

## CURRICULUM VITAE

**1 PERSONAL PARTICULARS**

Name	Dr Tengku Muhammad Hanis Bin Tengku Mokhtar
Position and address	Senior Lecturer, Department of Community Medicine, Faculty of Medicine, Universiti Sultan Zainal Abidin
Email	tengkuhanismokhtar@gmail.com tengkuhanismokhtar@unisza.edu.my
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**2 ACADEMIC PROFILES**

Google Scholar	<a href="#">Tengku Muhammad Hanis</a> (h-index: 8, citations: 178)
Scopus	<a href="#">Tengku Muhammad Hanis</a> (h-index: 7, citations: 116)
Web of Science	<a href="#">Tengku Muhammad Hanis</a> (h-index: 5, citations: 86)
ResearchGate	<a href="#">Tengku Muhammad Hanis</a> (h-index: 6, citations: 148)

**3 RESEARCH INTEREST**

1. Population-based study, predictive analytics study
2. Medical statistics – survival analysis, Poisson regression, systematic review, meta-analysis
3. Machine learning and deep learning
4. Text analysis, bibliometrics and scientometrics
5. The use of R and Python in health and medical research

**4 EDUCATIONS****4.1 Qualifications:**

Feb 2020 – May 2024	PhD (Public Health Epidemiology), Universiti Sains Malaysia Thesis: Prediction of breast cancer diagnosis using machine learning in Malaysian women
Sept 2017 – July 2019	MSc (Medical Statistics), Universiti Sains Malaysia Thesis: Relative survival and its prognostic factors of breast cancer patients in Kelantan from 2007 to 2011
Sept 2008 – June 2015	M.B.B.Ch (Bachelor of Medicine and Surgery), Al-Azhar University

## 4.2 Skills and software:

### 4.2.1 Statistical and programming software:

- R (advanced), Python (intermediate), Jamovi (advanced), SPSS (advanced)

### 4.2.2 Sample size software:

- G\*Power (intermediate), PS Software (intermediate)

## 5 WORK EXPERIENCE

### 5.1 Present and Previous Positions:

Mar 2025 – Present	Senior Lecturer – Department of Community Medicine, Faculty of Medicine, Universiti Sultan Zainal Abidin
Aug 2023 – Feb 2025	Founder and Lead Academic Trainer – Jom Research
Nov 2019 – Feb 2023	Graduate Research Assistant – Department of Community Medicine, School of Medical Sciences, Universiti Sains Malaysia

### 5.2 Relevant Administrative Responsibilities

Mar 2025 - Present	Programme Coordinator – Research Clinic for research methodology and statistical consultation service
Apr 2025 – Present	Course Coordinator – Postgraduate Certificate in Scientific Research
Apr 2025 – Present	Community Medicine Coordinator (Year 4) for the MBBS programme

## 6 RESEARCH GRANTS

### 6.1 As co-researcher:

1. Mentor Mentee Program under Inisiatif Pelan Strategik UniSZA 2025 – RM 20,000 (01/06/2025 – 31/12/2025)
2. Construction of a Predictive Model and an AI-Driven Preventive Internet Apps Program for Risk of Common Cancer-Related Psychological Complications – RM 232,718 (01/10/2025 – 30/09/2028)

## 7 PUBLICATIONS

### 7.1 Research articles:

#### 7.1.1 First author:

1. Modelling excess mortality among breast cancer patients in the north-east region of peninsular Malaysia 2007-2011: a population-based study – BMC Public Health [<https://doi.org/10.1186/s12889-019-8113-2>]
2. Net survival differences of breast cancer between stages at diagnosis and age groups in the east coast region of West Malaysia: a retrospective cohort study – BMJ Open [<https://doi.org/10.1136/bmjopen-2020-043642>]

3. The top 100 most-cited publications on breast cancer and machine learning research: a bibliometric analysis – Current Medicinal Chemistry [<https://doi.org/10.2174/0929867328666211108110731>]
4. Factors influencing mammographic density in Asian women: a retrospective cohort study in the northeast region of peninsular Malaysia — Diagnostics [<https://doi.org/10.3390/diagnostics12040860>]
5. Diagnostic accuracy of machine learning models on mammography in breast cancer classification: a meta-analysis — Diagnostics [<https://doi.org/10.3390/diagnostics12071643>]
6. Over-the-counter breast cancer classification using machine learning and patient registration records — Diagnostics [<https://doi.org/10.3390/diagnostics12112826>]
7. Mapping breast cancer research in Malaysia: A scientometric analysis — Medicine & Health [<https://doi.org/10.17576/MH.2022.1702.12>]
8. Risk factors for COVID-19 mortality in Malaysia — Malaysian Journal of Medical Sciences [<https://doi.org/10.21315/mjms2022.29.6.12>]
9. Developing a supplementary diagnostic tool for breast cancer risk estimation using ensemble transfer learning — Diagnostics [<https://doi.org/10.3390/diagnostics13101780>]

