

Impact of Cannabis Use on Clinical Outcomes and Treatment Failure in First Episode Psychosis

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Background

Cannabis is frequently used by people with first episode psychosis, though its effect on clinical outcome is less clear, with even less known about the impact of cannabis use on treatment response. We investigated whether cannabis use may be associated with increased risk of relapse and whether failure of antipsychotic treatment may mediate this effect in a large electronic health record dataset of people receiving mental healthcare for first episode psychosis.

Methods

Data were obtained from 2,026 people with first episode psychosis in South London. Cannabis use documented in free text health records was identified using natural language processing. Data on age, gender, ethnicity, marital status, psychotic disorder diagnosis, psychiatric hospital admission and number of unique antipsychotics prescribed were obtained using the Clinical Record Interactive Search (CRIS) tool. Their relationship with cannabis use was analysed using multivariable regression and mediation analysis.

Figure 2a – Mediation analysis: number of admissions

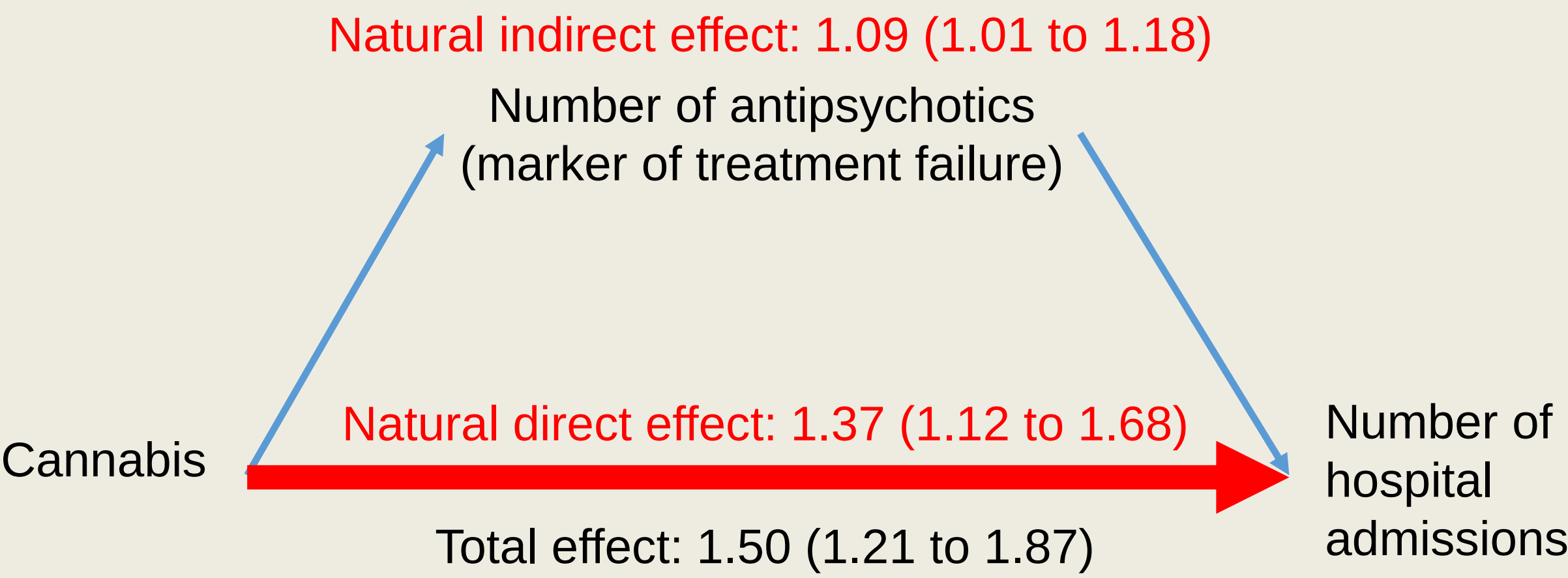


Figure 2b – Mediation analysis: number of inpatient days

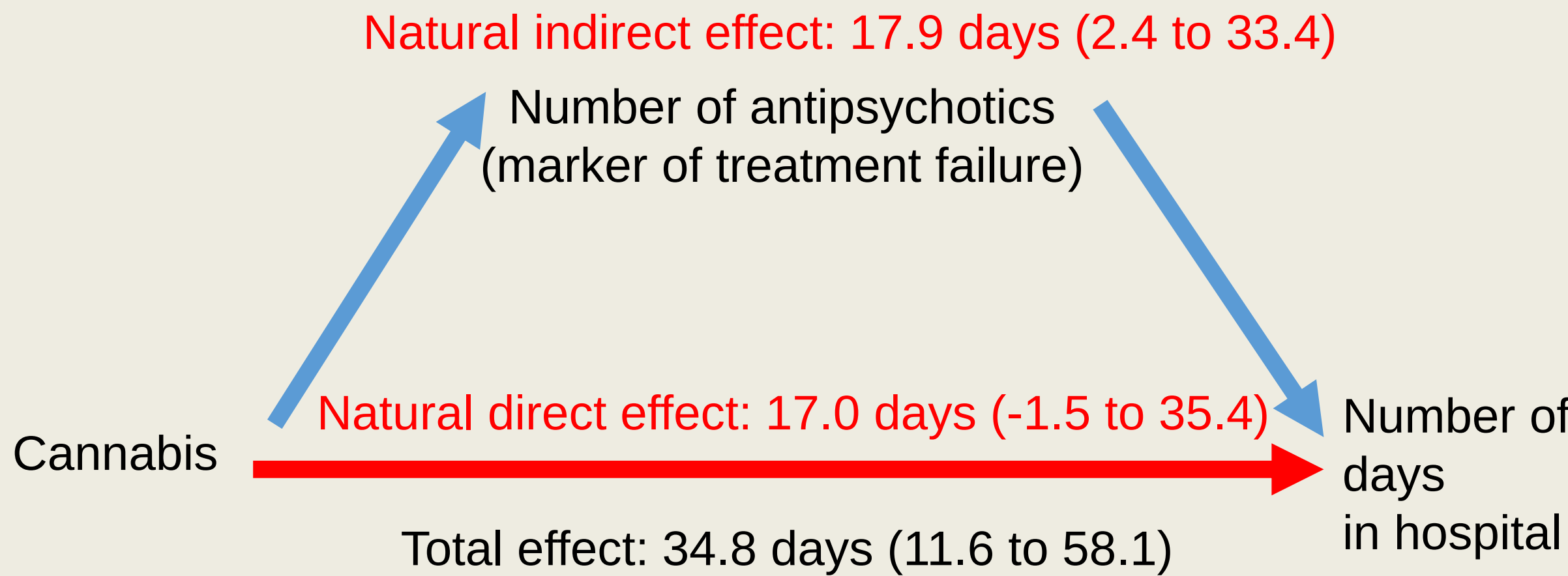


Figure 1a – Mean number of hospital admissions depending on cannabis use at first presentation

