INTRODUCTION

• Despite its substantial economic and quality of life burden, chronic migraine (CM) remains under-diagnosed and under-treated1-5.

• Though screening is a common strategy for improving diagnosis, there are no validated screening tools for individuals with CM.

OBJECTIVE

• The objective of this project was to develop a reliable and valid tool (the Identify Chronic Migraine [ID-CM] screening tool) to screen for CM among individuals with severe headaches.

METHODS

• The item pool for the candidate screening tool was derived from review of existing instruments and expert input.

• A draft questionnaire was selected from the initial item bank based on face validity and clinical judgment from a Delphi panel (qualitatively).

• Cognitive debriefing interviews were then conducted among ten CM patients who were not only enrolled if they clearly defined inclusion and exclusion criteria.

• The draft screening tool was administered to an online research panel (Research Now) to determine psychometric properties and final screening composition.

• Participants were sampled from four sources, three of which were from clinical sources.

• Stage 2: Migraine cases were screened for CM using Stage 1 item pool.

• Item characteristic curves (ICCs) were used to facilitate item elimination and classification.

RESULTS

• The preliminary item pool consisted of 19 items.

• A draft questionnaire of 18 items was selected based on face validity and clinical judgment from the Delphi panel (qualitatively).

• Cognitive debriefing interviews with CM patients confirmed that the 18 items were well-understood and judged to be relevant in terms of how CM case definitions interpreted the questions and response choices, whether wording was appropriate, and whether instructions and formats were understood.

• The draft screening tool was administered to 1562 persons having CM (n=363), EM (n=416), and other severe headaches (n=783) out of the 28,677 participants recruited for study, corresponding to a 5.5% response rate.

• Stage 1 item pool was reduced based on the initial IRT modeling.

• Stage 2: Silberstein-Lipton criteria CM classification predicted in severe headache sample.

• Stage 2: Silberstein-Lipton criteria CM classification predicted in migraine sample.

• Analyses were conducted using Mplus version 7.1 (Los Angeles, CA, USA).

METHODS continued

• After the screening item pool was reduced, IRT models were used to check the screening tool accuracy (the extent to which a screening tool is able to accurately classify respondents into two patient categories).

• Stage 1: Modified ICHD-3 beta migraine classification predicted in severe headache sample.

• Stage 2: Silberstein-Lipton criteria CM classification predicted in migraine sample.

• R² values for each model correspond to classification accuracy between screening tool and ICHD-3/Silberstein-Lipton criteria.

• Analyses were conducted using Mplus version 7.1 (Los Angeles, CA, USA).

• Classification accuracy (Table 1).

• Stage 1 migraine screening symptoms factor had 98% classification accuracy when compared to modified ICHD-3 migraine classifications.

• Stage 2 CM screening disability and planning disruption factors as well as headache frequency factor had 96% classification accuracy when compared to Silberstein-Lipton CM classifications.

RESULTS continued

Figure 2: Representative IRT Models Supporting Item Elimination: Migraine Screener Unilateral Pain (top) and Pulsatile Pain (bottom) Item Characteristic Curve

CONCLUSIONS

• A preliminary two-stage screening tool has been developed through existing instrument review, expert panel consensus, and psychometric work to screen for migraine among individuals with severe headache and CM among individuals with migraines.

• The screening tool has high classification accuracy, i.e., high capability to accurately classify respondents into migraine and severe headache patient categories as well as migraine and CM patient categories.

• Ongoing work:

• Screening scoring algorithm development.

• Comparisons of screening diagnoses with “gold-standard” clinical diagnoses using structured interviews conducted by headache expert physicians.

REFERENCES

• American Academy of Neurology.

DISCLOSURES

The authors declare no conflicts of interest.