

Effectiveness and Real-World Use of Cannabidiol for the Treatment of Dravet Syndrome, Lennox-Gastaut Syndrome and Tuberous Sclerosis Complex in Routine Clinical Practice in Italy: Data From an Ongoing, Multicentre, Prospective, Observational Study

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Objective

- To evaluate the real-world use of cannabidiol (CBD; Epidyolex®, 100 mg/mL oral solution) prescribed for patients with seizures associated with Lennox-Gastaut syndrome (LGS), Dravet syndrome (DS), and tuberous sclerosis complex (TSC) in routine clinical practice in Italy



Conclusions

- Early data from this prespecified interim analysis support the effectiveness and tolerability of CBD in routine clinical practice in Italy
 - CBD retention at Week 28 was 65.2%
 - The safety profile was consistent with previous studies
- The full analysis is expected late in 2027

References: 1. Walker LE, et al. *J Intern Med*. 2015;277(2):218–234. 2. Specchio N, et al. *Epilepsia*. 2022;63(6):1398–1442. 3. Wataya-Kaneda M, Keio J Med. 2025;74(1):42–51. 4. European Medicines Agency. Epidyolex® 100 mg/mL oral solution: summary of product characteristics. 2020. Available from: https://www.ema.europa.eu/en/documents/product-information/epidyolex-spar-product-information_en.pdf (Accessed 19 August 2026).

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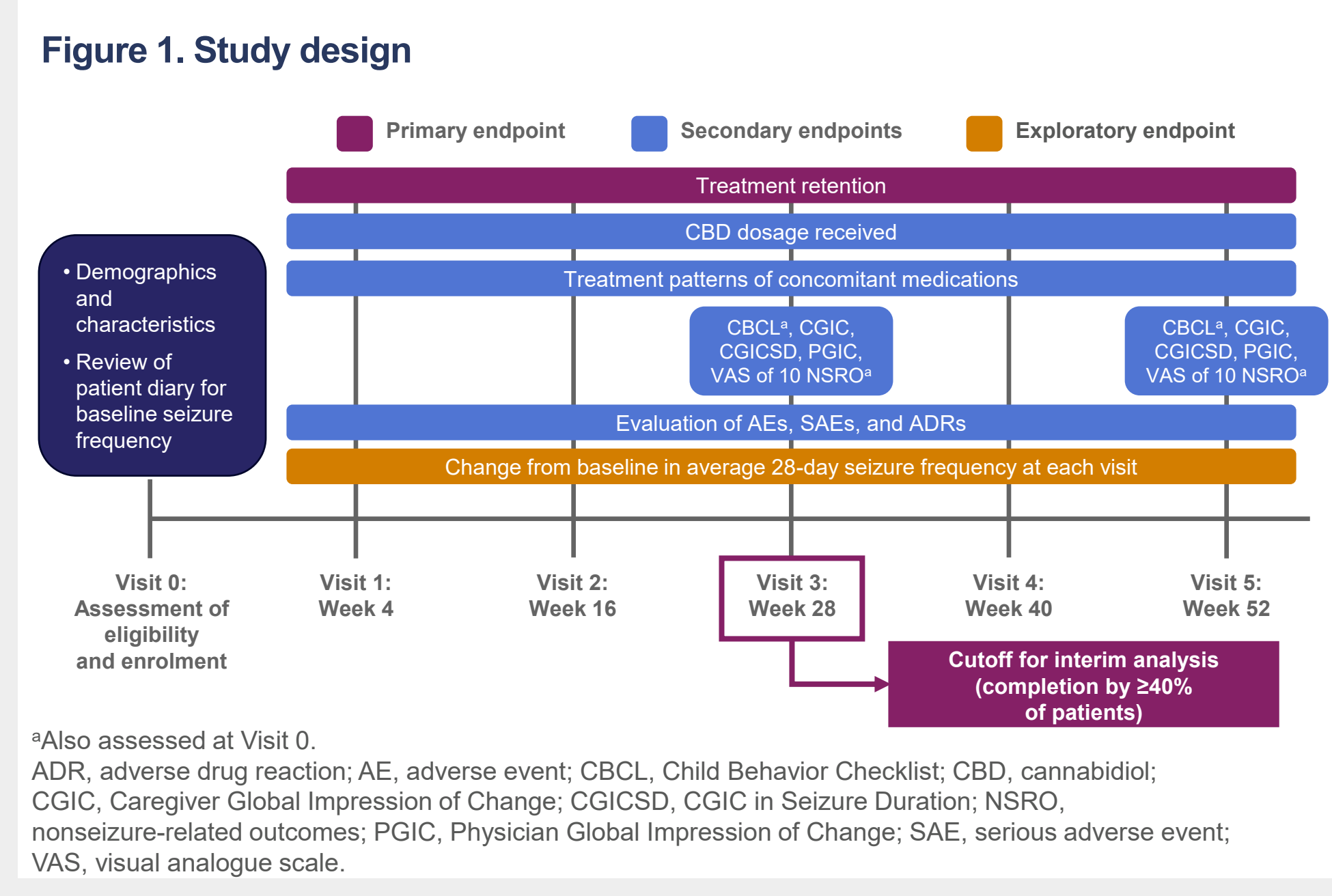
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Introduction

