Periodic report on drugs approved for children under the EU Centralised Procedure

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1. Abstract

This is the periodic report prepared by the TEDDY Network on paediatric medicines registered in Europe under the EMA Centralised Procedure including data on medicines registered in 2014.[i]

2. Introduction

In the pharmaceutical field the main goal is to guarantee that efficacious, high quality and safe medicines are available to European citizens, regardless of income or social status. The proper use of medicines depends on a wide dissemination of relevant information to all the interested stakeholders (regulatory agencies, medical doctors, pharmacists, patient associations, industries, etc).

For many years, a lack of information on drugs continued to affect the paediatric population. It is well known that approved medicines are used in children without proper information on: dosage, potential toxicity, evidence of clinical safety and efficacy at the recommended dosages.

The specific issue of paediatric medicines has been considered by the European Institutions since 1997. For this purpose, a number of initiatives have been developed during the last years, culminating with the entering into force of the European Paediatric Regulation [1] in January 2007.

TEDDY collects and stores in its database EPMD (European Paediatric Medicines Database) data on paediatric medicines registered in Europe under the EMA Centralised Procedure from October 1995. Reports are released regularly; two publications are available [2,3].

The aim of this report is to present the status of paediatric medicines licensed by EMA. An insight on authorisations/variations in 2014 is provided.

3. Methodology

3.1. Data collection and storing

The EMA public website represents the source of information. For each new medicine approved, including new Marketing Authorisations (MAs) and variations listed on the EMA website, the European Public Assessment Reports (EPARs) of human medicines are analysed. Information derived by EPARs is collected in a standardised way and stored in TEDDY European Paediatric Medicines Database (EPMD). Data are collected and validated by two researchers. Discrepancies are solved with the support of a supervisor.

3.2. Collected data

EPMD includes a number of information including:

- Year of approval
- Active substance
- Trade Name
- Anatomical Therapeutic Chemical (ATC) code - first-level
- Indication and Paediatric Indication

- Ages for which the drug is intended
- Dosages
- Orphan Drug status
- Orphan condition
- Paediatric trials and studies included in the EPAR at the time of approval.

3.3. Data Analysis

General descriptive statistics analyses are performed on annual basis providing details on: a) year of MA, b) age of population for which the drug is approved, c) ATC code, and d) orphan status. In addition, the database allows to perform other analyses according to specific request.

