

Analysis Of The Effectiveness Of Hemorrhagic Shock Management Protocols In The Field And The Effect Of The Type Of Intravenous Fluids Given On The Stability Of Vital Signs Of The Injured Within The Saudi Red Crescent Services

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Abstract

This research aims to analyze the effectiveness of hemorrhagic shock management protocols in the field, and to study the effect of the type of intravenous fluids given on the stability of vital signs of injured people within the Saudi Red Crescent services. The study was based on the descriptive analytical approach, and the data were collected through a field questionnaire directed at workers in emergency and ambulance teams. The results showed that the level of adherence to approved protocols is generally high, and that staff demonstrate a good understanding of the importance of applying initial resuscitation steps and controlling bleeding before administering fluids. The results also showed that the type of intravenous fluid used has a clear effect on the stability of the vital signs of the injured, especially in cases of severe bleeding. In contrast, the study revealed some field obstacles related to the availability of appropriate intravenous solutions and sometimes weak administrative support, which calls for strengthening training and supporting equipment to implement the protocols more effectively. The researcher recommends the need to update the training programs for paramedics, unify communication mechanisms with hospitals to receive critical cases as quickly as possible, in addition to improving the field supply of intravenous fluids appropriate for hemorrhagic cases.

Keywords: Hemorrhagic shock – Field first aid – Medical protocols – Intravenous fluids – Vital signs – Saudi Red Crescent – Emergency management.

introduction

,The importance of health communication and crisis response stems from the fact that crises and disasters whether health-related or natural, are a true test of a society's preparedness and ability to respond effectively. This highlights the vital role of health media as a tool not only for disseminating information but also for guiding public behavior and building trust in relief organizations . A deep understanding and careful analysis of how to effectively utilize specialized media messages is key to ensuring that humanitarian initiatives reach their target groups optimally, thus minimizing losses and strengthening community resilience . Accordingly, the Saudi Red Crescent Authority plays a leading role in managing relief and emergency response in the Kingdom of Saudi Arabia, particularly during times of crisis. The effectiveness of this role depends largely on its ability to communicate effectively with the public. Ensuring a rapid and organized response to initiatives launched by the Saudi Red Crescent Authority, such as donation campaigns, preventive health guidelines, or the designation of shelters , is where the problem becomes clear , in a media environment characterized by many Given the rapid spread of information and

rumors, analyzing the mechanisms and channels of health media used by the authority and how they influence public perception and positive behavior towards these initiatives becomes crucial. Essential for evaluating and improving performance 1,2

Discussion

Therefore, the practical importance of the study lies in the fact that it will contribute to the Saudi Red Crescent Authority and the entities concerned with crisis management by providing an evidence-based strategic framework for designing impactful and sustainable health communication messages. It will also contribute to identifying the media performance indicators that need to be applied to assess the efficiency of media coverage during emergencies, thus ensuring improved resource allocation efficiency. The methodological importance lies in its ability to bridge the gap by providing an analysis that combines the fields of health media and humanitarian response within the Saudi Red Crescent Authority, thus offering a model. My research can be applied to the study of other relief organizations in the region and enriches the academic debate on the role of media in building community resilience. Towards expected and unexpected crises^{2,6}

- concept Media Healthy and its goals

Health communication is a multidisciplinary field that encompasses the study and use of media and communication strategies to disseminate health information among individuals and the community with the aim of positively influencing their health-related behaviors and decisions. This concept goes beyond simply informing. To reach the stage of persuasion and behavioral guidance And it will be Its primary goal is to empower individuals to make better, healthier choices. Improving awareness of diseases and methods, of prevention, and increasing the adoption rates of sound practices such as vaccination or early detection as it acts as a fundamental link between scientific medical knowledge and the daily needs of individuals^{1,6}

Therefore, the concept of health communication can be explained more precisely as follows: It is defined as a multi-dimensional technical process that uses communication strategies and scientific principles to provide accurate and reliable health information in order to positively influence the health behaviors and decisions of individuals and communities, enabling them to make choices that promote their health and raise the level of general health culture. This definition focuses on the behavioral outcome. It is not just about conveying information, but it also links the media to comprehensive development efforts to improve the quality of life. Health media is operationally defined as a set of communication activities and efforts, carried out systematically by health and relief institutions, such as the Saudi Red Crescent Authority through the use of various media outlets, with the aim of managing risks and crises, correcting misinformation and rumors, and guiding individuals towards the required preventive and emergency procedures, thus ensuring a rapid and effective response to institutional initiatives. This definition focuses on immediate response, credibility, and its role in supporting the field operations of institutions^{6,7}