#### 7.1.2 Co-author:

1. Measuring time-varying effective reproduction numbers for COVID-19 and their relationship with movement control order in Malaysia — International Journal of Environmental Research and Public Health [<https://doi.org/10.3390/ijerph18063273>]
2. A global bibliometric analysis on antibiotic-resistant active pulmonary tuberculosis over the last 25 years (1996-2020) — Antibiotics [<https://doi.org/10.3390/antibiotics11081012>]
3. Bibliometric analysis of global research activity on premature mortality — Healthcare [<https://doi.org/10.3390/healthcare10101941>]
4. A bibliometric analysis of stroke caregiver research from 1989 to 2022 — International Journal of Environmental Research and Public Health [<https://doi.org/10.3390/ijerph20054642>]
5. The burden of premature mortality from cardiovascular diseases: a systematic review of years of life lost — PLOS ONE [<https://doi.org/10.1371/journal.pone.0283879>]
6. Premature mortality and years of potential life lost from cardiovascular diseases: protocol of a systematic review and meta-analysis — PLOS ONE [<https://doi.org/10.1371/journal.pone.0284052>]
7. The global estimate of premature cardiovascular mortality: a systematic review and meta-analysis of age-standardized mortality rate — BMC Public Health [<https://doi.org/10.1186/s12889-023-16466-1>]

8. Prognostic factors for premature cardiovascular disease mortality in Malaysia: A modelling approach using semi-parametric and parametric survival analysis with National Health and Morbidity Survey linked mortality data — BMC Public Health [<https://doi.org/10.1186/s12889-024-20104-9>]
9. Critical Thinking and Clinical Decision-Making Among Registered Nurses in Clinical Practice: A Systematic Review and Meta-Analysis — Nursing Reports [<https://doi.org/10.3390/nursrep15050175>]
10. A review of federated learning technology and its research progress in healthcare applications — Applied Intelligence [<https://doi.org/10.1007/s10489-025-06627-7>]

## 7.2 Books:

1. Data analysis in medicine and health using R — Chapman and Hall/CRC [<https://doi.org/10.1201/9781003296775>] (online version available at [https://bookdown.org/drki\\_musa/dataanalysis/](https://bookdown.org/drki_musa/dataanalysis/))
2. R Essentials: A Beginner's Guide to Data Analysis — Preprint (online version available at [https://tengku-hanis.github.io/r\\_essential/](https://tengku-hanis.github.io/r_essential/))

## 8 WEB APPS

1. ShinyBC: breast cancer risk estimator [Available at: <https://tengku-hanis.shinyapps.io/shinyBC/>]

## 9 TALKS, WORKSHOPS, AND PRESENTATIONS

### 9.1 Invited lecture sessions:

1. Systematic review topic for Research & Evidence-Based Medicine III (REBME III) subject — University of Cyberjaya [January 27, 2022]

### 9.2 Webinars (as a speaker):

1. Introduction to Python for Data Analysis — Malaysian Disease Modelling Experts Group [March 18, 2025]
2. Machine learning with R — Jom research [December 14-16, 2024]
3. Basics of meta-analysis — Jom research [June 29, 2024]
4. Correlation and regression analysis using R — Jom research [March 11, 2024]
5. Correlation and regression analysis using SPSS & jamovi — Jom research [March 10, 2024]
6. Simple categorical analysis using R — Jom research [February 28, 2024]
7. Simple categorical analysis using SPSS & jamovi — Jom research [February 26, 2024]
8. Simple numerical analysis using R — Jom research [February 21, 2024]
9. Simple numerical analysis using SPSS & jamovi — Jom research [January 31, 2024]
10. How to do a meta-analysis — Jom research [November 23, 2023]

11. How to write a bibliometric paper— Jom research [November 7, 2023]
12. Bibliometric analysis — Biostatistics Consultancy Service, Fakulty of Medicine, Universiti Teknologi MARA [October 31, 2023]
13. Intro to R (for non-coders) — Jom research [October 21, 2023]
14. An introduction to SPSS & jamovi — Jom Research [October 06, 2023]
15. How to conduct a systematic review — Jom research [September 23, 2023]
16. How to write a scientific paper for beginners (for health sciences) — Jom research [September 2, 2023]
17. How to read a paper for beginners — Jom Research [August 17, 2023]
18. How to publish a paper for beginners and newbies (for health sciences) — Jom Research [August 5, 2023]
19. Basic of meta-analysis — Unit of biostatistics and research methodology, Universiti Sains Malaysia [August 18, 2021]
20. An introduction to meta-analysis using R — Universiti Sains Malaysia Epidemiological group [August 5, 2021]
21. An introduction to bibliometric analysis using R — Epidemiology and statistical modelling team, Universiti Sains Malaysia [September 24, 2020]