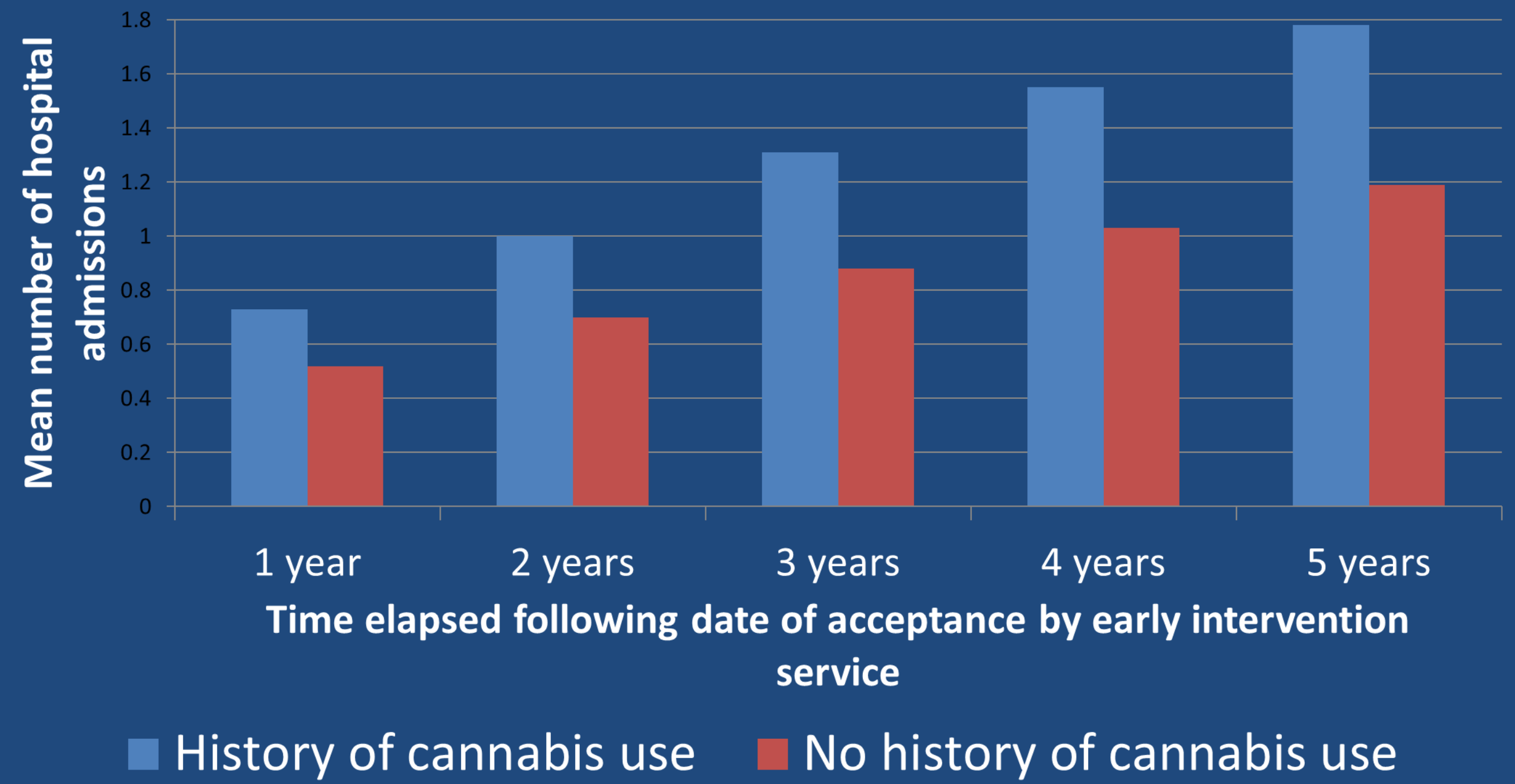


Figure 1b – Mean number of days spent in hospital depending on cannabis use at first presentation

