LOSS OF PRODUCTIVITY (LoP) AND QUALITY OF LIFE (QoL) OF HIGHLY CONSULTATIVE MIGRAINE PATIENTS IN COLOMBIA



Arciniegas J^{*}, Bolaños-López J[§], Reyes Sanchez JM^{*}, Bello C[§], Gonzalez FJ[§], Perez LE[§], Garcia M^{*}, Mesa A^{*}, Gomez D[§] *Pfizer, Colombia. [§]Biociencias-Sura

BACKGROUND

 Migraine imposes a high social, personal, and economic burden, not only because of its impact on life (QoL) and the consumption of direct medical resources by migraine patients, but because of its impact on work productivity, migraine is one of the of the most frequent causes of absenteeism at work^{1,2}. However, there is currently limited data on QoL and virtually no information available on loss of productivity (LoP) of Latin American patients, especially in highly consultative migraine patients in Colombia.

METHODS

- This is a cross-sectional study that integrated data from electronic health records and a probabilistic telephone survey of highly consultative migraine patients' who received medical attention with an HMO in Colombia. Most demographical and clinical characteristics came from the health records and the LoP and QoL came from the survey.
- Based on a previous study³, high consultation is defined as two or more migraine-related diagnoses (ICD-10th code: G43) visits to health services in 2022. To estimate the loss of productivity the HALT-90 index was used⁴ and to measure the QoL the WHOQoL-BREF was applied⁵, both instruments were administered in their translated and authorized versions in Spanish. HALT-90 index measures migraine's impact on the patient's life and lifestyle (grading it between mild to severe impact) allowing to estimate productive time lost through the disabling effect of the disease using 5 questions⁶. WHOQoL-BREF measures 4 specific health domains and a general health domain, through 26 Likert questions, that provides 5 indexes ranging from 0 to 100 points, with 0 being the lowest and 100 the highest⁷.

OBJECTIVE

- To estimate the LoP costs and QoL associated with highly consultative migraine adult patients in an HMO in Colombia.
- The sampling method corresponded to one-stage probability sampling without replacement. The population size is 3,762, the design effect of the sample design (DEFF) was 1 corresponding to a simple random sampling design, the significance level was set at 5% and it aimed to reduce the estimated coefficient of variation. The survey was collected during the first semester of 2024.
- The exchange rate used was COP 3,845.22= 1 USD. Income imputation was conducted, using the mean salary by contribution base income according to the HMO records. The cost of LoP was estimated multiplying the absenteeism and presentism days per the daily income.

LoPCost₁=(Absenteeism.days₁ + Presentism.days₁)* Daily.income₁

RESULTS

- The expanded results represent a total of 3,762 highly consultative migraine adult patients at the HMO which derived from the 504 random sample.
- Highly consultative migraine adult patients were female (89.9%, CI95% 87.2%- 92.5%), middle-aged (37.7 years, CI95% 36.6-38.9), lived in urban areas (97.0%, CI95% 95.5%-98.5%), were affiliated to the contributory regime* (86.1%, CI95% 83.1%-89.1%), and 51.6% were single (CI95% 47.2%-56.0%).
- This population tended to have an education beyond high school; 37.3% had a technical or technological degree (CI95% 33.1%-41.5%), 17.9% had a bachelor's degree (CI95% 14.5%-21.2%) and 6.0% had a postgraduate degree (CI95% 3.9%-8.0%) (Figure 1).



- About 30.2% of this population (CI95% 26.1%-34.2%) mentioned to be very dissatisfied with their current acute drug while 29.0%
- On average in the last 3 months, the HALT-90 instrument showed that the labor absenteeism was 2.7 days (CI95% 2.2-3.2) per person per quarter and labor presenteeism was 8.7 days (CI95% 7.5-9.9) representing about 12.1% of the 72 working days.
- This LoP represents an indirect cost 101.1 USD (CI95% 84.0-118.2) per quarter per person. In addition, by quantifying non-labor losses (leisure, housework and household chores) it can be argued that USD 152.4 (CI95% 123.2- 181.7) could be lost (**Figure 5**).

Figure 5. Barchart of indirect cost by type



Figure 2. Violinplots of MMD and migraine episodes in the last quarter **A** Violinplot of MMD

Figure 1. Barchart of educational level of highly consultative migraine patients



- For these patients indicated that working occupied most of their time in the past week (the proportion who said they spent most of their time working was 60.3%, CI95% 56.0%-64.6%), and most of them mentioned that their main source of income was their job (66.3%, CI95% 62.1%-70.4%). Their mean income was USD 414.5 (CI95% 386.1-442.9), which represents 1.1 times the current legal minimum wage, and in average these patients reported to have 1.14 economic dependents.
- The mean weight and height of these patients was159 cm (CI95% 158-160) and 67.6 kg (CI95% 66.4-68.8), respectively, and in average these patients presented 1.44 comorbidities, with mental health conditions (41.7%, CI95% 37.3%-46.0%), cancer (25.4%, CI95% 21.6%-29.2%) and hypertension (19.0%, CI95% 15.6%-22.5%) being the most frequent comorbidities.
- On average these patients were 47.2 months since initial diagnosis (CI95% 42.5-52.0), and they present 10.3 monthly migraine days

considered that they were neither satisfied nor dissatisfied with their current preventive treatment (CI95% 25.0%-32.9%) (**Figure 3**).

Figure 3. Barchart of the satisfaction level of current migraine treatments





LoP

• The HALT-90 index showed that 40.5% were grade IV or had severe impact on the patient's life and lifestyle indicating a high need for care (CI95% 36.2%-44.8%) (**Figure 4**).

Figure 4. Barchart of HALT-90 index classification



QoL

• The QoL perception were in average 49.1 out of 100 (CI95% 47.4-50.8) for the general health score. The main domains related to this QoL were the physical domain 51.4 (CI95% 50.0-52.9), and the social relationships' domain 55.7 (CI95% 53.9-57.5) (**Figure 6**). These results indicate a low QoL when compared to findings by other authors who applied this instrument to the general population, where scores tend to exceed 61 out of 100^{8,9}.

Figure 6. QoL of highly consultative migraine patients



[MMD] (CI95% 9.5 -11.2) and 7.6 episodes in the last 3 months (CI95% 6.7-8.4) (**Figure 2**).

*It refers to the regime in which individuals with the capacity to make contributions to the health system in Colombia are included.

CONCLUSION

 Highly consultative migraine adult patients at the HMO were middleaged, female, highly educated workers, with economic dependents and high comorbidities, particularly mental health conditions. This population is associated with severe headache impact, with substantial incidence on productivity losses and impact on quality of life.

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