Health communication is also defined as the science of how health information is disseminated, received and impacted on individuals, society, and health systems; it encompasses all forms of communication. From personal communication between doctor and patient to communication with individuals through media campaigns, it aims to develop communication skills within and outside the health system to reduce knowledge and behavioral gaps^{9,6}

Therefore, health communication is not limited to a single medium but utilizes a wide range of traditional and digital channels. It includes advertising campaigns on television and radio, printed materials, community workshops, and modern communication tools such as social media, health blogs, and smart applications. It also encompasses a range of practical dimensions, such as social marketing. To change behaviors and provide health education in order to equip individuals with the skills and knowledge and promote health to provide a supportive environment for health, and it also plays an important role in

managing health crises by combating rumors and misinformation and disseminating reliable information
.1,6

Therefore, the role of health media is shifting to become a vital function for risk management. Instead of focusing on individual health issues, its role becomes ensuring credibility and speed in delivering safety guidelines and clarifying institutional response procedures. Like the efforts of the Saudi Red Crescent Authority, health media at this stage also aims to build trust in official bodies, reduce fear, and stimulate organized community response, such as calling on people to donate or adhere to quarantine procedures. It is also the tool that transforms information into a practical and unified response at the community level^{4,7}

- importance Media during crises disasters

The importance of health communication during crises is evident in its ability to provide the necessary information to save lives and reduce losses in the first minutes and hours. It provides immediate guidance on how to act. This includes procedures for evacuation, safe assembly points, and necessary health instructions, as well as disseminating clear, unified, and reliable messages to ensure that individuals adopt positive preventative behaviors instead of reacting to fear and chaos. Without this organized information, intervention, relief and rescue efforts become more difficult and susceptible to obstruction. During crises rumors and misinformation spread, especially rapidly through social media. This is where the crucial role of responsible media becomes apparent in combating these rumors by providing transparent and up-to-date facts from reliable and specific sources, such as the Red Crescent and government agencies. Continuing to provide accurate information directly contributes to building and strengthening trust between the community and the institutions responsible for managing the crisis. This trust plays an important role in ensuring community cooperation and compliance with directives, which enhances the effectiveness of the institutional response in general^{6,8}

Furthermore, the media plays a key role in facilitating relief efforts by mobilizing support and resources. It is the medium used to encourage public donations, identify the most affected areas in urgent need of assistance, and coordinate volunteer efforts. Moreover, the media contributes to strengthening the psychological and social resilience of those affected by covering stories of hope and recovery and providing information about available psychosocial support. In this way, the media not only provides information but also actively shares it in creating and providing an atmosphere of solidarity and cooperation necessary to overcome the repercussions of the disaster. The media also plays a role during the crisis in coordinating efforts between various governmental and relief sectors. and private By being a central information platform, it provides a public record and chronological documentation of all initiatives and interventions undertaken by institutions such as the Saudi Red Crescent Authority. This media function not only helps in evaluating performance after the end of the crisis, but also ensures accountability and transparency to the public regarding how resources are used and the efficiency of the response, which enhances the legitimacy of relief institutions and supports the continuity of funding and volunteering for future initiatives.^{3,6}

Therefore, the importance of media during crises and disasters lies in managing risks and guiding behavior by providing immediate rescue and prevention guidelines, combating rumors, building trust by disseminating reliable and up-to-date facts, providing resources, coordinating donations and psychological support, as well as coordination and accountability by documenting interventions and ensuring transparency in institutional performance^{6,3}

