

Evaluating the level of knowledge of people referring to the comprehensive health services center about crimean congo hemorrhagic fever

Jamshid Ayatollahi¹, Faezehsadat Heidari¹, Raziieh Farsi², Arefeh Dehghani Tafti³, Mahdie Hamidfar¹, Seyed Hossein Shahcheraghi^{1,*}, Alireza Farsi⁴, Seyed Mahdi Razavi Bahabadi⁵

¹Infectious Diseases Research Center, Shahid Sadoughi Hospital, Shahid Sadoughi University of Medical Sciences, Yazd, Iran; ²Shahid Sadoughi University of Medical Sciences, Yazd, Iran; ³Department of Biostatistics & Epidemiology, School of Health, Shahid Sadoughi University of Medical Sciences, Yazd, Iran; ⁴Dezful University of Medical Sciences; ⁵Kashan University of Medical Sciences and Health Services

***Corresponding author:** Seyed Hossein Shahcheraghi. Infectious Diseases Research Center, Shahid Sadoughi Hospital, Shahid Sadoughi University of Medical Sciences, Yazd, Iran. Email: shahcheraghih@gmail.com

DOI: 10.22034/HBB.2021.20

Received: May 24, 2021; Accepted: July 3, 2021

ABSTRACT

Since crimean congo hemorrhagic fever can be prevented with simple methods, people awareness and prevention of this disease is important. In this study, the level of knowledge about this disease and the factors affecting the knowledge of people were investigated in Yazd. In this study, 220 people referred to the comprehensive health services center in Yazd were included in the study and a questionnaire of knowledge of people level was completed. Then the obtained information was entered into statistical software. Only 30 % of people were aware of crimean congo hemorrhagic fever.

Keywords: Crimean congo hemorrhagic fever, knowledge of people, Yazd

INTRODUCTION

Crimean Congo Hemorrhagic Fever (CCHF) is widespread in almost 30 countries in the Africa and Middle East, is a theoretically deadly viral infection [1-4].

The CCHF virus is spread to people through tick bites or contact especially with infected animal or human fluids or blood. It is deactivated at 56 °C for approximately 30 minutes. It is delicate to glutaraldehyde (2 %) and hypochloride (1 %) [1,5,6,7]. Climate,

environmental conditions, and human behavior all have the potential to influence CCHF epidemiology and dissemination [8,9].

CCHF does not have a specific treatment. Ribavirin is used, as well as helpful therapy (electrolyte and fluid (body water) exchange, blood replacement, and vasopressor usage in shock) as typical treatment [10-12].

It is also essential to assess the awareness of at-risk work groups toward CCHF. Thus, current study aimed to investigate the level of knowledge of individuals referring to the comprehensive health services center of Yazd city, Iran about CCHF.

MATERIALS AND METHODS

This descriptive cross-sectional study was conducted based on a questionnaire among those who referred to the Comprehensive Health Services Center of Yazd from March 2020 to March 2021. To evaluate the validity and reliability of the questionnaire, a pilot study was conducted on a number of respondents. The validity of the questions was confirmed by two infectious diseases specialists and the reliability was approved by Krombach alpha as 0.78. Taking into account the standard deviation of the knowledge score of 0.3 and 95 % confidence

level and 4 % accuracy, the sample size was determined by the following formula:

$$(n = \frac{z^2 \cdot \frac{\alpha}{1-\alpha}}{d^2} \times s^2)$$

The sampling method was simple random. Limitations of the study included the lack of knowledge of many individuals about CCHF and the decrease in the number of cases referring to Health Center due to the prevalence of Corona virus.

The collected data were entered into the statistical software SPSS Version 18 (Statistical Package for the Social Sciences, SPSS, Chicago, IL, USA). Significance level was considered 0.05.

RESULTS

This cross-sectional descriptive study was performed among the patients referred to the Comprehensive Health Services Center of Yazd and 220 questionnaires were completed. In this study, 6.4 % of people were under 20 years old, 23.6 % of people aged 21 to 30 years, 28.2 % of people aged 31 to 40 years, 24.1 % of people aged 41 to 50 years and 17.7 % of people aged over 50 years.

68.6 % were female and 31.4 % were male. 75.9 % were urban and 24.1 % were rural.

Shahcheraghi et al.

12.3 % of people were illiterate and 4.5 % had a master's degree or higher. 4.5% had medical and paramedical occupations and the rest had other occupations. 70 % of people had no knowledge of CCHF.

The mean age of patients was 38.6 ± 12.9 and mostly included men (31.4 %) and urban dwellers (75.9 %) with undergraduate education (39.5 %) and housewives (52.7 %). The mean score of knowledge (66 people) who knew about CCHF was 8.21 ± 3.54 .

In this study, people aged 31 to 40 years had the highest knowledge score (9.52 ± 2.91) compared to other people.

Crimean congo hemorrhagic fever

Women (8.46 ± 3.57) had higher mean knowledge scores than men (7.6 ± 3.51) but this difference was not statistically significant.

As the level of education increased, the average score of people's knowledge about CCHF also increased, which was a statistically significant difference (Table 1).

In this study, the most information source about CCHF was the media (radio, television, etc.) (69.7 %) (Table 2).

