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Adult Dysphagia Assessment in the UK and Ireland: Are SLTs Assessing the Same Factors?

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Abstract. This is the first study to examine dysphagia assessment practices of UK/Ireland speech and language therapists. The aims were to (1) examine practice patterns across clinicians, (2) determine levels of consistency in practice, and (3) compare practices of clinicians in the UK/Ireland with those previously reported of clinicians in the United States. A questionnaire, developed for earlier U.S. research, was adapted following a pilot study. The resulting email survey was completed by 296 speech and language therapists working with dysphagic adults. Respondents were asked to rate how frequently they use 31 components of a clinical dysphagia examination. Consistency was determined by calculating the percentage of respondents who agreed on frequency of use. Low frequency of use was reported for four components: trials with compensatory techniques, obtain patient's drug history, assessment of speech articulation/intelligibility, and screening/assessment of mental abilities. Variability among clinicians was high, with inconsistency observed for 6/31 components (19%) and high consistency for only 10/31 (32%). Results were compared with data from the earlier U.S. study. Notable differences in practice were observed for five components: *cervical auscultation*, *trials with compensatory techniques*, *gag reflex*, *assessment of sensory function*, and *screening/assessment of mental abilities*. Inconsistency among UK/Ireland clinicians was higher than in the comparator U.S. study. The clinical implications of these findings are discussed.

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Dysphagia management falls clearly within the realm of the speech and language therapist (SLT) [1, 2]. Assessment and treatment of swallowing is an essential aspect of patient care for many adult populations [3–7]. Despite this, specific guidelines for clinical dysphagia assessment have never been published.

Several authors have examined specific dysphagia assessment tools [8–11]. However, these articles all consider screening tools for dysphagia rather than full clinical assessments, which examine the nature of the dysphagia. Authors who have reviewed the literature have been unable to recommend guidelines for dysphagia screening, reporting that the methodology of most studies was weak [12–14]. Researchers tended to use a narrow definition of dysphagia—evidence of aspiration on videofluoroscopy—rather than a wider definition of any abnormality in swallowing [15]. Sample sizes are often small and power calculations rarely performed [12–14]. With this inability to produce guidelines for dysphagia screening, it seems even less likely that detailed evidence-based guidelines for full clinical dysphagia assessment are possible.

There have been a small number of studies that have looked at how we use a range of clinical indicators and measures to assess dysphagia. One used a tool that involved examining the patient across 28 clinical variables [16]. The results for 200 patients were assessed against their results on videofluoroscopy. Even the best performing of the variables had

limitations—cough on swallowing detected only 69% of those aspirating on videofluoroscopy, dysarthria detected 69% of those seen to have oral stage difficulties and 68% of those with pharyngeal delay, and reduced laryngeal elevation detected just 70% of those found to have pharyngeal stage difficulty. Even using combinations of variables, the authors were able to claim that only 71% of patients were correctly classified using this tool.

In a similar study that compared 25 clinical variables with evidence of aspiration on videofluoroscopy, the authors found that only a history of cough on swallowing was really able to predict aspiration, and even this correctly predicted it in only 71% of the cases [9]. Both these studies are limited because no part of the screening test was carried out simultaneously with the videofluoroscopy. However, the results suggest that many of the factors we include in our dysphagia examinations do not correlate with aspiration or evidence of dysphagia on videofluoroscopy.

Pulse oximetry and cervical auscultation have received attention in the literature in recent years. Many of the studies supporting the use of pulse oximetry to detect aspiration suffered from design flaws, including inadequate inclusion and exclusion criteria [17], comparison with another instrumental procedure that was not performed simultaneously [18], or small sample size [19]. Better-designed studies have not supported the claims made about pulse oximetry, finding either high numbers of false positives or no link between oxygen saturation and aspiration [20, 21]. There is even less evidence for cervical auscultation, and studies have shown poor reliability among raters, even for those with high levels of experience with the procedure [22, 23].

