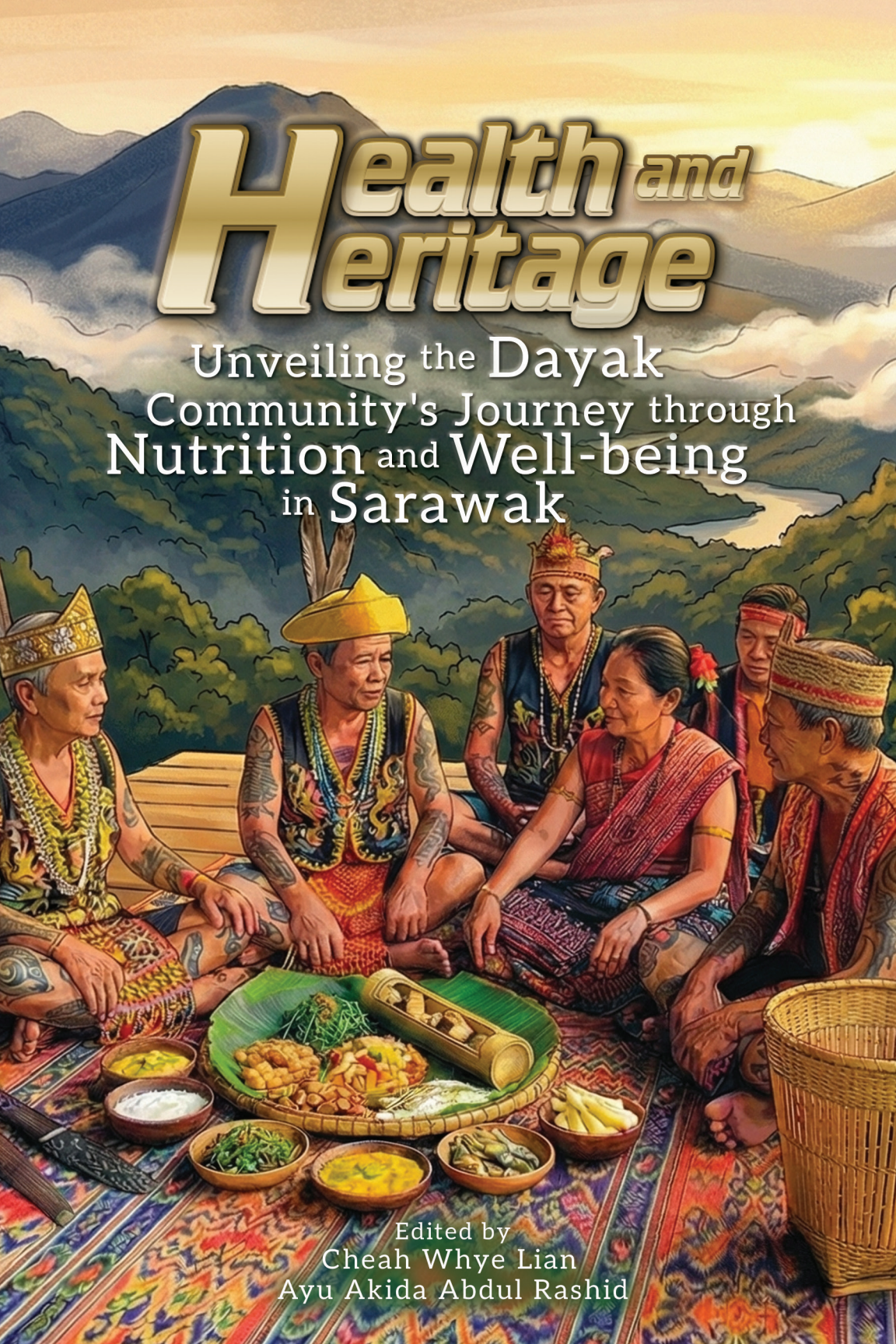
Health and Heritage

Unveiling the Dayak Community's Journey through Nutrition and Well-being in Sarawak



Edited by
Cheah Whye Lian
Ayu Akida Abdul Rashid

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Preface

In the heart of Sarawak, a narrative unfolds that bridges the past with the present, tradition with modernity, and health with heritage. "Health and Heritage" embarks on an exploratory journey into the lives of the Dayak communities, revealing how their health and nutritional practices are being reshaped in the face of contemporary challenges. This book is a comprehensive compilation of research, stories, and insights divided into five thematic parts, each shedding light on different facets of the Dayak's health and nutritional landscape.