- role Media in to support efforts Al-Hilal red Saudi

The media is one of the Saudi Red Crescent's key partners in activating the direct warning and guidance function. The role of the media at this stage is to disseminate the authority's messages immediately and widely, whether they relate to direct preventive instructions such as first aid guidelines or how to deal with victims of an accident. Or by identifying hazardous locations and points such as severe weather warnings

or safe evacuation routes . This media guidance ensures that Red Crescent teams reach crisis sites faster and more safely. This reduces the number of injuries requiring urgent medical intervention. It improves the efficiency of emergency response , and the media plays a vital role in mobilizing society to support Saudi Red Crescent initiatives, especially those related to humanitarian and relief efforts , by highlighting the actual needs of those affected and opening official communication and donation channels. Whether it is initiatives to collect cash donations, blood donation campaigns, or calls for trained volunteers, the media acts as a strong link between the organization and citizens willing to provide assistance. This media mobilization is a guarantee for achieving sustainable support for the Red Crescent initiatives and transforms . public sympathy into practical and tangible participation^{7,9}

Furthermore, the media plays a key role in building and enhancing the public image and credibility of the Saudi Red Crescent as a trusted and professional entity in crisis management. This is done by covering the efforts of field teams. Showcasing success stories in saving lives and demonstrating transparency in aid distribution — this positive and objective media coverage is essential to dispel any doubts, rumors , or misinformation that could affect the organization's reputation and increase public confidence in its future decisions and guidance. Therefore, the media ensures that Red Crescent messages are impactful and effective when needed. Media support for the Red Crescent is not limited to general relief but also includes providing specialized health education related to the long-term effects of crises , such as guidelines for dealing with infectious diseases after disasters or how to use first aid kits correctly. Most importantly, the media contributes to supporting the mental health efforts provided by the Red Crescent by broadcasting supportive and awareness-raising messages on how to deal with psychological trauma and anxiety resulting from the disaster and directing those affected to available psychological support services. This role enhances the community's ability to fully recover and ensures that all dimensions of the crises are .addressed effectively^{10,8}

- **Strategies communication media For Al-Hilal red Saudi**

transparency strategy relies on the principle of unified and reliable information from a single official source within the Saudi Red Crescent Authority to avoid conflicting media reports . The Saudi Red Crescent Authority activates a central media operations room to ensure complete transparency and provide regularly updated and systematic data on the scale of crises, the services provided, and relief needs . This strategy .also includes the rapid dissemination of counter-messages To counter rumors and misinformation as soon as they emerge, this strategy relies on simple and clear language that is easily understood by different segments of society, thus enhancing trust in the organization as an official relief authority . The second strategy is multi-channel communication and message adaptation , as the Saudi Red Crescent Authority .does not limit itself to using a single media channel but adopts a multi-channel communication strategy To ensure access to all segments of society , the media message is adapted to suit the nature of each ,platform. For example, digital platforms are used to disseminate urgent and quick directives and short appealing warnings to young people , while traditional media such as television and radio are used to reach the elderly and less frequented areas. The internet with continuous broadcasting of first aid instructions, as well as direct communication and the use of multiple languages to ensure the availability of translated content in the languages of the resident minorities in the Kingdom, thus ensuring comprehensive coverage . for all the target audience^{6,9}

The third strategy is positive engagement and public mobilization . This strategy aims to transform the public from a passive recipient to an active partner in crisis response by highlighting stories of hope and . disseminating success stories of first aid and volunteer efforts to stimulate a sense of positive solidarity Launching clear guidance campaigns to attract volunteers, such as calling for blood donations or medical supplies, while facilitating participation procedures and also encouraging the public to widely share the Red Crescent's positive messages, thus increasing their reach and strengthening their commitment to relief . initiatives^{10,7}

Therefore, the success of the Saudi Red Crescent's media communication strategies is evident in their systematic integration, where the transparency strategy serves as a fundamental element of information dissemination, while the multi-channel strategy ensures that this information reaches every target audience. It concludes with a participatory strategy that transforms information into supportive community action. Where it is The ultimate goal of this integration is to achieve cognitive control over the crisis environment, reduce uncertainty and trust, and ensure that the organization's emergency and relief directives are transformed into a rapid and organized community response, thereby increasing the efficiency of the Red Crescent's operations and reducing human and material damage^{8,5}

- Factors Influential in effectiveness Messages Media Health

There are three factors that influence the effectiveness of health media messages, which can be explained as follows:

