



Empowering Indonesian Migrant Workers to Prevent and Manage Stroke through Personal Social Responsibility (PSR) in Penang, Malaysia

Leila Mona Ganiem¹, Nurhayani Saragih² & Sri Hartono³

^{1,2,3} Universitas Mercu Buana, Jakarta, Indonesia, 11650

Telp: +6281188866909

E-mail: leila.mona@mercubuana.ac.id¹, nurhayani.saragih@mercubuana.ac.id², sri.hartono@mercubuana.ac.id³

RIWAYAT ARTIKEL

Received: 2025-07-02

Revised : 2025-07-22

Accepted: 2025-07-31

KEYWORD

Stroke Prevention,
Migrant Workers,
Health Literacy,
Personal Social Responsibility,
Community Empowerment

KATA KUNCI

Pencegahan Stroke,
Pekerja Migran,
Literasi Kesehatan,
Personal Social Responsibility,
Pemberdayaan Masyarakat

ABSTRACT

Stroke is a leading cause of death in Indonesia and the world. Indonesian migrant workers (TKI) in Malaysia, also face high risks due to unhealthy lifestyles, chronic stress, and limited healthcare access. This community service program addresses these challenges by empowering TKI through Personal Social Responsibility (PSR), fostering cooperation (gotong royong) to enhance collective well-being. The program focuses on improving health literacy through tailored stroke prevention education and enabling the community to take ownership of health initiatives via strategic communication and peer-led actions. Activities include interactive workshops, health ambassador training, development of culturally sensitive educational materials, health screenings, and peer support networks. These initiatives equip participants with essential knowledge, encourage proactive health behaviors, and promote sustainable stroke prevention strategies. The program has successfully improved health literacy among 80% of participants and trained 24 health ambassadors who actively disseminate information and advocate for healthier lifestyles. These measurable outcomes align with the program's objectives of fostering a resilient and health-conscious community. By integrating PSR principles, this initiative strengthens the resilience of the TKI community, fostering a culture of shared responsibility in stroke prevention and overall health improvement.

ABSTRAK

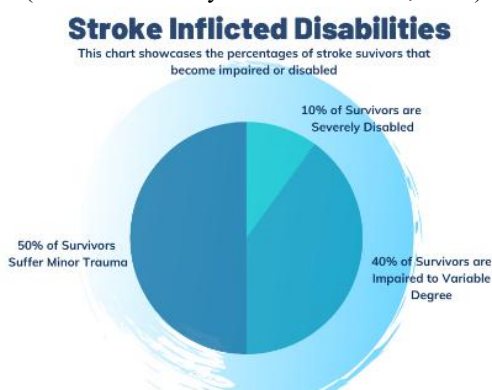
Stroke merupakan penyebab kematian utama di Indonesia dan dunia. Tenaga Kerja Indonesia (TKI) di Malaysia juga menghadapi risiko tinggi akibat gaya hidup tidak sehat, stres kronis, dan terbatasnya akses layanan kesehatan. Program pengabdian masyarakat ini menjawab tantangan tersebut dengan memberdayakan TKI melalui *Personal Social Responsibility* (PSR), memupuk kerja sama (gotong royong) untuk meningkatkan kesejahteraan kolektif. Program ini berfokus pada peningkatan literasi kesehatan melalui edukasi pencegahan stroke yang disesuaikan dan memungkinkan masyarakat untuk mengambil kepemilikan atas inisiatif kesehatan melalui komunikasi strategis dan tindakan yang dipimpin oleh rekan sebaya. Kegiatannya meliputi lokakarya interaktif, pelatihan duta kesehatan, pengembangan materi edukasi yang peka budaya, skrining kesehatan, dan jaringan dukungan sebaya. Inisiatif-inisiatif ini membekali peserta dengan pengetahuan penting, mendorong perilaku kesehatan proaktif, dan mempromosikan strategi pencegahan stroke yang berkelanjutan. Program ini telah berhasil meningkatkan literasi kesehatan di antara 80% peserta dan melatih 24 duta kesehatan yang secara aktif

menyebarkan informasi dan mengadvokasi gaya hidup yang lebih sehat. Hasil yang terukur ini sejalan dengan tujuan program untuk membina masyarakat yang tangguh dan sadar kesehatan. Dengan mengintegrasikan prinsip-prinsip PSR, inisiatif ini memperkuat ketahanan komunitas TKI, menumbuhkan budaya tanggung jawab bersama dalam pencegahan stroke dan peningkatan kesehatan secara keseluruhan.

1. Introduction

Stroke is a significant global health issue and a leading cause of death and disability worldwide. It contributes to chronic disabilities in up to 50% of survivors, leading to a profound impact on individuals, families, and healthcare systems (Donkor, 2018; Morotti Loris; Costa Paolo, 2019; Murphy & Werring, 2020; Zade et al., 2024). It is detailed in Figure 1. Its incidence is rising due to aging populations and disproportionately affects young individuals in low- and middle-income countries (Katan Andreas, 2018). In Indonesia, stroke is the leading cause of death, accounting for 18.5% of all fatalities and 11.2% of disabilities, with prevalence increasing significantly from 7% per mil in 2013 to 10.9% per mil in 2018, according to the 2018 Riskesdas report (Badan Penelitian dan Pengembangan Kesehatan, 2018; Dayaningsih et al., 2022; Muhawarman, 2024; Sari, 2022; Venketasubramanian et al., 2022). Beyond its health implications, stroke imposes a considerable economic and psychological burden on individuals and families, often resulting in expensive medical treatments, lengthy rehabilitation, loss of mobility, diminished quality of life, emotional stress, and financial instability.

Figure 1. Stroke Contributions to Disabilities
(Source: disabilitycreditcanada.com, 2025)



Stroke occurs when the blood supply to the brain is interrupted or reduced, preventing brain tissue from receiving oxygen and nutrients (Shamshiev et al., 2024). This condition can result from a blocked artery (ischemic stroke) or the bursting of a blood vessel (haemorrhagic stroke).

The risks of stroke are influenced by various factors, including lifestyle choices such as poor diet, lack of physical activity, and smoking. Additionally, chronic stress, hypertension, diabetes, and high cholesterol significantly increase the likelihood of a stroke (Jalili-Moghaddam et al., 2024; Lalo & Zekja, 2023).

Stroke can affect people of all ages, from young adults to the elderly (Bukhari et al., 2023; Stack & Cole, 2021). However, its prevalence is higher among older individuals. Despite this, strokes among younger populations have been rising due to unhealthy lifestyle habits, prolonged stress, and inadequate health monitoring (Jo et al., 2022; Kishanrao, 2024). The good news is that stroke can often be prevented through proactive measures. Maintaining a balanced diet, engaging in regular physical activity, managing stress, and avoiding smoking and excessive alcohol consumption are crucial preventive strategies (Dopler, 2023). Routine health check-ups to monitor blood pressure, cholesterol, and blood sugar levels are also vital in mitigating risks (Delgado et al., 2023; Narita et al., 2022).