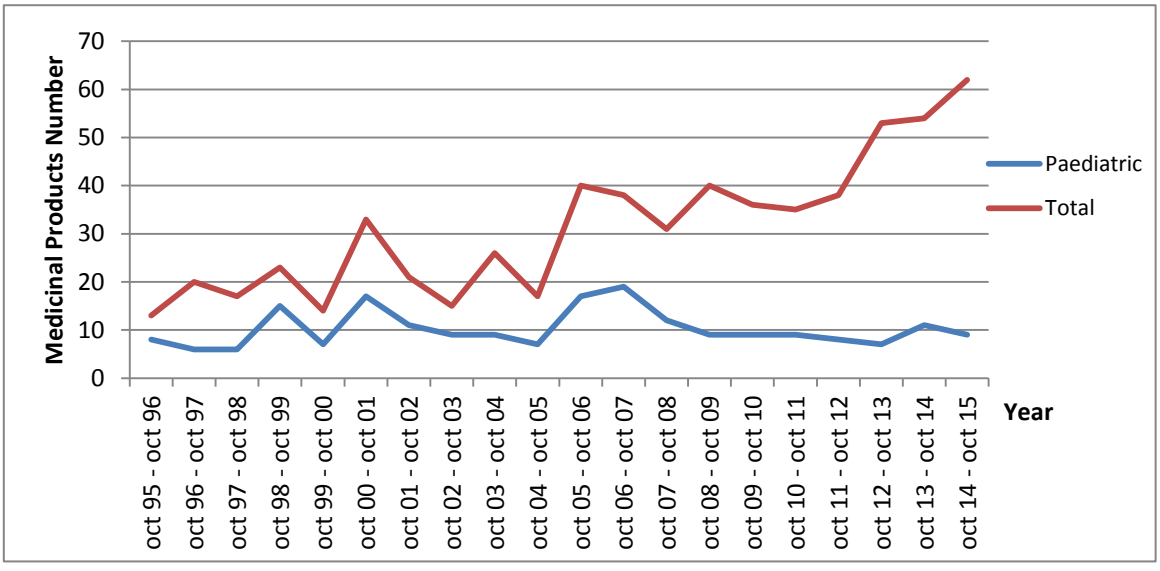
4. Results

4.1. Number and percentage of paediatric medicines

In the period October 1995 – October 2015, 626 active substances (ASs) have been approved by EMA under the Centralised Procedure: 206 of them are paediatric.[1]

Figure 1 reports the number of paediatric medicines and the total of medicines approved by EMA under the centralised procedure. MAs and variations are included. Notwithstanding the increase observed in 2007, the percentage of paediatric medicines remains very low.

Figure 1 - Medicinal products authorised by EMA divided by year (Oct. 1995 – Oct. 2015)

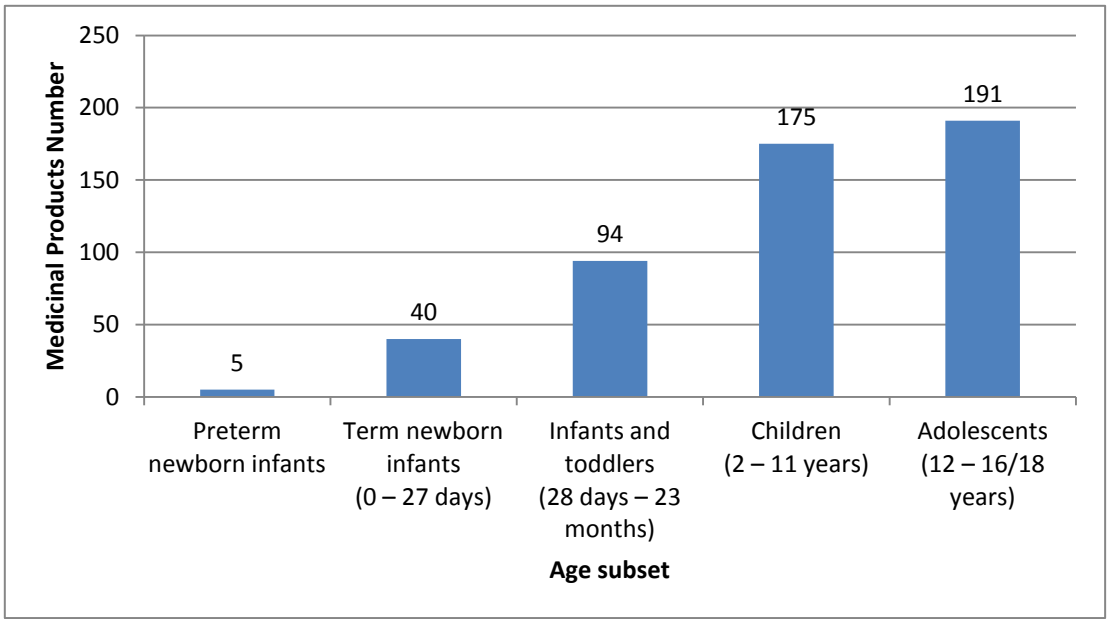


[1] In the first ten years period covered by this report (1995-2005), medicines that included in their documentation (Summary of Product Characteristics – SPC/PL) a paediatric dosages information, but not a paediatric indication, were also considered as paediatric.

4.2. Distribution of paediatric medicines by age

Figure 2 reports the distribution of the paediatric medicines by age for which the drug is approved. It is evident that the lower number of medicines refers to neonates and younger children, while this number increases for older children and is the highest for adolescents.

