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Background

- Haemophilia A (HA), factor VIII (FVIII) deficiency, characterised by prolonged trauma-related and/or spontaneous intra-articular bleeding events, is associated with adverse impacts on physical functioning and health-related quality of life (HRQoL).

- Previous research has suggested a high incidence of joint bleeds in people with HA (PWHA) in the United Kingdom (UK) relative to that of other European countries,2 with levels of HRQoL falling below that of the general population.3

- Little research has focused on differential outcomes for PWHA in the UK across a spectrum of condition severity.2

- This analysis describes variation in clinical and patient-centric outcomes for a cohort of mild (>5-40% normal FVIII activity), moderate (1-5%) and severe (<1%) PWHA in the UK, using real-world data.

Methods

- Data for PWHA living in the UK with no active inhibitor at the time of study capture were extracted from “Cost of Illness in Haemophilia A: A Socioeconomic Survey – II” (CHES II), a burden of illness study of adults with HA and haemophilia B in Europe. An interim dataset with study period Nov 2018 – Jul 2019 was used for this analysis.

- Patient demographics and clinical and patient-centric outcomes were assessed in total and stratified by baseline FVIII activity (mild, moderate, severe).

- Clinical outcomes of interest were as follows:

  - FVIII replacement: strategies categorized as follows:
    - Patients on Primary treatment regimens (prophylaxis or on demand) were defined as managing their HA with the same regimen from treatment initiation, with no switch (of prophylaxis to on demand or vice-versa).
    - Annual bleed rate (ABR): Physician-report, based on the 12 months prior to study capture.
    - Target joints: Joints in which three or more spontaneous bleeds had occurred within a consecutive 6-month period prior to study capture.
    - Problem joints: Joints exhibiting symptoms of HA-related damage: chronic synovitis; arthropathy; restricted range of motion; recurrent bleeding.
    - Hospital admissions: For joint procedures and/or bleeding events in the 12 months prior to study capture.


- HRQoL was captured in a subset of patients via the EQ-5D-5L. Respondents select from five levels of impairment across five dimensions of health (mobility, self-care, usual activities, pain/discomfort, anxiety/depression)4.

- EQ-5D-5L responses were converted to a single 0–1 index score using the UK-specific EuroQoL value set, representing “perfect health”.8

- Condition severity was assessed as follows:

  - ABR: Physician-report of the annual bleed rate (ABR; median: 2.7; range: 0.00–9.00).

  - Severity: Defined a priori as mild (36%), moderate (10%) and severe (8%) (Table 1).

- Outcomes were assessed in total and stratified by severity subgroups (mild [36%] – severe [8%]) (Table 1).

- Similarly, the proportion of patients in full-time employment decreased with increasing condition severity (mild [36%] – severe [8%]) (Table 2).

- Joint procedure related admissions were reported on demand or vice-versa.

- Stable in normative therapy (36%) – severe (8%)

- In this analysis, increased condition severity was associated with adverse impacts on physical functioning and health-related quality of life (HRQoL). Further, no patients were recorded with HIV or HCV coinfection.

- In this analysis, increased condition severity was associated with adverse impacts on physical functioning and health-related quality of life (HRQoL). Further, no patients were recorded with HIV or HCV coinfection.

- We also need further research to understand more fully the impact of different therapeutic regimens on HRQoL and other clinical outcomes such as EQ-5D.

- There is certainly much more work to do to continue evaluating how innovations in haemophilia therapeutics are actually improving the everyday lives of PWH in the UK.

- The results indicate continued barriers across the spectrum of condition severity in haemophilia A. Further quality of life and patient-reported data will help to frame the benefits and residual need associated with newer therapies for haemophilia A, made available subsequent to this analysis.

Table 1. Cohort demographics and characteristics by HA severity

<table>
<thead>
<tr>
<th>Severity subgroup</th>
<th>Mild (n = 11)</th>
<th>Moderate (n = 22)</th>
<th>Severe (n = 36)</th>
<th>Total (n = 69)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (mean ± SD)</td>
<td>43.8 ± 16.3</td>
<td>29.3 ± 10.4</td>
<td>27.8 ± 8.4</td>
<td>30.9 ± 13.3</td>
</tr>
<tr>
<td>BMI score (mean ± SD)</td>
<td>24.3 ± 3.4</td>
<td>23.9 ± 5.4</td>
<td>24.5 ± 4.4</td>
<td>24.3 ± 4.6</td>
</tr>
<tr>
<td>Employment status (% of patients)</td>
<td>6 (55%)</td>
<td>11 (50%)</td>
<td>14 (39%)</td>
<td>31 (45%)</td>
</tr>
<tr>
<td>EQ-5D-5L index score</td>
<td>0.87 ± 0.41</td>
<td>3.00 ± 1.54</td>
<td>4.35 ± 1.17</td>
<td>3.38 ± 1.93</td>
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Table 2. Clinical and patient-centric outcomes by HA severity

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Fig 1. ABR by HA severity

Fig 2. Target joints by HA severity

Fig 3. Problem joints by HA severity

Fig 4. Hospital admissions by HA severity

Highlights: the patient community perspective

The UK Haemophilia Society (WMS)

As a 30-year-old patient with severe haemophilia A, I have experienced the ups and downs of the chronic illness. However, as this analysis highlights advances in treatment are not necessarily associated with improvements in the everyday lives of people with haemophilia (PWH).

One particularly worrying example from this research is the lack of evidence for the optimal employment status for people with moderate and severe haemophilia which stood at 35% and 2%, respectively. The significance of a patient concerning employment figures may lie in the accurately described joint pain. If we, as a society, want to become bleed free in the future, we should be aspiring to decrease bleed free but not be satisfied with the modest improvement in EQ-5D-1 index that is bleed-free in this analysis.

The research demonstrates the necessity for patient groups, such as the UK Haemophilia Society, to continue working collaboratively with medical professionals, to justify use of new therapies, and to ensure that any future research should be acknowledged as a potential limitation particularly regarding quality-of-life outcomes such as EQ-5D.

Conclusions

- In this analysis, increased condition severity was associated with greater reporting of haemophilia-related complications. This was observed despite the data containing a relatively equal number of patients.

- A notable level of impairment was reported in the subgroup of patients with moderate haemophilia A.

- The results indicate continued barriers across the spectrum of condition severity in haemophilia A. Further quality of life and patient-reported data will help to frame the benefits and residual need associated with newer therapies for haemophilia A, made available subsequent to this analysis.

References


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