EE718

Cost-Effectiveness of Medical Cannabis for Treatment of Chronic Pain patients

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BACKGROUND & EXPERIMENTAL DESIGN

Cannabinoids may mitigate symptoms in chronic pain patients. Treatment costs are still considered higher than standard of care, with insurances in many countries rejecting cost reimbursement.

Aim

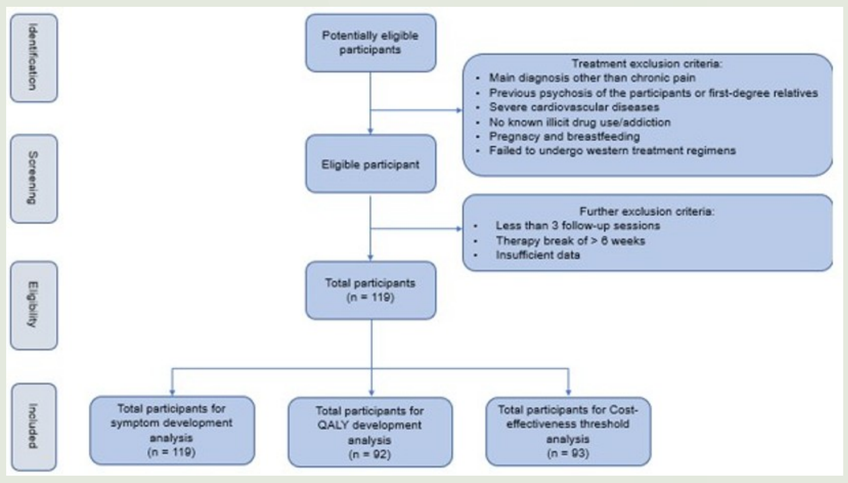
Evaluate effectiveness of medical cannabinoids for chronic pain for both **health** and **economic** aspects.

Objectives

1. Investigate whether **medical cannabinoid treatment improves perceived symptom severity** as well as **quality of life**.

2. Investigate the **differences in overall health care spendings** between medical cannabinoids and standard treatment methods.

3. Investigate **differences in incremental cost-effectiveness ratio** and **differences in the willingness to pay**.



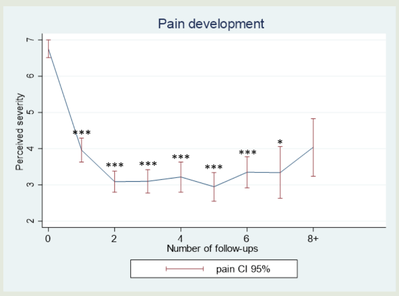
Patients Total (%)		Male (%)	Female (%)
119 (100)		102 (85.71)	17 (14.29)
Age (Mean)	**Std. dev.**	**Min (years)**	**Max (years)**
36.14	10.18	20	74
Years lived with disease (Mean)	**Std. dev.**	**Min (years)**	**Max (years)**
9.64	7.95	1	42

Number of follow-up sessions	Frequency (total patients)	Percent
3	12	10.80
4	15	12.61
5	29	24.37
6	32	26.89
7	23	19.33
8	5	4.20
9	1	0.84
10	1	0.84
11	1	0.84

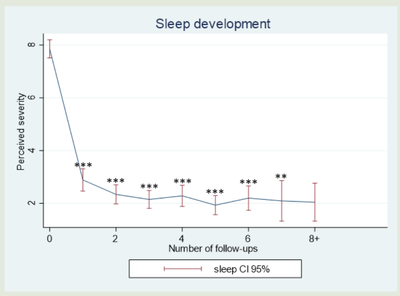
- **In-person assessments** with perceived symptom severity using a **0-10 numeric rating scale** (0=non-existent; 10=unbearable)
- Regular **follow-up sessions** with assigned doctor, using **0-10 numeric rating scale**
- **Questionnaires** to inquire on missing data:
  - Medical history, perceived symptom severity and previous treatment concepts
  - Direct and indirect health spendings

RESULTS

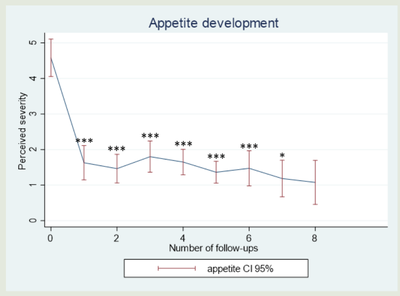
Perceived symptom severity development



Largest difference between **6.752** ± 0.125 for T0, and 2.945 ± 0.202 for T5 (P<0.0001)



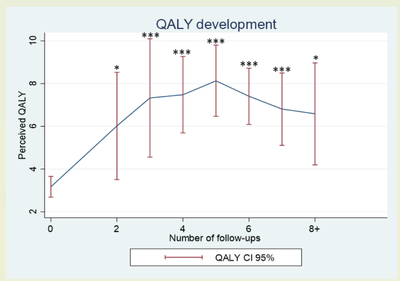
Largest difference between **7.853** ± 0.174 for T0, and 1.927 ± 0.186 for T5 (P<0.0001)



Largest difference between **4.580** ± 0.270 for T0, and 1.077 ± 0.329 for T8 (P<0.0001)

