Dravet syndrome (DS), a severe infantile-onset genetic epileptic encephalopathy, presents in the first year of life with characteristic seizures1.

- Multiple seizure types, developmental, cognitive, behavioural, and other debilitating problems develop during childhood2.
- Ongoing seizures and comorbidities impede demanding, long-term care needs on families and healthcare services3.
- This review sought to understand this patient/caregiver burden and its humanistic impact.

**METHODS**

**Searches in Literature Databases and Websites**

- Literature databases searched: MEDLINE, EMBASE, MEDLINE In-Process, EconLit, and The Cochrane Library, using MeSH and free-text DS terms, epidemiology, risk factors, natural history, comorbidities, symptoms, health-related quality of life (HRQoL), patient functioning/activities, caregivers, resource use, and caregiver/HRQoL.
- Search restrictions: English language/human studies only, excluded: comments, letters, news articles, and editorials. Additional website searches were conducted [Table 1]. All were screened vs agreed inclusion/exclusion criteria.

**RESULTS**

**Overview of Findings**

- 1,184 citations were retrieved, 116 met study criteria (Figure 1), of which 75 described patient symptoms and humanistic burden, 12 described caregiver burden.

### Table 1. Searches in Websites and Conference Sites

<table>
<thead>
<tr>
<th>Category</th>
<th>Websites and Conference Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epidemiology, diagnosis, clinical guidelines</td>
<td>WHO, TRIP database, Agency for Healthcare Research and Quality, National Guideline Clearinghouse</td>
</tr>
<tr>
<td>Patient advocacy groups</td>
<td>DS Foundation, DSF, CR, DSUDEP Action, DS International Patient Registry</td>
</tr>
<tr>
<td>Health technology assessment</td>
<td>Agency Network, Zorginstituut Nederland, International HTA Agency Network</td>
</tr>
</tbody>
</table>

Only abstracts published within last 2 years/last 2 conferences. HTA, health technology assessment.

### Table 2. Caregiver Burden in Dravet Syndrome

- Seizure burden was most commonly reported, 70/116 (60.3%) articles.
- Others commonly reported (≥50%): delayed language/communication (68%), growth slowing (70%), sleep disturbance (58%), ataxia (58%), body temperature dysregulation (57%), lack of social reserve/overly familiar to strangers (56%), hyperthermia (56%), perseveration (52%), and nocturnal seizures (51%).

**HRQoL Burden**

- DS children showed worse HRQoL vs healthy children (p<0.001) consistently decreasing with increasing age2.

**Independent predictors of a poorer HRQoL: epilepsy severity, learning difficulties, age at first seizure, myoclonic seizures, and motor disorder (p<0.05)3.**

**SUMMARY OF LITERATURE DESCRIBING THE HUMANISTIC BURDEN IN DS**

**Patient Burden**

- Symptoms and Features:
  - Seizure burden was most commonly reported, 70/116 (60.3%) articles.
  - Others commonly reported (≥50%): delayed language/communication (68%), growth slowing (70%), sleep disturbance (58%), ataxia (58%), body temperature dysregulation (57%), lack of social reserve/overly familiar to strangers (56%), hyperthermia (56%), perseveration (52%), and nocturnal seizures (51%).
  - HRQoL Burden:
    - DS children showed worse HRQoL vs healthy children (p<0.001) consistently decreasing with increasing age2.
  - Independent predictors of a poorer HRQoL: epilepsy severity, learning difficulties, age at first seizure, myoclonic seizures, and motor disorder (p<0.05)3.

**REFERENCES**

6. Parental stress (e.g. ‘I don’t know what to do’).

**CONCLUSION**

- The substantial seizure burden associated with DS is well characterised.
- Additional developmental, cognitive/behavioural issues and long-term comorbidities associated with DS present a substantial burden on both patients and caregivers.
- This caregiver burden is likely underestimated given the lack of validated DS-specific instrument for its measurement.
- This review identified the need for:
  - Validated instruments to quantify the HRQoL burden in both DS patients and their caregivers.
  - More substantive work to better describe and quantify the humanistic and socioeconomic burden of DS on patients and their caregivers.