Table 1. Comparison of people knowledge scores based on education level

Education level	Mean± SD	p-value
Lower than diploma	6.18 ± 2.63	0.021
Diploma	7.3 ± 3.46	
Associate Degree	9.2 ± 5.4	
Bachelor	9.16 ± 2.9	
Master and above	10.5 ± 3.12	

Table 2. Source of information about CCHF

Data source	Frequency	Percentage (%)
Media (radio, television)	46	69.7
Magazines and newspapers	12	18.2
Seminars and job training	11	16.7
Awareness while studying	13	19.7

DISCUSSION

In current study, 70 % of people had no knowledge of CCHF. The most cases were in the urban areas. The majority people were in the illiterate level. The highest knowledge score was related to people 31-40 years old. The mean score of knowledge who knew about CCHF was 8.21±3.54. Women had higher mean knowledge scores than men. The most information source about CCHF was from the media (Radio, television).

In a 2009 study of 1,034 patients in Turkish children's clinics, people were

insufficiently aware of the disease, and literate people were better informed than illiterate people, with radio and television being the most important source of information [1]. This study was similar to current study especially about insufficiently aware and source of information. In both studies radio was the main source of information.

Another study conducted in 2014 on 109 people in the emergency department of a hospital in Turkey with a mean age of 6.5±29.6, of whom 54 were physicians, 39 were nurses and 16 were paramedics, all of whom were aware of the disease [13]. In the mentioned study, awareness rate was the

Shahcheraghi et al.

higher toward current research because of higher level of education among participants.

Another study was conducted in 2018 on 900 students at random in Pakistan. 43 % of them were well aware of CCHF [14]. In current study, awareness rate (30 %) was lower than Pakistan study. Its reason is probably the performance of mentioned study among students with the higher level of education in comparison with current study.

A 2009 study of 296 students found that there was no significant relationship between knowledge and age. The knowledge score of nursing students was considerably higher than midwifery students and the average knowledge score was 14.8 ± 54.6 [15]. In current study, there was no also significant correlation between knowledge and age.

CONCLUSION

Only 30% of the patients were aware of the CCHF and there was a direct and significant relationship between education level and awareness. On the other hand, the most source of information for people was media, which could increase the level of

Crimean congo hemorrhagic fever

awareness of people by improving their information.

ACKNOWLEDGMENT

The authors like to acknowledge the staff of Infectious Diseases Research Center of Shahid Sadoughi University of Medical Sciences, Yazd.

REFERENCES

- [1]. Yilmaz R, Ozcetin M, Erkorkmaz U, Ozer S, Ekici F. Public knowledge and attitude toward Crimean congo hemorrhagic fever in Tokat Turkey. *Iran J Arthropod Borne Dis.* 2009; 3: 12.
- [2]. Watts DM, Ksiazek TG, Linthicum KJ, Hoogstraal H. Crimean congo hemorrhagic fever. *Epidemiol Ecol* 2019; 177-222.
- [3]. Papa A, Christova I, Papadimitriou E, Antoniadis A. Crimean congo hemorrhagic fever in Bulgaria. *Emerg Infect Dis.* 2004; 10: 1465.
- [4]. Papa A, Tsergouli K, Tsioka K, Mirazimi A. Crimean congo hemorrhagic fever: tick-host-virus interactions. *Front Cell Infect Microbiol* 2017; 7: 213.
- [5]. Shayan S, Bokaeian M, Shahrivar MR, Chinikar S. Crimean congo

Shahcheraghi et al.

- hemorrhagic fever. *Lab Med.* 2015; 46: 180-89.
- [6]. Bakır M, Elaldı N. Kırım-Kongo Hemorajik Ateşi. *Ankem Dergisi.* 2006; 20: 227-31.
- [7]. Elaldi N. Kırım-Kongo hemorajik ateşi epidemiyolojisi. *Klimik Derg.* 2004; 17:151-55.
- [8]. Maltezou H, Andonova L, Andraghetti R, Bouloy M, Ergonul O, Jongejan F, et al. Crimean-Congo hemorrhagic fever in Europe: current situation calls for preparedness. *Eurosurveillance* 2010; 15: 19504.
- [9]. Raabe VN. Diagnostic testing for Crimean-Congo hemorrhagic fever. *J Clin Microbiol.* 2020; 58.
- [10]. Borio L, Inglesby T, Peters C, Schmaljohn AL, Hughes JM, Jahrling PB, et al. Hemorrhagic fever viruses as biological weapons: medical and public health management. *JAMA.* 2002; 287: 2391-2405.
- [11]. Vorou R, Pierroutsakos IN, Maltezou HC. Crimean congo hemorrhagic fever. *Curr Opin Infect Dis.* 2007; 20: 495-500.
- [12]. Nili S, Khanjani N, Jahani Y, Bakhtiari B. The effect of climate **Crimean congo hemorrhagic fever** variables on the incidence of Crimean congo Hemorrhagic Fever (CCHF) in Zahedan, Iran. *BMC Public Health.* 2020; 20:1-9.
- [13]. Yolcu S, Kader C, Kayipmaz AE, Ozbay S, Erbay A. Knowledge levels regarding crimean congo hemorrhagic Fever among emergency healthcare workers in an endemic region. *J Clin Med Res.* 2014; 6: 197.
- [14]. Ahmed A, Tanveer M, Saqlain M, Khan GM. Knowledge, perception and attitude about Crimean congo Hemorrhagic Fever (CCHF) among medical and pharmacy students of Pakistan. *BMC Public Health.* 2018; 18: 1-10.
- [15]. Ozer A, Miraloglu M, Ekerbicer HC, Cevik F, Aloglu N. Knowledge levels about Crimean congo hemorrhagic fever among midwifery and nursing students in Kahramanmaras, Turkey. *Southeast Asian J Trop Med Public Health.* 2010; 41: 77.