

A qualitative study exploring healthcare practitioners' views on chronic stroke survivors using outdoor exercise facilities and associated spaces in public parks for community-based self-managed physical activity

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Illustrative Photos

Photos shown in this presentation was data collected in the RGC/GRF Project (code: 15603625), consent was gained for showing their de-identified photos in this presentation to help audience to visual self-managed physical activity behaviors in parks

Ethical Approval

- This study was conducted in accordance with the ethical standards outlined in the Declaration of Helsinki. Approval for the research protocol was granted by the Institutional Review Board (IRB), The Hong Kong Polytechnic University under approval number: HSEARS20251229002-01 on 27 April 2026
- Informed consent was obtained from all individual participants included in the study
- All data were anonymized to ensure participant confidentiality

Background

- Stroke survivors tended to go outdoors to alleviate perceived social isolation and negative emotions (Shi et al., 2024)
- It is suggested that the **outdoor environment** plays a crucial role in stroke **survivors' recovery**
- In recent years, outdoor exercise facilities installed in public leisure spaces have increasingly been recognized as a key element of community-based health interventions for specific populations
- Physical activity interventions utilizing these park facilities have been shown to improve various health outcomes, particularly among older adults with **cognitive impairment** (Levinger et al., 2023), **frailty** (Lee et al., 2025), **balance dysfunction** (Ng et al., 2023), and **type 2 diabetes** (Plotnikoff et al., 2017).

Background

- In-depth qualitative studies conducted in China (Chau et al., 2022) and Singapore (Kwah et al., 2024) have found that chronic stroke survivors perceive public outdoor exercise facilities as unsuitable and not adjustable for their specific needs

Literature Gap



- There is little research into the healthcare practitioner's (e.g., physiotherapists, occupational therapists) experience and perspective of recommending these facilities for chronic stroke survivors
- We do not fully understand how healthcare professionals perceive, recommend, and integrate these community resources (outdoor exercise facilities and associated space in public parks) into their practice

Purposes of this study

- This study aims to gain an in-depth understanding of healthcare practitioners' perspectives on the use of outdoor exercise facilities and associated spaces in public parks for self-managed physical activity among chronic stroke survivors

Specific research questions

RQ1: To investigate the **current practices** surrounding the recommendation of outdoor exercise facilities available in public parks for individuals who are chronic stroke survivors

RQ2: To explore the **perceived benefits and concerns** associated with encouraging these individuals to engage in self-management of their physical activity behaviors

RQ3: To describe the **strategies** employed by practitioners to address **barriers**

RQ4: To explore **facilitators** that may promote the long-term self-management of physical activity among chronic stroke survivors utilizing park spaces

Potential Impact of the study

- Inform strategies for health care practitioners to utilize community resources
- Provide evidence-based insights to inform the physical design and modification of inclusive and accessible outdoor exercise equipment for people with disabilities
- At the policy level, the results may advocate for stronger collaboration between healthcare and public park design and management

Methodology and methods

- We used a descriptive qualitative approach to gain a clear understanding of the phenomenon
- Semi-structured interviews were conducted with healthcare professionals across various settings

Data collection and sampling strategy

- To capture a diverse range of **perspectives** and **experiences** among key health care professionals in various settings, a **purposive maximum variation** sampling method was utilized

Inclusion criteria:

- **Physiotherapists** working in **hospitals, community settings, primary health care, and the private sector**
- **Having experience** in recommending outdoor exercise equipment and public park spaces for long-term physical activity engagement

Data Analysis

- Data analysis followed an exploratory–descriptive research paradigm (Hunter et al., 2019)
- We conducted thematic analysis of the interview transcripts (Braun & Clarke, 2006). This method consisted of **six steps**: (a) familiarizing oneself with the data, (b) generating initial codes, (c) searching for themes, (d) reviewing themes, (e) defining and naming themes, and (f) producing the report
- We used the NVivo qualitative software to manage the data.

Results



- Twelve physiotherapists participated in the interview
 - Nine work in community settings
 - One in primary healthcare
 - Two in private practice

RQ1: To investigate the **current practices** surrounding the recommendation of outdoor exercise facilities available in public parks for individuals who are chronic stroke survivors

Theme 1: Adopting a holistic rehabilitation perspective

Theme 2: Identify red flag and appropriate resources

Theme 3: Improvise with available resources (Figure 1)

Theme 4: Less stringent prescription dosage if the park rehabilitation behavior is self-managed



Figure 1

RQ2: To explore the **perceived benefits** and **concerns** associated with encouraging these individuals to engage in self-management of their physical activity behaviors

Theme 1: Psychosocial benefits and reintegration back to community

Theme 2: Walking training (Figure 2)

Theme 3: Sensory stimulation

Theme 4: Sun

Theme 5: More autonomy

Theme 6: Freely accessible

Theme 7: Caregiver having better mood

Theme 8: Facility



Figure 2

RQ2: To explore the **perceived benefits** and **concerns** associated with encouraging these individuals to engage in self-management of their physical activity behaviors

Concerns:

Theme 1: Risk involved

Theme 2: Accessibility to parks

Theme 3: Availability of carer's support (Figure 3-4)

Theme 4: Patients' physical and psychological readiness



Figure 3



Figure 4

RQ3: To describe the **strategies** employed by practitioners to address barriers

Theme 1: Carer education and carer involvement

Theme 2: Assistive tool prescription (Figure 5)

Theme 3: Exercise safety precautions

Theme 4: Patients and Environmental assessment

Theme 5: Video recording for evaluation and monitoring

Theme 6: Co-design training plan with patients



Figure 5

RQ4: To explore **facilitators** that may promote the long-term self-management of physical activity among chronic stroke survivors utilizing park spaces

Theme 1: Development of digital educational materials and resources information

Theme 2: Therapist and patients' involvement in park design

Theme 3: Organize specific needs class in parks and integration with primary healthcare

Theme 4: Create a more weather-friendly exercise space environment in park

Theme 5: Install **inclusive exercise facilities** (Figure 6)



Figure 6

Discussion

1. While the available limited literature documented that stroke survivors in Singapore find outdoor fitness equipment in parks as **poorly matched** to their abilities (Kwah et al., 2024), the current study found that therapists in Hong Kong could overcome the limitation of equipment by **improvising according to the available environmental resources**. **Handrails (figure 7)** and **parallel bars (figure 8)** (originally designed for triceps dips) in parks were commonly utilized for walking training



Figure 7



Figure 8

Discussion

2. While previous study documented that stroke survivors perceived outdoor environment as sources of **hypervigilance** and **perceived threat**, and environmental features like railings and benches could increase outdoor confidence (Twardzikzik et al., 2022; Outermans et al., 2016), therapist interviewees in the current study used **environmental assessment, on-site supervision** and **safety precautions education** to manage risk associated with outdoor physical activity behavior

Discussion

3. Some therapist interviewees suggested that specific needs classes be organized in parks and integrated with primary healthcare services. This suggests that community-based exercise programs with **healthcare-recreation partnerships** have potential, an area of growing interest in the literature and in practice over the few years (Merali et al., 2020; Aravind et al., 2021)

Conclusion, implications and Future research direction

- This is the first study that investigate healthcare practitioners' views on chronic stroke survivors using outdoor exercise facilities and associated spaces in public parks for community-based self-managed physical activity behavior
- It provides valuable alternative perspectives that are different from what has been found out in the literature in other regions in the world
- It provides valuable insights to both urban planning, park design and healthcare-recreation partnership
- Guide the development of digital brief intervention for stroke survivors' carer

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Thank you for listening!

