

# Validating the basics of trauma need-based training in asymmetric Warfare from the viewpoint of experts – a qualitative study

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## ABSTRACT

The present research titled Basics of trauma need-based training in asymmetric warfare, is a study aimed at increasing preparedness and training troops in all military ranks to deal with trauma in the asymmetric warfare taking into account current possibilities and conditions. Upon reviewing upstream documents and using the information and experiences of professionals in the field, a special model for trauma-based need training in the asymmetric warfare is developed by defining training features of 10 element of curriculum based on Akker's model and classified in military medicine along with the features of the same elements. The results were investigated and validated by trauma experts in asymmetric warfare. The results of the present study provide a framework for the development of trauma training programs in asymmetric warfare and also provide a scientific and practical basis for organizing and developing the field to reduce the mortality and morbidity of human resources present in asymmetric warfare. The achievements of the present study explain the dimensions and indicators of trauma need-based training in asymmetric warfare, which is an effective approach to increase the effectiveness of trauma learning and training in asymmetric warfare and increase the cost effectiveness. It is also an effective approach to organize trauma preparedness in all forces present in asymmetric warfare and can be presented as an operational protocol in terms of methodology and the roadmap.

**Keywords:** Validation, Training, Trauma, Medicine, Asymmetric warfare

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## INTRODUCTION

MacCallum writes: worsening and more destructive properties of the weapons exacerbated the casualties, which necessitates the improvement of care for the casualties (development of military medicine)<sup>1</sup>. Fathi categorized needs into two categories: training and psychological needs. He noted that training needs refer to those that reflect training demands or goals. In other words, these needs emphasize the necessity and importance of certain training such as the need for critical thinking training, the need to acquire social skills, and etc. These needs highlight the discrepancy between norms with desirable values and existing situation in a given context<sup>2</sup>. Liner & Sudery, in a study on the development of military medicine and the need for its continuity using new approaches, write: throughout the long history of military medicine, advances in treatment of war casualties occurred in parallel to the developments of war weapons and their destructive properties. The variety and severity of tissue injury depends on the release of the primary energy in that tissue. The highest-speed, high-energy modern weapons led to deeper tissue injuries than those caused by the weapons used in previous wars. Therefore, treating and caring for the casualties in today's modern wars and terrorist attacks requires specialized and modern approaches to managing these casualties<sup>3</sup>.

Considering the scope of their research, Khoshi et al. (2015) found that need assessment will be presented using individual and collective Delphi method and semi-structured individual interviews with trauma experts in a separate article along with implementation of the trauma-based need training scenario. It seems that combination and interdisciplinary learning using the science of training, curriculum planning and trauma with both training al

approaches is an effective approach to increase the effectiveness of trauma learning and training and facilitate access to training al goals and increase cost effectiveness in the face of accidents and traumas. In addition to providing learning opportunities and paying attention to the individuals' needs, it increases the attractiveness of trauma training and also urges authorities to pay due attention to it because trauma patients and professionals have a variety of needs, which should be classified and explained in terms of their priority to achieve predetermined goals<sup>4</sup>.

Regarding the history of military medicine, Namjonik writes: although the clear distinction between military medicine, including martial and non-martial medicine from the general aspects of medicine has been introduced as a specialized academic discipline in the military field since the beginning of the 20th century, it can be said that the issue of military health has existed in its primitive form even during the warfare between Persia and Rome. Considering that the highest casualties occurred during ancient warfare were due to the spread of communicable diseases among the troops and people of war-zone cities, on the one hand, and the multitude of casualties and the need to combat a variety of diseases have necessitated the need for some form of organization, training, and the use of medical and relief services, on the other hand, therefore, in practice, a distinction has been made between military and marital medicine in the general medical sense from the same time<sup>5</sup>.

Taba stated that need assessment was assumed to proceed the determination and facilitation of goals. Viewing need assessment as the basis of the goal setting is a long-standing tradition in curriculum planning<sup>6</sup>.