Chapter 1 opens the dialogue on digital health literacy, emphasising its significance among the elderly Dayak, a demographic traditionally secluded from the digital revolution yet increasingly reliant on it for health information and services.

Chapter 2 delves into the heart of Dayak culinary tradition, exploring the complex relationship between the consumption of traditional foods, the advent of modern dietary habits, and their collective impact on health outcomes such as obesity and metabolic diseases.

Chapter 3 focuses on the prevalence of specific health conditions within the community, including fatty liver disease, gallstone disease, and cardiovascular risks. It examines how these conditions correlate with nutritional habits and lifestyle choices, offering a critical look at the health challenges facing the Dayak today.

Chapter 4 addresses the critical issues of food security and nutritional status, highlighting the vulnerability of the Dayak elderly and the broader indigenous communities to food insecurity and malnutrition. This section dips into the tactics utilised by these communities to traverse the intricacies of

resource availability, loss, and coping processes through cross-sectional studies and analysis.

Chapter 5 rounds off the discussion by investigating metabolic health markers, specifically adiponectin, and their association with vascular risk factors. This section underscores the importance of understanding metabolic health in the context of community-wide health assessments and interventions.

"Health and Heritage" goes beyond being a mere book; it serves as a call to action and a plea for empathy, urging readers, researchers, and policymakers to recognise and address the unique health and nutritional challenges faced by the Dayak communities in Sarawak. Through this detailed exploration, the book aims to contribute valuable knowledge to the fields of nutrition, public health, and indigenous studies, fostering a deeper understanding of how tradition and modernity coalesce in the realm of health and well-being.

Acknowledgement

First and foremost, I must thank myself for managing to complete this book before my retirement. It turns out that writing a book is a bit like running a marathon—except with more backaches from sitting too long and fewer medals. A heartfelt thanks to my co-editor, Ayu Akida, whose motivation and encouragement were pivotal in starting this book project.

To my amazing colleagues and graduate students, thank you for your invaluable contributions to the chapters of this book. Your insights, encouragement, and camaraderie have been instrumental, especially during the challenging phases of my life. Your support has been like a warm cup of teh tarik on a rainy day—comforting and essential.

A heartfelt thank you goes to my wonderful mum, whose unwavering support and years of perseverance have shaped me into the person I am today. Since the passing of my father, she has been the cornerstone of our family, guiding me with her strength and wisdom. Although she may not fully see my achievements as she once did, her influence and love are deeply woven into every page of this book. I dedicate this book to her.

Finally, here's to fulfilling a lifelong dream and proving that it's never too late to write a book. Cheers to ticking this off the bucket list!

谢伟莲

Chapter 1

Digital Literacy and Health Awareness

Digital Health Literacy Among Elderly Dayak in Southern Sarawak

Johnny Ling Shean Kang, Cheah Whye Lian

Introduction

In a quaint village in Southern Sarawak, an elderly Dayak woman receives a text message from her granddaughter. The message contains a health alert regarding dengue fever, a rising concern during the rainy season. Despite her limited education and age, this connection to digital information helps her remain informed and aware of the health threats facing her community. This scenario illustrates the growing importance of digital health literacy among the elderly, especially in rural regions like Sarawak.



"But how many elderly individuals actually use this technology?"

Sadly, society often stereotypes the elderly as being unable to use digital tools (Choi et al., 2020). However, this perception may not truly represent the experiences and capabilities of the elderly Dayak population in Southern Sarawak. As they transition from traditional health practices to a technology-driven healthcare system, their views and receptiveness of technology can be quite different.

Sarawak, recognised as one of Malaysia's ageing states, had a notable elderly population in 2020 (Department of Statistics, 2022). Within the indigenous communities of Sarawak, there exists a troubling trend of health issues, with many reporting high rates of hypertension and hypercholesterolemia (Chan et al., 2021). Additionally, obesity is prevalent within this population, indicating a pressing need for health interventions (Chang et al., 2016). In fact, a considerable portion of patients receiving follow-up care at non-communicable disease clinics in Lundu belongs to the indigenous population, highlighting the importance of targeted health programmes to address these challenges (Keng et al., 2021). These underscore the urgent need for effective and robust health communication strategies, including digital health literacy, to ensure that this demographic can access and understand health information effectively.

