

Cost estimation of productivity loss, healthcare resource utilization and symptom burden associated with migraine in Indian healthcare setting

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Objective: Migraine prevalence peaks in patients during their most productive years leading to an economic burden. There are no scientific tools or literature to uncover this burden and is often ignored. Our objective was to develop an evidence-based tool estimating migraine related costs associated with productivity loss, resource utilization and symptom burden.

Methods: Work productivity and activity impairment data specific to India (N=263) was adopted from MyMigraineVoice online survey conducted from Sept-2017 to Feb-2018 in patients having at least four monthly migraine days and a failure on prophylactic therapy. Literature review was conducted to get insights about local epidemiology and costs. Tool enables user to input patient numbers, preventive treatment failure (no preventive treatment, no failure, 1 failure and 2+ failures), time horizon (1-12 months) and earnings per day to present cost estimates in Indian rupees (₹).

Results: Tool dynamically demonstrates total cost of migraine based on user provided inputs. Productivity loss was attributed to absenteeism and presenteeism. Resource utilization included costs associated with overnight hospitalizations and emergency visits. Expenses related to brain scans and pharmacological management were considered as symptom burden.

Conclusion: In a self-pay market like India, this tool will enable decision makers to make an evidence-based decision. Increasing cost burden in migraine can be reduced by optimal preventive treatment.

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- a. Anand I, Vo P, Carboni V, Quintana R, Gupta P, Kumar S. 2019. Burden of migraine in Indian population who have failed prophylactic treatments: Results from a global survey, my migraine voice. Annals of Indian Academy of Neurology, HO1/223; Volume 22, Supplement 1, 2019

Table: Annual total cost of migraine across patients with preventive treatment failures

Cost Head	No preventive treatment	No treatment failure	1 treatment failure	2+ treatment failure	Cost Range
Absenteeism	₹21,870	₹14,250	₹7,200	₹35,100	₹7,200 - ₹35,100
Presenteeism	₹10,725	₹9,450	₹15,810	₹26,130	₹9,450 - ₹26,130
Productivity loss	₹32,595	₹23,700	₹23,010	₹61,230	₹22,200 - ₹61,230
Overnight Hospitalization	₹13,650	₹30,450	₹8,000	₹66,000	₹8,000 - ₹66,000
Emergency Visits	₹5,940	₹7,245	₹5,625	₹20,640	₹5,525 - ₹20,640
Healthcare Resource Utilization	₹19,590	₹37,695	₹13,625	₹86,640	₹13,625 - ₹86,640
Brain Scans	₹5,576	₹8,640	₹5,200	₹13,552	₹5,200 - ₹13,552
Pharmacological Management	₹16,062	₹4,996	₹3,916	₹11,697	₹3,916 - ₹11,697
Symptom Burden	₹21,638	₹13,636	₹9,116	₹25,249	₹9,116 - ₹25,249
Total Costs	₹73,823	₹75,031	₹45,751	₹173,119	₹45,751 - ₹173,119

Figure: Snapshot of the cost estimation tool in migraine