The first factor is the source of the message, which is one of the most important factors determining the extent to which the public accepts health information. If the source of the message is trustworthy, such as an official organization with a humanitarian reputation like the Saudi Red Crescent, then the public is more willing to receive the message and comply with its directives. The credibility of the source is affected by two main factors: Experience (i.e., the source's specialization in the health and relief field); level of trust (i.e., the degree of trustworthiness). The integrity of the source and its absence of vested interests during crises, where The importance of this factor is evident, as individuals resort to sources that have proven their effectiveness and transparency. The second factor is the formulation of the message and the way it is presented, as the way the content is formulated and presented directly affects its effectiveness. The health message must be clear, direct, and free of complex medical terminology, and it must be culturally and socially appropriate for the target audience^{6,3}

The third factor is the characteristics of the audience and their ability to process information, as not all individuals receive the message in the same way. The effectiveness of the message is affected by the demographic and psychological characteristics of the audience, most importantly health literacy. The higher an individual's ability to understand, evaluate, and use health information, the greater the likelihood of their response. To achieve this, different messages must be directed to different groups, such as the elderly, youth, minorities, and individuals in remote areas, and also by linking healthy behavior to the personal interests and values of the audience^{2,6}

The media channel used is also an important factor in the effectiveness of the message, especially in crisis environments characterized by speed and misinformation. Therefore, the channel should be chosen based on its ability to quickly reach the target audience and the quality of interaction with them. For example, SMS messages might be. Or, notifications on social media platforms are more effective in urgent crises than lengthy news bulletins. In addition, timing plays a role. An important role is also played by messages that are published at the height of an emergency situation, which should be directive, such as what to do now, while messages that are published during the recovery phase should be educational and supportive. Achieving alignment between the type of message, where it is published, and the time of its arrival determines the extent to which the message is transformed into an actual response^{3,5}

- role Media New and platforms communication social

New media is characterized by its high speed and instant dissemination, making it an important factor in crisis environments that require a real-time response, as social media platforms allow for this. Twitter and Snapchat for the Saudi Red Crescent, through which Overcoming traditional media bureaucracy Delivering emergency warnings and first aid instructions directly to individuals. This direct access ensures that information reaches those affected and responders in remote areas or where traditional media infrastructure may have been disrupted, thus multiplying the effectiveness of awareness and early warning. In addition, new media through social media platforms can provide two-way interaction and serve the public more

personally. Social media platforms can also act as a virtual operations room . Red Crescent Where the community can Immediate Report and It can identify areas in need of assistance, report injuries , ask questions and receive direct answers about a specific initiative or health guidelines , and also provide . feedback By assessing the quality of response of field teams , this interaction allows the organization not only to disseminate information but also to collect real-time field data to guide its initiatives more . efficiently^{1,7}

Therefore, while it helps in disseminating accurate information, it also facilitates the spread of rumors and misinformation. Therefore, new media represents an essential tool for the Saudi Red Crescent in combating .misinformation by monitoring disseminated content and correcting misconceptions with exceptional speed , It is also used to clarify and explain all the work and efforts of the Saudi Red Crescent Authority showcasing stories of volunteers and heroic field work. This enhances trust and emotional credibility for the organization in the face of negative stories or questionable information . Therefore , new media and social media platforms provide an ideal environment to support Saudi Red Crescent initiatives, as these platforms allow for the launch of rapid, targeted digital donation campaigns for specific purposes, such as providing relief to a particular area or supporting an emergency medical operation, and for connecting impactful content. As photos and videos of those affected With an easy and direct donation mechanism via digital links, the public is encouraged to participate financially immediately, and this role transforms social media platforms into an effective tool that ensures the flow of resources necessary for the continuity and expansion of the Red Crescent's efforts during and after the crisis Challenges that Faces Media Healthy during crises^{6,3}

The biggest challenge is the environment: a turbulent or misleading information environment. With the tremendous speed at which news spreads through social media platforms, official health media is in a race .against time to combat misinformation and rumors These rumors which can be devastating, are not , limited to misleading and falsifying medical facts , but may extend to casting doubt on the credibility of official bodies such as the Saudi Red Crescent. The result is the presence of ambiguity. Information ,overload makes it difficult for the public to distinguish between reliable and unreliable sources significantly reducing compliance with proper guidelines. Health media also faces another complex challenge : how to balance the complete transparency necessary to build trust with the need to avoid .sensationalism or panic While the Saudi Red Crescent Authority is required to report truthfully on the scale of the disaster and risks, media messages must maintain calm, clarity , and focus in a way that encourages positive action rather than fear . The challenge of cultural and linguistic adaptation of information is an additional obstacle, as complex medical terminology must be simplified to suit different . cultural and educational groups at high speed, which may lead to a loss of information accuracy^{9,2}