- Lennox-Gastaut syndrome (LGS) and Dravet syndrome (DS) are rare, early-onset developmental and epileptic encephalopathies (DEEs) characterised by multiple, treatment-resistant seizure types^{1,2}
- Tuberous sclerosis complex (TSC) is a rare genetic disorder commonly associated with early-onset, treatment-resistant epilepsy³
- Highly purified, plant-derived cannabidiol (CBD; Epidyolex®, 100 mg/mL oral solution) is approved for the adjunctive treatment of seizures associated with LGS, DS, and TSC⁴
- EpiTALY (NCT05485831) is a prospective, observational, multicentre study evaluating the effectiveness and real-world use of CBD in patients with LGS, DS, and TSC in routine clinical practice in Italy
- Here, we present data from a prespecified interim analysis (database lock: 8 May 2026)

Methods

- This ongoing study included patients aged ≥2 years, prescribed CBD as part of routine clinical practice (≤10 or ≤12.5 mg/kg twice daily for LGS/DS or TSC, respectively) from 18 centres in Italy over 52 weeks (Feb 2025 to Feb 2026)
 - Decision to prescribe CBD was independent of their inclusion in the study
 - Patients must not have previously used Epidyolex®, recreational or medicinal cannabis, or CBD-based products within 3 months before study entry
- The primary endpoint was treatment retention (as a joint proxy of effectiveness and tolerability); secondary and exploratory endpoints are shown in **Figure 1**
- This prespecified interim analysis was performed once ≥40% of patients had completed Visit 3 (Week 28)
- All outcomes were assessed using descriptive statistics
- This study is being conducted with Epidyolex®, and results do not apply to other CBD-containing products



Results

Baseline demographics	
Table 1. Baseline demographic and clinical characteristics	
	Overall (n=46)
Median age (min–max), years	12 (2–54)
Age group, n (%)	
Adults (≥18 years)	15 (32.6)
Paediatrics (<18 years)	31 (67.4)
Sex, n (%)	
Male	29 (63.0)
Female	17 (37.0)
Race, n (%)	
White	42 (91.3)
African	1 (2.2)
Middle Eastern	1 (2.2)
Unknown	2 (4.3)
Diagnosis, n (%)	
LGS	40 (87.0)
DS	3 (6.5)
TSC	3 (6.5)
Time since diagnosis, weeks	n=44 ^a
Mean (SD)	297.6 (416.3)
Median (Q1–Q3)	139.2 (7.9–405.4)
Patients with ≥1 prior or concomitant ASM, ^b n (%)	46 (100.0)
Patients with ≥1 prior ASM discontinued before CBD, n (%)	33 (71.7)
Prior ASMs in ≥5% of patients, ^b n (%)	
Levetiracetam	10 (21.7)
Topiramate	8 (17.4)
Carbamazepine	7 (15.2)
Lamotrigine	7 (15.2)
Rufinamide	7 (15.2)
Clobazam	6 (13.0)
Clonazepam	6 (13.0)
Valproate	4 (8.7)
Nitrazepam	4 (8.7)
Fenfluramine	3 (6.5)
Vigabatrin	3 (6.5)

