

Off-Label Utilization of Methylphenidate (MPH) in Adults with Attention-Deficit/Hyperactivity Disorder (ADHD) in Germany: Insights from the Nordbaden Project

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Overview

In routine clinical care, ADHD is rarely diagnosed in the adult population in Germany. Little is known about actual care for adult outpatients. To date, no pharmaceutical product has been licensed in Germany for use in adult ADHD.

Objective:

To assess the (off-label) use of methylphenidate in this group of patients, using the comprehensive medical claims database of Nordbaden/Germany, covering an insured population of 2.2 million (or 2.7% of the German population), and hereof 1.8 million adults, in 2003.

Methods:

The Nordbaden database has been described elsewhere (including at the ISPOR Eighth Annual European Congress held in Florence, Italy, November 6-8, 2005).

630 adults with a diagnosis of ADHD (ICD-10-codes F90.0, F90.1, "Hyperkinetic Disorder") were identified (administrative prevalence: 0.04%). For a retrospective analysis of methylphenidate prescriptions by gender and coexisting conduct disorder, data from the organization of licensed physicians (Kassenärztliche Vereinigung) in Nordbaden/Germany were combined with data from the regional VdAK (n=266), an association of statutory sick funds.

Results:

One third (n=92; 34.6%) of the adult patients with ADHD (n=266, who were insured by a VdAK sick funds) were treated (off-label) with methylphenidate.

Treatment prevalence was somewhat higher for male (39.4%; 95%-CI 31.3%-48.0%) than for female patients (29.0%; 95%-CI 21.2%-37.9%).

Patients with pure Hyperkinetic Disorder (F90.0) appeared to be more likely (36.8%, 30.7%-43.3%) than patients with concomitant conduct disorder (F90.1: 14.8%, 4.2%-33.7%) to receive medication (methylphenidate).

Most methylphenidate prescriptions for adult patients were written by psychiatrists and other mental health care specialists (50% of DDDs) and by general practitioners (31%). Adult patients accounted for 9.8% of the total number of methylphenidate prescriptions (and 6.9% of total costs for MPH) for patients with ADHD in Nordbaden.

Conclusions:

Besides the low administrative prevalence of adult ADHD in Nordbaden, the relatively higher medication rate of patients without concomitant conduct disorder constitutes a peculiar difference compared to prescribing patterns observed for children and adolescents.

Though currently the budgetary impact of adult ADHD seems moderate, this is likely to change when physicians begin to recognize adult ADHD more frequently, and once drugs for treatment of the condition will have been licensed.

Drug Utilization Metrics

- DDD: Defined Daily Dose, 30mg for all methylphenidate (MPH) products except for modified-release methylphenidate-OROS (MPH-OROS; brand name Concerta[®], the first modified-release MPH product (MPH-MR) to become available in Germany in January 2003 (DDD = 36 mg). MPH immediate-release (MPH-IR) products on the German market included Equasym[®], Medikinet[®], and Ritalin[®].
- PDD: Prescribed Daily Dose, average dose prescribed according to the Nordbaden sample of MPH prescriptions for adult patients with a diagnosis of ADHD (HKD/HKCD). PDDs, in the present study, were assessed on the basis of actually dispensed medication. PDD does not necessarily reflect actual drug utilization, as patients do not always take all the medications that are dispensed.
- Assumed number of treatment days per year of MPH treatment was 201, based on drug utilization studies and in line with earlier analyses.
- MPH prescription drug costs were calculated on the basis of actual reimbursement data (reflecting net outflow of funds) of the statutory health insurance (VdAK).

Prescription Analysis

Number of Prescriptions by Physician Groups*

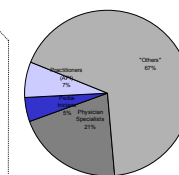
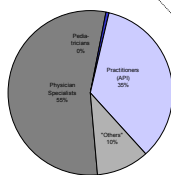
Physician Group	MPH-IR		MPH-MR		MPH
	% within MPH-IR	% within Physician Group	% within MPH-MR	% within Physician Group	
Physician Specialists ¹	54.5%	97.4%	20.9%	2.6%	52.3%
Pediatricians	0.5%	60.0%	4.7%	40.0%	0.8%
Practitioners (API)	34.7%	98.6%	7.0%	1.4%	32.9%
Others ²	10.3%	68.5%	67.4%	31.5%	14.1%
Total	100.0%	93.4%	100.0%	6.6%	100.0%

Note:

*Adult patients only.