In a study on the causes of the development of military medicine, Hetz Cole (2006) writes: as medical

equipment evolved, military medicine also evolved. As the weapons used in the battle became more destructive and deadly, medical care improved proportionally and, therefore, wounded soldiers were more likely to be treated. In the early 20th century, the concept of military triage was gradually introduced, and advances in casualty transportation systems led to the introduction of more seriously injured soldiers who had previously had no access to medical facilities into the military medicine system. The military medicine structure and system were forced to adapt themselves with the number of injuries caused by the use of new weapons. Prior to the emergence of general anesthesia, surgery was rarely used to treat intra-abdominal, intracranial, or thoracic injuries and medical care was mostly focused on the limb injuries, and amputation was also regarded the only surgical intervention. With the introduction of general anesthesia, improvement in primary care, and the possibility of transporting the injured soldiers from the battlefield to the hospital, the concept of triage was identified as a key a step in dealing with the war casualties. Moreover, with the increasing number of casualties who survived the primary injuries, military medical systems were forced to promote their system of transporting the patients from the site of injury to a safe place to ensure initial stabilization and then to transport them to a place for final treatment<sup>7</sup>.

**METHODOLOGY**

It is a qualitative study, which was validated through Delphi technique. In this regard, organized interviews were conducted with trauma experts present in asymmetric warfare with a history of medical and training al activities at different ranks (physicians, nurses, etc.). Also, after reviewing upstream documents and researches on training al principles as well as adjusting and analyzing data obtained from participants, an organized model of trauma-based need training elements in asymmetrical warfare has been prepared and validated by experts using Delphi technique. We will present the results of validating the extracted needs using Delphi method and semi-structured individual interviews with trauma experts.

Learning through the science of training and curricular planning seems to be an effective approach to increase the effectiveness of trauma – related learning and training and to facilitate access to training al goals and increase the cost effectiveness of trauma training in asymmetric warfare.

**RESULTS & DISCUSSION**

The results obtained from the above resources are defined as ten-elements training using Akker’s model. These results and relevant tables have also been reviewed and validated by trauma experts. Interviewees were selected from individuals with trauma training and treatment experience, including 3 surgery professors with sub-specialty sub-disciplines (such as vascular and thoracic surgery), 3 emergency medicine and 3 anesthesia professors, 2 surgical residents, 2 urology residents, 1 emergency medicine resident, 4 general practitioners, 2 nursing faculty members (with history of training 3000 military personnel), 10 nurses and practical nurses.

After investigating and analyzing upstream documents and resources on trauma in asymmetric warfare, as well as interviews with trauma experts in asymmetric wars and matching them based on 10- training elements using Akker’s model, the following elements were extracted:1. Goals 2.Content 3. Teaching strategies 4. Evaluation 5. Learning activities 6. Grouping 7. Resources 8. Place 9. Time 10. Ideology

The training features of these elements are defined and classified in military medicine and trauma training in asymmetric warfare.

**1: Goals**

Training examples	Military medicine	Asymmetric warfare
Recognition of the basic needs	Saving lives	Saving lives
Recognition of the generality of needs	Achieving a major knowledge regarding healthcare in the military medicine	Achieving major knowledge about trauma in asymmetric warfare
Recognition of the solutions to meet needs	Understanding healthcare service delivery system in the medical medicine	Understanding the relief system and relief stations in asymmetric warfare
Preparedness to meet the needs of everyone	Training military medicine to all military ranks	Preparing all military ranks to deal with trauma in asymmetric warfare
Achieving short and long-term goals	Reducing casualties as well as long-term complications	Reducing casualties as well as long-term complications
Recognition of the nature of needs	Understanding illnesses and injuries	Understanding war-related trauma and injuries
Practical ability to meet needs	Ability to apply military medicine knowledge	Ability to take practical measures to deal with trauma in asymmetric warfare
Increasing the productivity to meet needs	Accelerating the management of the injured and casualties	Adopting initial measures shortly after injury in the battlefield
Preparedness to create conditions to meet needs	Preparedness for war conditions	Preparedness for emotional conditions arising from the battlefield asymmetry warfare
Improved trainee’s progress	Increasing the level and knowledge of the military forces	Increasing the efficiency of troops in asymmetric warfare

