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BUDGET IMPACT ANALYSIS OF 5% LIDOCAINE MEDICATED PLASTER COMPARED WITH DRY NEEDLING AND INFILTRATION OF TRIGGER POINT FOR THE TREATMENT OF MYOFASCIAL PAIN SYNDROME OF THE UPPER TRAPEZIUS UNDER THE PERSPECTIVE OF BRAZILIAN PRIVATE HEALTHCARE SYSTEM

PSY31

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INTRODUCTION

- Management of myofascial pain syndrome (MPS) of the upper trapezius consists of non-invasive and invasive interventions;
- Oral nonsteroidal anti-inflammatory drugs are a non-invasive option and the most commonly used, as they are readily available and have relatively mild adverse event profile (1). However, there are no randomized controlled trials (RCTs) evaluating them in the treatment of MPS;
- Local injection with anesthetic and dry needling of the trigger points are invasive alternatives that have proved to be effective against placebo and equivalent among them (1, 2);
- Medicated 5% lidocaine plaster (LMP) is a soft and elastic plaster with an adhesive part containing lidocaine, indicated to the treatment of localized neuropathic pain. As it is a non-invasive intervention, LMP is better accepted by patients (3);
- A trial compared anesthetic injection into the trigger points or LMP with placebo and related that both are superior in the management of MPS (4);

OBJECTIVE

- The objective of this study is to simulate the financial impact of the LMP introduction for the treatment of MPS in the Brazilian private healthcare system.

METHODS

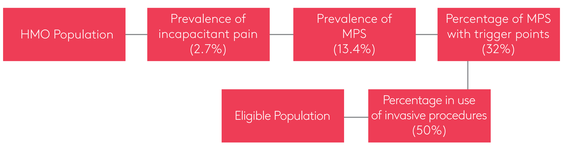
Economic Model

- This Budget Impact Model (BIM) simulated the financial impact of the introduction of LMP compared with dry needling and infiltration of trigger point for the treatment of MPS in the Brazilian private healthcare system with or without full drug coverage;
- Direct costs of drugs, materials and fees were considered;
- Three Health Maintenace Organization (HMO) perspectives were analysed: Large HMO (mean 461,236 lives), Medium HMO (mean 48,139 lives) and Small HMO (mean 7,623 lives);
- Time horizon was defined as 5 years;
- Results were expressed as cost-differences between a current scenario without LMP and a future scenario considering the incorporation of LMP.

Eligible Population

- To obtain the mean number of health insurances by size in each type of health plan, we conducted an analysis in the database of the National Regulatory Agency for Private Health Insurance and Plans (ANS) in 2016 (5);
- A mean was calculated for each size (small, medium and big) of HMOs;
- To estimate each HMO population, a 0,175% decrease was calculated for 2016, based on 2015 data (5);
- For the following 5 years, a mean of the last 2 years growth rate (0.4% decrease) was applied annually (5);
- In Brazil, prevalence of MSP from pain clinic patients is approximately 13.4% (6). To extrapolate this number to the entire population, we used the prevalence of disabling pain for more than seven days of 2.7%, published by Teixeira et al. (6). Another study showed that the percentage of MPS patients with trigger points is 32% (7). Finally, we assumed, based on expert opinion, that 50% of patients undergo invasive procedures (Figure 1).

Figure 1. Estimative of Eligible Population



Notes: HMO: health maintenance organization; MPS: myofascial pain syndrome.

Market Share

- We evaluated two market share scenarios: Scenario 1 with complete uptake of LMP in the first year and Scenario 2 with a progressive uptake, starting with a 40% market share for LMP in the first year and increasing 15% per year until reaching 100%.

Resource Use and Costs

- Resources used were retrieved from the literature and validated by a specialist with experience in the Brazilian private healthcare system.
- Costs were calculated for the Brazilian perspective using public tables and databases. Drug prices were extracted from the Brazilian Drug Market Regulation Chamber (CMED), fees, and procedures were extracted from CBHPM and materials from SIMPRO.

RESULTS

Eligible Population

Eligible population is described in Table 1.

