Health Care Relief to Neighbors: Split University Hospital during the 1991-1995 War in Bosnia and Herzegovina

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Aim. To assess the workload of the Split University Hospital during the war and its role in providing help to the neighboring countries.

Methods. We reviewed all available records of patients admitted to the four (out of 15) departments: General Surgery, Traumatology, Dermatovenerology, and Pulmonology. The files of 37,821 patients (78% of total number) treated during 1990-1995 were analyzed.

Results. The workload of the hospital paralleled the political crisis in Bosnia and Herzegovina (BH) – the number of patients from BH increased more than 10-fold between 1990 and 1993, including during the time of armed conflict between BH Croats and Bosniaks (1993-94). Among them, there were 84% of ethnic Croats and 16% of ethnic Bosniaks. The hospital spent US$6.2 million (18% of total costs) on the treatment of BH citizens. Approximately two thirds of BH citizens (62%) were treated at one of the surgical departments, and approximately one third of Bosniak patients were young males, admitted for treatment of war-related injuries.

Conclusion. The Split University Hospital took a large burden of managing BH citizens, despite the armed conflict of Bosnian Croats and Bosniaks, indicating the high professionalism of the hospital staff and management. Such attitude can contribute to peace and post-war reconciliation in the region.

Key Words: Bosnia and Herzegovina; Croatia; conscience; dermatology; ethics, medical; humanism; pulmonary disease (specialty); refugees; surgery; traumatology; war

For more than a century (1), and especially since the declaration of Geneva Conventions (2), the history of medicine has been full of examples of the humanitarian efforts of physicians and other health care professionals in armed conflicts. The 1991-1995 wars in Croatia (3) and Bosnia and Herzegovina (BH) (4) were no exception (5,6), in spite of great physical and psychological strain on the medical profession (7-15). Medical workers and institutions were targeted directly and intentionally (16-19), and the war raged in ethnically heterogenous parts of Croatia and BH (20). The conflict setting was particularly complicated in BH, where three nations (Muslims, who were a separate nation in the former Yugoslavia, later called Bosniaks, 43%; Serbs, 32%; and Croats, 18%) were very mixed (21). The Serbs attacked Bosniaks and Croats, who first cooperated, and then turned against each other (20). Moreover, the war in BH was characterized by numerous militias, great civilian losses and migration (5-8, 10-15, 20-22). However, to the best of our knowledge (20,23), health care professionals on all three sides in this chaos adhered to the highest moral principles.

An exceptional example of such conduct was the work of the Split University Hospital in Split, Croatia (24), which provided health management for casualties from both Croatia and BH. The war in BH started in September 1991 (22), and escalated in April 1992, after the attack of Bosnian Serbs on Bosnian Croats and Bosniaks (20-22). At that time, Bosniaks and Croats fought together, mostly under the command of the Croatian Defense Council (20). The Split University Hospital played the role of the secondary and tertiary care level institution for the wide south BH battlefront (4,22). However, the conflict of Bosniaks and Croats started in May 1993, and lasted until the Washington Peace Agreement in March 1994 (20). After that, the war in BH was restricted to Serb siege of several cities (e.g., Sarajevo, refs. 15,25). The armed conflicts in BH finally ended by the Dayton Peace Agreement in November 1995 (Dayton, OH, www.cmj.hr 229
paralleled the war and political crisis in Croatia and BH. The number of patients and, consequently, the total number of hospital days and the total hospital costs peaked in 1992 and slowly declined after 1993 (Table 1). Interestingly, the number of Croatian citizens treated in the hospital decreased during 1990-1993. On the other hand, the number of patients coming from BH increased more than 10-fold in the same period. It is also important to note that a significant proportion of hospital patients (25%) in 1992 and 1993 were actually foreigners (Table 1).

The output of the departments is depicted in Tables 2-5. Similar to data shown in Table 1, the number of patients from BH, being relatively low in 1990 and 1991, increased severalfold in 1992. Approximately two thirds (62%) of the foreign citizens treated at the hospital were admitted to the one of the surgical departments (Tables 1-3). The tables also show the "shift" of the patients from the Department of General Surgery to the Department of Traumatology after 1994 (Tables 2 and 3), as a consequence of the reorganization of the hospital service.