Figure 2 – Paediatric Medicines: age distribution



4.3. Distribution of paediatric medicines by ATC

Authorised paediatric medicines belong to 14 ATC first-level categories. The percentage of paediatric medicines for each therapeutic area significantly varies among ATC codes: J-ATC (anti-infectives for systemic use) represents the group with the highest ratio on the total of authorised medicines, while G-ATC (Genito-urinary system and sex hormones), M-ATC (Musculo-skeletal system)and P-ATC (Antiparasitic) the lowest ones. Table 1 provides additional details.

Table 1: EMA Paediatric Medicines by ATC code

	Paediatric/Total	
	N	**%**
A -Alimentary tract and metabolism	29/76	38
B - Blood and blood forming organs	15/48	31
C - Cardiovascular system	5/37	13
D - Dermatologicals	3/7	43
G- Genito-urinary system and sex hormones	1/27	4
H - Systemic hormonal preparations, excluding sex hormones and insulins	3/12	2

	Paediatric/Total	
	N	**%**
J - Anti-infectives for systemic use	83/125	66
L - Antineoplastic and immunomodulating agents	31/137	23
M - Musculo-skeletal system	1/18	5
N - Nervous system	12/53	23
P -Antiparasitic products, insecticides and repellents	1/1	100
R - Respiratory system	8/20	40
S - Sensory organs	3/21	14
V -Various	9/39	23
Not assigned yet	2/5	40
TOTAL	***206/626***	***33%***

4.4. Distribution of paediatric medicines by orphan status

With reference to orphan drugs, it should be noted that out of the 83 orphan drugs authorised by the EMA in the period October 1995 – October 2015, 36 were paediatric. Thus, comparing the rate of paediatric medicines between orphan and non-orphan drug groups, a significant difference in favour of paediatric medicines in the orphan drug group is evident (43% and 33%, respectively). In particular, in some disease categories such as A, J, N, the majority of the approved orphan medicinal products are licensed for children (Table 2).

Table 2 – Paediatric orphan drugs and ATC distribution

ATC	Orphan drugs authorised	Paediatric orphan drugs authorised	Percentage
A -Alimentary tract and metabolism	13	11	85
B - Blood and blood forming organs	2	1	50
C - Cardiovascular system	5	0	-
D - Dermatologicals	2	0	-
G- Genito-urinary system and sex hormones	0	1	-
H - Systemic hormonal preparations, excluding sex hormones and insulins	4	1	25
J - Anti-infectives for systemic use	6	4	67
L - Antineoplastic and immunomodulating agents	37	10	26
M - Musculo-skeletal system	0	0	-
N - Nervous system	7	4	57
P -Antiparasitic products, insecticides and repellents	0	0	-
R - Respiratory system	2	1	50
S - Sensory organs	1	0	-
V -Various	2	1	50
Not assigned yet	2	2	
TOTAL	**83**	**36**	***43%***

5. Annexes

List of the paediatric MAs/variations in 2014.

6. References

1. European Parliament and Council Regulation (EC) No 1901/2006, 12 December 2006, on medicinal products for paediatric use and amending Regulation (EEC) No 1768/92, Directive 2001/20/EC, Directive 2001/83/EC and Regulation (EC) No 726/2004

2. Ceci A, Felisi M, Baiardi P, Bonifazi F, Catapano M, Giaquinto C, Nicolosi A, Sturkenboom M, Neubert A, Wong I. Medicines for children licensed by the European Medicines Agency (EMEA): the balance after 10 years Eur J Clin Pharmacol 2006. Nov;62(11):947-52.

3. Ceci A, Felisi M, Catapano M, Baiardi P, Cipollina L, Ravera S, Bagnulo S, Reggio S, Rondini G. Medicines for children licensed by the European Agency for the Evaluation of Medicinal Products. Eur J Clin Pharmacol. 2002 Nov;58(8):495-500.

[i] *This document has been prepared by TEDDY Network as part of its research activity. It does not replace the official data that can be accessed directly from the EMA website. The material cannot be distributed nor re-utilised without acquiring a specific preliminary consent from TEDDY Network. Reference to this document and to TEDDY Network should be included when citing data deriving from it.*