Challenges faced by migrant workers (TKI) in Malaysia

PERMAI Penang, or the Indonesian Community Organization in Penang, Malaysia (Pertubuhan Masyarakat Indonesia di Pulau Pinang, Malaysia), is a non-governmental and non-political organization focused on social, educational, and cultural activities. Its members include Indonesians residing in Malaysia, such as expatriates, entrepreneurs, lecturers, teachers, students, and workers (Hidayah, 2024). PERMAI aims to foster goodwill and harmony between the Indonesian community and the local society through interaction, tolerance, adaptation, and contribution, regardless of background, belief, or religion (Arijanto et al., 2024; PERMAI Penang, n.d.). Some educational activities are shown in Figure 2. PERMAI actively collaborates with various stakeholders, including institutions like Universitas Mercu Buana, to provide training in areas such as eCommerce, fintech, digital technology, and other practical skills, empowering members to access better employment opportunities.

Figure 2. English Academy, Quran Academy, and Sanggar Bimbingan by PERMAI (Source: permai.my.id)



The Indonesian society organization in Penang, known as PERMAI Penang (Pertubuhan Masyarakat Indonesia di Pulau Pinang), is a registered non-governmental organization (NGO) in Malaysia. Although its official date of establishment is not specified, archival evidence indicates that the organization has been active since at least 2015. PERMAI Penang primarily serves Indonesian expatriates residing in Penang, including entrepreneurs, students, domestic workers, and labourers. Its official website, accessible at <https://permai.my.id>, outlines a range of core activities aimed at community empowerment and support. These activities include educational and vocational training programs, the organization of cultural and religious events, and community health outreach initiatives. Furthermore, PERMAI actively collaborates with universities in Indonesia to promote skills development among its members. Team of PERMAI is showed in Figure 3.

Figure 3. PERMAI Team in Penang, Malaysia (Source: permai.my.id)



Members of PERMAI, comprising Indonesian migrant workers (Tenaga Kerja Indonesia, or TKI) in Malaysia, may face an elevated risk of stroke due to the unique challenges they encounter while living abroad (De Smalen et al., 2021; Tjitrawati & Romadhona, 2024). Migrant workers in Malaysia confront unique socioeconomic and health-related

vulnerabilities, many of which intersect with the risk factors associated with stroke. Key challenges include:

1. Occupational and Emotional Stress. Migrant workers are frequently employed in physically intensive sectors such as domestic care, construction, factory work, and service industries. Extended working hours with limited rest compounded by emotional isolation from family generate chronic stress and fatigue. These stressors significantly contribute to hypertension, one of the most powerful predictors of stroke incidence (Barinova, 2024; Koseoglu Ornek et al., 2022; Mucci et al., 2020).
2. Unhealthy Lifestyle Patterns. Constraints on time, limited autonomy, and financial pressures often result in: irregular meal schedules; high consumption of inexpensive, processed foods; lack of physical exercise; and habitual smoking or alcohol consumption in coping mechanisms. These behaviours exacerbate comorbidities such as diabetes, obesity, and hyperlipidemia, creating a high-risk cluster for cerebrovascular accidents.
3. Healthcare Access Barriers. Despite Malaysia's relatively developed healthcare infrastructure, migrant workers frequently lack insurance coverage, encounter language barriers, and fear legal complications, all of which deter timely medical attention. Early detection critical in stroke management is thereby substantially delayed, especially among undocumented workers.
4. Low Stroke Awareness and Health Literacy. As documented in various migrant health studies, including recent assessments by Southeast Asian health consortia, awareness of stroke warning signs and the golden period (4.5 hours) for intervention remains alarmingly low among TKI populations (Chauhdry, 2021; De Lacerda et al., 2024; Karki & Manandhar, 2024). Migrant workers are often caught between survival economics and systemic invisibility, which makes them susceptible not only to occupational exploitation but also catastrophic health events like stroke (Setijanigrum et al., 2023).

Once the patient is stabilized, the focus shifts to the rehabilitative phase to restore bodily functions and improve quality of life. Rehabilitation includes physical therapy, speech therapy, and occupational therapy to help the patient regain independence (Khunsha et al., 2024; Li et al., 2024; Markus, 2021). Psychological support and lifestyle changes, such as a healthy diet and managing risk factors, are also

essential (Hall et al., 2023; Towfighi et al., 2020). If the migrant worker is abroad, coordination with family, agencies, and relevant authorities is necessary to ensure access to healthcare and facilitate repatriation to their home country if needed.

The collaboration between Universitas Mercu Buana (UMB) and PERMAI Penang aligns with the principles of PSR and *gotong royong*, addressing the health challenges faced by Indonesian migrant workers through a community-center approach. This program, part of UMB's community services initiative (Pengabdian Kepada Masyarakat, PKM), leverages academic resources to enhance stroke awareness, empower individuals through peer-driven health promotion, and improve health literacy. Activities include culturally sensitive health education, role-playing sessions, interactive Q&A workshops, and the development of stroke prevention materials, ensuring participants are actively engaged in learning and contributing to preventive efforts.

This initiative reflects the core objectives of the *Merdeka Belajar Kampus Merdeka* (MBKM) framework by fostering experiential learning for students while promoting sustainable community empowerment. By involving students in program design and implementation, the collaboration equips them with practical skills, encourages interdisciplinary teamwork, and enhances their understanding of societal needs. Simultaneously, it instills a sense of social responsibility, bridging academic knowledge with grassroots impact to create scalable, community-driven health solutions.

Objectives of the community service initiative

This community service program aims to empower Indonesian migrant workers in Malaysia through PSR-driven stroke prevention initiatives. The specific objectives of the program include: Enhancing health literacy: educating migrant workers on stroke risk factors, symptoms, and preventive strategies through interactive workshops and culturally relevant materials; Establishing peer support networks: creating a sustainable support system where TKI can share knowledge, encourage healthy behaviors, and assist stroke survivors in their recovery journey; Facilitating access to healthcare: organizing health screenings and connecting TKI with local healthcare providers for early detection and treatment of stroke risk factors; and Promoting community engagement: encouraging collective participation in health initiatives by integrating *gotong royong* and PSR principles into community-driven activities.

By achieving these objectives, the program aims to reduce stroke incidence among Indonesian migrant workers and improve health outcomes through a collaborative, sustainable approach

2. Literature Review

Personal social responsibility (PSR)

In addressing these challenges, one of Indonesia's most cherished cultural values, *gotong royong* (cooperation) (Bowen, 1986; Simarmata et al., 2020; Suwignyo, 2019), provides a powerful foundation. This spirit of collective effort and shared responsibility can be harnessed to empower communities to combat stroke. One effective approach is through the implementation of the Personal Social Responsibility (PSR) action by every individual that cares, which emphasizes collective action to reduce stroke risk and support affected individuals.