- ^aTime since diagnosis could not be calculated for two patients because diagnosis onset dates were missing. ^bMedications stopped prior to the first dose of study treatment are considered prior medications. Medications started before the first dose of study treatment and continued beyond the first dose of study treatment, as well as medications started on or after the first dose of study treatment, are considered concomitant medications. ASM, antiseizure medication; CBD, cannabidiol; DS, Dravet syndrome; LGS, Lennox-Gastaut syndrome; Q1–Q3, interquartile range; SD, standard deviation; TSC, tuberous sclerosis complex.
- Study enrolment was completed on 28 February 2026 (N=111). At the database lock for this prespecified interim analysis (8 May 2026), 47 patients (LGS, n=41; DS, n=3; TSC, n=3) had completed their Week 28 visit and were eligible for inclusion
 - Of these 47 patients, 46 were included in the interim analysis; one patient with LGS was excluded because treatment was not initiated
 - Most patients were paediatric (67.4%), male (63.0%), and White (91.3%; **Table 1**)
 - All patients had received ≥1 prior or concomitant antiseizure medication (ASM); 84.8% (39/46) of patients had received ≥4 prior or concomitant ASMs, reflecting the refractory nature of the epilepsy among these patients
 - Of the 46 patients, 33 (71.7%) discontinued at least one ASM before starting CBD

CBD doses

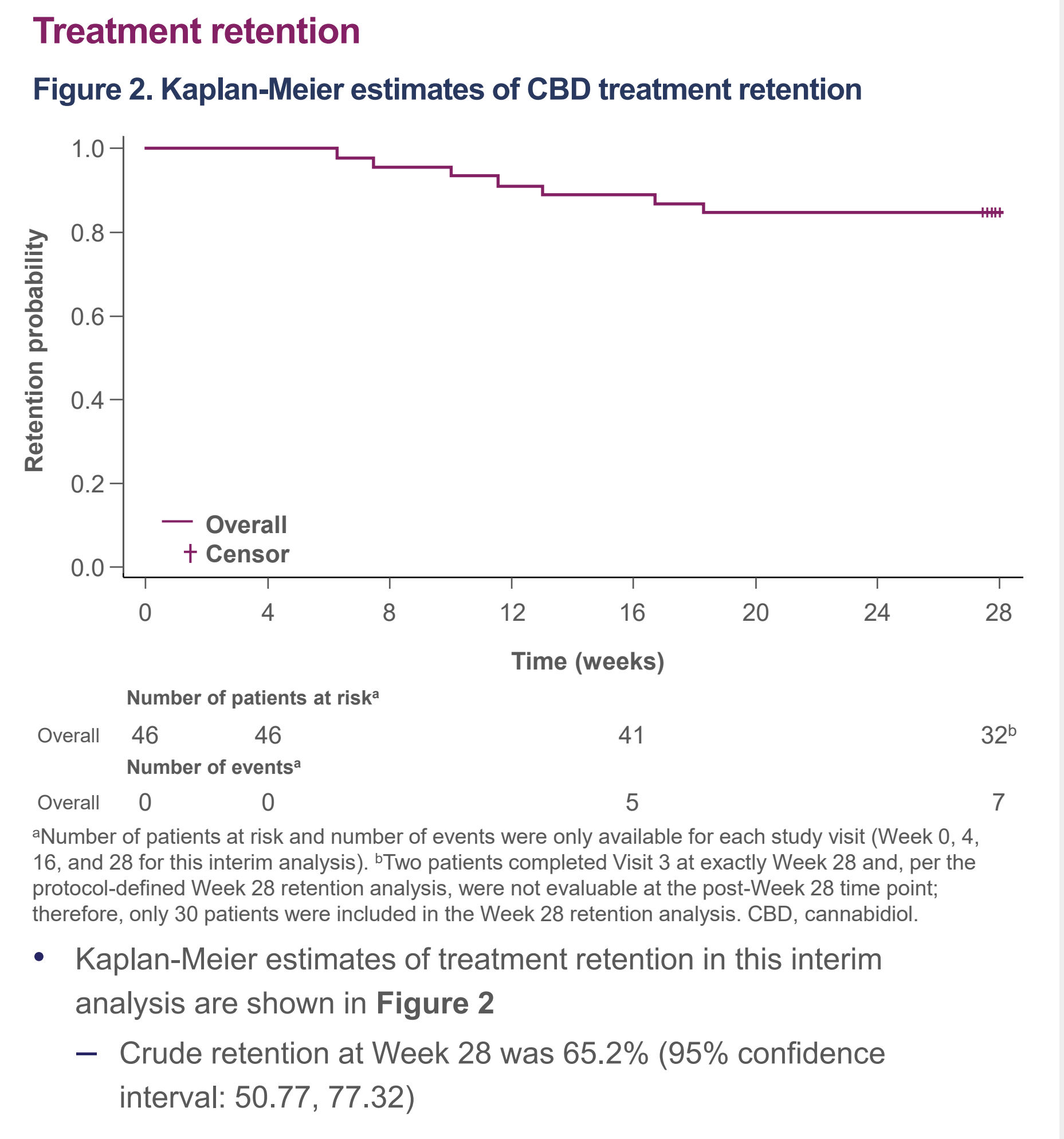
	Week 4 (n=25)	Week 16 (n=40)	Week 28 (n=39)	Entire maintenance period ^a (n=46)
Average maintenance dose, mg/kg/day				
Mean (SD)	10.0 (4.3)	10.1 (5.1)	11.8 (5.5)	10.8 (5.0)
Median (Q1–Q3)	10.0 (7.5–10.0)	10.0 (5.0–14.1)	10.4 (6.6–16.0)	10.0 (6.7–14.4)
Maximum maintenance dose, mg/kg/day				
Mean (SD)	10.0 (4.3)	10.5 (5.1)	11.9 (5.4)	11.9 (5.1)
Median (Q1–Q3)	10.0 (7.5–10.0)	10.0 (5.3–14.9)	10.4 (6.6–16.0)	10.0 (8.3–15.0)

