Journal of Advances in Medical Education (JAMED)
Vol.1, No.2, February, Winter 2018, 22-25

RESEARCH ARTICLE

Competencies needed for general practitioners to develop military medicine courses

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Received: 16 January 2018 **Accepted:** 12 March 2018

Abstract

Introduction: Training the doctors with key capabilities to prevent accidents and diseases related to military forces and increasing the military power during war and crisis are highly important. The present study was performed to determine the competencies required for military doctors from the perspective of experts to develop the educational programs of military medicine.

Materials and Methods In this applied qualitative research, the statistical society consisted of all the teachers and authorities of military and crisis medicine working at AJA University of Medical Sciences, Baqiyatallah University of Medical Sciences and Red Crescent Organization. The samples were selected through purposive sampling using snowball sampling method. Data were analyzed via qualitative content analysis.

Results: The results showed the competencies needed for military medicine were classified into 9 major themes and 52 subthemes. The main themes included personal-military skills, communication skills, managerial skills, military psychology, military health, basic science skills, pre-hospital skills, clinical skills and professional ethics.

Conclusion: Educational planners and authorities are suggested to consider the competencies required for training military doctors in order for the graduates to favorably provide health services during war, unexpected events and natural disasters.

Keywords: Military medicine, educational program, doctor, army.

Introduction

Human has always been exposed to risks, unexpected events and disasters, as a result of which many have lost their health and lives and great financial losses have occurred. Training doctors with required competencies for provision of services is essential [1]. The military forces of each nation have a significant role in defending and preserving the stability and security. These people, given their duties and missions and depending on their career type, are exposed to injuries and special diseases [2]. Using modern weapons with high speed and potential energy causes deeper injuries of tissues than old weapons used in the previous wars. Therefore, treatment and caring for the victims of wars and modern terrorist attacks require special and modern approaches to management [3].

With increased military power of nations in manufacturing and production of nuclear, biologic and chemical weapons and probability of new wars to occur, the doctors and personnel of armed forces are required to be always ready to deal with such disasters. Military medicine can provide health services at specialized and sub specialized levels in different military domains, including prevention and treatment, ergonomics, and special military devices and tools [4, 5]. Military forces need medical support from first aid for the front line troops to advanced field hospitals. Considering the novel threats, extensive immunization, optimization and protective programs are the characteristics of military medicine cares [6]. This is indicative of the necessity of revising the existing educational programs and formulating training courses to deal with military crises and to respond to needs [7, 8].

Providing effective trainings, especially in the field of medical sciences is one of the main concerns of medical education authorities. Based on the aforementioned discussion and the factthat Iran isan accident-prone location for natural disasters like flood and earthquake, the active role of themilitary doctors in dealing with crisisrequiresupdating and developing military medicine trainings and training capable military doctors [2]. Given the significance of training competent military doctors, it is necessary to explain the competencies doctors need in order to design efficient and accountable educational programs. Thus, aiming to identify the skills necessary for a military doctor, this study was conducted to identify the competencies required for military doctors from the perspective of military and crisis medicine specialists.

Methods

In this applied qualitative study, the data were collected by interview and qualitative content analysis. The study population comprised of all the teachers and authorities of military and crisis medicine at AJA University of Medical Sciences, Baqiyatallah University of Medical Sciences and Tehran Red Crescent Organization. A total of 27 samples were selected through purposive sampling using snowball method. The obtained data were analyzed simultaneously by qualitative content analysis according to Graneheim and Lundman. Accordingly, the following stages were used for data analysis:

1. Transcription of interview immediately after conducting the interview
2. Studying and reading all the text for general understanding of the content
3. Determining meaning units and primary codes
4. Classifying the similar primary codes into more general categories
5. Determining the themes or major categories [9].

To extract the primary codes and classify the data, MAXQDA (version 10) software was used. To ensure the acceptability of data, the people with qualitative research experience were asked to analyze the extracted codes. So, the accuracy of the obtained codes were ensured. Also, to ensure the congruence of the codes with experiences of the participants and to check their remarks in the transcripts, the data of each interview were emailed to the participants to confirm and add any remarks in case they had forgotten. In the present study, ethical considerations like informed consent, explanation of the objectives of the study before interview, reasons for recording the interviews and asking permission to record the interview, ensuring the confidentiality of the interviewees' identity and preserving the right of demanding the audio file of the interview as well as the transcription were taken into account.

Results

A total of 27 participants, 3 (11.11%) females and 24 (88.88%) males took part in this study. The analysis of interview data yielded 650 primary codes. The competencies of the military doctors were classified into 9 major themes and 52 subthemes. The main themes included personal-military skills, communication skills, managerial skills, military psychology, military health, basic sciences skills, pre-hospital skills, clinical skills and professional ethics.