Personal Social Responsibility (PSR) refers to an individual's commitment to contributing positively to societal well-being, often by addressing pressing social, environmental, or health-related issues (Ganiem & Hamad, 2023; Sedlak et al., 2023; Žak et al., 2023). As outlined by Ganiem et al. (Ganiem et al., 2015), PSR adopts a bottom-up approach distinct from Corporate Social Responsibility (CSR), emphasizing personal agency and grassroots efforts. Core principles of PSR include ethical behaviour, social empathy, and proactive engagement with community challenges (Ganiem et al., 2024; Hani & Ganiem, 2024; Kholisoh et al., 2023). These values align seamlessly with cultural practices like *gotong royong*, fostering collective action and mutual support (Hani & Ganiem, 2022, 2023). In health contexts, PSR can manifest through grassroots initiatives such as community health drives, education on preventive measures, and providing direct aid to individuals in need (Ganiem & Hamad, 2023). For migrant workers, PSR holds relevance as it bridges gaps in access to resources by fostering peer support networks, promoting health literacy, and encouraging shared responsibility. By cultivating a culture of empathy and action, PSR empowers individuals to make meaningful contributions to societal resilience and well-being.

In the context of stroke, PSR can be applied in two key ways:

1. Supporting Stroke Prevention Efforts:

Preventing stroke requires a collective commitment to spreading awareness and encouraging healthy behaviours. This can involve organizing educational campaigns on

stroke risk factors, conducting community health screenings, and promoting physical activity programs. Informative workshops on managing stress and maintaining a balanced diet can further empower individuals to make healthier lifestyle choices.

- 2. Assisting Those Affected by Stroke:** For individuals who have already experienced a stroke, PSR can provide invaluable support in their recovery journey. This support can include financial aid to cover medical expenses, donations of essential items like mobility aids, and volunteering time to help with daily activities or emotional support. their recovery journey. Additionally, fostering a community of empathy and understanding can significantly enhance psychological well-being for stroke survivors and their families.

The beauty of PSR lies in its flexibility and inclusivity. Contributions can take many forms, ensuring that everyone can participate regardless of their resources (Ganiem et al., 2024; Ganiem & Hamad, 2023; Hani & Ganiem, 2022, 2023, 2024; Kholisoh et al., 2023; Sedlak et al., 2023; Žak et al., 2023). These contributions include: **Financial support:** donations to fund medical treatments, rehabilitation programs, or community health initiatives; **Material contributions:** providing essential items such as wheelchairs, walking aids, or home care equipment; **Time and energy:** volunteering to assist stroke survivors with physical therapy exercises, errands, or companionship; **Knowledge sharing:** offering expertise in healthcare, nutrition, or mental health to educate the community; and **Emotional support:** providing a listening ear or encouragement to stroke survivors and their families..

The goal of PSR: encouraging contribution and cooperation

The goal of PSR is to foster a culture of contribution and cooperation, where individuals recognize their collective power to address the challenges posed by stroke. By leveraging the spirit of *gotong royong*, communities can create a robust support system that reduces the prevalence of stroke, enhances recovery outcomes, and improves overall well-being.

For migrant workers, PSR can serve as a lifeline, bridging the gap between limited resources abroad and the support they need to maintain their health. Community-driven initiatives, supported by organizations and local leaders, can provide TKI

with access to health information, preventive measures, and assistance in emergencies.

3. Method

This community service initiative employs a participatory and educational approach to empower Indonesian migrant workers (TKI) in Malaysia in stroke prevention and management. The methodology consists of several key stages: planning, implementation, monitoring, and evaluation, ensuring both scientific rigor and community engagement.

Program design

The program follows a Community-Based Participatory Research (CBPR) design, which integrates education and action to address stroke prevention among migrant workers. CBPR is widely recognized as an effective approach for public health interventions, as it fosters collaboration between researchers and community members to create sustainable health initiatives (Southby et al., 2020; Wallerstein et al., 2020).

The intervention employs a mixed-methods approach, combining qualitative and quantitative techniques to assess program effectiveness. This approach enhances the validity of findings by capturing both measurable knowledge improvements and in-depth participant experiences (Creswell & Poth, 2016).

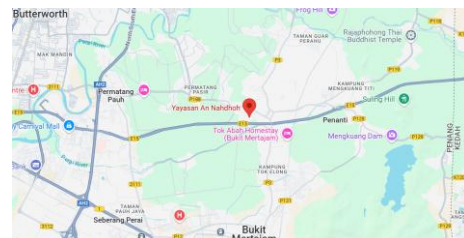
Program procedures

Program implementation

This initiative was conducted by the Faculty of Communication Science of Universitas Mercu Buana in collaboration with PERMAI Penang. The activities took place at the following locations:

- An-Nahdhoh Foundation: 843, Kampung Petani, 14400 Bukit Mertajam, Pulau Pinang, Malaysia.

Figure 4. Map and Building of An-Nahdhoh Foundation





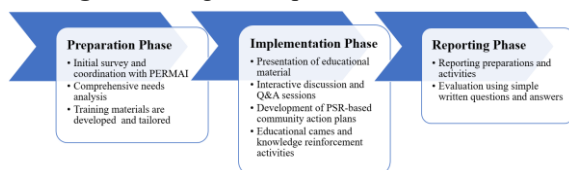
The program was conducted on May 3rd - 5th 2025, running from 9:45 AM to 2:50 PM

Target community/activity partners

The program targeted Indonesian migrant workers (TKI) in Malaysia, particularly members of PERMAI. A total of 24 participants attended the event in person. The selection process was carried out by PERMAI management through the following structured procedure:

- Identifying individuals interested in participating in the program.
- Evaluating candidates based on their level of engagement and commitment.
- Appointing participants to ensure balanced representation.

Figure 5. Program Implementation Phases



Program implementation phases

The program was structured into three key phases: preparation, implementation, and reporting. This is illustrated in Figure 5 above.

Preparation phase

The preparation phase begins with the administration of an initial survey and coordination with the Indonesian Migrant Workers Association (PERMAI) to assess the specific needs of the target community. This collaborative effort aims to gather accurate baseline data regarding the health priorities and concerns of the group. A comprehensive needs analysis is then conducted to identify the most pressing health challenges faced by Indonesian migrant workers (TKI), with a particular focus on stroke-related issues. This phase also includes qualitative data collection through interviews and a review of relevant literature to better understand the prevalence, risk factors, and perceptions of stroke within the migrant worker population. Based on the findings, training materials are developed and carefully tailored to align with the participants'

existing levels of knowledge, cultural context, and identified needs to ensure relevance and accessibility.

Implementation phase

The following implementation steps are designed as a structured process to enhance community knowledge, mobilize grassroots health efforts, and support sustainable behaviour change through the application of Participatory Social Responsibility (PSR). The sequence integrates educational dissemination, interactive engagement, practical planning, and experiential learning to create an impactful and context-sensitive community intervention.

Presentation of educational material: understanding PSR and stroke

The initial step involves facilitators delivering educational content that is both accessible and culturally relevant. The goal is to establish a strong foundational understanding of stroke and the key concepts of PSR. Participants are introduced to the types, causes, warning signs, and major risk factors of stroke, with an emphasis on the importance of early recognition and prompt medical attention. Alongside this, the concept of PSR is framed within a health context, emphasizing how individual responsibility and collective effort can foster a healthier community. Facilitators also provide real-life examples of successful community-led initiatives, such as organizing basic health checks or forming peer support groups for stroke survivors, to illustrate the practical application of PSR principles.