Investigations into the reliability of measuring or observing factors in dysphagia assessments demonstrated good agreement on overall judgments of whether a patient was dysphagic [24]. However, reliability for many individual aspects of the assessment was poor, with clinicians showing low agreement levels on measures of soft palate movement, apraxia, some voice quality measures, delayed swallow, degree of laryngeal elevation, and judgements of laryngeal penetration and aspiration. Clinicians reliably judged less than 50% of the measures they were using in their dysphagia examinations [24].

Many of the clinical indicators we consider when assessing dysphagia may not be linked to dysphagia or aspiration at all [9, 16]. We can reliably determine whether a patient is dysphagic, but it is unclear how we reach this conclusion [24].

There is currently insufficient evidence in the literature to support the production of guidelines for dysphagia screening, let alone full clinical assessment. Despite this, it is important that SLTs' clinical dysphagia assessments are as consistent as possible to ensure that dysphagic patients receive equal care. At present, we cannot assume that a clinical assessment of swallowing by one SLT is comparable to that by another [25].

A small number of studies have examined consistency of dysphagia assessment in the U.S. and Canada by surveying speech-language pathologists (SLPs) about their use of various components of the clinical swallow examination [25–27]. SLPs in North America are comparable to SLTs in the UK/Ireland [28]. These studies had small sample sizes, between 34 and 64 participants, but all found poor consistency. There are no data on the current dysphagia assessment practices of SLTs in the UK and Ireland, and the North American studies support replication in other geographical areas [26, 27]. The introduction of the Mutual Recognition of Credentials agreement in January 2005 has made movement of SLTs/SLPs between the UK, U.S., and Canada much easier but falls short of agreeing that the training and practices of professionals across these countries are fully equivalent [28]. This study allows the timely opportunity to compare clinical dysphagia practice patterns across professionals in the UK/Ireland and the U.S.

The aims of this study were (1) to determine what SLTs in the UK/Ireland do in their clinical assessments of adults with dysphagia, (2) to assess consistency between SLTs in the UK and Ireland regarding what they report to include in their clinical dysphagia examinations, and (3) to compare the clinical dysphagia assessment practices of UK/Ireland SLTs with those of SLPs in the U.S.

Methods

Questionnaire Design

The questionnaire was based on the Mathers-Schmidt and Kurlinski paper, developed in the U.S. from published protocols, research, and local dysphagia policies [26] and adapted for the UK and Ireland following a pilot study. Eleven UK SLTs, with between 5 and 20 years of experience working with dysphagia, participated in the pilot study by completing a copy of the proposed study questionnaire and a second questionnaire asking for comments on the first.

The changes to the original questionnaire and rationale for these changes are summarized in Table 1. The resulting questionnaire comprised 14 questions collecting demographic information. The final question asked respondents to rate how frequently they

Table 1. Description and rationale for adaptations to the original questionnaire [26]

Adaptation to questionnaire	Rationale
Changed from paper to Microsoft Excel format to be sent as email attachment	Well received in pilot study Reduces printing and postage costs Allows automatic data transfer for analysis Uses prompts to limit mistakes/omissions
Additional questions on training and experience added	Recommended by U.S. authors
Pulse oximetry added to final question	Area of interest in literature [e.g., 18, 21]
Management of secretions added to final question	Recommended by pilot group
Question on training in different stages of swallow removed	Pilot group was confused by this question
U.S. English changed to UK English	To suit UK/Ireland participant group
Scenarios on decision-making for instrumental examination removed	This study is looking at clinical not instrumental examination
Question about cost limitations removed	Pilot group reported not having access to this information
Components of *obtain medical history* and *assessment of speech function* in the final question separated into their individual subsidiary components	To allow collection of more detailed information in these areas

use various components in their clinical dysphagia examinations, using a five-point ordinal scale: *never*, *seldom*, *half the time*, *usually*, and *always*.

Participants

Potential participants were identified by the information officer at the Royal College of Speech and Language Therapists, the professional body for UK/Ireland SLTs. A search of the full-member directory created a database of SLTs working with dysphagia who had a listed email address. SLTs from the pilot study were excluded and some additional participants were identified by their colleagues.

