Future Hospital Journal 2015 Vol 2, No 2: s16

The TOS 2 study: an international multi-centre study assessing the quality of neurological examination

Authors: Jason Appleton and David Nicholl

Aims

Using a method of assessing the quality of neurological examination – the TOS score – we have previously demonstrated that inpatients referred to neurology at two acute NHS trusts were not appropriately examined prior to referral. 67% of 93 patients recollected being examined with a tendon hammer (T) and 52% recalled examination with an ophthalmoscope (O). In contrast, the majority (95.7%) remembered the use of a stethoscope (S) in their examination. We sought to establish how widespread this problem is globally by performing a multi-centre international study.

Methods

We collaborated with colleagues in several hospitals in the West Midlands, Milton Keynes, London, Romford, Salford, Jordan, Sweden and the United Arab Emirates. Inpatients referred to neurology over a 4-month period were asked whether they recalled being examined with a tendon hammer (T), ophthalmoscope (O) and stethoscope (S) since admission. Following this period, the results were disseminated to the local medical team via grand round presentations, trust email and posters. There was then a further 4-month period of data collection post-intervention.

Results

Pre-intervention data included 400 patients across all sites. Post-intervention data from all sites are awaited and were not available prior to the abstract submission deadline. For the West Midlands, 120 patients were included in the pre-intervention period. Of these, 67.5% recalled being examined with a tendon hammer, 45% recalled examination with an ophthalmoscope and 89.2% remembered the use of a stethoscope. 125 patients were included in the post-intervention phase, with 83.2% recalling examination with a tendon hammer, 54.4% recalling examination with an ophthalmoscope and 86.4% remembering the use of a stethoscope. Comparing pre- and post-intervention in the West Midlands, tendon hammer usage significantly improved (p=0.005), whilst the improvement in ophthalmoscope recollection was not significant (p=0.160).

As expected, there was no significant difference between stethoscope recollection pre- and post-intervention (p=0.562). Although the improvement in ophthalmoscopy recall was not significant, the significant improvement in tendon hammer recall highlights that the use of a patient assessment score can lead to improvements in the thoroughness of neurological examination.

Conclusions

Our provisional results are promising, indicating that a patient assessment score can potentially improve the quality of neurological examination. We look forward to sharing our complete data from all sites, which should total over 700 patients: the largest and (to our knowledge) only study to assess the quality of neurological examination worldwide.

Conflict of interest statement

None declared. ■

Authors: Sandwell and West Birmingham Hospitals NHS Trust, West Midlands, UK, and University Hospitals Birmingham NHS Foundation Trust, West Midlands, UK