Interactive discussion and Q&A sessions

After the educational presentations, participants take part in guided discussions intended to personalize and contextualize PSR within their own lives and community dynamics. These sessions are designed to deepen participants' comprehension through dialogue and reflective inquiry. Discussions explore how PSR values can be embedded into daily routines to lower stroke risks, the ways individuals can offer support to stroke survivors and their families, and the challenges that may arise in applying PSR locally. These exchanges not only encourage participants to share their perspectives but also promote the co-creation of knowledge and mutual learning.

Development of PSR-based community action plans

In the third phase, facilitators assist participants in translating acquired knowledge into practical

action by developing community action plans rooted in PSR principles. These plans are tailored to the specific needs and conditions of each community. Participants are encouraged to design feasible initiatives such as informal peer education workshops on stroke awareness, small group networks for routine health monitoring, and local micro-funding systems to support stroke survivors with transportation or basic medical costs. Each plan is collaboratively developed, documented, and subjected to collective review and refinement to ensure its clarity, practicality, and community ownership.

Educational games and knowledge reinforcement activities

To strengthen knowledge retention and sustain participant engagement, the program incorporates interactive educational games and reinforcement activities. These include quizzes, scenario-based role-plays, and simulation exercises designed to enhance participants' ability to recognize stroke symptoms using the FAST method (Face drooping, Arm weakness, Speech difficulty, Time to act), identify modifiable risk factors, and integrate PSR concepts into everyday interactions. These gamified learning experiences contribute to a more inclusive, dynamic, and supportive environment that encourages continued involvement and peer-based reinforcement of key health messages.

Reporting phase

The reporting phase serves as a crucial stage in synthesizing and communicating the outcomes of the preparatory and research activities. It begins with the systematic documentation of data collected through the initial survey and coordination with the Indonesian Migrant Workers Association (PERMAI), which aimed to assess the specific health needs of the target community. The findings from the needs analysis—focusing on the health challenges experienced by Indonesian migrant workers (TKI), especially in relation to stroke—are compiled into a structured report. This includes a detailed account of the major risk factors identified, as well as patterns observed from qualitative interviews and literature reviews concerning stroke awareness and vulnerability within the migrant population.

Furthermore, the report highlights the methodological approaches used and offers an interpretation of the collected data, emphasizing its implications for future health interventions. It also includes a reflective analysis of the development

process for the training materials, demonstrating how these resources were adapted to suit the participants' varying knowledge levels, cultural backgrounds, and specific health concerns. The final report not only ensures transparency and accountability but also serves as a foundational reference for guiding the implementation and evaluation phases of the program.

Evaluation is conducted at the final stage of the activity, through data collection using simple written questions and answers filled in through questionnaires and observations of the course of the activity. From the discussions that have been carried out, the author can assess the extent to which participants understand and comprehend the material that has been explained by the speaker.

The questions asked through the questionnaire are: Q1. What is your plan to help others in your community as a way to prevent the occurrence of stroke? Q2. What benefits will people in your community gain when you take action to prevent stroke? Q3. What is your plan of action if someone around you experiences a stroke? Q4. What benefits will people in your community gain when you assist someone who has experienced a stroke? Q5. What benefits do you personally gain by engaging in stroke prevention and by helping stroke survivors in your community?

Figure 6. Delivery of Educational Materials



Figure 7. Games Session



Figure 8. The Speakers Together with Partners and Committee

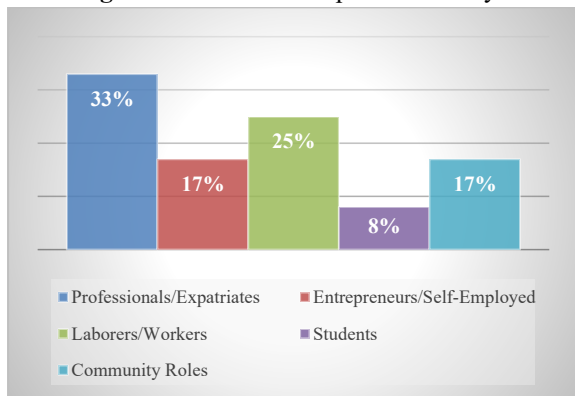


Documentation of the implementation of community service activities with PERMAI Penang. Some of the implementation of community service is documented in Figures 6, 7, and 8.

4. Results and Discussion

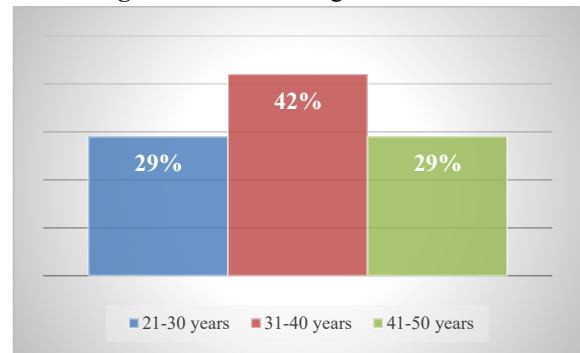
Participant characteristics

Figure 9. Chart of Occupation/Activity



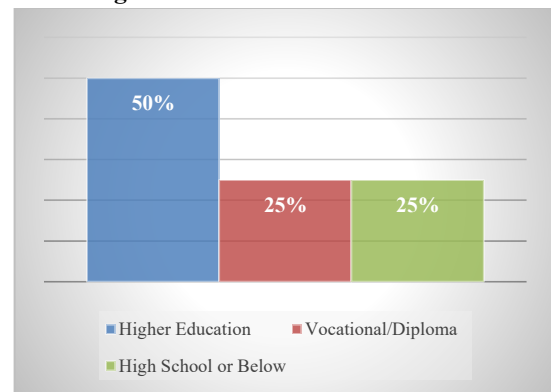
As seen in Figure 9, the occupational distribution reflects PERMAI Penang’s inclusive reach across socio-economic strata. The prominence of professionals (33%) aligns with the organization’s emphasis on skill-building collaborations (e.g., with universities and fintech trainers). Meanwhile, the substantial proportion of laborers (25%) underscores PERMAI’s commitment to marginalized groups, such as migrant workers, through vocational support. Entrepreneurs and community roles (17% each) highlight grassroots leadership in cultural and economic initiatives, consistent with PERMAI’s dual focus on empowerment and social cohesion. The smaller student representation (8%) suggests potential for expanded youth engagement in future programs.

Figure 10. Chart of Age Distribution



As seen in Figure 10, The age demographics reveal a predominantly working-age membership (71% aged 31–50), indicative of PERMAI’s role in supporting economically active Indonesians in Penang. The 31–40 cohort (42%) often mid-career professionals and entrepreneurs correlates with the organization’s training programs targeting career advancement (e.g., digital technology workshops). Younger participants (21–30 years, 29%) likely include students and entry-level workers, while the 41–50 group (29%) may comprise senior professionals and community leaders, reflecting intergenerational knowledge transfer within PERMAI’s activities.

