

P926

EFFECTIVENESS OF A DIGITAL MOVEMENT EXERCISE ON SELF-REPORTED PAIN SCORES AND CONCOMITANT PAIN MEDICATION USE: A RETROSPECTIVE OBSERVATIONAL STUDY

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Objective: Musculoskeletal conditions are among the drivers of the global burden of disease¹. As such, the demand for adequate modes of health care delivery has risen, but access to and availability of care have remained limited². To address this issue, Germany introduced a regulatory framework for the approval and consecutive reimbursement of digital therapeutics in 2019. This study presents post-marketing observational data and examines the effect of a digital home exercise program for back, hip and knee pain on the reduction of pain intensity (PI) and the concomitant use of pain medication (PM).

Methods: This study is based on self-reported user data. Outcome data were collected after consent from participants who were prescribed the home exercise program for a musculoskeletal condition from its approved spectrum of indications. A total of 1,081 participants could be included. Different pain durations, i.e., acute (ap), subacute (sp), and chronic (cp), were used to stratify the data for a matched comparison. Pain scores were assessed with a VNRS and analyzed with a Wilcoxon signed-rank test. The outcome of PM use was assessed binarily; proportions were compared. Bonferroni-corrections for familywise errors were conducted.

Results: Across all pain durations and over the entire study duration of 32 d, reductions in PI could be observed (ap: -1.5; sp: -2; cp: -1; medians, $p < 0.0001$). PM use was assessed after the 5. follow-up; reductions in PM could be observed for patients with ap and sp (ap: $t_1=31.25\%$, $t_5=18.75\%$, $p=0.0308$; sp: $t_1=22.48\%$, $t_5=12.92\%$, $p=0.0140$).

Conclusion: The results suggest that the use of a digital home exercise program can lead to a significant reduction of the patient-centric outcome of PI. Furthermore, the concomitant use of PM could be significantly reduced for ap and sp after a prolonged use of the exercise program. This indicates a secondary benefit of the use of a digital therapeutic mean for unspecific and degenerative musculoskeletal conditions.

References:

1. Vos T, et al. Lancet 2020;396:1204
2. Hartvigsen J, et al. Lancet 2018;391:2356

P927

OSTEOARTHRITIS. PHARMACOECONOMICS ASPECTS OF SYMPTOM-MODIFYING THERAPY IN REAL CLINICAL PRACTICE

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Objective: A wide variety of symptomatic slow-acting drugs for osteoarthritis (OA) and their usage dictate the necessity for a clinical and economic analysis to select the most economically feasible treatment regimen for OA. The purpose of our study was to conduct a clinical and economic assessment of OA therapy using drugs of the SYSADOA group.

Methods: The search for publications for the period 2011-2022 on the clinical efficacy and safety of SYSADOA (bioactive concentrate of small marine fish containing chondroitin sulfate, amino acids, peptides, sodium, potassium, calcium, magnesium, iron, copper and zinc ions) was conducted using available sources (Medline, eLIBRARY.ru). To collect data on the costs for managing patients in real clinical practice, a survey of 15 rheumatology experts. The direct medical costs were assessed. Cost minimization analysis was carried out for 10 SYSADOA drugs; the average course cost of treatment was calculated according to the dosage regimens and duration of admission, as well as the cost of providing medical services.

Results: Analysis of the literature data showed that bioactive concentrate of small marine fish, produced by Biotehnos S.A. is a modern original SYSADOA for the initial therapy of knee joint OA. The median amount of direct costs for injectable SYSADOA was 388,012 euros. Cost minimization analysis showed that the use of an alternating mode of administration of the drug in patients with knee joint OA is the most cost-effective method for the treatment of OA and allows to reduce direct costs up to 64% per patient by reducing the number of medical services provided.

Conclusion: The analysis proved rationality of the established medical practice in prescribing of the injectable SYSADOA. Choosing the most economically feasible drug for the treatment of patients with OA will reduce the costs of the healthcare system and reduce the overall economic burden of OA.