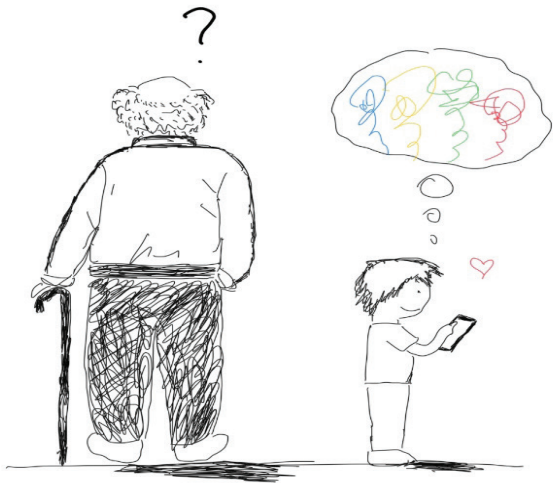
"How good are they at using the technology for their health?"

In this chapter, we investigate the level of digital health literacy among the elderly in Southern Sarawak and discuss the potential role in enhancing health awareness. This is a topic that has not been frequently studied in Sarawak. In our rapidly changing world, it is essential that no one is left behind, including the elderly, as we strive for a more inclusive approach to health. By examining the experiences and challenges faced by the elderly Dayak, we aim to better understand how to improve their digital health literacy and, in turn, enhance their overall well-being. For a healthier and better-informed community, it is necessary to help people understand how to use digital health resources by bridging the gap between conventional practices and current technologies.

Understanding Digital Health Literacy

Digital health literacy, which refers to the ability to access, understand, and use digital tools to manage health, has

emerged as a crucial factor in modern healthcare systems (Norman & Skinner, 2006). This involves not only the utilisation of smartphones or browsing the internet but also finding credible health information and communicating with healthcare providers online. Unfortunately, many elderly individuals face unique challenges in developing these skills since most did not grow up with the internet or digital devices (Berkowsky, 2021; Stellefson et al., 2013; Sudbury-Riley et al., 2017; Watkins & Xie, 2014). A considerable number of them struggle with limited internet access and a lack of familiarity with digital platforms, thereby exacerbating the disparity between available health information and actual awareness.



"Aha! Just like I suspected!"

To understand why digital health literacy can be low among the elderly, we can look at Davis's Technology Acceptance Model (TAM). This model helps explain how people's perceptions of technology influence their willingness to use it (Davis, 1989). Specifically, two key ideas are involved: perceived usefulness and perceived ease of use.

"Is it useful?"

Perceived usefulness means that a person believes using a particular technology will improve their quality of life or health outcomes. For elderly individuals, this might translate into better management of their health conditions or improved communication with their healthcare providers.

"Is it easy to use?"

Perceived ease of use, on the other hand, refers to the belief that using the technology will not require much effort. This aspect is particularly important for the elderly, especially in the Dayak community, as cognitive decline or physical limitations can make it difficult for them to engage with digital health platforms.

According to the TAM, these perceptions shape attitudes towards technology, which then influence the intention to use it and, ultimately, the actual use of the technology. Building on this, Arcury et al. (2017) suggested that we can enhance our understanding of elderly behaviour by combining TAM with Lawton's person-environment interaction model (Lawton, 1989, pp. 57 - 78). This approach considers how the physical and social environments around a person interact with their behaviour, offering a more comprehensive view of how elderly individuals engage with digital health tools.

Therefore, the low level of digital health literacy among elderly individuals might be attributed to their perceptions of usefulness and ease of use of technology. While many participants recognised the potential benefits of the Internet, noting its usefulness, concerns about the reliability of online information hindered their willingness to fully engage with digital health tools. Additionally, the perceived difficulty in using these technologies presents a substantial barrier, making it challenging for them to effectively access and utilise health information online.

Impact on Health Awareness and Well-being

Higher digital health literacy among the elderly has the potential to enhance healthcare outcomes (Buyl et al., 2020; Li et al., 2020; Shi et al., 2021; Stellefson et al., 2018; Watkins & Xie, 2013, 2014; Xie, 2011; Zhang et al., 2021). Picture a sunny morning in a small village in Southern Sarawak where elderly individuals gather at the local community centre, eager to learn how technology can help them live healthier lives. Studies show that when elderly people become more skilled at using digital health tools, they can access important information to manage chronic diseases like diabetes and hypertension.

As more elderly individuals learn to use digital health tools, they become more aware of local health threats. For instance, during the rainy season, health alerts about dengue fever start to circulate through their smartphones. They learn to recognise the symptoms and take preventive measures to protect themselves and their families. As they become more comfortable with technology, the elderly Dayak can take charge of their health, leading to longer, healthier lives.