Figure 11. Chart of Education Level



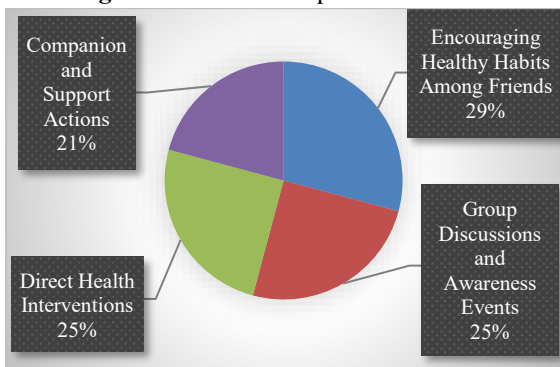
If we look at Figure 11, the bifurcation in education levels mirrors PERMAI’s dual mission of upskilling and inclusivity. The 50% with higher education credentials likely drive leadership in training programs (e.g., eCommerce collaborations with Universitas Mercu Buana), while the equal shares of vocational (25%) and high school-educated (25%) members emphasize PERMAI’s outreach to laborers and domestic workers. This distribution suggests targeted interventions vocational training for the latter groups and advanced upskilling for the former to bridge socio-economic gaps within the Indonesian diaspora.

The data collectively illustrate PERMAI Penang as a microcosm of the Indonesian expatriate community in Malaysia, balancing professional advancement (via high-education members and industry partnerships) with social equity (through laborer inclusion and grassroots initiatives). The age and education trends further signal opportunities to deepen youth engagement and tailor vocational programs to low-education demographics, ensuring alignment with PERMAI's vision of holistic community empowerment.

Questionnaire answers

The responses highlight a multi-faceted approach to stroke prevention, emphasizing social influence and collective action, as seen in Figure 12. The most prominent theme is Encouraging Healthy Habits Among Friends, where participants stress the importance of mutual reminders and shared activities such as exercise and healthy eating. This suggests that peer accountability plays a crucial role in sustaining behavioral change. Another key strategy is Group Discussions and Awareness Events, which involve structured community engagement through educational sessions and informational materials. Additionally, Direct Health Interventions reflect proactive measures, such as confronting health negligence and inviting medical experts, indicating that authoritative reinforcement may enhance prevention efforts. Finally, Companion and Support Actions underscore practical assistance, such as accompanying individuals to medical check-ups, reinforcing the idea that social support facilitates adherence to health protocols.

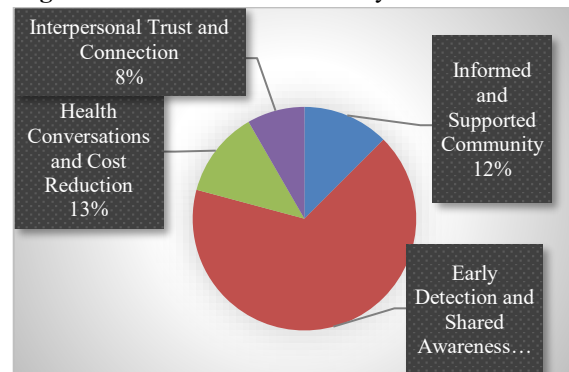
Figure 12. Plan to Help Prevent Stroke



In Figure 13 we can see the perceived benefits of stroke prevention efforts center on community cohesion and health literacy. The dominant theme, Early Detection and Shared Awareness, suggests that collective vigilance leads to faster recognition of symptoms and a communal understanding of health risks. An Informed and Supported Community

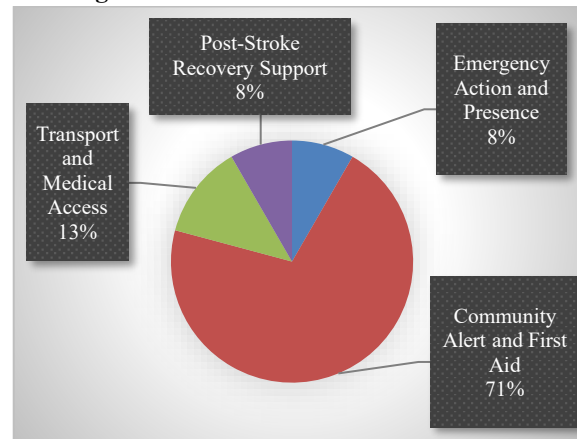
further reinforces this, as knowledge dissemination fosters stronger social bonds. Meanwhile, Health Conversations and Cost Reduction indicate that prevention may alleviate economic burdens by reducing medical expenses. The least cited but notable theme, Interpersonal Trust and Connection, highlights deeper relational impacts, including cross-generational trust, implying that health initiatives may bridge demographic divides.

Figure 13. Benefits to Community from Prevention



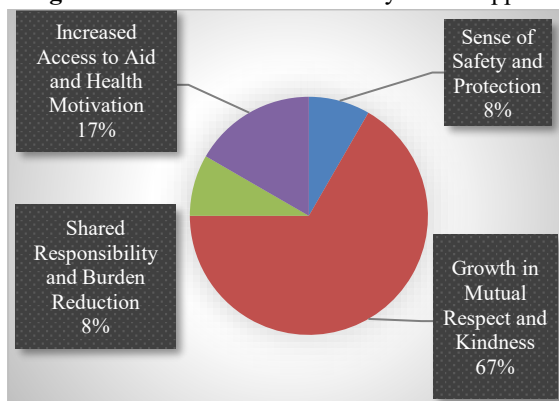
As seen in Figure 14, responses emphasize immediate and coordinated crisis response. Community Alert and First Aid is the most recurrent theme, reflecting the importance of rapid mobilization, whether through first aid or notifying local leaders. Emergency Action and Presence similarly stresses urgent medical intervention and emotional support. Transport and Medical Access highlights logistical challenges, suggesting that rural or underserved communities may prioritize improving healthcare accessibility. Lastly, Post-Stroke Recovery Support focuses on long-term assistance, such as meal provision and donations, indicating that sustained aid is crucial for rehabilitation.

Figure 14. Plan if Someone Has a Stroke



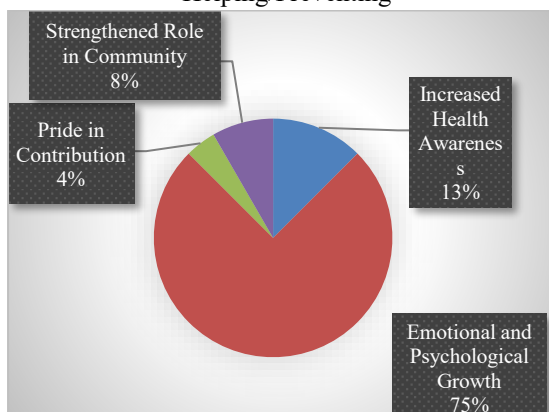
Supporting stroke survivors fosters communal resilience and ethical growth, as depicted in Figure 15. The predominant theme, Growth in Mutual Respect and Kindness, illustrates how caregiving cultivates empathy and solidarity. A Sense of Safety and Protection reinforces the idea that collective support systems enhance perceived security. Shared Responsibility and Burden Reduction reflects structural benefits, as distributed caregiving lessens individual strain. Finally, Increased Access to Aid and Health Motivation suggests that support networks encourage proactive health management, potentially preventing future crises.