Participation in the study was encouraged by the use of an accompanying email, which clearly described the aims of the study and benefits of participating, a reminder email after two to three weeks, ''thank you'' emails in reply to all responses received, anonymous data analysis, and an offer of a summary of the main research findings before publication [29].

Ethical Approval and Consent

Return of a completed questionnaire was taken as consent to participate in the study. The South West Surrey Local Research Ethics Committee granted favorable ethical opinion for the study.

First Administration of Questionnaire

The study questionnaire was sent to all potential participants identified as described earlier.

Repeat Administration of Questionnaire

To assess response reliability, participants were asked at the first administration to indicate in their reply if they would prefer not to be contacted again. All other respondents were sent a second copy of the questionnaire between two and eight weeks after receipt of their initial response. This allowed sufficient time for respondents to forget their original replies while remaining unlikely that their practice would have changed significantly [27]. When repeating the questionnaire, participants were asked not to refer to previous answers.

All responses were made anonymous before automatic transfer to an Excel 2000 spreadsheet (Microsoft Corp., Redmond, WA) and subsequently analyzed with SPSS for Windows (Release 11.0, SPSS Inc., Chicago, IL).

Respondent Demographics

Descriptive statistics including (as appropriate) medians, frequencies, and percentages were calculated for respondents' demographic data.

Assessment of Response Reliability

Intrarespondent reliability of responses was determined for each respondent who completed a second copy of the questionnaire. Multiple-choice questions were compared across the two completed questionnaires, a total of 54 pairs of questions per respondent, using the AC1 Statistic [30]. AC1 can be interpreted as for kappa (i.e., a score of one represents complete agreement, whereas zero means chance agreement only), but AC1 makes a more appropriate correction for chance agreement in heavily biased responses.

Frequency of Component Use and Consistency of Reported Practice

Where participants were asked to rate their frequency of use of various dysphagia examination components, descriptive statistics were used to analyze responses exactly as was done in the previous U.S. study [26]. For some data analysis, the *usually* option was combined with *always* and the *seldom* option with *never* to allow for direct comparison with the U.S. study [26]. In these cases, the responses are referred to as *usually*/*always* or *seldom*/*never*, respectively. Frequency of component use was determined by calculating the percentage of respondents reporting *usually*/*always* using each component.

Consistency of reported practice was determined for each component of the dysphagia examination by calculating the percentage of respondents who were in agreement about how frequently they use that component. Responses were considered ''highly consistent'' if more than 75% of respondents indicated the same frequency of use, ''moderately consistent'' if 50%–75% indicated the same frequency of use, and ''inconsistent'' if less than 50% of respondents indicated the same frequency of use for the component.

Comparison with U.S. Data

Frequency-of-use and consistency-of-use data of individual components were assessed for qualitative similarities with the matching data from the earlier U.S. study [26].

Results

Survey Response Rate

Initial potential participants identified from SLT database (1331) plus those subsequently referred by colleagues (64) yielded 1395 participants. Of these, 346 (25%) were excluded: because email was undelivered (275), there were technical problems with the questionnaire (25), they reported little or no dysphagia work (22), were not practicing or were retired (10), they had a career break (9), or were working outside the UK/Ireland (5). This left 1049 final potential participants of whom 296 (28%) responded.

Respondent Demographics

Background demographic information regarding the respondents is provided in Figure 1. Postlicensing basic dysphagia training had been completed by 255 (86%) respondents and 141 (48%) had advanced level dysphagia training.

Videofluoroscopy was reported to be available within the work facilities of 217 (73%) respondents and 288 (97%) reported that it was available within 30 miles. Fibreoptic endoscopic evaluation of swallowing (FEES) was available within the facilities of 114 (39%) respondents and 171 (59%) reported that it was available within 30 miles.

Participants were asked to indicate their main client group and complete the final component assessment with reference to this client group only. The majority of respondents indicated that their main client group was adult neurology (77%), with other client groups comprising adults with learning disabilities (15%), head and neck cancers (6%), and others (2%).