Table 1. Competencies required for training military doctors, as themes and subthemes.

Major themes	Subthemes	Major themes	Subthemes	Themes	Subthemes
Personal-military skills	-Personality traits -Physical fitness -Combat knowledge and skills -Civil defense -Survival in tough conditions	Military basic science skills	-Military toxicology -Microorganisms -Physiology in unusual conditions -Recognition of modern war agents -Familiarity with protective equipment -Decontamination	Clinical skills	-Marine and submarine medicine -Aerospace medicine -Telemedicine -Wild life medicine -Technical medicine -Legal medicine -Physical and rehabilitation medicine -Monitoring and evaluation skills -Environmental diseases and injuries -Infectious diseases -Combat medicine -Crisis medicine Anesthesia in war and crisis -Surgery in war and crisis -Knowledge and management of trauma -Military epidemiology
Communication skills	-Organizational communication -Interpersonal communication -Intrapersonal communication				
		Military health	-Personal health -Professional health -Environmental health -Mother and child health -Preventive medicine -Nutrition of troops	Military psychology	-Psychological first aid -Posttraumatic stress disorder (PTSD(-Psychosocial support -Malingering
Managerial skills	-Crisis management -Organizational management -Modern wars management -Stress management -Future research	Pre-hospital skills	-Triage management -First aid -Rescue and transport of the victims -Evacuation of the victims -Military nursing -Self-aid and buddy-aid	Professional health	-Professional ethics in crisis -Professional ethics in war

Discussion

Army University of Medical Sciences is responsible for training competent and qualified doctors that are able to favorably provide services during war, unexpected events and natural disasters. In 15th international conference of military medicine on the challenges of current educational programs of military medicine and necessities of changing and revising these programs, Cloonan Clifford stated applying changes in educational programs of military medicine can affect the performance of military medicine with regard to responding to the healthcare needs of the armed forces during the upcoming years [10].

In the current research, the competencies required for the military general practitioners from the viewpoint of specialists and authorities of this filed were evaluated. Military psychology was one of the main themes obtained in this study. In line with these findings, numerous studies have shown that gaining knowledge about such issues as posttraumatic stress disorder after (PTSD), sleep disorder, career disorders, psychological traumas, psychological effects of war, burnout, confirming the mental competency of the militants, psychological first aid, psychological support for the victims of war and accidents, psychological effect of modern wars and dealing with suicide is of great significance for military doctors and personnel [11,12].

According to the findings of this study, managerial skills are one of the competencies needed for the military doctors. Studies have indicated that good management of disasters and crises can minimize their negative effects and poor management can rapidly worsen the situation. Implementation of a good and correct management can create and strengthen a sense of solidarity among the people and the organizations involved in disasters [13].

In agreement with the results of this study, various domains that military doctors need to have knowledge of and skill in to be successful in dealing with Chemical, Biological, Radiological and Nuclear and Explosive (CBRNE) materials have been investigated by various studies. Some of these areas include toxicology of modern warfare agents, familiarity with protective equipment againstCBRNE materials, recognizing the symptoms and signs of CBRNE materials, emergency measures for CBRNE attacks, decontamination of people and environment, knowledge of infectious diseases resulting from CBRNE attacks, and bioterrorism and its different methods [14, 15, 16, 17].

One of the themes obtained in this study was basic sciences skills. There are different scientific sources that have had a military approach to basic sciences and have investigated such issues as discovery and identification of biologic agents, military toxicology, physiologic changes in unusual conditions, war virus transmission methods, bacteria and their military applications, viruses and their military uses, and infectious viruses in new weapons from the military perspective [18].

Professional ethics was another major theme obtained in this study. Preserving the properties and documents of the victims, keeping the privacy of the people, especially women and observing Islamic laws in caring for the victims, keeping all accident scenes for realization of the victims' rights, arranging and completing all medical documents and preserving them, and keeping the victims' secrets, especially accident victims for the heirs are several principles of medical ethics [19].

In line with the results of this study, military health has been taken into consideration in various studies. Military health is important because protecting the health of the forces during war and peace is necessary for keeping the society safe. Thus, military health, based on the conditions occurring during war and crisis, is of great significance. Health in war and disasters is not only related to all individuals but also associated to those who are involved in logistic, military or service activities [20].

Furthermore, clinical skills was another competency that military doctors require. In agreement with the current study, theInternational Committee of Military Medicine has introduced some activities of military medicine as diagnostic activities, medical and surgical treatments, preventive medicine and occupational medicine [8].

Conclusion

The main responsibility of military doctors around the world is providing healthcare supportto militants in the case of problems, risks, injuries and diseases that occur due to special job conditions. The mission of military medicine is preserving and promoting the health and enhancing the power of armed forces [21]. Given the importance of training military doctors, the educational authorities are recommended to use the results of this study in designing the educational programs of general medicine. They are also advised to consider these results in the regular and in-service training programs of military doctors and crisis management forces.

