Sex-related Utilization Differences in the 12-months After a Diagnosis of Facioscapulohumeral Muscular Dystrophy (FSHD)

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Objective
- To identify differences between male (M-) and female (F-) patients with FSHD and their matched controls (MCs)

Background
- FSHD is a rare, variable progressive, genetic skeletal muscle disease. Muscle weakness usually presents in the face and upper extremities, eventually extending to the trunk and lower body.
- FSHD is one of the most common forms of muscular dystrophy affecting approximately 16,000–38,000 people in the US.
- FSHD is caused by the aberrant expression of the DUX4 transcription factor in skeletal muscle.
- Patients experience significant physical limitations, pain, fatigue, and an overall negative impact on wellbeing.
- Sex-specific data on patients with FSHD are limited.
- Currently there are no approved disease-modifying therapies for FSHD, and medical treatment is focused on symptom management.

Design/Methods
- We used PharMetrics de-identified US claims (Jan 2015—Mar 2021) to retrospectively evaluate care for FSHD and MC cohorts (Figure 1).
  - The FSHD cohort is defined as having ≥2 FSHD claims ≥30 days apart. FSHD claims were identified by International Classification of Disease Tenth Revision (ICD-10) code G71.02.
  - The FSHD ICD-10 code was implemented in 2018. The pre-2018 period was used to exclude MCs with claims for muscular dystrophy (ICD-10-CM G71.xx), muscular wasting (ICD-10-CM M62.8x), or other muscle disorders (ICD-10-CM M63.4xx).

Results
- We identified 280 individuals with FSHD (male=155, female=125) and 1400 MCs (male=774, female=626), with no significant baseline characteristics differences between male and female cohorts (FSHD and MCs) (Table 1).
- Male patients with FSHD had a higher utilization of prescription products classified by the Anatomical Therapeutic Chemical (ATC). The ATC3 classification data were presented in this poster as based on chemical substance.
- Services represent the charges from each payer.
- Data reported are per-member-per-year for cost and number of services.
- All reported findings are statistically significant (p<0.001) unless noted.
- P values for prevalence and utilization comparisons are based on chi-square tests the percent of the cohort.
- P values for cost and number of services are based on f-tests.

Comorbidities
- There were more comorbid condition specific categories in males than in females (25 vs 17) where prevalence was greater in FSHD vs MCs (Figure 2).
- Comorbidities were classified by the Agency for Healthcare Research and Quality (AHRQ) specific categories.
- Diagnosis of Facioscapulohumeral Muscular Dystrophy (FSHD)

Conclusions
- Compared to their respective MCs, male and female patients with FSHD experienced higher utilization of medical services and prevalence of various comorbidities. In particular, male patients with FSHD had a higher prevalence of osteoporosis than the MCs.
- This study suggests variability in the management of FSHD between male and female patients.
- There are currently no approved disease-modifying therapies for FSHD. Avivity Biosciences is developing AOC 1020, a first-in-class antibody oligonucleotide conjugate targeting DUX4, the underlying cause of FSHD.
- The safety and tolerability of AOC 1020 is currently being evaluated in the Phase 1/2 FORITUDE3 trial (NCT05747984; 2022-502963-33-00).

References

Abbreviations
AHRQ, Agency for Healthcare Research and Quality; AOC, antibody oligonucleotide conjugate; ATC, Anatomical Therapeutic Chemical; CCI, Charlson Comorbidity Index; F-FSHD, female patients with FSHD; facioscapulohumeral muscular dystrophy; M-FSHD, male patients with FSHD; MC, matched control; ICD-10, International Classification of Disease Tenth Revision; SD, standard deviation.

Service Utilization: Procedures
- M-FSHD had 28 procedure categories with greater utilization than MCs out of 158 procedures evaluated (Figure 3).
- F-FSHD had 23 procedure categories with greater utilization than MCs out of 158 procedures evaluated.

Figure 3: Select Procedures with Significant Utilization Differences between Cohorts

Figure 4: ATC3 Drugs with Significant Utilization Differences between Cohorts

Healthcare Costs
- Compared with MCs, M-FSHD had $8,704 greater healthcare costs, and used 45 more services. Similarly, F-FSHD had $10,807 greater healthcare costs and used 53 more services (Figure 5).

Figure 5: All Medical and Drug Healthcare Costs and Service Utilization

Cost (SD)$12,000$6,000$0$16,000$20,000$24,000
Number of Services
A. Males with FSHD (% FSHD vs % MCs)
B. Females with FSHD (% FSHD vs % MCs)

Cost (SD)$83.39$51.81$38.40$25.30$22.40$17.80$17.40
Number of Services
A. Males with FSHD (% FSHD vs % MCs)
B. Females with FSHD (% FSHD vs % MCs)

Cost (SD)$14,586$17,916$12,263$10,000$8,000$6,000$4,000
Number of Services
A. Males with FSHD (% FSHD vs % MCs)
B. Females with FSHD (% FSHD vs % MCs)

$12,000$6,000$0$16,000$20,000$24,000
Number of Services
A. Males with FSHD (% FSHD vs % MCs)
B. Females with FSHD (% FSHD vs % MCs)

Figure 5: All Medical and Drug Healthcare Costs and Service Utilization

Conclusions (continued)