

Directors of Clinical Services Meeting

Réunion des directeurs des services cliniques



Pacific
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An Audit on Severe Sepsis and Septic Shock at Tungaru Central Hospital (TCH), South Tarawa, Kiribati, 2020.

Sepsis and septic shock is widely recognized as a life-threatening condition associated with a high morbidity and mortality rates and is the leading cause of in-hospital deaths in the developed world. However, there is very limited data available on the burden of sepsis in Pacific Island Countries and Territories (PICTs).

An audit on sepsis and septic shock was carried out for admissions to Tungaru Central Hospital (TCH) in Kiribati to ascertain the burden of sepsis for Kiribati. Data was collected for a 12-month period in 2020. Mortality was just over 60% affecting mostly men and the adult population. However, morbidity and mortality was also seen in children and women.

This audit highlights the significant burden and impact sepsis has on the community, health services and country as a whole. It is the hope that this will be the start to address sepsis and reduce morbidity and mortality in Kiribati and the region.

1. BACKGROUND

On Friday, May 26th, 2017, the World Health Assembly and the World Health Organization made sepsis a global health priority, by adopting a resolution to improve, prevent, diagnose, and manage sepsis. This marks a quantum leap in the global fight against sepsis^{1,2}.

The World Health Organization's first global report on sepsis reported that in 2017 an estimated 49 million individuals were affected by sepsis. And sepsis kills approximately 11 million people each year, many of them children and causing disability to millions more. The report also finds that sepsis frequently results from infections acquired in health care settings. Around half (49%) of patients with sepsis in intensive care units acquired the infection in the hospital. An estimated 27% of people with sepsis in hospitals and 42% of people in intensive care units will die³.

Significant regional disparities in sepsis incidence and mortality exist; approximately 85.0% of sepsis cases and sepsis-related deaths worldwide occurred in low- and middle-income countries³.

Sepsis is widely recognized as a highly life-threatening condition associated with a high rate of patient deaths during intensive care unit (ICU) stay in the whole world. **Sepsis and septic shock are the leading causes of in-hospital deaths in developed countries** with very limited available data on the burden of sepsis in Pacific Island Countries and Territories (PICTs). Mortality is 40-60% and higher in developing countries⁴.

Early diagnosis and timely and appropriate clinical management of sepsis, such as optimal antimicrobial use and fluid resuscitation, are crucial to increase the likelihood of survival. Even though the onset of sepsis can be acute and poses a short-term mortality burden, it can also be the cause of significant long-term morbidity requiring treatment and support. Thus, timely appropriate interventions and a multidisciplinary approach increases the likelihood of survival for patients with sepsis.

An audit was carried out on hospital admissions to TCH from January to December 2020. Data on sepsis and septic shock was collected from the Health Information System (medical records) using the International Classification of Diseases (ICD)-10.

1.1 Results

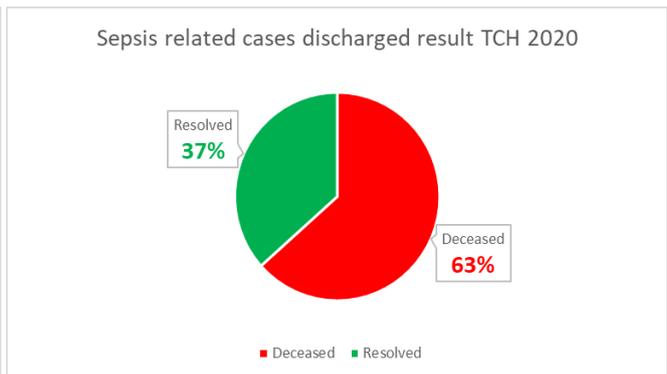
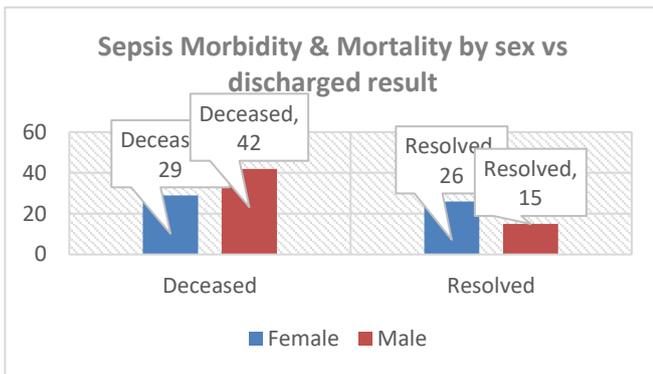
A total of 112 cases were admitted for sepsis and septic shock. A significant proportion of these resulted in hospital deaths (63%), with at least a third (37%) of the admitted septic cases being resolved and discharged.