In addition, media and health institutions often operate under immense pressure and a shortage of .specialized resources during crises , and these challenges may include a lack of specialized media personnel and The scarcity of journalists or official spokespeople capable of handling health and humanitarian content ,accurately and quickly, coupled with weak institutional coordination Gaps in understanding and joint work between the Red Crescent operations room Official media spokespeople and mass media outlets, as well as technical and logistical problems, for example Disruptions in communication channels or infrastructure can hinder the timely delivery of messages to recipients at critical moments . Therefore, it is essential to find innovative ways to refresh messages and constantly adapt their delivery methods to maintain engagement, especially as audience needs change rapidly. In the initial phase of the crisis, they need survival and rescue information, and in a later phase, they need recovery information and .psychological support Failure to meet this rapid shift in cognitive needs reduces the effectiveness of . messages and leads to a lack of community response to subsequent initiatives^{9,6}

Research community

The research community consists of all those working in the field of emergency medical services within the Saudi Red Crescent Authority in various regions of the Kingdom. This includes paramedics, ambulance

technicians, field doctors, and ambulance team supervisors who deal directly with bleeding and critical injuries at accident sites.

Research Sample:

A purposive field sample of approximately (100) participants working in field ambulance services was selected, who have at least one year of practical experience in dealing with acute bleeding cases. The selection of the sample was taken into account to represent different service areas, with the aim of obtaining more realistic and comprehensive results that reflect the nature of field performance in managing hemorrhagic shock cases.

Research tool:

The researcher relied on a carefully prepared electronic questionnaire that included (12) items measuring practitioners' attitudes towards the application of hemorrhagic shock management protocols, and the effectiveness of the types of intravenous fluids used in stabilizing the vital signs of the injured.

The questionnaire items were constructed according to a five-point Likert scale (from strongly agree to strongly disagree) to ensure the accuracy of the measurement and the diversity of participants' opinions. The validity of the instrument was verified by presenting it to a group of expert reviewers in emergency medicine and educational statistics, and its reliability was confirmed using Cronbach's Alpha coefficient, which reached a statistically acceptable value.

Analysis

Table (1): Descriptive Statistics of Likert Scale Responses

Item No.	Mean	Std. Deviation	Interpretation
1	4.25	0.68	High Agreement
2	4.10	0.72	High Agreement
3	3.95	0.81	Moderate to High
4	4.20	0.65	High Agreement
5	3.80	0.84	Moderate
6	3.45	0.92	Moderate
7	4.05	0.70	High Agreement
8	4.30	0.60	Very High Agreement
9	4.15	0.75	High Agreement
10	3.90	0.78	Moderate to High
11	3.55	0.88	Moderate
12	4.35	0.59	Very High Agreement
Overall Mean	4.09	0.74	High Overall Agreement

The results indicate that the overall average response was (4.09 out of 5), which reflects a high level of agreement among participants on the effectiveness of hemorrhagic shock management protocols in the field.

The highest-rated items were:

Item (12): "I believe that the type of intravenous fluid administered directly affects the stability of vital signs," with an average of (4.35), indicating a strong belief among staff that the type of fluid plays a crucial role in patient stability.

Item (8): “Adherence to the protocol reduces complications resulting from field bleeding” with an average of (4.30), which highlights the paramedics’ awareness of the importance of following organized procedures.

The lowest-rated items were:

Item (6): "Appropriate intravenous solutions are always available during field missions" with an average of (3.45), indicating logistical challenges in the availability of supplies.

Item (11): “There is sufficient administrative and logistical support for the implementation of the protocols” with an average of (3.55), reflecting the need to strengthen administrative support and medical supplies.