Assessment of Response Reliability

A repeat questionnaire was completed by 136 (46%) participants. Across all questions the median agreement as measured by the AC1 statistic was 0.78 (IQR 0.68–0.87). While applying adjectives to these values should be seen as a broad guide only, this would normally be considered a ''good'' agreement.

Frequency of Component Use

The percentage of respondents reporting *usually/always* using each of the components is shown in Figure 2. Of the 31 components surveyed, 11 were reported as *usually/always* used by greater than 95% of respondents. These were *obtain patient's medical history* (99%); *judgment of efficiency of oral movements* (99%); *obtain information about nutritional status* (99%); *assessment of ability to manage secretions* (98%); *adequacy of lip seal* (98%); *assessment of vocal quality pre/post swallow* (98%); *judgment of pharyngeal delay* (98%); *adequacy of dentition for chewing* (96%); *obtain patient's social history* (96%); *obtain information about respiratory status* (96%); *adequacy/strength of laryngeal excursion* (96%).

Only two components were reported as *usually/always* used by less than 10% of respondents, *indirect laryngoscopy* (1%) and *pulse oximetry* (9%). In fact, 96% of respondents reported that they *never* (76%) or *seldom* (20%) use *indirect laryngoscopy*, and 71% reported that they *never* (35%) or *seldom* (36%) use *pulse oximetry*.

Consistency of Reported Practice

Figure 3 indicates whether components of the clinical dysphagia examination were rated ''highly consistently,'' ''moderately consistently,'' or ''inconsistently'' across respondents. Nine of the ten items that achieved a ''highly consistent'' rating were ''highly consistently'' *always* used. The exception to this was indirect laryngoscopy, which was ''highly consistently'' *never* used.

Items with the highest consistency ratings were *obtain patient's medical history* (96% rated as always used), *judgment of efficiency of oral movements* (86% rated as always used), *obtain information about nutritional status* (86% rated as always used), and *adequacy of lip seal* (84% rated as always used).

Items with lowest consistency ratings were *cervical auscultation* (26% rated as never used), *assessment of resonance* (30% rated as seldom used), *assessment of respiratory support for speech* (31% rated as usually used), and *assessment of speech rate* (31% rated as seldom used).

Comparison with U.S. Data

Demographic data for respondents were qualitatively similar across the two studies except for the areas of hours of classroom training, supervised work, and availability of videofluoroscopy (Table 2).

