

Migraine is a billion-dollar headache for Singapore, nationwide study finds

Sep 18, 2019

- *Over 600 people with migraine in Singapore took part in a nationwide study that aims to quantify the economic cost of migraine among full-time employees in Singaporeⁱ.*
- *The estimated total cost to Singapore due to migraine in 2018 was SGD\$1.04 billion, which includes direct (healthcare costs) and indirect (missed work days and productivity losses) costs.*
- *Public and private organizations and employers must work together to build supportive work environments, in order to mitigate potential losses.*

Singapore, September 18, 2019 – DUKE-NUS Medical School and Novartis today released new findings from a study which found that migraine places a substantial economic burden on Singapore. According to the study titled 'Economic Burden of Migraine in Singapore', migraine cost the city state SGD\$1.04 billion in 2018.

The study revealed that 80% of the total estimated cost was due to a loss of productivity, while the remaining 20% was attributed to healthcare cost, such as medical tests and consultations.

The study focused on quantifying the economic burden of migraine. By analyzing responses provided by 606 Singapore-based migraine patients in an online survey, the study found that healthcare expenses (such as medical tests, alternative medicine, consultation, hospitalization, and medications) and loss in productivity, due to missed work days or impacts on capacity to carry out daily jobs, all added up to the cost associated with migraine.

The research identified two groups of people with migraine who are also full-time employees in Singapore. The first group, referred to as 'lower end episodic migraine', comprised of those with 3 or less migraine days per month. The second group, referred to as 'upper end episodic migraine' comprised of those with 4 to 14 migraine days per month). The study results showed that the per capital costs incurred in 2018 for lower end and upper end episodic migraine group was SGD\$5,040 and SGD\$14,860 respectively.

"Our results show that the impact of migraine goes beyond the individual. While it significantly affects the patient's quality of life, it can also have a substantial economic impact on their work life and, as a result, the wider economy, as people with migraine may take medical leave or miss work due to an episode. If they do go to work, they have decreased productivity levels," said Dr Eric Finkelstein, Professor at the Health Services and Systems Research Programme at Duke-NUS Medical School, and co-author of the study

The study found that respondents missed 9.8 work days a year, on average, due to migraine. For those who were present at work, symptoms of migraine greatly reduced their ability to perform their tasks, causing losses in productivity time of about 7.4 days a year.

While healthcare costs did not contribute a majority of the economic burden, the spending pattern indicated the need for more accurate diagnosis and effective treatment. Participants of the study revealed that the largest contributor to this cost was medical tests (41%), followed by alternative medications (18%), consultations (16%), hospitalizations (13%) and medications (11%). The estimated medical expenditure per patient in Singapore is roughly half of that reported in the United Statesⁱⁱ and almost nine times higher than

estimates from several European countriesⁱⁱⁱ.

Migraine is a common and recurrent neurological disorder characterized by unilateral headaches of moderate to severe intensity that typically last between 4 and 72 hours. It is often accompanied by a wide array of symptoms such as nausea, sensitivity to light, sound and routine physical activity.^{iv} It mostly affects individuals aged 30-40, with approximately 90% of people with migraine experiencing their first attack before age 40.^v In Singapore, migraine affects up to 10% of the population (approx. 330,000 people), with about 100 new patients added to the number every month at the patient referral clinic for headache disorders at the National University Hospital (NUH).^{vi}

“A significant portion of Singapore’s population has migraine. What’s worrying is that our study found that approximately 1 in 4 patients in Singapore did not seek medical treatment for their migraine, meaning they often suffer in silence. For those who do try to manage the condition, they typically resorted to acute medications which may not be the most effective strategy in the long term, adding to their overall healthcare costs”, said Dr Jonathan Jia Yuan Ong, President of the Headache Society of Singapore and Consultant, Division of Neurology, National University Hospital.

“Given the cost and productivity losses, the study indicates that the current coping strategies adopted by patients are ineffective. Public and private organizations and employers must explore options together, in order to help patients cope better with the symptoms. For example designing more supportive work policies or driving workplace culture changes that educate the workforce about the condition. By ensuring patients and physicians are aware of the options available to support them in managing the condition, we can also make a significant step in alleviating the impact of the affected people,” said Celine Landie, Managing Director, Novartis Singapore and Asian Emerging Markets.

“We believe that knowing the estimated total costs of migraine, both in terms of monetary value and productivity levels, will drive further research into this health issue, catalyze conversations and support measures towards addressing a problem that impacts our society as a whole”, Dr Finkelstein.

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