Legend
- * - p-value<0,05
- ** - p-value<0,01
- *** - p-value<0,001

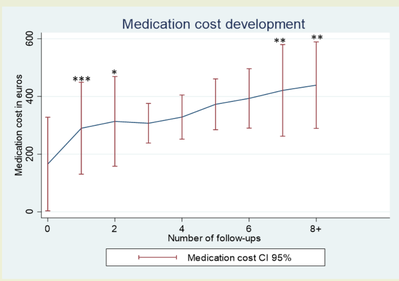
Changes in Quality of Life



Legend
- * - p-value<0,05
- ** - p-value<0,01
- *** - p-value<0,001

- Largest difference between 3.170 ± 0.250 for T0, and 8.132 ± 0.833 for T5 (P<0.0001)
- Mean increase **4.05**

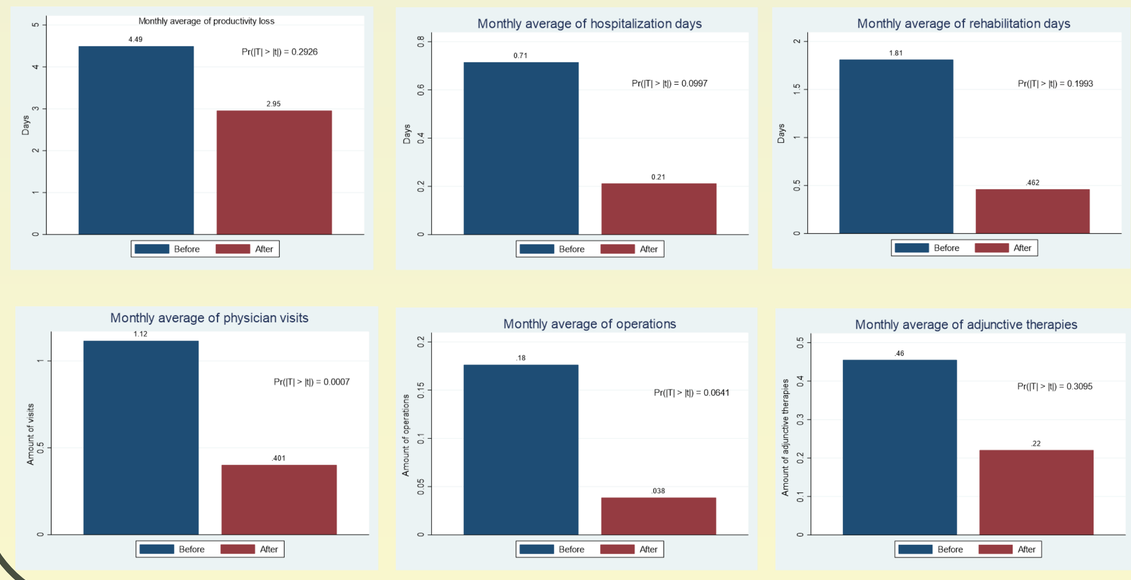
Changes in Direct Health Spendings



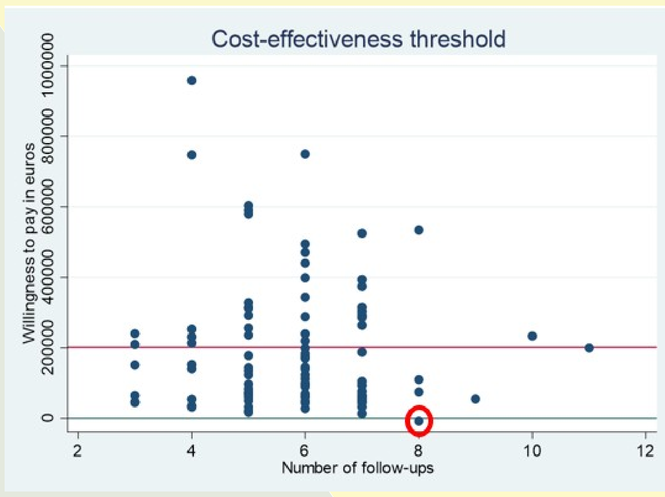
Legend
- * - p-value<0,05
- ** - p-value<0,01
- *** - p-value<0,001

- Marks an increase of €124.23 EUR – €273.43 EUR
- Annual cost increase of **€5,269.08 EUR**

Changes in Indirect Health Spendings



Incremental cost-effectiveness ratio and willingness to pay



- Community Research and Development Information Service (Cordis) estimated average German WTP per 1-unit gain in QALY to be €50,000 EUR (Cordis, 2020)
- Theoretical WTP - **€194,172.08 EUR** (discount rate of 3%/year)

CONCLUSION

- **Significant improvement** for self perceived symptom severity
- **Significant change in QALY**
- **No significant difference** in treatment costs expected in the population
- **Reduction** of indirect health care costs, **significant reduction** in monthly **average of physician visits**
- In **92/93** chronic pain patients, treatment with medicinal cannabis is evaluated as **cost-effective**
- Cost of cannabis treatment is **below average willingness to pay** for improvement in quality of life
- The treatment can be considered **cost-effective**

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