Figure 15. Benefits to Community from Support



Engagement in stroke prevention and support yields significant personal development, look at Figure 16. The most cited theme, Emotional and Psychological Growth, underscores enhanced purpose and resilience among helpers. Increased Health Awareness indicates that participation fosters individual learning about wellness. Pride in Contribution and Strengthened Role in Community further demonstrate that altruistic actions reinforce social identity and self-worth, suggesting that helping roles are mutually beneficial for individuals and communities.

Figure 16. Personal Benefits from Helping/Preventing



This analysis synthesizes responses into coherent themes, demonstrating how stroke prevention and support initiatives operate on interpersonal, communal, and personal levels while highlighting their broader societal implications. Each theme reflects both pragmatic strategies and deeper psychosocial impacts.

The role of PSR in stroke prevention and community support

The findings from the analyzed themes align closely with the principles of PSR, particularly in the context of stroke prevention and community support. PSR, rooted in Indonesia's cultural tradition of *gotong royong* (collective mutual assistance), emphasizes individual commitment to societal well-being through proactive engagement (Ganiem & Hamad, 2023; Hani & Ganiem, 2024). The responses highlight how grassroots initiatives such as peer reminders for healthy habits, community health discussions, and emergency support for stroke survivors embody PSR by fostering shared responsibility, social empathy, and ethical behaviour (Ganiem et al., 2024; Žak et al., 2023).

PSR in stroke prevention: collective health advocacy

The dominant theme of encouraging healthy habits among friends reflects PSR's bottom-up approach, where individuals take personal initiative to influence their social circles. This aligns with studies showing that peer-led health interventions significantly improve preventive behaviours (Ganiem & Hamad, 2023). Similarly, organizing group discussions and awareness events mirrors PSR's emphasis on knowledge-sharing and community empowerment, reinforcing the idea that health literacy should be a collective effort rather than an institutional mandate (Sedlak et al., 2023).

PSR in post-stroke support: solidarity and shared burden

The emergency response and recovery support themes demonstrate PSR's role in crisis intervention and long-term assistance. Actions such as accompanying individuals to medical check-ups, fundraising for treatment, and providing post-stroke care exemplify *gotong royong* in practice, where communal aid reduces individual burdens (Hani & Ganiem, 2023). The reported benefits increased mutual respect, trust, and a sense of safety further validate PSR's psychological and social impacts, fostering resilient communities (Kholisoh et al., 2023).

Personal and societal benefits of PSR engagement

The personal gains cited enhanced health awareness, emotional growth, and pride in contribution support PSR's dual function: improving societal health while enriching individual well-being (Ganiem et al., 2024). This reciprocity strengthens community bonds, as seen in themes like shared responsibility and cross-generational trust, which are critical for sustainable health interventions (Žak et al., 2023).

PSR as a framework for migrant worker health initiatives

The collaboration between Universitas Mercu Buana (UMB) and PERMAI Penang illustrates PSR's applicability in transnational health advocacy, particularly for Indonesian migrant workers. By integrating culturally sensitive health education and peer-driven support, this initiative aligns with PSR's goal of leveraging local values (*gotong royong*) for global health challenges (Hani & Ganiem, 2024). The program's participatory methods role-playing, interactive workshops, and student involvement also reflect the *Merdeka Belajar Kampus Merdeka* (MBKM) framework, blending academic learning with real-world social impact.

PSR as a catalyst for community health resilience

The findings underscore PSR's effectiveness in mobilizing individual actions for collective health benefits. By embedding stroke prevention and support within cultural frameworks like *gotong royong*, PSR ensures sustainability, inclusivity, and emotional solidarity in health interventions. Future initiatives should further explore digital PSR strategies (e.g., social media health campaigns) and policy integration to amplify grassroots impact. Ultimately, PSR transforms health responsibility from an individual duty into a shared social commitment, reinforcing Indonesia's cultural strengths in modern healthcare challenges.

PSR as a catalyst for community health resilience

The findings underscore PSR's effectiveness in mobilizing individual actions for collective health benefits. By embedding stroke prevention and support within cultural frameworks like *gotong royong*, PSR ensures sustainability, inclusivity, and emotional solidarity in health interventions. Future initiatives should further explore digital PSR strategies (e.g., social media health campaigns) and policy integration to amplify grassroots impact. Ultimately, PSR transforms health responsibility from an individual duty into a shared social

commitment, reinforcing Indonesia's cultural strengths in modern healthcare challenges.

5. Conclusion

The findings demonstrate that PERMAI Penang effectively bridges socio-economic and generational divides within the Indonesian diaspora in Malaysia, aligning its programs with the principles of Personal Social Responsibility (PSR) and *gotong royong* (collective mutual assistance). The occupational, age, and education distributions reveal a membership predominantly comprising working-age professionals (31–50 years, 71%) and a balanced representation across education levels, highlighting PERMAI's dual focus on upskilling (e.g., digital workshops with universities) and inclusivity (e.g., vocational support for labourers).

In stroke prevention and community support, PSR emerges as a critical framework, fostering collective health advocacy through peer-driven initiatives (e.g., mutual health reminders, group awareness sessions) and crisis response mechanisms (e.g., emergency aid, post-stroke recovery support). These efforts not only enhance communal resilience evidenced by themes of shared responsibility, mutual respect, and trust but also yield personal benefits such as emotional growth and heightened health awareness among participants.

The collaboration between PERMAI and Universitas Mercu Buana (UMB) exemplifies the transnational application of PSR, integrating cultural values (*gotong royong*) with participatory education (e.g., role-playing, workshops) under the *Merdeka Belajar Kampus Merdeka* (MBKM) framework. Future initiatives should explore digital PSR strategies (e.g., social media campaigns) and policy integration to amplify grassroots impact. Ultimately, this study underscores PSR's role in transforming health responsibility into a collective social commitment, leveraging Indonesia's cultural strengths to address contemporary healthcare challenges in migrant communities.

6. Acknowledgement

We extend our sincere gratitude to the Faculty of Communication Sciences, Universitas Mercu Buana, and PERMAI Penang for their invaluable support in facilitating this initiative. Our heartfelt thanks also go to all individuals and organizations involved in organizing the community service activities at the An-Nahdhoh Foundation, whether through direct participation or indirect contributions. Your collaboration and dedication were instrumental in the success of this endeavor.

