

Healthcare utilisation and medical pluralism among Ebola survivors in Sierra Leone: an insight for safe and informed care for survivors experiencing post-Ebola sequelae

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under the supervision of Professor Jonathan Lee Wardle, Dr Amie Elizabeth Steel and Distinguished Professor Jon Adams

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CERTIFICATE OF ORIGINAL AUTHORSHIP

I, Peter Bai James declare that this thesis is submitted in fulfilment of the requirements for the award of Doctor of Philosophy in Public Health, in the Australian Research Centre in Complementary and Integrative Medicine, School of Public Health, Faculty of Health at the University of Technology Sydney. This thesis is wholly my own work unless otherwise reference or acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis. This document has not been submitted for qualifications at any other academic institution. This research is supported by the Australian Government Research Training Program.

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WORKS CONTAINED IN THE THESIS

The findings from this thesis have been submitted for publication in peer-reviewed journals through six articles (two systematic reviews and four discrete original articles) presented in chapters 3 and 5. In each of these articles, I have solely responsible for determining the research question, undertaking the analysis and drafting the manuscript.

I received support in all these areas from my supervisors Associate Professor Jon Wardle, Dr Amie Steel and Distinguished Professor Jon Adams.

I take full responsibility in the accuracy of the findings presented in these publications and this thesis.

PUBLISHED WORKS BY THE AUTHOR INCORPORATED INTO THE THESIS

Of the seven published works (six peer-reviewed articles and book chapter) included in this thesis. The following is the list of the six published peer-reviewed articles contained in this thesis:

1. **James PB**, Wardle J, Steel A, Adams J. Traditional, complementary and alternative medicine use in Sub-Saharan Africa: a systematic review. *BMJ global health*. 2018 Oct 1;3(5):e000895.
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3. **James PB**, Wardle J, Steel A, Adams J. Pattern of health care utilization and traditional and complementary medicine use among Ebola survivors in Sierra Leone. *PloS one*. 2019 Sep 27;14(9):e0223068.
4. **James PB**, Wardle J, Steel A, Adams J. Utilisation of and Attitude towards Traditional and Complementary Medicine among Ebola Survivors in Sierra Leone. *Medicina*. 2019 Jul;55(7):387. <https://www.mdpi.com/1010-660X/55/7/387>
5. **James PB**, Wardle J, Steel A, Adams J. An assessment of Ebola-related stigma and its association with informal healthcare utilisation among Ebola survivors in Sierra Leone: a cross-sectional study. *BMC Public Health*. 2020 Dec 1;20(1):182. <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-020-8279-7>
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RELEVANT PUBLISHED WORKS BY THE AUTHOR NOT FORMING PART OF THE THESIS

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2. **James, P.B.**, Wardle, J., Steel, A., Adams, J., Bah, A.J. and Sevalie, S., 2020. Traditional and complementary medicine use among Ebola survivors in Sierra Leone: a qualitative exploratory study of the perspectives of healthcare workers providing care to Ebola survivors. *BMC Complementary Medicine and Therapies*, 20(1), pp.1-11.
3. **James, PB**, Kaikai, AI, Bah, AJ, Steel, A & Wardle, J 2019, 'Herbal medicine use during breastfeeding: a cross-sectional study among mothers visiting public health facilities in the Western area of Sierra Leone.', *BMC complementary and alternative medicine*, vol. 19, no. 1.
4. **James PB**, Bah AJ, Tommy MS, Wardle J, Steel A. Herbal medicines use during pregnancy in Sierra Leone: An exploratory cross-sectional study. *Women and Birth*. 2018 Oct 1;31(5):e302-9.
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ABBREVIATIONS