**2: Content**

Training examples	Military medicine	Asymmetric warfare
Providing basic course instruction prerequisites	Military medicine	Training on safety standards for asymmetric warfare
Providing generality of needs	Training for war and crisis situations	Self-aid and buddy-aid
Providing basic training	Self-aid and buddy-aid	Initial measures taken to deal with trauma (vital signs, airway control, cardiopulmonary resuscitation, bleeding control, etc.)
Providing specialized training	Initial measures taken to deal with the patient or the injured in military medicine	Specialized training offered by the treatment team to deal with trauma during asymmetric warfare
Providing knowledge content	Specialized training on how to deal with the patient or the injured in military medicine	Knowledge of dealing with war traumas

	(ACLS- ATLS, etc.)	
Providing insight content	Healthcare knowledge in military medicine	Traumatology (trauma mechanism)
Providing skill content	Epidemiology of diseases	Control of airway, bleeding, shock, triage
Content formulation using native features and existing conditions	ACLS- ATLS	Management of the injured using limited equipment
Interdisciplinary approach	War-related therapeutic procedures	Environmental safety in urban wars, etc.
Presenting new topics	Environmental medicine, mental health, etc.	Training on how to deal with chemical and microbial agents

**3: Teaching Strategies**

Training examples	Military medicine	
Facilitating the learning process	Applying the military medicine training	Asymmetric warfare
Involvement of the trainees in the training process	Accompanying the trainees during the process of military medical training	Brief and practical training
Integrated teaching practices and new approaches	Practical training of military medicine principles	Accompanying the trainees during the process of trauma training and treatment in asymmetric warfare
Interaction and discussion during the training process	Group discussion on military medicine training	Bedside training
E-learning	Use of electronic equipment in military medicine training	Introducing and discussing traumas (injuries and treatments)

**4: Evaluation**

Training examples	Military medicine	Asymmetric warfare
Comprehensive evaluation system	Comprehensive evaluation system in the military medicine	Organizing evaluation methods on trauma training
Knowledge evaluation	Theoretical evaluation of military medicine training	Theoretical evaluation of trauma training
Skill evaluation	Practical evaluation of military medicine training	Practical evaluation of individuals' performance in dealing with trauma
Evaluation of training efficiency	Evaluation of personnel performance in the military medicine	Evaluating one's performance in applying trauma training in asymmetric warfare
Training- based evaluation	Evaluating progression in military medicine learning	Evaluation during trauma training
Repeated evaluation	Periodic evaluations upon completion of military medicine training	Evaluation during recruitment of individuals for asymmetric warfare

**5: Learning activities**

Training examples	Military medicine	Asymmetric warfare
Use of teaching aids	Use of teaching aids in military medicine	Use of trauma teaching aids (videos, software, etc.)
Transfer of information and experiences	Holding workshops and seminars on military medicine	Holding workshops and seminars on trauma training and treatment in

		asymmetric warfare
Practicing and simulating practical activities	Use of laboratory environment for military medicine training	Use of laboratory environment for trauma training in asymmetric warfare
Increasing practical skills and experiences	Holding internship in military medicine	Being accompanied by experience people in trauma treatment in asymmetric warfare
Group activities	Group investigation of treatment strategies in military medicine	Holding patient introduction sessions and group investigation of traumas

**6: Grouping**

Training examples	Military medicine	Asymmetric warfare
<b>General grouping</b>		
Non-trained people	All military ranks without military medicine training experience	All troops present in asymmetric warfare with no trauma training experience
Trained people	Military ranks with basic military medicine training	Troops with experience of trauma training in asymmetric warfare
<b>Exclusive grouping</b>		
Elementary and basic ranks	Relief, and health personnel, and medical team	Relief, and health personnel, and medical teams
Expert ranks	Specialists of health centers	Specialists of health centers (physicians, etc.)

