

Background

pharmacological treatment of pain recommends opioids in long-term pain only in limited doses, under limited time and in very well selected groups of patients mostly due to the poor effect and the risk for complications (1). Regular follow up of opioid prescription has become a routine in many countries for many health providers since the opioid epidemic (2). However, prescription of other pharmacologic groups remain in the shadow of this problem despite questionable efficacy of many drugs used for treatment of chronic pain and comorbidities such as sleep disorders (3, 4). Quality management measures of pharmacological treatment to assess costs of therapy might be used to monitor use of these therapies by health care providers.

Aim

The aim of this study was to compare prescription and costs of opioids versus other analgesics during the last five years in a tertiary pain center in Sweden.

Methods

Data were extracted from the E-health agency in Sweden through SAS Visual Analytics.

The variables were: DDD (defined daily doses) of the drugs, total costs of expedited drugs without VAT (AUP), and number of patients receiving prescription per drug as well as number of patients referred to the clinic and number of new visits to the clinic during 2019-2023. Data were analyzed with descriptive statistics.

Results

The total number of new patients treated at the clinic per year has increased since the covid-19 pandemic (2020: 954, 2023: 1451) (+52%). Number of DDD of all drugs prescribed at the clinic decreased between 2019-2023 from 655 951 to 313 435, (-44%, p<0.001). The number of DDD opioids prescribed and retrieved from the pharmacy decreased from 122 889 in 2019 to 70 083 in 2023 (-75%, p<0.001). A decrease of prescribed DDD of all other analgesics, i.e., gabapentin (-17%, p<0.001), NSAIDs (-47%, p<0.05), paracetamol (-32%, p<0.001) and antidepressants (-47%, p<0.05) was observed as well. A decrease in costs of analgesics (2019 4.83 mil SEK, 2023 2.45 mil SEK, 51%, p<0.001) followed the trend in DDD. Costs of opioids decreased with 36%; -1.36 mil SEK, p<0.001). On the other hand, increased costs of prescription of suvorexant (+1820% (sic!) +2.6 mil SEK, p<0.05) accounted for an increase in costs associated with use of sleep medications, despite decreased costs of other sleep medicines (-84%, -0.4 mil SEK, p<0.05); sleep medications were the leading cause of total increase of costs of drugs prescribed from the clinic. Number of referrals and new appointments at the clinic





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Where have all the opioids gone? Prescription trends in a tertiary pain center in Sweden following the covid-19 pandemic

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Figure 2: Number of DDD of all drugs prescribed at the clinic 2019-2023

DDD of drugs prescribed at the clinic 2019-2023



Figure 3: Prescription of DDD per pharmaceutical group during 2019-2023



List of references

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Year	Costs SEK excl. VAT	DDD	Number of patients
2019	6 752 647	655 951	1 624
2020	6 359 044	556 927	1 283
2021	5 800 492	405 239	1 169
2022	6 593 277	350 190	1 166
2023	7 341 726	313 435	1 184

Table 1. Total costs of all prescription drugs, DDD and number of patients receiving prescription in 2019-2023

Year	Costs SEK excl VAT	DDD	Number of patients
2019	2 729 849	122 889	695
2020	2 480 038	102 276	517
2021	1 988 280	84 391	438
2022	1 690 198	75 222	386
2023	1 469 955	70 083	399

Table 2. Costs of opioid prescription, DDD and number of patients receiving opioid prescription in 2019-2023

Year	Costs SEK excl VAT	DDD	Number of patients
2019	3 813 171	219 324	946
2020	3 628 496	186 677	707
2021	3 086 630	157 465	617
2022	2 699 570	144 450	574
2023	2 448 796	136 514	597

Table 3. Costs of all analgesics, DDD and number of patients receiving analgesic prescription in 2019-2023

Ethical permission

No ethical permission was retrieved as no animal or human genetic material, biological samples or personal data were collected and data was collected only on a group level as part of quality assessment.

Relevance to patient care Individualized multimodal approaches in pain therapy are important to achieve better pain relief, improve quality of life and health-related function. Consequently, costs of treatment may be dramatically impacted. It is important to target cost-efficacy of the novel drugs despite convincing efficacy in the first clinical trials and to control prescription and costs of all drugs.

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Conclusions

- Post-pandemic decrease of opioids prescription of accompanied by parallel decrease of prescription of all analgesics despite an increasing number of patients being treated at the clinic.
- Decreased prescription of opioids is most substantial and is a major part of the total decrease in costs of analgesics.
- **Costs of orexin antagonist therapy** increased dramatically over the last years.
- It remains unclear if and how this trend affects quality of life and pain-related suffering and if the costs of novel pharmacologic treatments of sleeping disorders are justifiable.





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