AOR – Adjusted Odds ratio

ARCCIM- Australian Research Centre in Complementary and Integrative Medicine

CAM- Complementary and Alternative Medicine

CM- Conventional Medicine

CPES- Comprehensive Package for Ebola survivors

DRC- Democratic Republic of Congo

ETC- Ebola Treatment Centre

EVD- Ebola Virus Disease

FGD- Focus Group Discussion

FHCI- Free Healthcare Initiative

GDP- Gross Domestic Product

HSR- Health Service Research

NCCIH- National Centre for Complementary and Integrative Health

PBSL- Pharmacy Board of Sierra Leone

PMCDSTD- Partially Mixed, Concurrent Dominant Status Triangulation Design

RCT – Randomised controlled trial

SARS- Severe Acute Respiratory Syndrome

SSA- sub-Saharan Africa

SDG- Sustainable Development Goal

SLAES- Sierra Leone Association of Ebola Survivors

T&CM- Traditional and Complementary Medicine

TCAM- Traditional Complementary and Alternative Medicine

T&CIM- Traditional and Complementary Integrative Medicine

TM- Traditional Medicine

WHO – World Health Organisation

UTS- University of Technology Sydney

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ABSTRACT

Background: Evidence suggests that Ebola virus disease (EVD) survivors are suffering from immediate and long term physical and mental health complications, some of which are severe. While current research has focused on understanding the sequelae of EVD survivors in the post-Ebola era, healthcare-seeking behaviour of EVD survivors is largely unknown. This PhD study aimed to investigate EVD survivor's healthcare-seeking behaviour with particular emphasis on their use of traditional and complementary medicine (T&CM) products and services in Sierra Leone.

Methods: This thesis employed an exploratory partially mixed, concurrent dominant status triangulation research design. Male and female adult EVD survivors with post-Ebola sequelae were recruited for both the quantitative and qualitative arms of the study. The quantitative survey explored EVD survivors' (n=358) pattern of healthcare utilisation, attitude towards T&CM and Ebola-related stigma. The qualitative arm employed a descriptive exploratory, inductive approach using focus group discussion sessions (n=4) to collect data on EVD survivors' (n=41) healthcare-seeking experiences and preferences. Descriptive statistics and backward stepwise binary regression analysis were used to analyse quantitative data while the framework approach was used to guide qualitative data analysis.

Results: The quantitative survey indicated EVD survivors visited a healthcare provider (n = 308, 86.0%), self-medicated with conventional medicines (n =255, 71.2%) and visited a private pharmacy outlet (n = 141, 39.4%). EVD survivors also self-medicated with T&CM products (n = 107, 29.9%), concurrently self-medicated with conventional and T&CM products (n = 62, 17.3%), and visited a T&CM practitioner (n = 41, 11.5%). Almost half of EVD survivors (n = 163, 45.5%) reported using T&CM treatments for post-Ebola related symptoms and non-Ebola

related symptoms since their discharge from an Ebola treatment centre. EVD survivors who perceived that T&CM boosted their immune system, that T&CM had fewer side effects than conventional medicine, or that T&CM provided them with more control than conventional medicine over their health were more likely to use T&CM compared to who do not hold those views. Also, EVD survivors were more influenced to use T&CM based on their personal experience of the effectiveness of T&CM than by clinical evidence. EVD survivors reported higher levels of internalised stigma (0.92 ± 0.77) compared to enacted stigma (0.71 ± 0.61). EVD survivors who experienced enacted stigma were [AOR=4.58, 95%CI: 1.51-13.83, $p=0.007$] more likely to use T&CM. Verbal abuse [AOR = 1.95, 95%CI: 1.09–3.49, $p = 0.025$] and healthcare neglect [AOR = 2.35, 95%CI: 1.37–4.02, $p = 0.002$] were independent predictors of T&CM use among EVD survivors.

The qualitative component revealed that conventional healthcare was the first choice of treatment option for most EVD survivors immediately following their discharge from the Ebola treatment centre (ETC). However, EVD survivors described the current Free Healthcare Initiative (FHCI) as inadequate in addressing their healthcare needs. Personal and health system factors influenced EVD survivors' decision to seek non-formal healthcare approaches, especially T&CM.

Conclusion: The findings from this thesis provide the first ever insights into how EVD survivors navigate the healthcare landscape to address their health needs. The findings of this thesis are useful for policymakers, healthcare providers and EVD survivors, and it highlights the need for further research to explore this topic more closely.

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