7. References

- Arijanto, A., Soelton, M., Bagaskara, M. A., Karyatun, S., Supryadi, D. I., Arief, H., & Rahmad, K. Bin. (2024). Build a better personal abilities for a sustainable motivation: A community services in Penang, Malaysia. *Indonesian Journal of Society Development*, 3(4), 243–254. <https://doi.org/10.55927/ijsd.v3i4.10367>
- Badan Penelitian dan Pengembangan Kesehatan. (2018). *Laporan nasional riset kesehatan dasar 2018*. Jakarta: Kementerian Kesehatan Republik Indonesia.
- Barinova, V. (2024). Workplace factors affecting migrant workers' health. *Hygiene and Sanitation*. <https://doi.org/10.47470/0016-9900-2024-103-6-553-558>
- Bowen, J. (1986). On the political construction of tradition: Gotong royong in Indonesia. *The Journal of Asian Studies*, 45, 545–561. <https://doi.org/10.2307/2056530>
- Bukhari, S., Yaghi, S., & Bashir, Z. (2023). Stroke in young adults. *Journal of Clinical Medicine*, 12(15). <https://doi.org/10.3390/jcm12154999>
- Chauhdry, H. (2021). Understanding the importance of recognising, treating and preventing stroke. *Nursing Standard (Royal College of Nursing: 1987)*. <https://doi.org/10.7748/ns.2021.e11596>
- Creswell, J. W., & Poth, C. N. (2016). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). Thousand Oaks, CA: Sage Publications.
- Dayaningsih, D., Suprapti, E., Parwati, A. F., Rahmawati, A. D., Amalia, A., Pamungkas, K. A. S., & Laksono, A. T. (2022). Penyuluhan kesehatan peduli dan waspada terhadap stroke dengan perilaku cerdas melalui pendekatan keluarga. *SAFARI: Jurnal Pengabdian Masyarakat Indonesia*, 2(2), 73–79. <https://doi.org/10.56910/safari.v2i2.1443>
- De Lacerda, D. A., Honorato, P. F., De Albuquerque, J. G. F., De Araujo, L. K. A. R., Rocha, F. G. A., De Lucena, C. L. P., ... Gomes, T. C. (2024). Stroke: Symptom identification, FAST protocol and initial management. In *III Seven International Medical and Nursing Congress*. <https://doi.org/10.56238/iiicongressmedicalnursing-034>
- De Smalen, A. W., Chan, Z. X., Abreu Lopes, C., Vanore, M., Loganathan, T., & Pocock, N. S. (2021). Developing an evidence assessment framework and appraising the academic literature on migrant health in Malaysia: A scoping review. *BMJ Open*, 11(1), e041379. <https://doi.org/10.1136/bmjopen-2020-041379>
- Delgado, M., Rabin, G., Tudor, T., Tang, A. J., Reeves, G., & Connolly, E. S. (2023). Monitoring risk and preventing ischemic stroke in the very old. *Expert Review of Neurotherapeutics*, 23(9), 791–801. <https://doi.org/10.1080/14737175.2023.2244674>
- Donkor, E. S. (2018). Stroke in the 21st century: A snapshot of the burden, epidemiology, and quality of life. *Stroke Research and Treatment*, 2018, 3238165. <https://doi.org/10.1155/2018/3238165>
- Dopler, B. (2023). Stroke prevention. *Delaware Journal of Public Health*, 9(3), 6–10. <https://doi.org/10.32481/djph.2023.08.003>
- Ganiem, L. M., Ambadar, J., & Sukardjo, C. (2015). *PSR (Personal Social Responsibility): Aku, kamu, kita bisa* (D. Feirus, Ed.; 1st ed.). Jakarta: Prenada Media Group.
- Ganiem, L. M., & Hamad, I. (2023). Personal social responsibility campaign for helping others in facing COVID-19 pandemic. *Jurnal Komunikasi Ikatan Sarjana Komunikasi Indonesia*, 8(1), 49–61. <https://doi.org/10.25008/jkiskis.v8i1.818>
- Ganiem, L. M., Hilderiah, R., Syaifuddin, & Hani, R. (2024). PKM Ikaboga in building image through personal branding and PSR for MSME entrepreneurs. *JUARA: Jurnal Wahana Abdimas Sejahtera*, 5(2), 160–179. <https://doi.org/10.25105/dq5yrtj89>
- Hall, P., Lawrence, M., Blake, C., & Lennon, O. (2023). Interventions for behaviour change and self-management of risk in stroke secondary prevention: An overview of reviews. *Cerebrovascular Diseases*, 53, 1–13. <https://doi.org/10.1159/000531138>
- Hani, R., & Ganiem, L. M. (2022). Membangun personal social responsibility melalui pemanfaatan peran peer group sebagai upaya mencegah perkawinan usia remaja di SMKN 49 Jakarta Utara. *J-ABDI: Jurnal Pengabdian Kepada Masyarakat*, 2, 4039–4052. <https://doi.org/10.53625/jabdi.v2i2.2662>
- Hani, R., & Ganiem, L. M. (2023). The assertive communication training for vocational high school students as personal social responsibility implementation in preventing juvenile delinquency of peer friend. *KREATIF: Jurnal Pengabdian Masyarakat Nusantara*, 3(1), 183–202.