- ^aMaintenance dose from 28 days after the first CBD dose through Week 28. CBD, cannabidiol; DS, Dravet syndrome; LGS, Lennox-Gastaut syndrome; Q1–Q3, interquartile range; SD, standard deviation; TSC, tuberous sclerosis complex.
- At Week 28, the mean (standard deviation [SD]) average maintenance dose was 11.8 (5.5) mg/kg/day, and the mean (SD) maximum maintenance dose was 11.9 (5.4) mg/kg/day (**Table 3**)

Safety

Table 4. Summary of treatment-emergent adverse events (TEAEs) reported by patients	
Number of patients with TEAEs, n (%)	Overall (n=46)
Patients with TEAEs	
Serious TEAEs	3 (6.5)
Treatment-related TEAEs	4 (8.7)
TEAEs in ≥2 patients	
Somnolence	5 (10.9)
Hypotonia	3 (6.5)
Urinary tract infection	2 (4.4)
Seizure	2 (4.4)

- TEAE, treatment-emergent adverse event.
- There were 19 (41.3%) patients who had a TEAE from any cause and four (8.7%) patients who had a treatment-related TEAE (**Table 4**)
 - Only one (2.2%) patient reported a severe TEAE (medical device site infection and respiratory failure)
 - Most TEAEs were mild (n=13 [28.3%]) or moderate (n=5 [10.9%])
 - Somnolence (n=5 [10.9%]) was the only treatment-related TEAE that occurred in ≥2 patients
 - No patients required dose reductions or permanently discontinued study treatment due to TEAEs
 - No deaths were reported at the time of this interim analysis



Concomitant ASMs

Table 2. Distribution of patients with concomitant ASMs	
	Overall (n=46)
Patients with ≥1 concomitant ASM, ^a n (%)	46 (100.0)
Concomitant ASMs in ≥5% of patients, ^a n (%)	
Clobazam	39 (84.8)
Valproate	31 (67.4)
Lamotrigine	11 (23.9)
Carbamazepine	10 (21.7)
Rufinamide	8 (17.4)
Lacosamide	7 (15.2)
Phenobarbital	7 (15.2)
Levetiracetam	6 (13.0)
Perampanel	6 (13.0)
Topiramate	6 (13.0)
Clonazepam	5 (10.9)
Ethosuximide	5 (10.9)
Felbamate	5 (10.9)
Vigabatrin	5 (10.9)
Nitrazepam	4 (8.7)
Fenfluramine	3 (6.5)