The Dayak Community in Southern Sarawak: Health and Cultural Practices

Cultural beliefs may hinder the adoption of digital health tools, as traditional practices often take precedence over modern medical advice. Therefore, understanding these cultural nuances is essential. The Dayak community's rich cultural heritage fosters strong relationships and bonds within families and among villagers. Trust and respect for healthcare professionals are deeply ingrained, making them a primary source of health information. Interestingly, the way the elderly Dayak seek health information contrasts with what one might expect among the elderly.

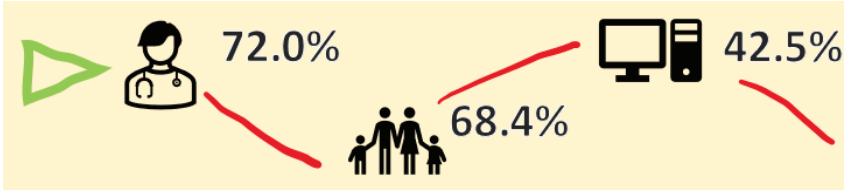


Figure 1.1: Preferred source for health information among the elderly in Southern Sarawak.

Our research found that, while healthcare professionals remain the top source of health information among the elderly, followed by family and friends, digital sources are increasingly relevant (Figure 1.1).

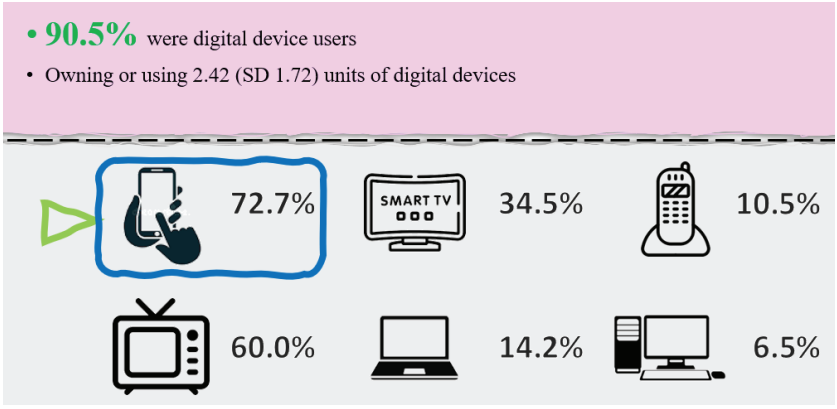


Figure 1.2: Digital device usage among the elderly in Southern Sarawak.

In fact, 90.5% of respondents were active digital device users, with an average of two devices per person, and 72.7% owned a smartphone (Figure 1.2). Additionally, 64.7% of participants reported regular internet use. The purpose of internet usage among the elderly Dayak encompasses various activities that reflect their diverse interests and needs. Social activities are a primary focus, as many use the internet to connect with family and friends, fostering a sense of community and belonging. Access to news is also significant, enabling them to stay informed about current events and local developments. Additionally, entertainment plays a role in

their online engagement, providing a source of enjoyment and leisure.

While health information is an important aspect of their internet usage, it remains secondary to socialising, news consumption, and entertainment. Other activities, such as work and online shopping, are less common but still contribute to their overall online experience. This multifaceted use of the internet highlights the evolving digital landscape for the elderly, showcasing their adaptability in integrating technology into their daily lives. The above findings provide an opportunity to expand healthcare access digitally, particularly in terms of nutrition, chronic disease management, and preventive health measures.

Challenges Facing Elderly Dayak in Adopting Digital Health Literacy

Despite a significant number of elderly respondents being active digital device users, many face substantial challenges in fully embracing these technologies. Many individuals feel intimidated by the rapidly changing digital world, believing they are "too old to learn". A lack of digital skills can make it tough for them to navigate online health resources. For example, one elderly respondent shared how she felt overwhelmed by the smartphone her children gifted her, making her hesitant to seek health information.

Reported difficulties for utilising digital devices or Internet:	
1. Too old to learn	45.5 %
2. Lack of skill	39.6 %
3. Visual problem	35.6 %
4. Lack of Internet connection	34.2 %
5. Lack of interest	30.5 %
6. Lack of guidance	28.7 %
7. Language problem	24.7 %
8. Difficult concentrating	12.4 %
9. Not enough time	12.4 %
10. Lack of digital device	12.0 %

Physical limitations, such as visual impairments, also complicate their ability to interact with digital content, and slow internet connectivity adds to their frustrations. Some individuals recount trying to access health information online but becoming discouraged due to slow internet speeds, leading them to return to familiar, traditional sources.