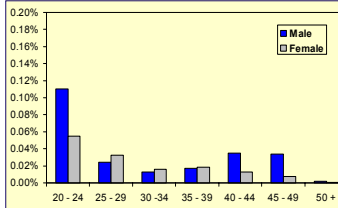
¹Physician specialists¹ include psychiatrists, neurologists, and child and adolescent psychiatrists (also hospital-based)

²Others² are (predominantly) hospital-based physician specialists and physician psychotherapists

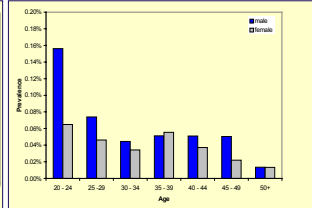


MPH Treatment Prevalence

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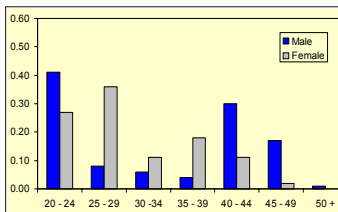


ADHD Diagnosis Prevalence:

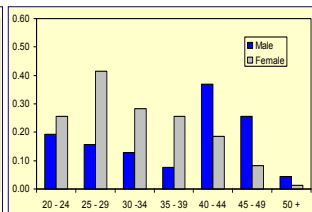


MPH Treatment Intensity

DDD per 1,000 Insured Persons / Day:

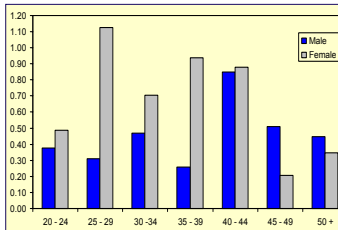


DDD per Patient ("ADHD") / Day:

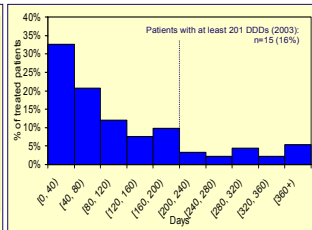


MPH Treatment Duration

PDDs per Patient Treated (with MPH):

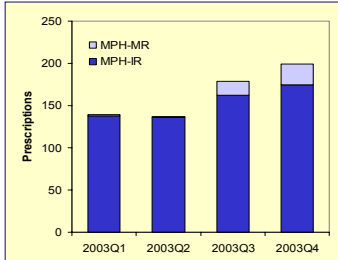


Number of Days Treated with DDD:

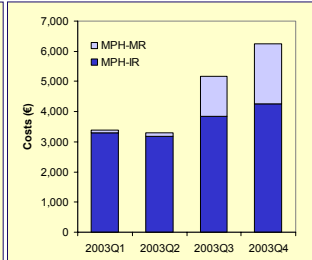


Prescription Trend Analysis

MPH Prescriptions (Adults, 2003*)



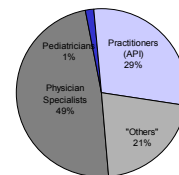
MPH Rx Cost (Adults, 2003*)



*Note that, as a rule of thumb, figures for Germany can be extrapolated by multiplying these data with a factor of ~120.

Cost Analysis

Adult Patients Account for ...	% of Total Costs for MPH Prescriptions		
	MPH-IR	MPH-MR	MPH
Physician Specialists	13.5%	1.8%	8.5%
Pediatricians	0.1%	0.4%	0.2%
Practitioners (API)	27.8%	2.8%	19.8%
"Others"	19.0%	13.4%	15.2%
Total	10.5%	2.9%	6.9%



Physician Group	MPH-IR		MPH-MR		MPH	
	Average Costs per Physician	Average Costs per Patient Treated	Average Costs per Physician	Average Costs per Patient Treated	Average Costs per Physician	Average Costs per Patient Treated
Physician Specialists	€442	€162	€44	€160	€486	€168
Pediatricians	€18	€25	€48	€96	€67	€53
Practitioners (API)	€152	€186	€71	€118	€159	€188
Others	€255	€90	€381	€571	€636	€224
Total	€239	€166	€58	€270	€296	€197

*Note that some patients received prescriptions for both MPH-IR and MPH-MR.