Posttraumatic Stress Disorder and *Croatian Medical Journal*: Still Not the Time for a Wrap-up

War has been portrayed as the blood-thirsty second horseman of Apocalypse that plagues the human race. According to some estimates, only in 20th century more than 230 million people were killed or allowed to die by human decision, to use the words of the historian Eric Hobsbawm (1). Many more millions of war sufferers can be added to this tragic account: the ones injured, crippled, orphaned, bereft of their homes and families, and mentally afflicted. Psychological consequences of war are diverse and manifold, but one condition in particular has become a household word and a symbol of war survivors' mental anguish: posttraumatic stress disorder (PTSD).

Increased research interest in posttraumatic stress disorder

Although it can result from any kind of traumatic incident, PTSD is generally perceived as a condition closely associated with armed conflicts. Its descriptions in the medical literature can be traced back to the American Civil War (2), but the systematic documentation and research of PTSD began only after the Vietnam War, which ended in 1975. Notwithstanding the fact that the number and intensity of world's armed conflicts have been on the decline in the last two decades (3), the coverage of PTSD in medical journals in the same period has rapidly increased (Figure 1). Mental health workers from Croatia gave their contribution to this growing body of knowledge: since 1991, when their country was caught in the bloodshed follow-

ing the breakdown of Yugoslavia, they produced 73 articles on PTSD in journals indexed in the PubMed. A significant part of these articles was published in the *Croatian Medical Journal* (CMJ) (Figure 2).

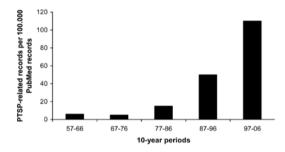


Figure 1. Proportion of posttraumatic stress disorder (PTSD)-related bibliographic records in PubMed database in last 50 years. The search was performed using "Stress Disorders, Posttraumatic" as a "Major Topic," limited to records published within a specified 10-year periods.

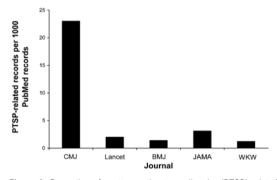


Figure 2. Proportion of posttraumatic stress disorder (PTSD)-related bibliographic records in the total count of PubMed records of selected general medical journals for the 1998-2006 time period. The beginning year was chosen because the *Croatian Medical Journal* (CMJ) was indexed in PubMed in 1998. Lancet, BMJ and JAMA were included as examples of high-impact journals with global readership. *Wiener Klinische Wochenschrift* (WKW) was considered comparable to the CMJ with regard to scope, impact factor and geographic origin. The search was performed using "Stress Disorders, Posttraumatic" as the "Major Topic," limited to records published in a selected journal.

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Croatian Medical Journal as a journal for publishing PTSD research?

This is probably no surprise for the CMJ's regular readers and friends. From its first days in 1992, CMJ has been committed to publishing reports on various medical and public health aspects of war (4). This commitment continued after the end of 1991-1995 war in Croatia, although the focus of editorial interest gradually shifted from casualty reports and war medicine to public health and peace-building issues (4). PTSD, however, was a clinical entity that constantly remained in the center of the CMJ's interest. On average, a PTSD-related article was published in five out of six yearly issues of the journal between 1999 and 2002; five more articles were published in the last three years. Even without this thematic issue, the proportion of PTSD-related articles in the CMJ is much higher than in a sample of other general medical journals (Figure 2). This, of course, does not mean that the CMJ intends to become a specialty psychiatric journal. A similar analysis may reveal that the CMJ publishes much more articles in forensic science than any other comparable journal. The Journal Relatedness indicator of the Thomson Scientific's Journal Citation Reports' shows that International Journal of Legal Medicine, Journal of Forensic Sciences, and Forensic Science International are among the 10 journals most likely to cover topics related to those covered in the CMJ. This also does not mean that the CMJ has transformed into a forensic science journal. The fact is that Croatia, together with the neighboring Bosnia and Herzegovina, has a significant burden of health problems specific for post-war societies. PTSD, identification of mortal remains, landmine blast injuries - these are some of the challenges Croatian medical professionals have to face even today, 12 years after the end of armed conflict. The special attention the CMJ's editors pay to these topics is therefore neither a coincidence nor a mistake.

Twelve years is a considerably long period for research and follow-up, and the CMJ would be more than happy to be able to wrap up the topic of war-related PTSD in Croatia with this thematic issue. Unfortunately, it is still not possible to conclude the treatment of veterans and war victims affected by PTSD. New population groups in need of therapy are being recognized, eg, the wives of war veterans (5) or people exposed to post-war social stressors (6). The complex and often refractory nature of the disorder asks for novel ideas and multidisciplinary research approaches, such as probing into the hereditary (7) or immunological (8) aspects of PTSD, or using new computing technologies to refine the diagnostics (9). Undoubtedly, there is still much clinical work to be done and many research questions to be answered.

Supporting research of posttraumatic stress disorder

Croatian mental health workers should use the global trend of increasing scientific and professional interest in PTSD to present their work internationally and establish themselves as a reliable source of knowledge relevant not only for post-war societies in the South East Europe, but also for other settings throughout the world. The CMJ can support their efforts in two main ways. First, it can serve as a medium of scientific communication. The CMJ's visibility significantly increased after its inclusion in the PubMed database in 1998, and in Thomson Scientific databases in 1999 (10). The journal is also included in the PILOTS database, an electronic index to the literature on PTSD and other mental-health consequences of exposure to traumatic events (11). Such a good visibility positively reflected on the journal's impact in the global scientific community. The articles on PTSD published in CMJ from 1998 to 2006 received an average of 3.6 citations while, such articles published in European Psychiatry and Nordic Journal of Psychiatry - specialist journals with impact factors comparable to that of the CMJ – received an average of 1.5 and 2.4 citations, respectively.