Moreover, a lack of interest or guidance in using digital tools is common among this demographic, often stemming from a cultural preference for face-to-face interactions. Language barriers further complicate their experiences, as many digital platforms feature content in languages that may not be familiar to them. Other challenges, like difficulty concentrating and limited time availability, also contribute to their hesitance in adopting digital health literacy.

These factors collectively explain why traditional sources of health information continue to dominate for the elderly Dayak, despite the potential benefits of digital platforms. The interplay between cultural values, personal experiences, and barriers to technology highlights the need for tailored approaches to enhance digital health literacy in this community, ensuring that the advantages of modern health information are accessible to everyone, regardless of age or familiarity with technology.

Enhancing Digital Health Literacy, Policy Recommendations and Future Directions

In the heart of Southern Sarawak, the Dayak community is a strong and vibrant part of the region, deeply connected to their culture and the natural beauty around them. As technology becomes more common in daily life, it offers new ways to find health information and support. However, many elderly Dayak people face challenges in learning how to use these digital tools. To help them on this journey, we can look at five key strategies, known as the 5 Ps: Promotion, Public Health Research, Participation, Platform Development, and Policy Development.

Promotion is the first step. Picture a bustling village square where the local health officer, Melati, gathers the elderly Dayak community. With her friendly smile, she shares stories about how technology can help them manage their health. She tells an inspiring tale about Pak Harun, an elderly man who used his smartphone to get important health updates. This message resonates with the community, showing them how digital tools can improve their lives and keep them healthy.

Next, we need to focus on Public Health Research. By learning more about the experiences of elderly Dayak individuals, we can identify the barriers they face. Many elderly people feel overwhelmed and intimidated by technology, believing they are too old to learn. For example, Mak Cik Aisha, a kind grandmother, often says, "I can't use these gadgets." However, through research, we can hear their voices and understand their challenges. Surveys and discussions will reveal that, while they want to learn, they struggle with things like slow internet and lack of skills.

Participation is another important part of this story. Imagine a community workshop where elderly Dayak men and women come together, excited to learn about using digital health platforms. They are guided by young villagers who show them how to use apps and find health information. In this supportive environment, they build their confidence and form friendships, showing them that technology can be a helpful ally in managing their health.

The next strategy is Platform Development. We need to create digital tools that are easy to use and meet the needs of the elderly Dayak community. Imagine a simple mobile app with large buttons and clear instructions. It would provide health information in the local language, making it easier for everyone to access. Working with local developers, we can design this app based on feedback from the elderly. As they start using it, they will notice how it helps them manage their health and connect with healthcare providers.

Finally, we arrive at Policy Development, which is essential for making lasting changes. Local leaders and community advocates come together to discuss how to improve digital health literacy for the elderly. They call for better internet access in rural areas and push for support from the government to invest in necessary technology. They also stress the importance of training healthcare workers to assist the elderly in using digital tools. By creating strong policies, they can ensure that these efforts continue to grow and support the community.

With these strategies in place, we can imagine a brighter future for elderly Dayak people in Southern Sarawak. As they learn to use digital health resources, they will feel less isolated and more empowered to take charge of their health. Technology will no longer seem intimidating; instead, it will be a helpful part of their lives.

In conclusion, the journey to improve digital health literacy for the elderly Dayak community is one of hope and support. By focusing on the 5 Ps—Promotion, Public Health Research, Participation, Platform Development, and Policy Development—we can create an environment that empowers elderly individuals to thrive in the digital age. Together, we can ensure that everyone in the community is included and has the tools they need to stay healthy and informed.

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Health and Heritage

Unveiling the Dayak Community's Journey through Nutrition and Well-being in Sarawak

Health and Heritage is not just a book; it's a call to action and empathy, urging readers, researchers, and policymakers to recognise and address the unique health and nutritional challenges faced by the Dayak communities in Sarawak. Through this detailed exploration, the book aims to contribute valuable knowledge to the fields of nutrition, public health, and indigenous studies, fostering a deeper understanding of how tradition and modernity coalesce in the realm of health and well-being.



Cheah Whye Lian is a Professor of Nutrition at the Department of Community Medicine and Public Health, Faculty of Medicine and Health Sciences. She holds a degree in Nutrition, a Master's in Public Health, and a Ph.D. in Community Nutrition. Cheah's research focuses on nutrition and well-being from childhood to adulthood, specializing in community settings. She is skilled in quantitative, qualitative, and mixed-methods research. Her work includes studies among Sarawak's indigenous groups, exploring cultural and health behavior interactions, particularly among the Iban and Bidayuh communities. She has co-established a research cluster on health and well-being under the Institute of Borneo Studies.



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