



The Burden of Sepsis; A Call to Action in Support of World Sepsis Day 2013

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Worldwide, sepsis is one of the most common deadly diseases. It is one of the few conditions to strike with equal ferocity in resource-poor areas and in the developed world. Globally, 20 to 30 million patients are estimated to be afflicted every year. Every hour, about 1,000 people and each day around 24,000 people die from sepsis worldwide. Although more than 8 million people die from sepsis annually, the medical knowledge about it is scarce. In developing countries, sepsis is considered the most common cause of mortality among children accounting for 60-80% of all deaths during this period. Overall, more than 6 million neonates and children affected by sepsis annually. Sepsis is also a common cause of maternal morbidity and mortality accounting for >100,000 cases of maternal sepsis each year [1].

The annual rate of sepsis is increasing in developed countries at a rate of 8-13% [2]. Several etiologies are responsible for this increasing rate including the ageing population, increasing use of high-risk interventions in all age groups, and the development of drug-resistant and more virulent varieties of pathogens. In the developing world, malnutrition, poverty, and lack of access to vaccines and timely treatment all contribute to death. A considerable percentage of sepsis cases could be prevented through

the widespread adoption of practices in good general hygiene and hand washing, cleaner obstetric deliveries, and through improvements in sanitation and nutrition (especially among children under 5 years of age), provision of clean water in resource poor areas [3] and vaccination programs for at risk populations [4,5]. Sepsis mortality can be reduced considerably through the adoption of early recognition and standardized emergency treatment [6-8]. However, these interventions are currently delivered to less than 1 in 7 patients in a timely fashion [7,9,10].

Sepsis is often diagnosed too late for treatment to be effective. Late detection is due to several factors including patients, caregivers and health care professionals do not suspect sepsis, and the clinical symptoms and laboratory signs that are currently used for the diagnosis, such as raised temperature, increased pulse, breathing rate, or white blood cell count, are not specific for sepsis. Low awareness of sepsis as a discrete clinical entity among health professionals is compounded by a lack of reliable systems to aid identification and speed delivery of care. Recognition in neonates and children is even more problematic because the signs and symptoms may be non-specific and subtle but deterioration is usually rapid. The variation in normal physiological

parameters with age is a further contributor to difficulties in identifying acute illness early [11].

Despite the fact that a patient with sepsis is around five times more likely to die than a patient who has suffered a heart attack or stroke, the disease is still not recognized or afforded the same sense of urgency as these other critical conditions. An international survey suggests that 80% - 90% of people in North America and Europe are not familiar with the term "sepsis" and of those who are, most are not aware that sepsis is a leading cause of death [12].

A further difficulty lies in rehabilitation. The outcome from sepsis is too often seen as binary- the patient dies (failure) or survives (success), with studies focusing on in-hospital mortality and length of stay as outcome measure. However, an equal or greater number of children admitted for sepsis die after hospital discharge than during admission in both resource rich and poor areas [13,14]. In addition, too little is known and understood about the long-term effects of sepsis, and access to rehabilitation for survivors is poor, despite there being evidence that at least one in 5 survivors suffers long-term physical, cognitive or mental health problems [15].

To address these gaps in insight and encourage vigorous advocacy and efforts to decrease the burden of sepsis worldwide, the Global Sepsis Alliance (GSA) and its founding members - the World Federation of Societies of Intensive and Critical Care Medicine (WFSICCM), the World Federation of Paediatric Intensive and Critical Care Societies (WFPICCS), the World Federation of Critical Care Nurses (WFCCN), the International Sepsis Forum (ISF) and the Sepsis Alliance (SA) - took the initiative to create the first World Sepsis Day (WSD) as a launch platform for the World Sepsis Declaration. The intent of WSD was two-fold: First, to raise awareness of sepsis among all stakeholders including members of the public and policy makers and second, to encourage capacity building and quality improvement initiatives for sepsis recognition and management by hospitals and health care providers toward delivering the goals set out in the World Sepsis Declaration (www.world-sepsis-day.org).

These goals are:

1. Reducing sepsis incidence through prevention by at least 20 percent
2. Improving survival for children and adults in all countries
3. Raising public and professional awareness and understanding of sepsis
4. Ensuring improved access to adequate rehabilitation services
5. Creating and maintaining sepsis incidence and outcomes databases.