- <https://researchhub.id/index.php/kreatif/article/view/1289>
- Hani, R., & Ganiem, L. M. (2024). Kolaborasi personal social responsibility dalam pencegahan tindakan bullying melalui edukasi komunikasi verbal dan non-verbal pada remaja di SMKN 49 Jakarta. *J-ABDI: Jurnal Pengabdian Kepada Masyarakat*, 4(1), 17–32. <https://bajangjournal.com/index.php/J-ABDI/article/view/7966>
- Hidayah, N. (2024). Financial planning aspects in the era of digital at NGO Permai Penang. *Akuntansi dan Humaniora: Jurnal Pengabdian Masyarakat*, 3(1), 42–48. <https://www.journalkeberlanjutan.keberlanjutanstrategis.com/index.php/ahjpm/article/view/1066>
- Jalili-Moghaddam, S., Krishnamurthi, R., Kitsos, G., Merkin, A., Zeng, I. S., Feigin, V., & Gall, S. L. (2024). Baseline lifestyle and biomedical stroke risk factors among New Zealand participants in the PERSONALISED Knowledge to reduce the risk of Stroke (PERKS-International) randomised controlled trial – preliminary results. *Proceedings of the Nutrition Society*, 83(OCE1), E117. <https://doi.org/10.1017/S0029665124001356>
- Jo, Y. J., Kim, D. H., Sohn, M. K., Lee, J., Shin, Y.-I., Oh, G.-J., ... Kim, D. Y. (2022). Clinical characteristics and risk factors of first-ever stroke in young adults: A multicenter, prospective cohort study. *Journal of Personalized Medicine*, 12(9). <https://doi.org/10.3390/jpm12091505>
- Karki, A., & Manandhar, L. (2024). Understanding ischemic stroke: Symptoms, risks, and the importance of timely intervention. *The American Journal of Patient Health Info*, 1(2). <https://doi.org/10.69512/ajphi.v1i2.61>
- Katan, A., & Luft, M. (2018). Global burden of stroke. *Seminars in Neurology*, 38(2), 208–211. <https://doi.org/10.1055/s-0038-1649503>
- Kholisoh, N., Ganiem, L. M., & Mijan, R. (2023). Media literacy on prevention of pornography effects through personal social responsibility at Gerendong Village Pandeglang-Banten. *Jurnal Abdi Masyarakat (JAM)*, 8(2), 104. <https://doi.org/10.22441/jam.v8i2.19291>
- Khunsha, I. W., Azmat, F., Hassan, H., Ameen, A., Fatima, S., Badar, F., & Farrukh, A. (2024). Examining the benefits of multidisciplinary rehabilitation intervention for stroke patients. *Allied Medical Research Journal*. <https://doi.org/10.59564/amrj/02.01/019>
- Kishanrao, S. (2024). Increasing strokes in young people: A disability & economic concern? *Journal of Quality in Health Care & Economics*, 7(2), 1–10. <https://doi.org/10.23880/jqhe-16000366>
- Koseoglu Ornek, O., Waibel, J., Wullinger, P., & Weinmann, T. (2022). Precarious employment and migrant workers' mental health: A systematic review of quantitative and qualitative studies. *Scandinavian Journal of Work, Environment & Health*, 48(5), 327–350. https://www.sjweh.fi/show_abstract.php?abstract_id=4019
- Lalo, R., & Zekja, I. (2023). Association of cardiovascular disease risk and health-related behaviors in stroke patients. *International Journal of Environmental Research and Public Health*, 20(4). <https://doi.org/10.3390/ijerph20043693>
- Li, X., He, Y., Wang, D., & Rezaei, M. J. (2024). Stroke rehabilitation: From diagnosis to therapy. *Frontiers in Neurology*, 15. <https://www.frontiersin.org/journals/neurology/articles/10.3389/fneur.2024.1402729>
- Markus, H. (2021). Intensive speech therapy after stroke. *International Journal of Stroke*, 16, 495–496. <https://doi.org/10.1177/17474930211027503>
- Morotti, L., & Costa, P. A. (2019). Acute stroke. *Seminars in Neurology*, 39(1), 61–72. <https://doi.org/10.1055/s-0038-1676992>
- Mucci, N., Traversini, V., Giorgi, G., Tommasi, E., De Sio, S., & Arcangeli, G. (2020). Migrant workers and psychological health: A systematic review. *Sustainability*, 12(1). <https://doi.org/10.3390/su12010120>
- Muhawarman, A. (2024, October 25). Cegah stroke dengan aktivitas fisik. *Kementerian Kesehatan Republik Indonesia*. <https://kemkes.go.id/id/cegah-stroke-dengan-aktivitas-fisik>
- Murphy, S. J. X., & Werring, D. J. (2020). Stroke: Causes and clinical features. *Medicine*, 48(9), 561–566. <https://doi.org/10.1016/j.mpmed.2020.06.002>
- Narita, K., Hoshide, S., & Kario, K. (2022). The role of blood pressure management in stroke prevention: Current status and future prospects. *Expert Review of Cardiovascular Therapy*, 20(10), 829–838. <https://doi.org/10.1080/14779072.2022.2137490>
- PERMAI Penang. (n.d.). Retrieved January 28, 2025, from <https://permai.my.id/>

- Sari, I. (2022). Analisis ekologi: Hubungan faktor risiko dengan prevalensi stroke di Indonesia 2018. *ARTERI: Jurnal Ilmu Kesehatan*, 3(4), 132–138.
- Sedlak, P., Sady, M., & Žak, A. (2023). Measuring how responsible we are – The development and validation of the personal social responsibility scale (PSRS-Q19). *Przegląd Organizacji*, 3(998), 65–75. <https://doi.org/10.33141/po.2023.03.07>
- Setijaningrum, E., Kassim, A., Triana, R., & Dzulfikri, R. (2023). Going back with glee: A case study of Indonesian migrant workers engaging in circular migration. *Journal of ASEAN Studies*, 11(1), 63–87. <https://doi.org/10.21512/jas.v11i1.8610>
- Shamshiev, A. S., Saduakas, A. Y., Zhakubaev, M. A., Matkerimov, A. Z., Demeuov, T. N., Makkamov, R., ... Davletov, D. K. (2024). Stroke: A comprehensive overview of trends, prevention, and treatment (Literature review). *Bulletin of Surgery in Kazakhstan*, 20(3), 71–81. <https://doi.org/10.35805/BSK2024III010>
- Simarmata, N., Yuniarti, K. W., Riyono, B., & Patria, B. (2020). Gotong royong in organization. *International Journal of Social Welfare Promotion and Management*, 7(2), 1–8. <https://doi.org/10.21742/ijswpm.2020.7.2.01>
- Southby, K., Rushworth, S., South, J., Coan, S., Woodward, J., Bagnall, A. M., & Button, D. (2020). An example of involving lay people to enhance complex public health intervention evaluations. *European Journal of Public Health*, 30(Suppl. 5), ckaa166.304. <https://doi.org/10.1093/eurpub/ckaa166.304>
- Stack, C. A., & Cole, J. W. (2021). The clinical approach to stroke in young adults. In S. Dehkharghani (Ed.), *Stroke* (pp. 1–196). Exon Publications. <https://doi.org/10.36255/exonpublications.stroke.2021>
- Suwignyo, A. (2019). Gotong royong as social citizenship in Indonesia, 1940s to 1990s. *Journal of Southeast Asian Studies*, 50(3), 387–408. <https://doi.org/10.1017/S0022463419000407>
- Tjitrawati, A. T., & Romadhona, M. K. (2024). Living beyond borders: The international legal framework to protecting rights to health of Indonesian illegal migrant workers in Malaysia. *International Journal of Migration, Health and Social Care*, 20(2), 227–245. <https://doi.org/10.1108/IJMHS-04-2023-0038>
- Towfighi, A., Cheng, E., Hill, V., Barry, F., Lee, M., Valle, N., ... Vickrey, B. (2020). Results of a pilot trial of a lifestyle intervention for stroke survivors: Healthy eating and lifestyle after stroke. *Journal of Stroke and Cerebrovascular Diseases*, 29(12), 105323. <https://doi.org/10.1016/j.jstrokecerebrovasdis.2020.105323>
- Venketasubramanian, N., Yudianto, F. L., & Tugasworo, D. (2022). Stroke burden and stroke services in Indonesia. *Cerebrovascular Diseases Extra*, 12(1), 53–57. <https://doi.org/10.1159/000524161>
- Wallerstein, N., Oetzel, J. G., Sanchez-Youngman, S., Boursaw, B., Dickson, E., Kastelic, S., ... Duran, B. (2020). Engage for equity: A long-term study of community-based participatory research and community-engaged research practices and outcomes. *Health Education & Behavior*, 47(3), 380–390. <https://doi.org/10.1177/1090198119897075>
- Zade, M. S., Singh, S., Sutar, N., Kaple, P., Marathe, P. D., & Shinde, P. S. (2024). A review on stroke's pathophysiology, associated risk factors, and management. *Current Drug Therapy*, 19, 1–11. <https://doi.org/10.2174/0115748855309906240903050708>
- Žak, A., Sedlak, P., & Sady, M. (2023). Knowledge and values: The importance of personal social responsibility for education, management, and sustainable development. *Multidisciplinary Journal of School Education*, 12(1(23)), 13–37. <https://doi.org/10.35765/mjse.2023.1223.01>



© 2025 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution Share Alike (CC BY SA) license (<https://creativecommons.org/licenses/by-sa/4.0/>).