled several programs for preparing and responding to incidents, one of the latest programs being the compilation and notification of the response plan for rescue operations. These programs and instructions are mainly compiled with all hazard approaches. Instructions for dealing with floods, especially for children, have not yet been included in the agenda.

(3) Welfare Organization:

The welfare organization is a government institution under the Ministry of Welfare and Social Security of Iran, which is responsible for handling the affairs of orphaned children, managing nurseries, kindergartens, disabled children, as well as working and street children. The welfare organization has a disaster headquarters, which is responsible for dealing with families covered by welfare, in-

Identifying Organizations Providing Healthcare Services in Floods and Explaining Their Duties to Children



Vulnerability Management of the Elderly During COVID-19 Pandemic: A Systematic Review

Review Paper

Vulnerability Management of the Elderly During COVID-19 Pandemic: A Systematic Review



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Elderly, COVID-19, Underlying disease, Coronavirus, Management, Vulnerability

ABSTRACT

Background: At the end of December 2019, a new infectious disease was reported in Wuhan, China. It was a new type of coronavirus named COVID-19. The spread of COVID-19 created an emergency in the global health system and the elderly was identified as a vulnerable group to the disease.

Materials and Methods: This is a systematic review conducted to manage the vulnerability of the elderly during the COVID-19 pandemic. Accordingly, all articles published in this field from the beginning of March 2019 to the end of June 2021 have been extracted from the following databases: Web of Science, PubMed, Scopus, Cochrane Library, Google Scholar, Irandoc, Magiran, MedLib, and SID.

Results: High incidences of COVID-19 are exacerbated in the elderly with cognitive disorders, immunodeficiency, malnutrition, use of various medicines and social problems, anxiety, distance from the family, lack of healthcare, history of falls, multi-drug use due to old age during the COVID-19 pandemic, in addition to the elderly with underlying diseases, such as kidney failure, diabetes, high blood pressure, arthritis, heart, and respiratory diseases.

Conclusion: The prevalence of vulnerability in the elderly was high during the COVID-19 pandemic, which can be a significant risk factor for health. Suffering from several simultaneous diseases, the number of medicines used, the history of falls, underlying diseases, and living alone were some of the vital determinants of vulnerability and considering the adverse consequences of vulnerability, difficulty in designing and implementing appropriate interventions and self-care education for the elderly and their families to manage drug use, treating chronic diseases, and preventing falls, it seems necessary to observe health protocols and stay at home.

Review Paper

The Role of the Mosque as an Emergency Shelter in Disasters: A Systematic Review



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Mosque, Emergency shelter, Disasters management

ABSTRACT

Background: Providing emergency shelter for disaster victims is a part of disaster risk mitigation strategies. International organizations have proposed a framework for appropriate planning and emergency shelter design. These agencies are encouraging local authorities to manage events to use existing structures such as schools, community centers, etc., as emergency shelters for the victims. According to the social religious and spiritual status of mosques in communities, these centers are one of the crucial elements to create a safe and trusted shelter during disasters. This study aims to identify the role of mosques as emergency shelters in disasters.

Materials and Methods: This study was a systematic study that searched the words related to the research title (disaster management, emergency shelter, mosque) with AND, OR operators in PubMed, Web of Sciences, Science Direct, and Scopus databases, and the Google scholar search engine, as well as Persian language databases of SID, Magiran, Irandoc, and Iran Medex. A three-step screening process was used to select studies using the Preferred Reporting Items for Systematic Reviews And Meta-Analyses (PRISMA) checklist. Finally, the data were analyzed thematically.

Results: Out of a total of 175 articles found, 6 articles were relevant to the purpose of the study and were analyzed. The results of the present study showed that mosques can be suitable shelters for risk management during accidents and disasters. Also, in this regard, a range of strategies for designing programs for public participation and mosques were identified.

Conclusion: The services and the role of mosques in disaster occurrence as a shelter are very effective and these valuable services can be further extended using social capital, attracting the attention of religious institutions, and public participation.

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Design and psychometric evaluation of health system intervention assessment tools for children in floods

Original Article

Design and psychometric evaluation of health system intervention assessment tools for children in floods

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Abstract:

BACKGROUND: Flood is one of the most frequent disasters in Iran, which has highly affected the population and consequences on the health system. Children as the most vulnerable group too need to receive health services during floods. The aim of the present study was to develop a national tool for evaluating the provision of health services to children in floods.

MATERIAL AND METHODS: This study is a sequential-exploratory mixed method study that consists of two qualitative and quantitative stages. The qualitative part includes the analysis of documents and panel of experts while the quantitative part includes the design and validation of the tools.