### **9.3 Conferences (as a speaker):**

1. Exploring the COVID-19 research landscape in Malaysia: a bibliometric case study — R confeRence 2024 [October 27, 2024]
2. A guide to conducting systematic review on stroke — Malaysian Stroke Conference 2023 [July 27, 2023]
3. Exploring past literature: A bibliometric approach — R confeRence 2022 [November 27, 2022]
4. An introduction to relative survival analysis using R — R confeRence 2020 [November 22, 2020]

### **9.4 Workshops (as a speaker):**

1. Bibliometric analysis and systematic review using R — Persatuan Kesihatan Awam Kelantan [August 15, 2024]
2. Machine learning in medical research — Unit of biostatistics and research methodology, Universiti Sains Malaysia [May 15, 2024]
3. Data analysis workflow using R — Persatuan Kesihatan Awam Kelantan [September 19, 2023]
4. Workshop on scoping review & bibliometric analysis — Department of Community Medicine, Universiti Sains Malaysia [October 20, 2022]
5. An introduction to meta-analysis in R (Pre-conference workshop) — R confeRence 2021 [November 6, 2021]

6. Systematic review and meta-analysis using RStudio — Department of Medical Microbiology and Parasitology, Universiti Sains Malaysia [October 18, 2021]

## 10 ACADEMIC RECOGNITION

### 10.1 Editorial Board

Mar 2025 – Present      Interim Editorial Board Member – Asian Journal of Medicine and Biomedicine

### 10.2 Ad Hoc Manuscript Reviews

1. Cogent Engineering
2. BMC Women's Health
3. BMC Public Health
4. Digital Health
5. Education in Medicine Journal

## 11 TEACHING AND SUPERVISION

### 11.1 Teaching

#### Undergraduate courses

MBBS programme:      Fundamentals of Community Medicine and Research (BMM21204):

1. Descriptive statistics
2. Data presentation
3. Introduction to SPSS
4. McNemar test
5. Non-parametric tests

#### Postgraduate courses

Postgraduate Certificate in Scientific Research:      Fundamentals of Medical Data Science (PSR21002):

1. Introduction to R, RStudio, and Posit Cloud
2. R Fundamentals
3. Data visualisation
4. Data exploration and descriptive statistics
5. Introduction to machine learning in healthcare

### 11.2 Supervision

#### 11.2.1 Master - Mixed Mode:

1. Dr Iza Sharina Binti Ismail, A Comparison Between Nalbuphine and Fentanyl for Pain Management in Adult: Systematic Review and Meta-Analysis, MMed (Emergency Medicine), Universiti Sains Malaysia (2023-present) [External co-supervisor]
2. Dr Mohamad Faez Bin Ibrahim, Efficacy Spectrum Tramadol and Nalbuphine As Shivering Control – A Systematic Review and Meta-Analysis, MMed (Emergency Medicine), Universiti Sains Malaysia (2023-present) [External co-supervisor]

3. Dr Vivian Wong Chee Yien, Enhancing Breast Cancer Diagnosis with Artificial Intelligence: A Meta-Analysis of Accuracy, Efficiency, and Clinical Integration, MMed (Radiology), Universiti Sains Malaysia (2024-present) [External co-supervisor]
4. Dr Sariah Nursalim, Efficacy of Nebulised N-acetylcysteine (NAC) in acute Bronchiolitis: Systematic review and Meta Analysis, MMed (Emergency Medicine), Universiti Sains Malaysia (2025-present) [External co-supervisor]
5. Dr Ahmad Fauzan Zainal Bakri, Nebulize fentanyl in acute pain management: a systematic review, MMed (Emergency Medicine), Universiti Sains Malaysia (2025-present) [External co-supervisor]
6. Dr Nur Syahira Jamil Rashid, Magnesium Sulfate as an Adjunct for Acute Pain Management in Emergency Department, MMed (Emergency Medicine), Universiti Sains Malaysia (2025-present) [External co-supervisor]
7. Dr Wan Hawa Nabihah Wan Rasni, Efficacy of intranasal ketorolac for acute pain, a systematic review and meta-analysis, MMed (Emergency Medicine), Universiti Sains Malaysia (2025-present) [External co-supervisor]
8. Dr Norazlina Mohamad Hashim, The Efficacy of Nebulized Ipratropium Bromide in Acute Bronchiolitis: Systemic review and Meta analysis, MMed (Emergency Medicine), Universiti Sains Malaysia (2025-present) [External co-supervisor]

#### **11.2.2 Master - Research Mode:**

1. Dr. Mohd Hafiz Idlan Bin Radzali, Amalan Pencegahan Kecelakaan Tajam dan Faktor-Faktor Yang Berkaitan Dalam Kalangan Pekerja Kesihatan di Klinik Kesihatan Primer Melaka, Master of Science, Universiti Sultan Zainal Abidin (2025-present) [Internal co-supervisor]

## **12 AWARDS AND ACHIEVEMENTS**

2023	Postgraduate publishing incentives award x 4 – a total amount of RM 3,250
2022	Postgraduate publishing incentives award x 3 – a total amount of RM 3,750
2021	Postgraduate publishing incentives award x 1 – a total amount of RM 1,500