**7: Resources**

Training examples	Military medicine	Asymmetric warfare
Resources on training perquisites	Resources on the war conditions on military principles	Resources on principles of asymmetric warfare
Resources on generality of training	Resources on the generality of military medicine	Resources on the generality of trauma treatment (such as the book, self-aid, buddy-aid written by A. Siavash)
References	Military medicine reference books	Medical reference books on trauma (Surgery and emergency medicine reference books)
Specialized resources	Military medicine specialized references	Specialized resources on war traumas (such as: the book, War surgery, based on Afghanistan war experiences)

**8: Place**

<b>Training examples</b>	<b>Military medicine</b>	<b>Asymmetric warfare</b>
Specialized place of training	Specialized military medicine training centers	Academic centers, classes, seminars, etc.
The place where trainees are gathered or deployed	Military bases and barracks	Barracks and deployments of forces in asymmetric warfare
The place where training content is accumulated	Military health and healthcare centers	Health centers, field hospitals, and relief stations in asymmetric warfare
The place where training content is used	Battlefields and locations of military medicine activities	Battlefield, trenches, and lines of asymmetric warfare

**9: Time**

Training examples	Military medicine	Asymmetric warfare
Training late after use	Intermittent military medicine courses	Intermittent trauma training in asymmetric warfare
training shortly after use	Pre-deployment military training courses	Preparatory trauma courses in asymmetric warfare
In-service training	Between operations	Between operations
	Within leisure time	Available and leisure time

**Validation of the features of the training elements obtained for trauma-based need training in asymmetric warfare**

**Goals:**

	Training examples	Military medicine	Asymmetric warfare
1-1	Recognition of the basic needs	Saving lives	Saving lives
1-2	Recognition of the generality of needs	Achieving a major knowledge regarding healthcare in the military medicine	Achieving major knowledge about trauma in asymmetric warfare
1-3	Recognition of the solutions to meet needs	Understanding the healthcare service delivery system in the medical medicine	Understanding the relief system and relief stations in asymmetric warfare
1-4	Preparedness to meet the needs of everyone	Training military medicine to all military ranks	Preparing all military ranks to deal with trauma in asymmetric warfare
1-5	Achieving short and long-term goals	Reducing casualties as well as long-term complications	Reducing casualties as well as long-term complications
1-6	Recognition of the nature of needs	Understanding illnesses and injuries	Understanding war-related trauma and injuries
1-7	Practical ability to meet needs	Ability to apply military medicine knowledge	Ability to take practical measures to deal with trauma in asymmetric warfare
1-8	Increasing the productivity to meet needs	Accelerating the management of the injured and casualties	Adopting initial measures shortly after injury in the battlefield
1-9	Preparedness to create conditions to meet needs	Preparedness for war conditions	Preparedness for emotional conditions arising from the battlefield asymmetry warfare
1-10	Improved trainee's progress	Increasing the level and knowledge of the military forces	Increasing the efficiency of troops in asymmetric warfare

1.1: All experts agree with the proposed index (saving life) for training feature (recognition of the basic need). Because the most basic need is to save the lives of forces in asymmetric warfare while dealing with trauma.

1.2: Approximately, half of the experts believe that knowledge of the trauma-related complications and consequences should be added to this index, because knowledge of the consequences of trauma leads to more efficient management in this regard.

Modified index: (Achieving major knowledge about trauma and its complications and consequences)

1.3: All experts agree with the proposed index (recognition of the relief system and relief stations in asymmetric warfare) for the training feature (recognition of solutions to meet needs). Because understanding the relief system is essential for optimal use and expedition of service delivery.