RESULTS: In this study, organizations providing health services to children were first identified, and according to their mission the relevant items were extracted and the initial checklist was designed. Then validity and reliability of the tools were done. The content validity ratio and content validity index for the tool were 59 and 98%, respectively. Cronbach's alpha and intraclass correlation coefficient were determined as 0.7 and 0.964, respectively. The final tool was presented with 64 items.

CONCLUSIONS: The response program, the scope of interventions, service coverage, and the effectiveness of the response after the flood can help reduce the risk of disasters in children. Using the assessment tool of evaluating the health services to children can assist the stakeholder organizations to meet the standards and best quality of services. Assessing the needs of the children affected by floods, identifying the strengths and weaknesses of health services, and proposing corrective strategies according to the information extracted from this tool are other achievements of this study.

Keywords:

Assessment tools, children, flood, health services, health system



National Documents Analysis of Risk Communication in Iran: Based on Disaster Risk Management Cycle

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Abstract

Background: Risk communication is a complex, multifaceted process that plays a significant role in disaster management. One of the criticisms of Iran's health system risk communication is the existence of legal gaps and deficiencies in upstream documents.

Objectives: This research evaluated national documents to identify and assess the legislative gap in health system risk communication.

Methods: This research is a gap analysis study using the qualitative content analysis method. National documents from 2002 to 2022 related to disaster management were collected. Documents were entered into the blueprint designed by the researcher and analyzed.

Results: In the present study, 58 documents due to disaster management were extracted. After the initial review, 36 documents involving 266 items concentrating on risk communication were included in the research. In initial thematic analysis, 47 approvals due to the mitigation phase (five subcategories of information, education and public awareness, infrastructure development, community engagement, and preparation and maintenance of information systems), 61 approvals due to the preparedness phase (nine subcategories of monitoring, information and maintenance of database, creation and maintenance of network and communication infrastructure, coordination, organizational training, planning, determining level of access to information, communication, monitoring and evaluation), 133 approvals due to the response phase (11 subcategories of information management, informing, communication management, media management, trust building, organization and coordination, appointing a spokesperson, monitoring and control, use and management of social media, content production, and supply and maintenance of equipment and infrastructure), 25 approvals due to the phase of rehabilitation and reconstruction (four subcategories of documentation, information, training, and community engagement).

Conclusions: The field of risk communication has been mentioned according to the revision and updating of documents in recent years, but in these documents, many aspects of risk communication were dim; therefore, experts in the field of disaster management should pay more attention to a review of these papers and the creation of a special document on risk communication.

Keywords: Disaster Management, National Documents, Health System, Policies, Risk Communication



National Documents Analysis of Risk Communication in Iran: Based on Disaster Risk Management Cycle

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Components of health system preparedness in disaster risk communication in Iran: A qualitative study

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ABSTRACT

Background: Risk communication is a cross-sectional (Communication inter organizational, media and community level) and long-term process that plays a very important role in disaster management. Past disasters have shown that the health management system has not performed well in this area; it has taken a passive approach and had late and inadequate response. Therefore, the present qualitative study was conducted to identify the components of health system preparedness in disaster risk communication in Iran.

Method: The present study employed the qualitative content analysis method with the Graneheim approach and was conducted from October 2021 to March 2022. Twenty-one participants with practical experience or theoretical knowledge in the field of risk and public communication were purposefully selected. Participants took part in in-depth semi-structured to interviews data saturation.

Results: In the first version, 452 initial codes were identified. After removal of duplicate codes and purification 190 codes ultimately remained. The components of disaster risk communication were classified into 5 categories and 19 subcategories: Situational analysis (information situation assessment, risk monitoring and warning, Functional and process situation, audience analysis), Establishment and risk communication management (Risk information, communication, planning and policy making, Process management and implementation, content of information), Education and training (senior and middle managers training, Expert training, training of media owners, public education), Monitoring and evaluation (monitoring and control, documentation), Logistic (human resources, funds, infrastructure, coordination and organization)



Discussion and conclusion: The findings of this study show that the management of disaster risk communication and improvement of its process are critical for Iran and it should be considered as the first steps to disaster risk reduction based on the disaster management cycle. This dynamic process has various and board dimensions such as communication, planning, and coordination,

Design and psychometric of risk assessment tool for makeshift hospitals: Focusing on pandemics

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Post-Hospital Discharge Strategy for COVID-19 Treatment and Control: Focus on Fangcang Hospitals

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Brief Report

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Abstract

Objective: One of the concerns of health managers in Iran in case COVID-19 reached a new peak is a shortage of hospital beds. In response, the country designed and created intermediate treatment centers, known as *fangcang* hospitals, which are prepared quickly at low cost and with high capacity. The aim of this study is to provide health managers with an effective post-hospital discharge strategy for COVID-19 patients.