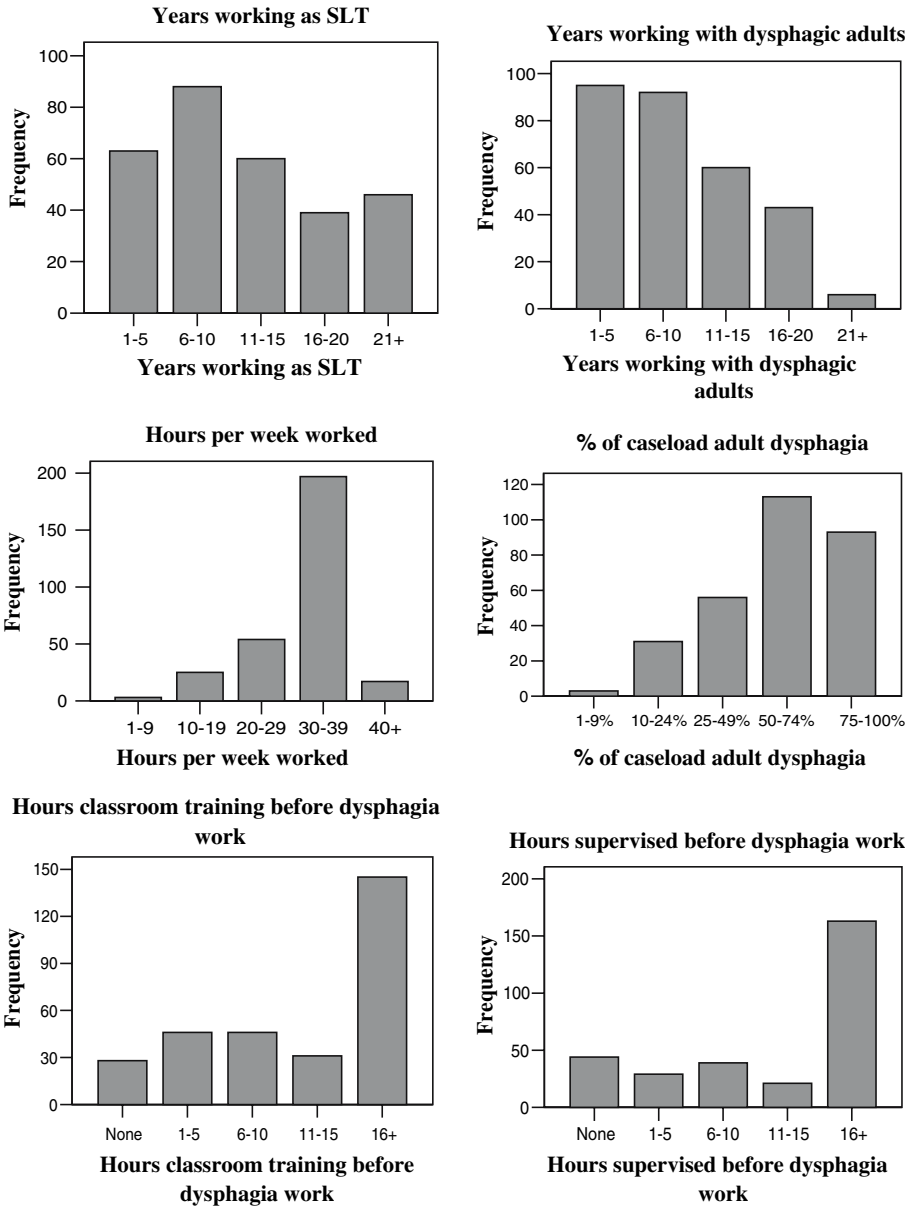

Fig. 1. Basic demographic information about respondents.

U.S. data were available for only 17/31 components of the clinical dysphagia examination because of the adaptations to the study questionnaire (Table 1), in particular, the separation of grouped components into individual components for this study. A comparison of the numbers of UK/Ireland versus U.S. respondents reporting *usually/always* using each component is given in Figure 4. Notably greater numbers of U.S. respondents reported *usually/always* using *trials with compensatory techniques, gag reflex, assessment of sensory function*, and *screening/assessment of mental abilities*. Notably greater numbers of UK/Ireland respondents reported *usually/always* using *cervical auscultation*.

A comparison between the consistency of responses across UK/Ireland versus U.S. respondents is given in Figure 5. U.S. respondents demonstrated an equal or greater degree of consistency in their responses than UK/Ireland respondents for all components except *gag reflex*. For this component the consistency among UK/Ireland respondents was higher, although only moderate consistency was observed for both groups.

Four of the 17 items were rated with high levels of consistency in the U.S. study but with