The second way in which the CMJ can support research in PTSD is by teaching and advising. The educational function of the CMJ was established years ago (12), and was focused on mental health more than on any other single area of research. The CMJ editors participated in a WHO-organized conference on the role of scientific journals in fostering mental health research in developing countries (13). They held a course on planning and writing scientific research for the employees of the Vrapče Psychiatric Hospital, Zagreb, Croatia (14); the same course was held on several occasions as a part of educational program of the Naklada Slap, a leading Croatian publisher of psychological literature (15). At the time of production of this thematic issue, one of the CMJ's editors was invited to talk at the Croatian symposium on PTSD. Beside these educational activities, which may be seen as "proactive" or "preventive," the CMJ works closely with authors of manuscripts to improve the quality of their submissions. The practice of editorial pre-review and post-acceptance review, though basically "reactive" or "therapeutic," can have a long-term effect on the research success of tutored authors, including those investigating PTSD (16).

On the global level, PTSD will continue to pose a major challenge in a world constantly liable to traumatic incidents caused by human activity (17) or nature (18). Mental health workers and medical journals should work together to meet this challenge with an increased effort to produce the scientifically sound knowledge which can be used in the best interest of the patients.

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References

 Leitenberg M. Deaths in wars and conflicts in the 20th century. 3rd ed. 2006. Available at: http://www.clingendael.

- nl/publications/2006/20060800_cdsp_occ_leitenberg.pdf. Accessed: April 10, 2007.
- 2 Da Costa JM. On irritable heart: a clinical study of a form of functional cardiac disorder and its consequences. Am J Med Sci. 1871:61:17-52.
- 3 Human Security Centre. The human security report 2005: war and peace in the 21st century. 2005. Available from: http://www.humansecurityreport.info/index.php?option=content&task=view&id=28&Itemid=63. Accessed: April 10, 2007.
- 4 Sambunjak D, Ivanis A. Survive, help, learn: experience of a medical journal in war and post-war times. J Public Health Policy. 2006;27:124-35. <u>Medline:16961192</u>
- Franciskovic T, Stevanovic A, Jelusic I, Roganovic B, Klaric M, Grkovic J. Secondary traumatization of wives of war veterans treated for posttraumatic stress disorder. Croat Med J. 2007;48:177-84. Medline:17436382
- 6 Klaric M, Klaric B, Stevanovic A, Grkovic J, Jonovska S. Psychological consequences of war trauma and postwar social stressors in women in Bosnia and Herzegovina. Croat Med J. 2007;48:167-76. Medline: 17436381
- 7 Dijanic Plasc I, Peraica T, Grubisic-Ilic M, Rak D, Jambrosic Sakoman A, Kozaric-Kovacic D. Psychiatric heredity and posttraumatic stress disorder: survey study of war veterans. Croat Med J. 2007;48:146-56. Medline:17436379
- Vidovic A, Vilibic M, Sabioncello A, Gotovac K, Rabatic S, Folnegovic-Smalc V, et al. Circulating lymphocyte subsets, natural killer cell cytotoxicity, and components of hypothalamic-pituitary-adrenal axis in Croatian war veterans with posttraumatic stress disorder a cross-sectional study. Croat Med J. 2007;48:198-206. Medline:17436384
- 9 Marinic I, Supek F, Kovacic Z, Rukavina L, Jendricko T, Kozaric-Kovacic D. Posttraumatic stress disorder: diagnostic data analysis by data mining methodology. Croat Med J. 2007;48:185-97. Medline:17436383
- Marusic M, Sambunjak D, Marusic A. Life of small medical journal – how bibliographical indexing and international visibility affected editorial work in *Croatian Medical Journal*. Croat Med J. 2006;47:372-5. Medline:16758514
- National Center for Posttraumatic Stress Disorder. The PILOTS database. Available from: http://www.ncptsd.va.gov/ ncmain/publications/pilots/. Accessed: April 10, 2007.
- Marusic A, Misak A, Kljakovic-Gaspic M, Marusic M. Educationeadexcelentiam – ten years of the Croatian Medical Journal. Croat Med J. 2002;43:1-7. Medline:11828550
- Marusic A. Educatione ad excelentiam: role of scientific journals in galvanizing mental health research in low- and middle-income countries. Croat Med J. 2004;45:9-12. <u>Medline:14968445</u>
- 14 Sambunjak D, Ivaniš A. Is there a demand for science communication courses? The experience of the *Croatian Medical Journal*. European Science Editing. 2005;31:117-9.
- Naklada Slap. Educations. Available from: http://www. nakladaslap.com/edukacije.asp. Accessed: April 10, 2007.
- Marusic M, Markulin H, Lukic IK, Marusic A. Academic advancement of authors receiving tutoring from a medical journal. Teach Learn Med. 2006;18:126-9. <u>Medline:</u> 16626270
- 17 DiMaggio C, Galea S. The behavioral consequences of terrorism: a meta-analysis. Acad Emerg Med. 2006;13:559-66. Medline:16551774
- Desalvo KB, Hyre AD, Ompad DC, Menke A, Tynes LL, Muntner P. Symptoms of posttraumatic stress disorder in a New Orleans workforce following hurricane Katrina. J Urban Health. 2007;84:142-52. Medline:17226081