Method: The study was conducted from April 2020 to June 2020, with a narrative case study design. Setting up a fangcang hospital was based on a narrative analysis of 2 in-depth interviews with 4 fangcang hospital managers in Iran, a field visit of these places, and a review of their protocols and guidelines.

Result: The patient flow for screening, treatment, and follow-up includes the following: Patients will be hospitalized if their symptoms are severe. If they are infected with mild symptoms, they will be referred to a fangcang hospital and admitted there if necessary, to prevent further spread of the disease. Patients will be monitored regularly and treated with routine health services. At the end of the 14-day quarantine period, patients approved for discharge are sent home.

Conclusion: Traditional hospitals and fangcang hospitals are working together under the supervision of the Iran University of Medical Sciences. Our experience can serve as guidance for other clinics and recovery shelters. Having guidelines in place assists health care workers and managers in responding quickly to patients' needs during times of a disaster.



Process and components of disaster risk communication in health systems: A thematic analysis

Process and components of disaster risk communication in health systems: A thematic analysis



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Risk communication (RC) is one of the necessary functions in disaster management. Establishing communication processes such as planning, transparency of policies and guidelines, RC expert training, providing communication infrastructure and evaluation in the shortest period reduces confusion and management inconsistency. One of the existing challenges is not knowing the exact dimensions of risk communication and its components in disasters. The aim was to identify the components of disaster risk communication in the health system. This research was conducted by systematic review and searching of the databases of PubMed, Scopus, Web of Science, ProQuest, Google Scholar and ScienceOpen 2000–2021 to identify the components of disaster risk communication in the health system. Thematic content analysis was used for data analysis. A Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 chart was used for systematic search, and a modified Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) was used for quality determination. Out of 12 342 articles extracted, 25 studies were included for analysis. The components of disaster risk communication were analysed in 6 categories and 19 subcategories. These categories include communication (communication processes, communication features and infrastructure), information (content production, content characteristics and publishing), risk communication management (risk perception assessment, planning, coordination and logistics), monitoring and control (monitoring and evaluation, accreditation, documentation), education and training (public and organisational) and ethics and values (culture and social beliefs, ethics and trust). According to this research, the establishment of communication infrastructure and advanced equipment such as various structured formats for communication and artificial intelligence; online and offline communication support systems; and timely and accurate notice can help achieve goals such as coordination and organisation in the health system and increase social participation.

Contribution: This study has clarified and explained all the main components and measures of risk communication that can be used for planning scientifically.

Keywords: risk communication; emergency communication; disaster communication; health system; community engagement; disaster management.

Introduction

In the year 2020, a minimum of 389 natural disasters were reported in the Emergency Events Database (EM-DAT) which caused the death of 15080 people, affecting 98.4 million people and causing \$171.3 billion in economic loss (Centre for Research on the Epidemiology of Disasters (CRED) 2020). Damages caused by disasters in low-income countries and gross domestic product (GDP) per capita have always been higher than \$2 282.55 (2020) (Kakhodanmash et al. 2020).

The effects of disasters in many cases lead to complex and catastrophic situations. Apart from the magnitude and severity of disasters, some of their effects are because of the type of

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Safety Assessment of the Largest Makeshift Hospital for COVID-19 Management in Iran



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Safety Assessment of the Largest Makeshift Hospital for COVID-19 Management in Iran

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Abstract

Introduction: COVID-19 has infected more than 196717202 people and killed more than 4203769 cases worldwide ever since its emergence until July 29th, 2021. The creation of centers for prehospitalization and post-hospitalization of patients as makeshift hospitals were principal actions for Covid-19 management. The study aimed to assess the safety of the largest makeshift hospital for COVID-19 management in Iran.

Methods: This cross-sectional study was conducted in Iran, from March 29, 2020, through May 20, 2020. Ever since the outbreak of COVID-19, the IRAN MALL complex dedicated a part of its exhibition space to the Medical Center in the COVID-19 disaster to help the national campaign. The research team designed a makeshift hospital risk assessment tool based on COVID-19 and visited the big makeshift hospital in Iran to evaluate its non-structural and functional situation. Also, dimensions of setting up a convalescent home and the importance of structural or non-structural items were investigated.