¹ https://apps.who.int/gb/ebwha/pdf_files/WHA70/A70_R7-en.pdf

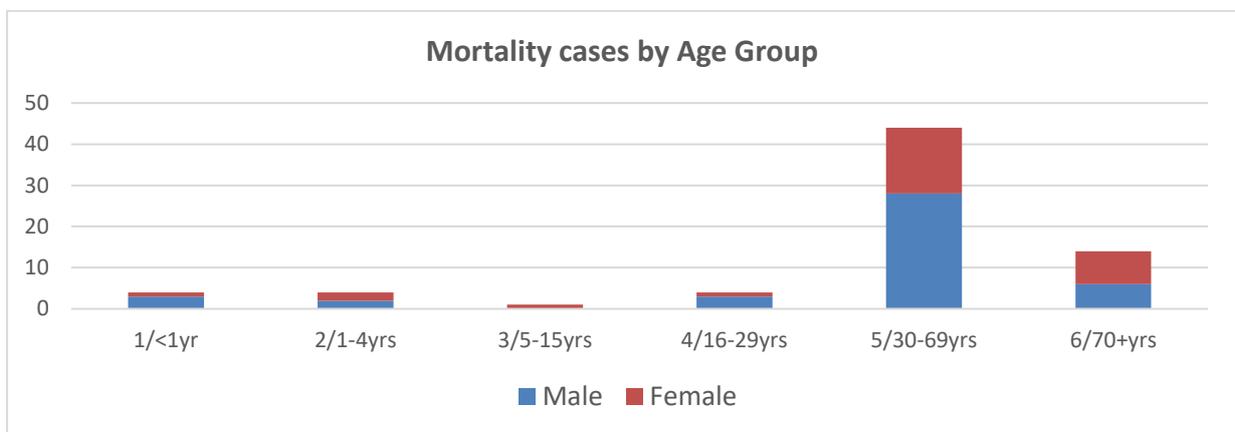
² <https://www.global-sepsis-alliance.org/news/2017/5/26/wha-adopts-resolution-on-sepsis>

³ <https://www.who.int/news/item/08-09-2020-who-calls-for-global-action-on-sepsis---cause-of-1-in-5-deaths-worldwide>

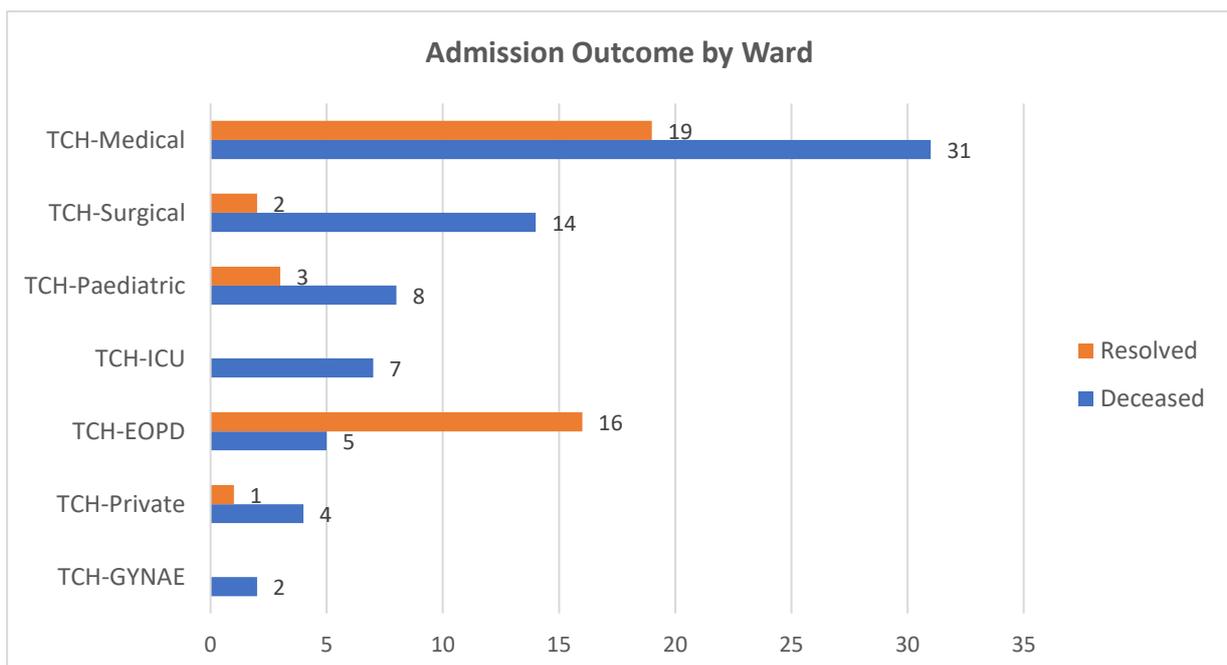
⁴ [www.thelancet.com/article/S0140-6736\(19\)32989-7/fulltext](http://www.thelancet.com/article/S0140-6736(19)32989-7/fulltext)