Conflicts of Interest

There are no conflicts to declare.

Acknowledgements

This article was taken from a research project approved by the deputy of research and technology at AJA University of Medical Sciences. The authors would like to thank the deputy of research, experts and authorities who helped to conduct this study.

References

1. Ghanjal A. Role of the military forces and related medical personnel in rescue services in case of unexpected events and disasters. J Mil Med. 2002; 4 (3) :189-195.
2. Rahmani R, Mehrvarz Sh, Zavaraki E, Abbaspour A, Maleki H. Military medicine 'role in the armed forces and need to develop specialized education programs in Iran military medicine. International Journal of Military Medicine. 2012; 13 (4): 247-252.
3. Lerner A. Soudry M. Armed conflict injuries to the extremities: A treatment manual. Berlin, Springer Science & Business Media. 2011. Available from:http://www.springer.com/gp book/9783642161544.
4. Military Medicine Department [homepage on the Internet]. Florida: Military medicine; c2000 [update 2009 Dec 30]. Available from: http://en.wikiversity.org/wiki/Topic: Military_medicine.
5. Cheng TM: The characteristics of military transformation and its effect on military medicine. Chin J Trauma, 2005, 21 (1): 15–17.
6. Fu X-B. Military medicine in China: old topic, new concept. Mil Med Res, 2014; 1 (1): 1-5. doi.org/10.1186/2054-9369-1-2.
7. Hetz C. Stephen P. Introduction to military medicine: A brief overview. Surg Clin N Am, 2006; 86(3): 675-88.
8. Mc Callum JE. Military medicine from ancient times to the 21st century. Washington: ABC-CLIO; 2008.
9. Graneheim UH, Lundman B. Qualitative content analysis in nursing research: Concepts, procedures and measures to achieve trustworthiness. Nurs Educ Today, 2004; 24 (2): 105-12.
10. Cloonan Clifford C, Palma Joseph M. Uniformed services university. Maryland; Proceedings of 15th Conference on Military Medicine, 2002.
11. Malick A., Roueijil GM., Taleb, MM. Management of Psychiatric Disorder in Refugee Camp of Mbera. The Proceeding of 41st ICMM World Congress on Military Medicine. Bali, Indonesia, 17-22 May, 2015.p 200.
12. Bruge-Ansel T. Effects of PTSD on Combat Soldiers. The Proceeding of 40th ICMM World Congress on Military Medicine. Jeddah, Kingdom of Saudi Arabia, 7-12 December, 2013, p 46.
13. Fatehi B., Mirshamsi H. Crisis management. Proceedings of the 4th national congress on military medicine and crisis management. Tehran, April & May, 2008, p 114.
14. Fu X-B. Military medicine in China: old topic, new concept. Military Medical Research; 2014; 1 (1):1-5. doi.org/10.1186/2054-9369-1-2.
15. Khoshdel1 AL., Norouzpour A., Modaghegh MH., Kazemzadeh GH. Pre-hospital Management of Gunshot Patients at Major Trauma Care Centers: Exploring the Gaps in Patients Care. The Proceeding of 41st ICMM World Congress on Military Medicine. Bali, Indonesia, 17-22 May, 2015.p 206.
16. Turkan H. The Most Effective Way for Disaster Preparedness in a Hospital Disaster Drill. The Proceeding of 40th ICMM World Congress on Military Medicine. Jeddah, Kingdom of Saudi Arabia, 7-12 December, 2013, p 114.
17. Salehi Vaziri A. Protection methods of NBC agents used in operational areas. Proceedings of the 1st international conference and the 3rd national conference of preventive medicine, health, marine rescue and treatment on surface and subsurface vessels. Bandar Abbas, December, 2014, p 124.
18. Saberi M., Aghanoori R. Toxicology of defense industries and military research. Center for compilation of textbooks of Deputy of Education, Training and Protection Culture of Revolutionary Guards.2010.
19. Kiani MA. Position of medical ethics in crises. Proceedings of academic-research seminar of medicine and sacrifice. Mashad, November, 2012, p 54.
20. Oravec G. Beadling Ch. Preparing for Health Disasters: Sustainable Capacity-Building through Civil-Military Collaboration. The Proceeding of 41st ICMM World Congress on Military Medicine. Bali, Indonesia, 17-22 May, 2015.p 188.
21. Rahmani R. Designing the curriculum of Ph.D. in military medicine at Baqiyatallah University of Medical Sciences. Ph.D. dissertation, Tehran, Faculty of education and psychology, Allameh Tabataba'i University, 2011.