Results: The non-structural safety, functional and managerial safety points were calculated separately. The total safety rating was determined at 870 as a very high safety level. In this makeshift hospital, there were 16 items with ultra-low, nine items with low, 18 with moderate, 28 with high, and 134 with very high safety. Most of the low to ultra-low safety issues were related to non-structural items.

Conclusion: The non-structural and functional safety is an essential factor to be resilient in disasters and pandemics. Strengthening health infrastructure, empowering health care providers, using new technologies in early warning, assessing the phenomenon, and providing services, will reduce the workload and financial burden of health effects and lead to health system adaptation.

Keywords: Makeshift Hospital, Safety, COVID-19, Disasters, Pandemic.

Assessment of Health System Functions in Earthquake-stricken Regions in Kermanshah, Iran



Assessment of Health System Functions in Earthquake-stricken Regions in Kermanshah, Iran

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Abstract

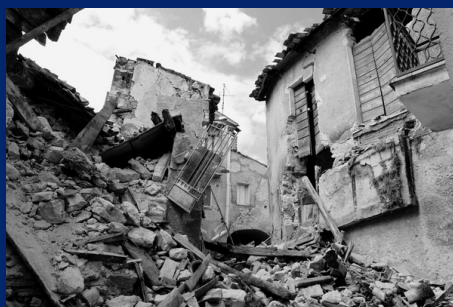
Background: The occurrence of an earthquake in Kermanshah province in 2017 leads to death and injury of its inhabitants. Assessment of the health system functions can lead to the provision of the necessary healthcare services for the affected population post-disasters. The present study is aimed to assess the health system functions after the Kermanshah earthquake.

Objectives: Assessment of health system functions in the reproductive, pediatric, and environmental health dimensions in the affected regions of Kermanshah were the research objectives.

Methods: This mixed methods study was conducted in the two phases of developing a tool and assessment of the main health system functions. Content validity and reliability were measured by CVR and CVI, and Cronbach's alpha, respectively. Assessment of health system functions was conducted by the participation of 100 affected households.

Results: Firstly, the primary tool was designed using 31 primary items extracted from literature review and a qualitative study. CVR and CVI of the tool were 100%, and Cronbach's alpha was 0.97. The coverage of the reproductive, environmental, and children's health services ranged from 90 to 100% since the first day to one year after the earthquake and between 30 and 60% from one year to two years post-earthquake.

Conclusions: The assessment of health system performance can provide the necessary data for effective decision making and promoting health system functions. Further research is needed to assess the functions of the health system after other natural disasters rather than earthquakes.



Letter to Editor: Frequent Occurrence of Pandemics: The Need to Change the Family Emergency Kit and First Aid Kits of the DAVAAM Group

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Citation: Eskandari Z, Delghani A. Frequent Occurrence of Pandemics: The Need to Change the Family Emergency Kit and First Aid Kits of the DAVAAM Group. *Health in Emergencies and Disasters Quarterly*. 2021; 7(1):1-2. <http://dx.doi.org/10.32598/hdq.7.1.310.2>

<http://dx.doi.org/10.32598/hdq.7.1.310.2>

Letter to the Editor

C OVID-19 disease has changed many aspects of life. Dealing with accidents and disasters is no exception to this rule. Therefore, the necessary preparedness must be made in disasters that coincide with pandemics in the communities.

Perhaps the simplest and, at the same time, the most crucial issue is to review the equipment inside the family emergency kit, which requires the addition of sanitary items, such as masks and disinfectant liquid. In this letter to the editor, the necessary health items and their amount is calculated based on the number of household members.

According to the Emergency Events Database (EM-DAT) report, in 2020, there were 389 natural disasters in the world, which affected more than 98.4 million people in the world and resulted in the death of 15080 people. The earthquake which happened in Turkey, with 115 dead, was one of the deadliest disasters that occurred this year [1].

Earthquakes and floods are the most common disasters, affecting most people and forcing them to flee their homes and seek refuge in safe areas, often in disaster management shelters or camps. The more prepared the families are for disasters, the less the vulnerability of the

society will be. One of the steps taken in this direction is providing families with a family emergency kit. Based on Federal Emergency Management Agency (FEMA) suggestion, these bags should contain items, such as non-perishable food and water for several days, mobile phone battery or charger, radio, flashlight, and extra battery; first aid kit, whistle for help, essential hygiene items, garbage bags, can openers (if you have canned food), the latest drug prescriptions, medicines, extra glasses, powdered milk, important family documents (copy of ID card, insurance policy, bank records, house and car documents in a waterproof bag), blankets, yarns and glass [2]. According to the standards, each family should have at least two kits, one for home and a small portable one in the car or workplace [3].