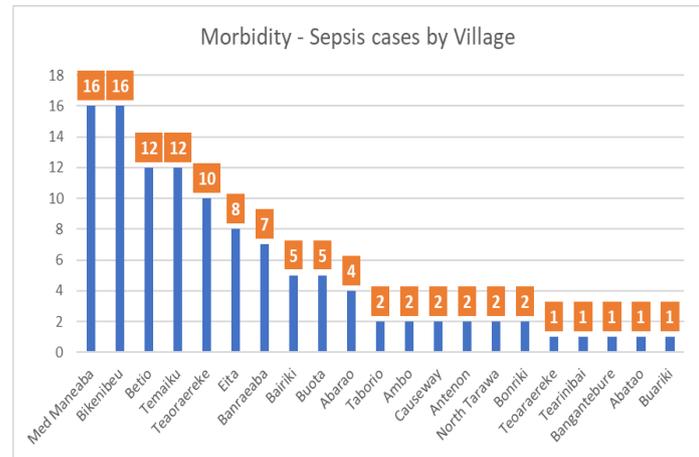
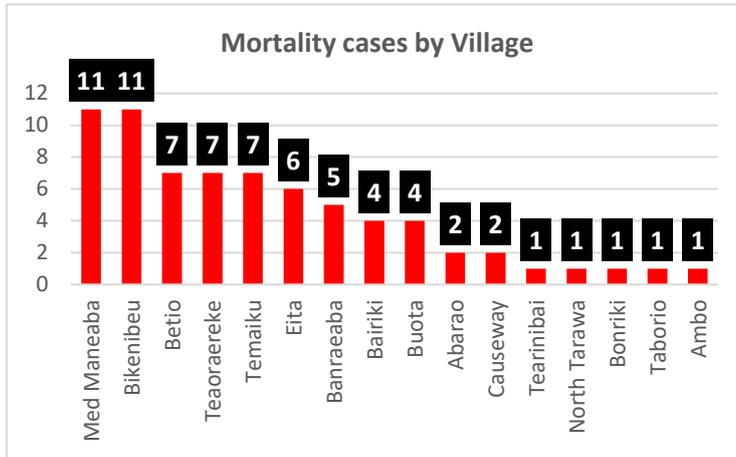
GENDER: The gender ratio of admissions was almost equal with 51% male and 49% female. However, mortality was higher for men (59%) compared to females (41%).



AGE GROUP: Majority (70%) of the deceased were in the 30-69 years age group followed by 70+ age group of about 20% and the remaining 10% were <30years of age. **Children <5years accumulated about 10% of the total number of deaths (12 deaths)**



ADMISSION WARD: Most of the patients with sepsis (45%) were admitted to the Medical Ward, followed by the General Outpatients (19%) and Surgical wards (14%). Mortality was highest in the medical ward then the Surgical and Paediatric wards subsequently. All septic patients admitted to ICU had bad outcomes.



GEOGRAPHIC DISTRIBUTION: Most of the sepsis patients that were admitted, and deceased were from Medical Referral Maneaba (accommodation housing outer island referral cases to main island), Bikenibeu and Betio.

2. PROGRESS AND ACHIEVEMENTS

This baseline data on Sepsis is evidence-based information that provides an insight to the enormity of the problem in Kiribati. **The results strongly indicate the need to address sepsis in Kiribati to effectively manage and reduce morbidity and mortality.**

3. CHALLENGES

In order to adequately address these issues, the following needs to be supported.

- Strengthen Staff Capacity – Education and Training Awareness towards early diagnosis, timely and appropriate clinical management of sepsis
- Support Allied Health Services – Laboratory, Radiology, Pharmaceutical (antibiotics) for effective management
- Public Health Advocacy: community awareness on anti-microbial resistance and antibiotic use. Addressing behavioural practices and delayed clinical presentation. Need collaboration with Public Health.

4. FUTURE DIRECTIONS

4.1 RECOMMENDATIONS FOR GOVERNMENTS

- Ongoing audits to monitor effectiveness of Sepsis programs and reduction of mortality in Kiribati
- Perform Sepsis survey or audits in PICTs to determine baseline for monitoring and evaluation of effectiveness of interventions
- Awareness and Advocacy: Celebrate World Sepsis Day 13 September in PICTs
- National Campaign to Combat Sepsis – need a collective approach (political, clinical, public health, community, etc)

4.2 RECOMMENDATIONS FOR DEVELOPMENT PARTNERS

- Support Training and Education of Health Care Providers
- Support for Technical Equipment (e.g. blood gas machines) to facilitate effective management of sepsis and septic shock
- Technical Assistance for Sepsis Campaigns and continuing strengthening Critical Care Services