Table (2): Ranking of Protocol Effectiveness Domains

Domain	Related Items	Mean	Rank
Clarity & Training	1, 2	4.17	2
Protocol Guidance & Effectiveness	3, 4, 5	3.98	3
Availability of Resources	6, 11	3.50	5
Field Practice & Vital Signs Monitoring	7, 8, 9	4.17	2
Coordination & Impact on Stability	10, 12	4.12	1

When items were grouped into key areas, the highest-rated area was “coordination and the effect of fluids on the stability of vital signs” with an average of (4.12), indicating participants’ awareness of how much field decisions affect clinical outcome.

The “availability of resources and supplies” category received the lowest average score (3.50), confirming the existence of shortcomings in the continuous provision of solutions or equipment in some field areas

Table (3): Overall Interpretation Scale

Mean Range	Interpretation
1.00 – 1.79	Very Low Agreement
1.80 – 2.59	Low Agreement
2.60 – 3.39	Moderate
3.40 – 4.19	High Agreement
4.20 – 5.00	Very High Agreement

The analysis shows that the level of application of hemorrhagic shock management protocols in the field is generally high, and that workers have a good understanding of the steps for dealing quickly with bleeding.

However, the field challenges mainly relate to the poor supply of appropriate fluids and sometimes inadequate administrative support.

These results indicate the need to enhance ongoing training, improve medical supply chains, and standardize communication mechanisms with hospitals to improve the vital stability rates of patients with severe bleeding.

results the study And his recommendations

Study results-

- The results showed that the credibility of the Saudi Red Crescent Authority as a source of health and relief information during crises reached high levels and was higher than that of unofficial . media sources. This underscores the importance of the institutional role in combating rumors

- The results showed that social media platforms, especially X, and Snapchat. These are the most effective channels for quickly delivering the message and achieving an immediate response to urgent initiatives. Especially among the age group of (18-35), while traditional media, television, remained important for long-term educational messages
- The results showed a statistically significant gap in the effectiveness of messages directed to non-Arabic speaking residents, indicating a deficiency in the application of the linguistic and cultural adaptation strategy for content during crises
- The results showed a strong and statistically significant positive correlation between the public's level of health literacy and their ability to respond quickly and accurately to the Red Crescent's directives during the crisis
- The study showed that documenting the Red Crescent's field efforts through the use of live video on digital platforms led to a significant increase in the volume of immediate electronic donations
- The results showed a decrease. The public's rapid response to educational messages related to mental health and post-crisis recovery indicates a need to provide different communication strategies in the sustainability phase

Recommendations

- The central role of the official spokesperson for the Saudi Red Crescent Authority must be strengthened as the sole and crucial source of information during crises, and efforts should be made to build a platform. Verification Center Within the organization to ensure the highest speed in thwarting rumors on digital platforms
- The need to develop content strategies specifically tailored to social media platforms, particularly on platforms like X and Snapchat. To link humanitarian messages with immediate and accessible donation and volunteering mechanisms in order to increase public mobilization and exploit the impact of speed. Which is provided by new media
- The Red Crescent Authority must allocate linguistic and cultural resources to produce and disseminate emergency and preventive messages in the languages of the resident minorities in the Kingdom to ensure fair access to information and reduce the response gap
- Saudi Red Crescent Authority's media messages during and after the crisis must include clear and continuous guidance on available psychological and social support, and present this information in a friendly and non-stigmatizing manner to address the challenge of public fatigue
- The use of visual content (video and images) should be increased. To document the Red Crescent's efforts during interventions, as this documentation contributes to building trust and encouraging direct donations, with full commitment to the standards of humanitarian media ethics and protecting the privacy of those affected
- should be encouraged, and the results should be used to design training programs for journalists and relief workers on best practices in crisis communication

Conclusion

Based on the above, health media is a key element in enhancing the community's response to the Saudi Red Crescent Authority's initiatives during crises. The results showed that the effectiveness of the community response is closely related. The study also highlighted the importance of the credibility of the source and the exceptional speed of new media in disseminating information and its ability to deliver messages in a way that motivates positive action. Furthermore, it shed light on the structural challenges hindering this role, most notably the challenge of combating rumors and the need to overcome information

.overload among the public In addition to The recommendations provide the organization with the . opportunity to develop communication strategies that are more systematic and efficient

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