The world has always been affected by numerous epidemics such as SARS, MERS, and influenza. Currently, the world is plagued by the COVID-19 pandemic, which has affected around 79.2 million people and killed about 1.7 million in 2020. In such circumstances, the possibility of the presence of carriers of COVID-19 or asymptomatic patients in crisis management shelters and camps will lead to the spread of the disease in disaster-affected communities [4].

Because of the importance of prevention and observance of primary hygiene to break the epidemic cycle,



Frequent Occurrence of Pandemics: The Need to Change the Family Emergency Kit and First Aid Kits of the DAVAAM Group

<https://hdq.uswr.ac.ir/article-1-384-en.pdf>

Health Responses During the COVID-19 Pandemic: An International Strategy and Experience Analysis

Research Paper: Health Responses During the COVID-19 Pandemic: An International Strategy and Experience Analysis



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ABSTRACT

Background: Sharing experiences and learning from health measures taken during the outbreak of epidemics is a critical issue that affects the right and timely decisions in health crises. In the present study, an attempt has been made to review the health policies adopted against COVID-19 and extract critical points for resolving the epidemic crisis.

Material and Methods: This article was a comparative study. The study population comprised Canada, Japan, Germany, Korea, Turkey, and Iran. Ten effective indicators in the management of epidemics were extracted by reviewing the literature and interviewing disaster management experts, and the degree of conformity of the research community with them was examined. The study data were collected from articles published in scientific databases (Google Scholar, PubMed, Web of Science, and Scopus search engines) or information from COVID-19 disease management organizations from official sites. The obtained data were processed and analyzed by matrix content analysis.

Results: The results showed the importance of 10 effective indicators in the management of epidemics during the outbreak of COVID-19 studied and noticed by the health system of most countries. And the government, local and private organizations have participated in the implementation of the studied indicators according to the conditions of each country's health system. Therefore, the success rate of countries in managing COVID-19 disease varies according to the time, type, and manner of implementation and monitoring of measures.

Conclusion: Speed of action in adopting health policies and integration in its implementation, construction of coalitions, adequate training and access to personal protective equipment, prevention of nosocomial contamination, and voluntary assistance are essential issues in the fight against epidemics. These measures should be considered and used as teachings in managing health crises, especially emerging diseases and pandemics.

Keywords:

Health, Lessons learned, Disaster management, Pandemic, Covid-19, Health policy

Challenges and barriers of humanitarian aid management in 2017 Kermanshah earthquake: a qualitative study



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BMC Public Health

RESEARCH ARTICLE

Open Access

Challenges and barriers of humanitarian aid management in 2017 Kermanshah earthquake: a qualitative study



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Abstract

Background: Examining various problems after disasters is important for the affected people. Managing humanitarian aid and donations among the affected people is considered as one of the most important problems after disasters. Therefore, the present study aimed to evaluate the challenges and barriers of humanitarian aid management in 2017 Kermanshah Earthquake.

Methods: This study was conducted from November 2017 to January 2018, with qualitative case study design. The population included 21 people including 6 humanitarian aid manager, 6 volunteers, 4 aid workers, and 5 affected people. The data were collected through semi-structured interviews and purposive sampling, which continued until saturating the data. The strategies recommended by Guba were used for evaluating the trustworthiness of the data. The data was analyzed with conventional content analysis method according to method suggested by Graneheim and Lundman.

Results: Based on the results, two themes, nine categories, and 19 sub-categories were identified considering the challenges and barriers of humanitarian aid and donors' management during the 2017 Kermanshah Earthquake. The categories included education, command and coordination, communication and information, rules, security, traffic and overcrowding, assessment, providing system, and cultural setting. Also, two themes including managerial and structural barriers were extracted.

Conclusion: Adopting an effective management and appropriate policies with respect to humanitarian aid and modifying structural and managerial barriers can improve the performance and management of humanitarian aid.

Keywords: Disaster, Donation management, Humanitarian aid, Aid distribution, Iran

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Could SARS-CoV-2 or COVID-19 Be a Biological Weapon?



Iran J Public Health, Vol. 49, Apr. Suppl. 1, 2020, pp. 143-144

Letter to the Editor

Could SARS-CoV-2 or COVID-19 Be a Biological Weapon?