We are well aware that the realization of these targets can only be driven by the health care professional bodies and by policy makers themselves. However, to succeed will require the engagement of an informed citizenry and health care professionals at all levels of care from physicians to community health care workers, and close interdisciplinary collaboration between all stakeholders including public health, community medicine, hygiene, microbiology, infectious diseases, emergency medicine, critical care medicine, and rehabilitation. Therefore, we implore health professionals to facilitate the creation of interdisciplinary and multi-professional coalitions both on the national and local level.

On September 13th, 2012, the inaugural World Sepsis Day took place. Its supporters organized more than 200 events on all continents in over 40 countries to educate the public and health care workers and to increase awareness of this largely ignored healthcare endemic. Major events intended as a "call to arms" against this devastating disease took place in major cities (Beijing, Berlin, Bangalore, Belgrade, Dehli, Dubai, Florence, Houston, London, Lima, Mumbai, New York, Rome, Sao Paulo, Santiago, and others) all over the world. Influential policy makers as well as Members of Parliament, Ministers and senior representatives of health care authorities were involved in press meetings and other events, and WSD was widely covered by national television and print media. We know of over 550 articles with an estimated readership of 80 million people. Countries like Brazil, Germany, Great Britain and India had a media reach of between 8-20% of local population. The outreach via social media (Facebook & Twitter) was in the range of 1.4 million.

To date, 178 professional organisations, 1217 hospitals and hospital groups and over 120 physicians and health care workers have declared their support for World Sepsis Day and the World Sepsis Declaration by registering on the WSD website. Currently we receive between 30 and 70 new registrations per month. Furthermore, WSD is supported by over 60 of the world most renowned sepsis experts and a number of ambassadors, among whom are Ministers, Members of Parliament, sports heroes and the WHO Envoy for Patient Safety.

Most importantly, the idea for WSD came from patient advocates, was implemented by our own national and international professional societies, and found widespread support in the health care community. It is difficult to argue against the message of WSD to raise awareness, improve reliability of and access to care, and to measure and improve outcomes. It is very encouraging that at this time more than 20 new organisations became

members of the GSA, which has now close to 50 member organisations. The GSA and its leadership and the WSD International Steering Committee are the chief constituents for the organization of the WSD, and serve as an enabler and facilitator of national and local activities. This is delivered via the WSD website through the provision of toolkits and educational and promotional materials. Clearly, the experiences of WSD 2012 were that the outreach and success depends on the strength of commitments on the national, local and individual level. We are very thankful for the engagement and the pro bono work undertaken by many individuals, sepsis survivors, and professionals from outside the medical community and the fact that we received considerable public funding to support the WSD Head office via the Jena/Germany based Center for Sepsis Control and Care. Furthermore, we are very grateful to our corporate sponsors for their financial support. The guiding principles for the interaction with industry are available on the WSD Web site.

World Sepsis Day 2012 was an encouraging start that in many ways exceeded expectations. The movement triggered a number of innovative and creative ideas from our worldwide supporters, however we still can learn from other medical fields like oncology, cardiology, and AIDS/HIV which have proven the importance of concerted public and political awareness campaigns and advocacy to achieve improvements. In the case of cancer, "... it needed icons, mascots, images, slogans, the strategies of advertising as much as the tools of science. For any illness to rise to political prominence, it needed marketing.... A disease needed to be transformed politically before it could be transformed scientifically." (S. Mukherjee) [16].

Meanwhile, we have learned from examples in the State of New York, Wales, Scotland, Wales and Brazil that by tireless campaigning and lobbying it is possible to establish statutory regulations for sepsis management via national and regional governments. The most recent example, from the state of New York, resulted in statutory regulations that require the adoption of proven practices for the early identification and treatment of sepsis in all hospitals in New York State. This was prompted by the relentless actions of Orlaith & Ciaran Staunton, the parents of the 12 year old Rory Staunton who unnecessarily died from sepsis a few days after scraping his elbow at the school gym. The success of these exemplary efforts to increase sepsis awareness again demonstrates the importance of awareness activities prompted by World Sepsis Day on the national and global level (www.rorystaunton.com).

The next World Sepsis Day will take place on 13th September 2013:

- To increase the number of hospitals that support the goals of WSD to 2500
- To achieve governmental and or regulatory support for the improvement of sepsis diagnosis and management in at least 10 countries.

We strongly encourage international, national, and regional professional and lay organisations, as well as individual physicians and health care workers, to become supporters of WSD and the World Sepsis Declaration and to become involved in raising awareness. Likewise, we would ask the reader to get your hospital or department to add to the number of more than 1200 hospitals that so far have committed to the targets of the WSD.

Conflict of Interest: None declared.

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