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## **Study reveals alarming discoveries about phantom limb pain in cross-sectional analysis**



*Dr Katleho Limakatso*

Phantom limb pain is an excruciating sensation felt in the vicinity of a recently severed limb, and it affects seven out of 10 patients in the Western Cape and Eastern Cape who have had lower leg amputations.

Building on this, a groundbreaking study led by Dr Katleho Limakatso, an honorary research fellow in the University of Cape Town's (UCT) [Department of Anaesthesia and Perioperative Medicine](#), identified lack of pre-amputation education and mental health support programmes at tertiary hospital level as factors to blame. The researcher's most recent work is an extension of a prior study, which involved a systematic review and meta-analysis to

determine the global prevalence and risk factors of phantom limb pain in patients worldwide. Similarly, he noted, seven out of 10 patients (64%) reported experiencing phantom limb discomfort in the global study, which combined 37 surveys from different nations.

“[But] no study at the time reported on the prevalence of phantom limb pain in the African context. And there was no way of extrapolating our global study findings and localising it, because of disparities in patient demographics and socio-economic determinants of pain between developed and developing nations,” he said.

### **Localising the pain**

Limakatso aimed to localise this research and expand clinicians' understanding of phantom limb pain by focusing on a South African context. His goal was to understand the burden of phantom limb pain among South African participants who had undergone lower limb amputations in public healthcare facilities. To achieve this, he interviewed 208 participants – 133 men and 75 women, recruited from Groote Schuur Hospital in Cape Town and Nelson Mandela Academic Hospital in Mthatha.

The cross-sectional research study yielded some eye-opening outcomes. Firstly, the prevalence of phantom limb pain among participants is currently 71.73%. In addition, Limakatso's research found that patients with a history of persistent pre-operative pain, residual limb pain (pain that affects the remaining part of the limb after an amputation) and existing non-painful phantom limb sensations are also at higher risk of experiencing phantom limb pain.

His research also revealed that most participants (57%) endured amputations above the knee due to uncontrolled diabetes (60%), critical limb ischaemia – a serious form of peripheral arterial disease that reduces blood flow and causes severe blockages (30%), infection (7%), trauma to the limb (2%), and cancer (1%).

### **Mitigating phantom limb pain**

However, according to Limakatso, there is a simple way to lessen the discomfort associated with phantom limbs. The solution lies in giving prompt, multidisciplinary pre-operative pain management top priority. Furthermore, patients undergoing pre- and post-amputation surgery should benefit from evidence-based pre-amputation education programmes and mental health support services. Initiatives like this are crucial in helping patients feel supported and at peace by providing information about the amputation operation, its effects, and what to expect thereafter.

Unfortunately, Limakatso noted that this approach is rarely practised in public healthcare facilities in South Africa. This is due to resource constraints, overburdened healthcare workers, language barriers, and a lack of effective education programmes aimed directly at this patient profile.

“Our study indicates that the prevalence of phantom limb pain is high in the country. And healthcare professionals ought to be aware of this, and need to work together to implement strategies that will reduce and hopefully prevent it. It all starts with addressing the known risk factors associated with lower limb amputation that we've identified in this research study,” he said.

### **Breaking the cycle**

Limakatso stated that in light of these findings, the effort to alter the way amputees are cared for must now begin.

According to him, this calls for creating and refining education programmes that are supported by research in a variety of South African languages, as well as assisting with their nationwide implementation. These programmes ought to emphasise the value of leading a healthy, balanced lifestyle while offering strategies for managing chronic illnesses. They also ought to include a significant mental health component as well, given the profound psychosocial impacts of amputations.

Last but not least, Limakatso emphasised that for this procedure to be successful, all of the clinicians involved – including doctors, nurses, physiotherapists, and social workers who actively assist patients before and after amputation – must buy into it.

“Now, knowing what we know about this debilitating condition, it will allow healthcare funders, clinicians, and other role-players to sit roundtable and to allocate resources towards managing post-amputation pain accordingly,” he said. “What we need is to optimise peri-operative pain management to prevent post-surgical pain complications, minimise phantom limb pain, and improve the quality of life for our patients after surgery.”

*Story by Niémah Davids*

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