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Dear Editor-in-Chief

In recent years, especially after 9/11, following every epidemic, and especially the pandemic, is the thought of the world. Was Corona pandemic a biological attack? A novel coronavirus (COVID-19), called SARS-CoV-2, is a new strain of coronavirus that has not been previously identified in humans. Coronaviruses are a large family of viruses found in both animals and humans. Some infect people and are known to cause illness ranging from the common cold to more severe diseases (1).

There are some facts here: Not provable, is a very famous character of Biological Weapon (BW). Wuhan Virology Lab in Wuhan Institute of Virology (WIV) has the potential for generating BW. (2) According to forecasts China's share of Global Economic Growth would be 27% in 2020. (3)

In Jan 2 articles were published by Washington Times which claimed the virus was part of a Chinese biological weapons program, based at the WIV (4). This claim was rejected by BBC and later by Washington Post, published an article debunking the conspiracy theory, citing US experts. Again, in Feb, U.S. Senator Tom Cotton suggested that the virus may have been a Chinese bioweapon (5). The Financial Times reported

from virus expert and global co-lead coronavirus investigator, Trevor Bedford, who said that "There is no evidence whatsoever of genetic engineering that we can find", and that, "The evidence we have is that the mutations (in the virus) are completely consistent with natural evolution" (6). Dr. Trevor Bedford is an Assistant Member at the Fred Hutchinson Cancer Research Center affiliated with the Vaccine and Infectious Disease Division and with the Computational Biology Program.

These have been very formal discussions in this regard, and as previously mentioned many other arguments in Social Networks. In most of the cases, the discussions are about BW from WIV and the claims are rejected by special news agencies or special persons. However, the question remains owing to some reasons: Is it reasonable that if WIV has this virus, admit it? If a country makes a genetic change and uses it as a weapon, does it announce? Will the impact on the state of the world economy be predictable? The world economy is influenced by China's economic status as the world's second-largest economic power. According to Economic News, the list of GDP is started by the US with 22.3 trillion dollars (TD) in 2020, China with 15.7 TD but with a



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Available at: <http://ijph.tums.ac.ir>

Investigation of the relationship between end-tidal carbon dioxide and partial arterial carbon dioxide pressure in patients with respiratory distress



Brief Communication

<http://mjiri.iums.ac.ir>

Medical Journal of the Islamic Republic of Iran (MJIRI)

Med J Islam Repub Iran. 2020;(24 Jun);34:67. <https://doi.org/10.34171/mjiri.34.67>



Investigation of the relationship between end-tidal carbon dioxide and partial arterial carbon dioxide pressure in patients with respiratory distress

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Brief Communication

Blood gas test is requested when a person shows either signs of imbalance in oxygen/carbon dioxide or pH, such as difficulty in breathing, shortness of breath, vomiting, suffering from respiratory illness, metabolic disorder, kidney disease, and experiencing respiratory failure, or injuries that could affect breathing, including head or neck trauma. Therefore, measuring blood gas is highly important for assessing oxygenation and acid/base situation (1-3). Patients admitted to the emergency wards with respiratory distress as their main complaint need careful examination for oxygenation status, ventilation, and acid/base balance (4, 5).

Taking the arterial blood gas (ABG) test from the patient can provide valuable information for the physician. Unfortunately, ABG apparatus may not be available in all emergency wards (6-8). Arterial blood taking from the patient is time-consuming and very painful, has error probability, and needs to be repeated several times in some cases. Thus, using noninvasive methods such as pulse oximetry and capnography is necessary (9, 10). On the other hand, ABG test provides steady information on the patients' oxygenation instead of providing intermittent findings. In sum, ABG is not ideal to monitor critically-ill patients (11, 12). However, end-tidal carbon dioxide pressure can be measured using capnography (13).

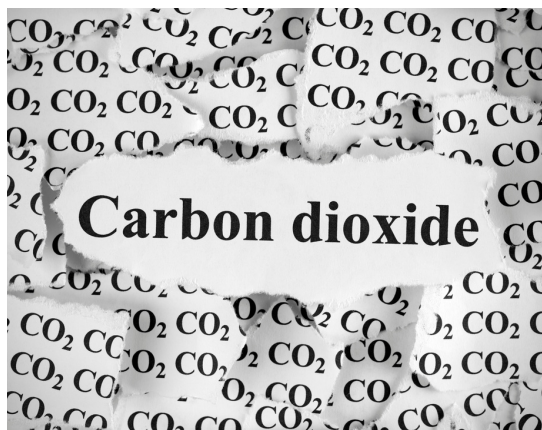
End-tidal CO₂ can be a noninvasive, quick, and reliable technique which predicts PaCO₂ in patients with respiratory distress (14). Monitoring end-tidal CO₂ could be a suitable

substitute for measuring PaCO₂ in many emergency wards and operating rooms in developed countries (15). However, to date, exact correlation with PaCO₂ has not been confirmed. This study aimed to evaluate the correlation between PaCO₂ and EtCO₂ in patients with respiratory distress admitted to the emergency wards.