A considerable proportion of patients (17%; Table 1) treated in the four departments between 1990 and 1995 were not Croatian citizens. The total costs of their treatment was US$6,185,711. Almost all those people (98%) were the citizens of BH. Among them, there were 4,502 (84%) ethnic Croats and 902 (16%) ethnic Bosniaks (Table 1). The total costs of treatment of ethnic Bosniaks was US$1,119,765. Approximately three quarters of Bosniak patients were males (684; 76%). Although many Bosniaks (614; 68%) were admitted for the treatment of conditions that were not related to the war, approximately half of the Bosniak patients in 1992 were hospitalized due to war-related injuries (203 out of 432; 47%). In addition, the average age of Bosniak patients was 45

<table>
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<tr>
<th>Table 2. Workload of the Department of General Surgery, Split University Hospital, Split, Croatia, 1990-1995</th>
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<td>Patients (No.)</td>
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<tr>
<td>Year total Croatia</td>
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<tr>
<td>1990 3,343</td>
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<td>1991 3,370</td>
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<td>1992 3,763</td>
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<td>1993 3,615</td>
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<td>1994 2,366</td>
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<td>1995 2,620</td>
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<td>Total 19,079</td>
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| aTourists, UN soldiers, citizens of the Federal Republic of Yugoslavia
Bosniak men were younger than women (average age 41 and 54 years, respectively). The age difference between Bosniak men and women was especially pronounced in 1991 (35 vs 59 years) and 1993 (45 vs 81 years). Out of 902 Bosniak patients, 265 (or 29%) were men admitted due to war-related injuries.

**Discussion**

Our analysis of the Split University Hospital archives revealed that the inflow of patients more or less followed martial events in Croatia and BH: with the development of war activities, more patients were admitted. Surprisingly, the inflow of patients was not limited to the Departments of General Surgery and Traumatology (Tables 2 and 3). The number of patients from BH treated in Departments of Dermatovenerology and Pulmonology, which treat diseases not related to the war, was also high, especially during 1992 and 1993 (Tables 4 and 5). As shown in Table 1, the total number of patients peaked in 1992, paralleling the culmination of the crisis in the region. In spite of the war in Croatia, the number of treated Croatian citizens decreased for almost a thousand between 1990 and 1993. That should not be a surprise, since Split and Dalmatia region were cut off from the Croatian mainland (27,28). On the other hand, the road communications between Split and BH, which is the hinterland of Split, were open. Therefore, the surplus of admissions detected in 1992 and 1993 can be entirely attributed to the inflow of patients from BH (4,20,22). Foreign citizens were received and treated irrespective of the fact that they had no documents and that the payment of the hospital costs was completely uncertain. The four investigated departments of the Split University Hospital spent a total of US$6.2 million on the treatment of BH citizens. It is important to point out that those millions of dollars were spent during the war in Croatia, when the economic burden on Croatia was immense (19,29). According to the Croatian state administration, that money was never refunded by the BH Government or anybody else (19,29).

Although the majority of the BH citizens treated in the hospital were ethnic Croats, most of the ethnic Bosniaks were young males. Moreover, almost half of...
the Bosniak patients treated in 1992 and one third of the patients treated in 1993 were admitted due to the war-related injuries. Therefore, we find it reasonable to conclude that a substantial proportion of Bosniak patients were actually soldiers.

Our study also has some limitations. First, the analysis was not based on the data for the whole Split University Hospital, but on four departments only. Nevertheless, since we reviewed the records of nearly 40,000 patients treated at the hospital during the period of six years, we believe that our data provide accurate and reliable insight in the work of the hospital. Second, we found that approximately one fifth of the original files was missing. The lack of those files is difficult to explain but it might be due to the several reorganizations of the health care system in Croatia since 1990 (19,29). In addition, during the war years the hospital personnel had to deal with issues more pressing that the filing system. Therefore, we feel that the missing records “disappeared” randomly and that our sample may be considered representative. Furthermore, it means that the number of patients and costs were actually at least 22% higher.

Third, the casualties were retrospectively characterized as general or war-related on the basis of the patients’ files. Moreover, the nationality of the BH citizen was concluded on the basis of her/his name. Although these classifications are subjective, we tried to reduce the bias by reaching the consensus of at least four (out of six) researchers.

Having those limitations in mind, our findings clearly show the Split University Hospital took a huge burden of treating war casualties, irrespective of the geographical or ethnic differences. The personnel of the hospital was highly educated and, above all, dedicated to provide help to those in need (23,30-32). The adaptation of the hospital to the war situation was effectively managed by its first Director, Dr Goran Dodig, and then by his successor, Dr Mihovil Biočić. The hospital was supported in their humanitarian work by the Croatian Government, and especially by Dr Andrija Hebrang, the Minister of Health (19). Ms. Marija Županović, the Hospital Head Nurse, was responsible for efficient functioning of the hospital, and her team of nurses, other technical personnel, and many volunteers provided care and support for both the patients and their families. Today, the professionalism of the Split University Hospital is remembered and respected among patients from Croatia and all three entities in BH. Medical profession has thus significantly contributed to the peace building and post-war reconciliation in the region (40,41).

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References


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