1.4: All experts agree with the proposed index (Preparing all military ranks to deal with trauma in asymmetric warfare) for the training feature (training on how to meet needs for every one). All people in asymmetric warfare are at risk of trauma, so, preparation for trauma treatment is essential for all of them.

1.5: All experts agree with the proposed index (reducing casualties as well as long-term complications) for training features (achieving short-term and long-term goals). If prepared to deal with trauma, mortality and morbidity can be reduced, so, these goals are pursued in trauma training.

1.6: Approximately, 30% of experts believe that (identifying risk factors) should be added to the index in question because there are differences in the nature of trauma is exacerbate the risk of complications.

Modified index: (recognition of trauma and war related injuries and their risk factors)

1.7: All experts agree with the proposed index (ability to take practical measures to deal with trauma in asymmetric warfare) for the training feature (practical ability to meet needs). The ultimate goal of these training is to empower forces to apply such measures practically to achieve the intended results

1.8: Approximately, half of the experts believed that this index must addresses the fact that measures should be carried out optimally and effectively because taking initial actions shortly after the injury will be helpful when they are performed optimally and effectively

Modified index: (Initial actions are carried out optimally and effectively at the battlefield shortly after injury).

1.9: All experts agreed with the proposed index (Preparedness for emotional conditions arising from the battlefield asymmetry warfare) for the training feature (Preparedness to create conditions to meet needs). Because the emotional conditions of the battlefield can affect one's performance. Therefore, it is important to be prepared to deal with such conditions.

1.10: Approximately, one third of the experts believed that this index addresses not only an increase in the efficiency of the forces, but also their morale. Because trauma training and subsequence preparedness will also affect the morale of the forces.

Modified index: (Increasing efficiency and morale of forces present in asymmetric warfare).

**2. Content:**

	Training features	Military medicine	Asymmetric warfare
2.1	Providing basic course instruction prerequisites	Training for war and crisis situations	Training on safety standards for asymmetric warfare
2.2	Providing generality of needs	Self-aid and buddy-aid	Self-aid and buddy-aid
2.3	Providing basic training	Initial measures taken to deal with the patient or the injured in military medicine	Initial measures taken to deal with trauma (vital signs, airway control, cardiopulmonary resuscitation, bleeding control, etc.)
2.4	Providing specialized training	Specialized training on how to deal with the patient or the injured in military medicine (ACLS-	Specialized training offered by the treatment team to deal with trauma during asymmetric warfare

		ATLS, etc.)	
2.5	Providing knowledge content	Healthcare knowledge in military medicine	Knowledge of dealing with war traumas
2.6	Providing insight content	Epidemiology of diseases	Traumatology (trauma mechanism)
2.7	Providing skill content	ACLS- ATLS, Training of practical measures in the field of military medicine	Training of practical measures in dealing with trauma (Control of airway, bleeding, shock, triage)
2.8	Content formulation using native features and existing conditions	Therapeutic procedures during Wars	Training for preparedness for actions under asymmetric warfare and indigenous features (such as management of casualties using limited equipment )
2.9	Interdisciplinary approach	Environmental medicine, mental health, etc.	Related training such as environmental safety in urban wars, etc.
2.10	Presenting new topics	Modern training (aerospace medicine, etc.)	Providing new training in asymmetric wars (e.g.: dealing with chemical and microbial agents, etc.)

Considering the conditions of asymmetric warfare, knowing the safety standards of war situations is a serious prerequisite for those who want to serve in asymmetric warfare

2.2: All experts agreed with the training index (self –aid and buddy-aid) for the training feature (Providing generality of needs).

2.3: All experts agree with the training index (initial measures taken to deal with trauma) for training features (providing elementary and basic training).