In this cross sectional study, the ABG test was taken and simultaneously the EtCO₂ was measured with capnograph in patients admitted to the emergency ward of Hazrat-e Rasoul hospital with one or more following symptoms: difficulty breathing, grunting, tachypnea, orthopnea, costal retraction, bluish color around mouth, wheezing, and nasal flaring described as respiratory distress symptoms (16). Also, blood pressure and body temperature of the patients were recorded. Then, patients diagnosed as newborn respiratory distress syndrome were excluded. In this study, the sample volume with 30% probability was 120 cases. All patients agreed to provide their information to the researcher.

The collected data were analyzed using SPSS-22. The recorded variables were collected using a predesigned questionnaire and analyzed using regression method.

A total of 120 patients (62 men (51.66%) and 58 women (48.33%), with the age range of 10-90 years (mean: 48.3 years), entered the study. The mean value of their PaCO₂ and EtCO₂ was 47.45 and 26.9 mmHg, respectively. The mean number of their respiratory rate (RR) was 37.4 bpm, diastolic pressure 89.9 mmHg, and systolic pressure 124.9 mmHg. All demographic data are presented in Table 1.







Airborne particulate matter and increased risk of COVID-19 infection

Journal of Health in the Field, Vol.8, No.3, Autumn 2020

Brief Report

Airborne particulate matter and increased risk of COVID-19 infection

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Abstract

Background and Aims: Particulate matter are effective factors in the spread of viruses, fungi and bacteria that can affect the prevalence of epidemics. In this study, we surveyed the effects of particulate matter on the number of COVID-19 patients in Iranian cities.

Materials and Methods: The levels of air pollution in different cities of Iran were evaluated based on the official report of Iranian Department of Environment. The relationship between air pollution and the prevalence of affected COVID-19 patients in different cities was reviewed and analyzed.

Results: The results showed that COVID-19 were prevalent in cities with the highest level of air pollution in fourteen days before the observed rise in the number of affected cases.

Conclusion: The increase in the rate of COVID-19 patients in dusty cities in Iran emphasized that particulate matter may be effective in the increasing number of COVID-19 patients. Further studies on the effect of airborne pollutants on the prevalence of epidemics are thus recommended.

Keywords: Particulate Matter, Sand Storm, Patients, COVID-19

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Human Mass Gatherings and Communicable Diseases: COVID-19

Human Mass Gatherings and Communicable Diseases: COVID-19

Zohreh Ghomian^{*1,2}, Zahra Eskandari³, Arezoo Dehghani³

Abstract

Background: Mass gatherings are human community held for specific purposes and ceremonies, worldwide. Many of them originate from the beliefs, culture and traditions of societies. Several gatherings of religious, national, sports, political, scientific, are held in the Islamic Republic of Iran, which some of them are on very large scales. The aim of this paper is key planning considerations for the organizers of mass gatherings in the context of the novel coronavirus (COVID-19) outbreak. **Methods:** This paper published by using the WHO's Public health for mass gatherings key considerations and other reliable national and international references and websites.

Results: Meeting organizers should consider three phases in planning appropriate preparedness measures (Planning, Operational, and Post-event phases). Specific actions to be taken in each phase are discussed:

In Planning phase: Liaison with local and national public Health authorities; Risk assessment; Specific action plan for COVID-19; Capacity and resource assessment; and Risk communication and community engagement plan

In Operational phase: Risk communication; Surveillance of participants; Testing and diagnostic arrangements; Treatment facilities; Decision-making; and Operational practices for reducing event-related transmission of the COVID-19 virus.

In Post-event phase: Support the response of authorities, if public health authorities suspect that transmission of the COVID-19 virus has occurred; Risk communication; Use and follow the lessons identified;

Conclusion: A basic medical action plan must be created for every mass gathering event. Providing safety, security and health of the participants during the ceremonies is one of the most important tasks, have been considered in the mission of various organizations such as police, fire stations, hospital emergencies, etc. According to the services they provide, health organizations play an important role in providing and restoring health before, during and after gatherings.