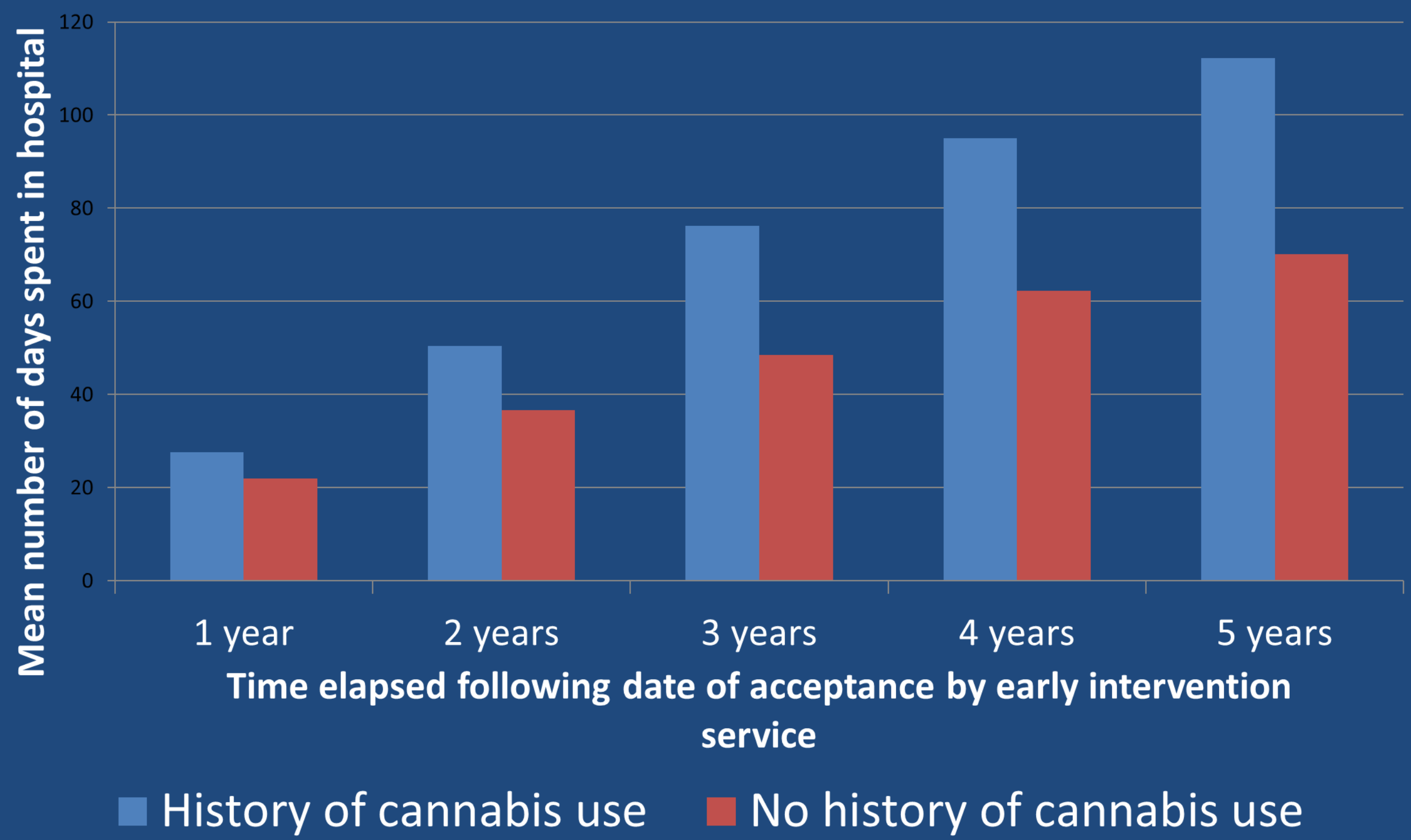


Table 1 – Factors associated with cannabis use in FEP

Factor	Number in sample	Percentage with history of cannabis use (%)	Univariate analysis Odds ratio (95% CI), p value	*Multivariable analysis Odds ratio (95% CI, p value)
Age <16 years	19	10.5%	0.11 (0.03-0.48), p=0.003	0.12 (0.03-0.53), p=0.005
Age 16-25 years	1234	51.7%	Reference	Reference
Age 26-35 years	747	39.0%	0.60 (0.50-0.72), p<0.001	0.70 (0.57-0.85), p=0.017
Age >35 years	26	30.8%	0.42 (0.18-0.96), p=0.04	0.48 (0.20-1.14), p=0.006
Female	731	30.5%	0.35 (0.29-0.43), p<0.001	0.39 (0.32-0.48), p<0.001
Male	1295	55.3%	Reference	Reference
White	616	49.8%	1.21 (0.99-1.48), p=0.06	1.17 (0.95-1.45), p=0.15
Asian	126	38.9%	0.78 (0.53-1.13), p=0.19	0.84 (0.56-1.25), p=0.38
Black	1005	45.1%	Reference	Reference
Other	279	46.6%	1.06 (0.81-1.39), p=0.65	1.13 (0.84-1.50), p=0.42
Married/Cohabiting	153	28.8%	0.41 (0.28-0.59), p<0.001	0.56 (0.38-0.82), p=0.003
Divorced/Separated	63	23.9%	0.32 (0.18-0.57), p<0.001	0.47 (0.26-0.87), p=0.02
Single	1727	49.4%	Reference	Reference
Marital status not recorded	83	31.3%	0.47 (0.29-0.75), p=0.002	0.50 (0.30-0.82), p=0.006
Schizophrenia and related	1097	48.4%	Reference	Reference
Bipolar disorder	100	52.0%	1.15 (0.77-1.74, p=0.49)	1.44 (0.93-2.22), p=0.10
Psychotic depression	94	30.9%	0.48 (0.30-0.75, p=0.001)	0.56 (0.35-0.90), p=0.02