2.4: Most experts agree with the training index (specialized training offered by the treatment team) for the training feature (providing specialized training). Some experts (30%) believe that providing specialized training requires time and facilities and that basic training is more efficient in the short run considering the existing potential.

2.5: All experts agree with the training index (knowledge of dealing with the war trauma) for the training feature (providing knowledge content).

2.6: All experts agree with the training index (traumatology) for the training feature (providing insight content).

2.7: All experts agree with the training index (training the practical measures taken to deal with trauma) for the training feature (providing skill content).

2.8: All experts agree with the training index (training preparedness for action under asymmetric warfare and native features (for example: management of the casualties using limited equipment) for the training feature (content formulation based on native features and existing conditions).

2.9: All experts agree with the training index (relevant training such as environmental safety in urban wars, etc. for the training feature (providing skill content).

2.10: All experts agree with training index (providing new training in asymmetric warfare (for example: dealing with chemical and microbial agents etc.) for the training feature (providing new topics).

### 3. Teaching strategies

	Training features	Military medicine	Asymmetric warfare
3.1	Facilitating the learning process	Training on the application of military medicine	Brief and practical training
3.2	Involvement of the trainees in the training process	Accompanying the trainees during the process of military medical training	Accompanying the trainees during the process of trauma training and treatment in asymmetric warfare
3.3	Integrated teaching practices and new approaches	Practical training of military medicine principles	Bedside training
3.4	Interaction and discussion during the training process	Group discussion on military medicine training	Introducing and discussing traumas (injuries and treatments)
3.5	E-learning	Use of electronic equipment in military medicine training	Use of electronic equipment in trauma training
3.6	Remote training	Use of telecommunication networks to transfer information	Use of Internet and intranet as well as in networks during trauma training and treatment

3.1: All experts agree with the training index (simple and practical teaching) for the training feature (facilitated learning).

3.2: All experts agree with the training index (accompanying the trainees throughout the process of trauma training in the asymmetric warfare) for the training feature (involvement of the trainees in the training process).

3.3: All experts agree with the training index (bedside training) for the training feature (integrated teaching practices and new approaches).

3.4: All experts agree with the training index (introducing and discussing trauma cases (injuries and treatments)) for the training feature (interaction and discussion in the field of training ).

3.5: All experts agree with the training index (Use of electronic equipment in trauma training ) for the training feature (E-learning).

3.6: All experts agree with the training index (use of Internet and intranet as well as telecommunication networks in trauma training and treatment) for the training feature (remotetraining).

### 4. Evaluation:

	Training examples	Military medicine	Asymmetric warfare
4.1	Comprehensive evaluation system	Comprehensive evaluation system in the military medicine	Organizing evaluation methods on trauma training
4.2	Knowledge evaluation	Theoretical evaluation of military medicine training	Theoretical evaluation of trauma training
4.3	Skill evaluation	Practical evaluation of military medicine training	Practical evaluation of individuals' performance in dealing with trauma
4.4	Evaluation of training efficiency	Evaluation of personnel' performance in the military medicine	Evaluating one's performance in applying trauma training in asymmetric

			warfare
4.5	Training- based evaluation	Evaluating progression in military medicine learning	Evaluation during trauma training
4.6	Repeated evaluation	Periodic evaluations upon completion of military medicine training	Evaluation during recruitment of individuals for asymmetric warfare

- 4.1: All experts agree with the training index (organizing the evaluation method in trauma training) for the training feature (comprehensive evaluation system).
- 4.2: All experts agree with the training index (theoretical evaluation of trauma training) for the training feature (knowledge evaluation).
- 4.3: All experts agree with the training index (practical evaluation of the people's performance in dealing with trauma) for the training feature (skill evaluation).
- 4.4: All experts agree with training index (evaluating one's performance in applying trauma training during asymmetric warfare) to the training feature (evaluating training efficiency).
- 4.5: All experts agree with the training index (evaluation during trauma training) for the training feature (training-based evaluation).
- 4.6: All experts agree with the training index (evaluation during the recruitment of people in asymmetric warfare) for the training feature (repeated evaluation).