- ^aMedications started before the first dose of study treatment and continued beyond the first dose of study treatment, as well as medications started on or after the first dose of study treatment, are considered concomitant medications. ASM, antiseizure medication.
- All patients were receiving ≥1 concomitant ASM during the study
 - The most common concomitant ASMs were clobazam (84.8%), valproate (67.4%), lamotrigine (23.9%), and carbamazepine (21.7%; **Table 2**)

CBD exposure

Table 5. Summary of changes in CBD dose	
Change in CBD dose, n (%)	Overall (n=46)
Treatment duration, days	
Mean (SD)	151.4 (61.0)
Median (Q1–Q3)	191.0 (113.0–197.0)
Total number of dosing records documented	
No change in dose	46 (26.1)
Dose increase	95 (54.0)
Dose reduction	27 (15.3)
Dose interruption	8 (4.6)

- CBD, cannabidiol; Q1–Q3, interquartile range; SD, standard deviation.
- Of 176 dosing records, 95 (54.0%) documented a dose increase and 46 (26.1%) documented no change in dose (**Table 5**)
 - Less than a quarter of dosing records noted either a reduction in CBD dose (15.3%) or a dose interruption (4.6%)

Strengths and Limitations

- These data provide real-world insights into the effectiveness of CBD treatment in patients with LGS, DS, and TSC in Italy, which may be valuable for clinicians seeking to better understand real-world use of CBD
- These findings are exploratory due to the single-arm, observational study design, and lack of a comparator group; furthermore, no adjustment for potential confounding variables was performed
- Because this interim analysis includes data from 46 of 111 enrolled patients through Week 28, the results should be considered preliminary
- Analysis by diagnosis was limited by the small number of patients with either DS or TSC (n=3 each)

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Plain Language Summary

What was this study about?

People with Lennox-Gastaut syndrome (LGS), Dravet syndrome (DS), and tuberous sclerosis complex (TSC) have rare forms of epilepsy that often begin in childhood. Many people with these conditions continue to have seizures even when taking antiseizure medicines. This study looked at how well cannabidiol (CBD, also called Epidyolex®) worked in everyday medical practice in Italy. The study also collected information on the safety of the treatment and how well people tolerated it.

What did the researchers do?

The study included 111 people aged 2 years and older from 18 centres across Italy. The data shown here are from an early analysis part way through the study. At the time of this early analysis, 46 people had completed 28 weeks of treatment and could be evaluated. Most participants had LGS, and the median age was 12 years.

What were the results?

After 28 weeks, about two-thirds of participants (65%) were still taking CBD. Staying on treatment can be a sign that the medicine is helping and is tolerated well. At Week 28, people were taking an average daily CBD dose of about 12 mg for each kilogram of body weight. The most common antiseizure medicines taken in addition to CBD were clobazam, taken by about 85% of people, and valproate, taken by about 67%.

What did the safety data show?

The safety results were similar to what has been seen in earlier studies. About 41% of participants experienced a side effect, but most side effects were mild or moderate. Sleepiness (11%) was the most common treatment-related side effect. No deaths were reported, and no participants stopped treatment permanently because of side effects.

What do these results mean?

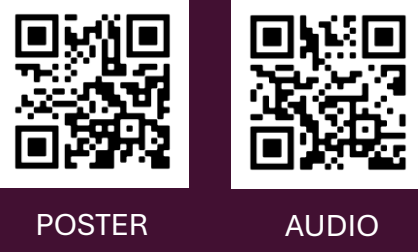
These early findings from the EpiTALY study provide further information on how well CBD worked and how well people with LGS, DS, and TSC tolerated it when used in routine clinical practice in Italy. Because these are early results from an ongoing study, more data are needed to confirm these findings.

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