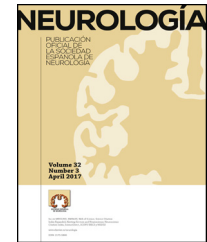




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ORIGINAL ARTICLE

Variability and trends in the consumption of drugs for treating attention-deficit/hyperactivity disorder in Castile-La Mancha, Spain (1992–2015)[☆]

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KEYWORDS

Attention-deficit/hyperactivity disorder;
Pharmacoepidemiology;
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Abstract

Introduction: Attention-deficit/hyperactivity disorder (ADHD) is one of the most common behavioural disorders of childhood; its prevalence in Spain is estimated at 5%-9%. Available treatments for this condition include methylphenidate, atomoxetine, and lisdexamfetamine, whose consumption increases each year.

Material and methods: The prevalence of ADHD was estimated by calculating the defined daily dose per 1000 population per day of each drug and the total doses (therapeutic group N06BA) between 1992 and 2015 in each of the provinces of Castile-La Mancha (Spain). Trends, joinpoints, and annual percentages of change were analysed using joinpoint regression models.

Results: The minimum prevalence of ADHD in the population of Castile-La Mancha aged 5-19 was estimated at 13.22 cases per 1000 population per day; prevalence varied across provinces

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($P < .05$). Overall consumption has increased from 1992 to 2015, with an annual percentage of change of 10.3% and several joinpoints (2000, 2009, and 2012). Methylphenidate represents 89.6% of total drug consumption, followed by lisdexamfetamine at 8%.

Conclusions: Analysing drug consumption enables us to estimate the distribution of ADHD patients in Castile-La Mancha. Our data show an increase in the consumption of these drugs as well as differences in drug consumption between provinces, which reflect differences in ADHD management in clinical practice.

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PALABRAS CLAVE

Trastorno déficit de atención e hiperactividad;
Farmacoepidemiología;
Metilfenidato;
Atomoxetina;
Lisdexanfetamina

Variabilidad y tendencias en el consumo de fármacos para los trastornos por déficit de atención e hiperactividad en Castilla-La Mancha, España (1992-2015)

Resumen

Introducción: El trastorno por déficit de atención e hiperactividad (TDAH) es uno de los trastornos conductuales más frecuentes de la infancia, se estima su prevalencia en España en un 5-9%. Existen varios fármacos para esta patología como el metilfenidato, la atomoxetina y la lisdexanfetamina cuyos consumos están creciendo anualmente.

Material y métodos: Se estima la prevalencia de TDAH a través del cálculo de las dosis diarias definidas por 1.000 habitantes y día de cada fármaco y el total (grupo terapéutico N06BA), durante los años 1992-2015, para cada una de las provincias de Castilla-La Mancha (España). Se observa la tendencia, sus puntos de cambio y los porcentajes anuales de cambio mediante modelos de regresión de joinpoint.

Resultados: Se estima una prevalencia mínima de TDAH de 13,22 casos por 1.000 habitantes y día para Castilla-La Mancha en la población de 5 a 19 años, existiendo una variabilidad provincial ($p < 0,05$). En su conjunto, el consumo se ha incrementado un porcentaje anual de cambio de 10,3% desde 1992 a 2015 con varios años o puntos de inflexión (2000, 2009 y 2012). El metilfenidato supone el 89,6% de los fármacos consumidos, seguido por la lisdexanfetamina con un 8%.

Conclusiones: El consumo de fármacos permite estimar la distribución de TDAH en Castilla-La Mancha. Se observa un crecimiento en el consumo de estos fármacos, y se observa una variabilidad provincial en su consumo, lo que supone diferencias en la práctica médica frente a esta enfermedad.

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Introduction

Attention-deficit/hyperactivity disorder (ADHD) is a neurodevelopmental disorder with potential to become chronic and affects approximately 5% of children.¹ It is characterised by attention deficit, hyperactivity, and impulsivity; it does not manifest constantly; rather, the level of functional interference varies.² Failure to assess the level of dysfunction may lead to an over-estimation of ADHD, as occurs in half of epidemiological studies conducted on the disorder's prevalence in Spain.³ There is growing interest in this disorder due to the increasing number of cases, the administration of psychostimulants to children and adolescents,⁴ and its status as one of the most frequent neuropsychiatric disorders during childhood.^{1,2} ADHD was described in a group of children a century ago by Still; the concept, classification, and diagnosis have varied.^{2,5} The variations in the clinical classification have led to heterogeneity in prevalence figures from different countries, which range from 0.78% in Hong Kong to 17.8% in Germany.^{5,6} This partly explains the

contrast between European prevalence figures of 1% to 2%, and figures of 20% or higher in American studies; more recent meta-analyses estimate a global prevalence of between 3% and 7%, whereas in Spain it is estimated at 6.8%, with a 95% confidence interval (95% CI) of 4.9% to 8.8%.^{1,3,7-12} Epidemiological studies conducted in Spain have obtained disparate figures due to the differences in the ages included, with prevalence figures of 1% to 2% in Navarre, 3% to 14% in Valencia, 4.6% in Majorca, 4.9% in the Canary Islands, and 4% to 6% in Seville.^{5,13-15} One meta-analysis of Spanish studies obtained a prevalence figure of 6.8%, with a 95% CI of 4.9% to 8.8%.³

ADHD is a behavioural disorder which may require pharmacological treatment. Such psychostimulants as methylphenidate (MPH) and lisdexamfetamine (LDX), and such non-stimulant drugs as atomoxetine (ATX) are the approved drugs in Spain, and their efficacy and safety have been widely studied.^{1,2,9,16} Indiscriminate use of MPH in the USA (where more than 80% of the MPH manufactured in the world is consumed)¹⁷⁻²¹ and Australia has

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