**5. Learning activities:**

	Training features	Military medicine	Asymmetric warfare
5.1	Use of teaching aids	Use of teaching aids in military medicine	Use of trauma teaching aids (videos, software, etc.)
5.2	Transfer of information and experiences	Holding workshops and seminars on military medicine	Holding workshops and seminars on trauma training and treatment in asymmetric warfare
5.3	Practicing and simulating practical activities	Use of laboratory environment for military medicine training	Use of laboratory environment for trauma training in asymmetric warfare
5.4	Increasing practical skills and experiences	Holding internship in military medicine	Being accompanied by experience people in trauma treatment in asymmetric warfare
5.5	Group activities	Group investigation of treatment strategies in military medicine	Holding introduction sessions for patients and group investigation of traumas

- 5.1: All experts agree with the training index (use of trauma teaching aids (videos, software, etc.)) for the training feature (use of teaching aids).
- 5.2 All experts agree with the training index (holding workshops and seminars on trauma treatment training in asymmetric warfare) for the training feature (transfer of information and experiences).
- 5.3: All experts agree with the training index (use of laboratory environment for trauma training in asymmetric warfare) for the training feature (practicing and simulating practical activities).
- 5.4: All experts agree with the training index (being accompanied by experienced trauma experts during

asymmetric warfare) for the training feature (increasing practical skills and experiences).

5.5: All experts agree with the training index (holding patient introduction sessions and group investigation of traumas) for the training feature (group activities).

**6. Grouping:**

	Training features	Military medicine	Asymmetric warfare
6.1	General grouping		
6.2	Non-trained people	All military ranks without military medicine training experience	All troops present in asymmetric warfare with no trauma training experience
6.3	Trained people	Military ranks with basic military medicine training	Troops with experience of trauma training in asymmetric warfare
6.4	Exclusive grouping		
6.5	Elementary and basic ranks	Relief, and health personnel, and medical team	Relief, and health personnel, and medical team
6.6	Expert ranks	Specialists of health centers	Specialists of health centers (physicians, etc.)

- 6.1: All experts agree with the training index (all troops present in asymmetric warfare with no trauma training experience) for the training feature (non-trained people).
- 6.2: All experts agree with the training index (troops with experience of trauma training in asymmetric warfare) for the training feature (trained people).
- 6.3: All experts agree with the training index (relief, and health personnel, and medical teams) for the training feature (elementary and basic ranks).
- 6.4: All experts agree with the training index (specialists of health centers (physicians, etc.)) for the training feature (specialized ranks).

**7. Resources**

	Training features	Military medicine	Asymmetric warfare
7.1	Resources on training perquisites	Resources on the war conditions on military principles	Resources on principles of asymmetric warfare
7.2	Resources on generality of training	Resources on the generality of military medicine	Resources on the generality of trauma treatment (such as the Book, Self-aid, Buddy-aid written by A. Siavash)
7.3	References	Military medicine reference books	Medical reference books on trauma (Surgery and emergency medicine reference books)
7.4	Specialized resources	Military medicine specialized references	Specialized resources on war traumas (such as: the Book, War Surgery, based on Afghanistan war experiences)
7.5	Unwritten resources	Experience in the use of military medicine	Written and non-written experiences of trauma in asymmetric warfare

- 7.1: All experts agree with the training index (references on the principles of asymmetric warfare) to the training feature (resources on the prerequisites of training).
- 7.2: All experts agree with the training index (resources on the generality of trauma treatment (for example: The Book Self-aid and Buddy-aid written by A. Siavash) for the training feature (resources on the generality of training).
- 7.3: All experts agree with the training index (trauma medical reference books (surgery and emergency medicine reference books)) for the training feature (references).
- 7.4: All experts agree with the training index (specialized resources on the war trauma (such as: The Book War Surgery written based on the experiences of Afghanistan war) for the training feature (specialized resources).
- 7.5: All experts agree with the training index (written on non-written experiences of trauma in asymmetric warfare) for the training feature (unwritten resources).