Keywords: COVID-19, Collective behavior, Crowds, Human Gatherings, Manners and Customs



Improvement of the country safe community program in view of changing the pattern of traffic accidents in the under19 age group in Iran

Injury & Violence

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Improvement of the country safe community program in view of changing the pattern of traffic accidents in the under-19 age group in Iran

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Abstract:

Background: Safe community is based on four principles: safety belief, knowledge of the proper use of safety devices, access to safety requirements and respect for the rules, and safe driving is one of its axes. According to the World Health Organization's annual report for 2015, more than 1.25 million people die because of traffic accidents worldwide, and the eighth cause of death in the world is the leading cause of death in the age group of 15-15 years. This study was carried out to promote the safe community based on traffic accident analysis in the age group under 19 years old in Iran.

Methods: This study was conducted through document review, reassessment of documents, data from the World Health Organization, Death and Immortality of Iran, and the Forensic Medicine Organization.

Results: According to the statistics, in 2016, there was a change in the pattern of injuries in adolescence, and the first three priorities were changed to traffic accidents (32%), fall (16%), poisoning and violence (5%). The study of the 10-year trend of traffic accidents in three types of pedestrians, motorcyclists and motorcycles shows that the age group of 15-19 years old males in all three levels is in the number of injuries. In the traffic accident cases, the pattern of injuries has changed. Despite the fact that 34.5% of the victims of the incident belonged to the age group of 19 to 15 years old, it was ranked second in the age group of 19-15 years old. The major causes of driving accidents in the age group of 19-15 years were not having a driving license, mental and emotional state, non-use of seat-belts, imagine the ability to control a car or engine, dramatic movements during driving and Lack of attention to driving directions which could be prevented.

Conclusion: All organizations involved in traffic safety and the safe community should focus on providing cultural, educational, and empowering age groups with the explanation of the areas of technical, scientific, educational and research services and the design of safety promotion interventions. Preventive strategies should be employed at three primary, secondary and tertiary levels.

Keywords:

Safe community, Traffic Accidents, Prevention, Child and Adolescent

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Hospital transformation plan: achievements, challenges and lessons learnt



Hospital transformation plan: achievements, challenges and lessons learnt

Hospital transformation plan: achievements, challenges and lessons learnt



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ABSTRACT: In this article, the authors discuss the evolution of the Iranian hospital management system after the Iranian Health Transformation Plan (HTP). These changes point to "Decreasing "Out-of-Pocket" payments for the hospitalized patients in the hospitals", "Enhancing the quality of housing services in the hospitals run by the Ministry of Health", "Capacity building of public hospital managers", and ultimately "establishing independent hospitals".

The hospitals reform has significantly reduced patient out-of-pocket payments, increased productivity, reduced patient dissatisfaction, and promoted fair access.

Major problems in the way of these improvements are the lack of sufficient resources, waste bureaucracy and lack of managerial skills among managers.

Key words: Iran health transformation plan, capacity building, health managers, independent hospital, hospital housing

“A healthy human” is the mainstay for the sustainable development and “healthiness” is essential for benefiting from other divine blessings. Maintaining and promoting “health” is not only a personal but also a social, organizational and sovereign responsibility. It is one of the most important goals in Islamic Republic of Iran’s vision 2025. The main mission of the national health system in Iran is to promote the standard of health in the country and to meet people and society’s needs.

The policies issued and communicated by the supreme leader and the programmes of the Ministry of Health and Medical Education in the “Medical Treatment Field” in the 11th government, especially the health transformation plan, are the basic documents that are translated into the mission of the “Deputy Minister’s Office for the Medical Treatment” and shall promote the health of the people of Iran.

On the other hand, the report of health that was collected during the first 100 days of work of the 11th government’s administration and presented thereafter, showed that there are serious challenges in reaching the highly valuable goals of the health system in the country, challenges that need

to be solved, to name a few: inequalities in the access to health services, unfair health financing, high out-of-pocket payments, inequalities in meeting medical and nonmedical expectations of the people from the health sector and neglected social determinants of health (such as employment, job security, food safety and security, healthy water, appropriate housing, literacy, welfare, early childhood development, etc.)⁽¹⁾

To solve these problems and to reach the goals & targets of the 5th National Development Plan, such as decreasing out-of-pocket payments to below 30%, the government has already decided to use the financial resources from the 2nd stage of targeted subsidies programme. The Health Transformation Plan (which consists of almost all health activities in the country such as hygiene, medical care, education, research and technology and etc.) aims to promote the health of the people to match their dignities and, once fully implemented in all medical centres throughout the country, and particularly in hospitals run by the Ministry of Health and Medical Education, we will notice the health standards of the Iranian people promoted and

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