Table 1. Eligible Population

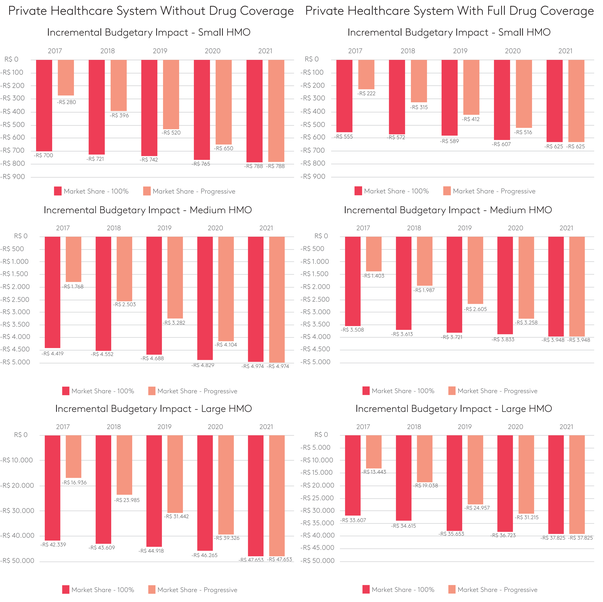
	2017	2018	2019	2020	2021
Large HMO (mean 461,236 lives)	228	235	242	249	256
Medium HMO (mean 48,139 lives)	24	24	25	26	27
Small HMO (mean 7,623 lives)	4	4	4	4	4

Budget Impact

LMP versus dry needling into the trigger point

- LMP is cost saving to the Brazilian private healthcare system without drug coverage for all HMO sizes and in both market share scenarios (Figure 2):
  - Scenario 1 – 5-year time horizon: cost savings are up to $ 224,785 BRL (Large HMO), $ 23,61 BRL (Medium HMO), and $ 3,715 BRL (Small HMO);
  - Scenario 2 – 5-year time horizon: cost savings are up to $ 159,342 BRL (Large HMO), $ 16,631 (Medium HMO), and $ 2,633 BRL (Small HMO).
- Even with full drug coverage, LMP remains cost saving for all HMO sizes in both market share scenarios (Figure 2);
  - Scenario 1 – 5-year time horizon: cost savings are up to $ 178,423 BRL (Large HMO), $ 18,622 BRL (Medium HMO), and $ 2,929 BRL (Small HMO).
  - Scenario 2 – 5-year time horizon: cost savings are up to $ 126,478 BRL (Large HMO), $ 13,201 BRL (Medium HMO) and $ 2,090 BRL (Small HMO).

Figure 2. Budgetary impact of the use of LMP in comparison with dry needling into the trigger point

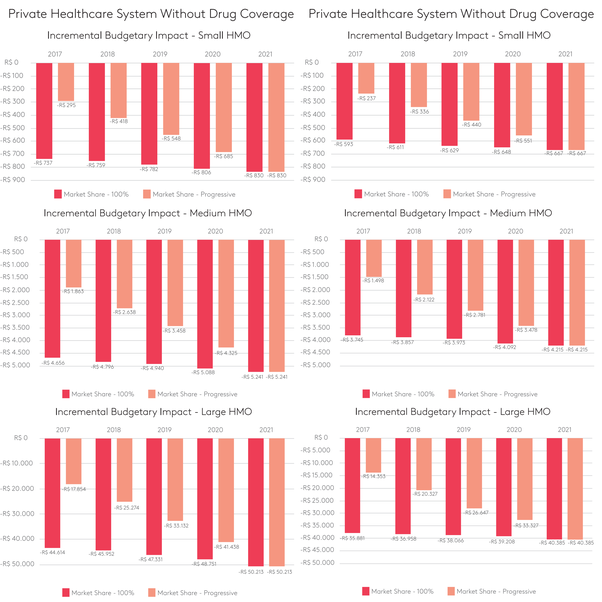


Notes: HMO: health maintenance organization

LMP versus anesthetic infiltration intro the trigger point

- LMP is cost saving to the Brazilian private healthcare system without drug coverage for all HMO sizes and in both market share scenarios (Figure 3):
  - Scenario 1 – 5-year time horizon: estimated cost savings are up to $ 236,860 BRL (Large HMO), $ 24,721 BRL (Medium HMO) and $ 3,914 BRL (Small HMO);
  - Scenario 2 – 5-year time horizon: estimated cost savings are up to $ 167,902 BRL (Large HMO), $ 17,524 BRL (Medium HMO) and $ 2,275 BRL (Small HMO).
- Even with full drug coverage, LMP remains cost saving for all HMO sizes in both market share scenarios (Figure 3):
  - Scenario 1 – 5-year time horizon: estimated cost savings are up to $ 190,498 BRL (Large HMO), $ 19,882 BRL (Medium HMO) and $ 3,148 BRL (Small HMO);
  - Scenario 2 – 5-year time horizon, cost savings are up to $ 135,038 BRL (Large HMO), $ 14,094 BRL (Medium HMO) and $ 2,232 BRL (Small HMO).

Figure 3. Budgetary impact of the use of LMP in comparison with infiltration of the trigger point



CONCLUSIONS

- Besides being a non-invasive therapy and better accepted by patients, the adoption of 5% medicated LMP for MPS treatment in the Brazilian private healthcare system presents great potential to create relevant economy for the system.

Disclaimer

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