**8.Place:**

	Training features	Military medicine	Asymmetric warfare
8.1	Specialized place of training	Specialized military medicine training centers	Academic centers, classes, seminars, etc.
8.2	The place where trainees are gathered or deployed	Military bases and barracks	Barracks and deployments of forces in asymmetric warfare
8.3	The place where training content is accumulated	Military health and healthcare centers	Health centers, field hospitals, and relief stations in asymmetric warfare
8.4	The place where training content is used	Battlefields and locations of military medicine activities	Battlefield, trenches, and lines of asymmetric warfare

- 8.1: All experts agree with the training index (academic centers, classes, seminars, etc..) for the training feature (specialized place of training).
- 8.2: All experts agree with the training index (barracks and the place where forces are deployed in asymmetric warfare) for the training feature (the place where trainees are gathered or deployed).
- 8.3: All experts agree with the training index (medical health centers, field hospitals, and relief stations in asymmetric warfare) for the training feature (the place where training content is accumulated).
- 8.4: All experts agree with the training index (battlefield, trenches, lines of asymmetric warfare) for the training feature (the place where training content is used).

**9. Time:**

	Training features	Military medicine	Asymmetric warfare
9.1	Training late after use	Intermittent military medicine courses	Intermittent trauma training in asymmetric warfare
9.2	Training shortly after use	Pre-deployment military training courses	Preparatory trauma courses in asymmetric warfare
9.3	In-service training	Between operations and leisure time	Between operations and leisure time

- 9.1: All experts agree with the training index (intermittent training courses on trauma treatment in asymmetric warfare) for the training feature (Training late after use).
- 9.2: All experts agree with the training index (trauma preparatory training courses in asymmetric warfare) for the training feature (training shortly after use).
- 9.3: All experts agree with the training index (Between operations and leisure time) for the training feature (in-service training).

**10- Ideology:**

Training features	Military medicine	Asymmetric warfare
Ideology structure	The spirit of militarism	Jihadist thinking
ideological factors	Assisting one's fellow soldier	Basiji spirit
Fundamental factors	Make the most of one's abilities	Helping patients
Productivity	Military medicine	Make the most of abilities with limited facilities

- 10.1: All experts agree with the training index (jihadist thinking) for the training feature (ideology structure).
- 10.2: All experts agree with the training index (basiji spirit) for the training feature (ideological factors).
- 10.3: All experts agree with the training index (helping patients) for the training feature (fundamental factors).
- 10.4: All experts agree with training index (make the most of one's abilities with limited facilities) for the training feature (productivity).

**Ethical Considerations:** Ethnic and regional sensitivities must be taken into consideration when presenting information and statistics and disseminating results.

**REFERENCES**

1. McCallum Jack E. Military medicine from ancient times to the 21st century. Washington: ABC-CLIO; (2008)
2. Fathi Vajargah, K. Designing a Model for Curriculum Needs Assessment. Paper Presented at Australian Curriculum Studies Association. Perth. Australia . (1999)
3. Lener A, Soudry M. Armed conflict injuries to the extremities a treatment manual. Berlin: Springer-Verlag Berlin and Heidelberg GmbH; (2011)
4. Khoshi, Abolfazl, Designing a Curriculum Model for Islamic University Courses, First Edition, Specialized Media Publications, pp. 99-115, (2015)
5. Namjoo Nik, Khosrow, History of Military Medicine, Iran Sabz, Tehran. (2010)
6. Taba, H. Curriculum Development. Theory into practice. Brace and World Inc. (1962)
7. Hetz C, Stephen P. Introduction to military medicine: A brief overview. Surg Clin N Am.;86(3):675-88(2006)