Schizoaffective disorder	35	34.2%	0.56 (0.27-1.13, p=0.10)	0.72 (0.35-1.51), p=0.39
Drug-induced psychosis	63	79.0%	4.10 (0.62-0.92, p<0.001)	3.12 (1.64-5.88), p<0.001
Other psychotic disorder	637	41.6%	0.76 (0.62-0.92, p=0.006)	0.79 (0.64-0.97), p=0.02
*Multivariable analysis adjusted for all factors presented in table (and no others)				

Results

939 (46.3%) people with FEP used cannabis at first presentation. Cannabis use was most strongly associated among those who were aged between 16 and 25 years, male and single (Table 1), and associated with an increase in number of hospital admissions (incidence rate ratio 1.50, 95% CI 1.25-1.80; Figure 1a) and number of days spent in hospital (B coefficient 35.1 days, 12.1-58.1; Figure 1b) over five year follow-up. An increase in number of unique antipsychotics mediated an increase in number of hospital admissions and number of days spent in hospital (Figure 2).

Discussion

Cannabis use is associated with increased likelihood of hospital admission and number of days spent in hospital. These associations were partly mediated by an increase in number of unique antipsychotic medications prescribed. This suggests cannabis may reduce response to antipsychotic treatment and highlights the importance of strategies to reduce its use in people with FEP.