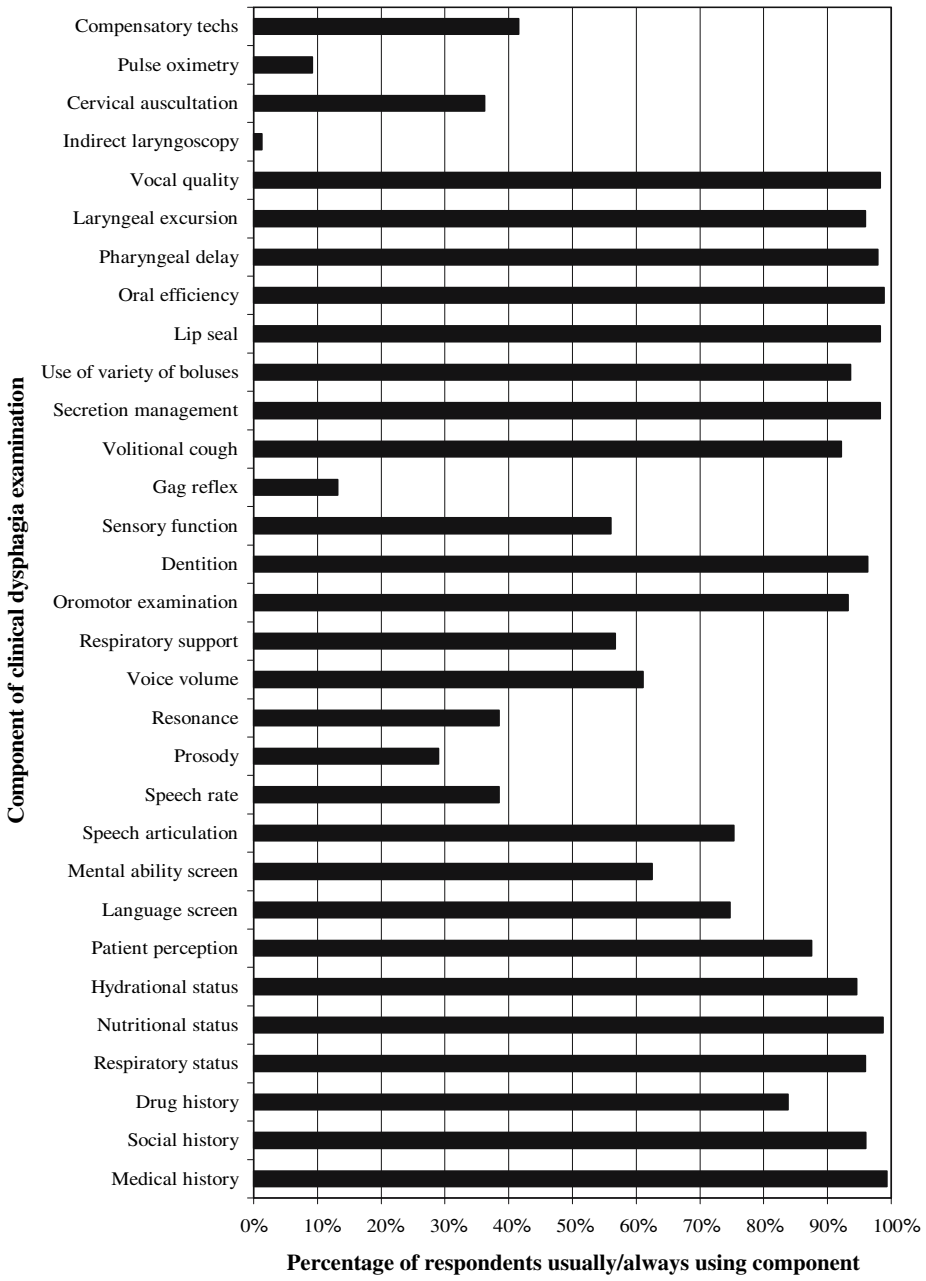

Fig. 2. Percentage of respondents reporting usually/always using each component of the clinical dysphagia examination.

only moderate levels in this study, i.e., *volitional cough, adequacy of dentition for chewing, oromotor examination*, and *patient perception of problem*. An additional two items were rated with moderate levels of consistency in the U.S. study and with inconsistency in this study, i.e., *screening/assessment of mental abilities* and *screening/assessment of language*. Notable differences in consistency can be observed for a number of other components, i.e., *cervical auscultation, use of variety of bolus types*, and *assessment of sensory function*. For these components, the U.S. respondents demonstrated higher levels of consistency, although this did not lead to a difference in consistency grouping from the UK/Ireland data.

Discussion

This is the first study of consistency of dysphagia assessment among UK/Ireland SLTs and has allowed comparison with data previously collected in the U.S. [26]. It is the largest study of its kind to be conducted to date, with participation from 296 SLTs who work with adult dysphagia.

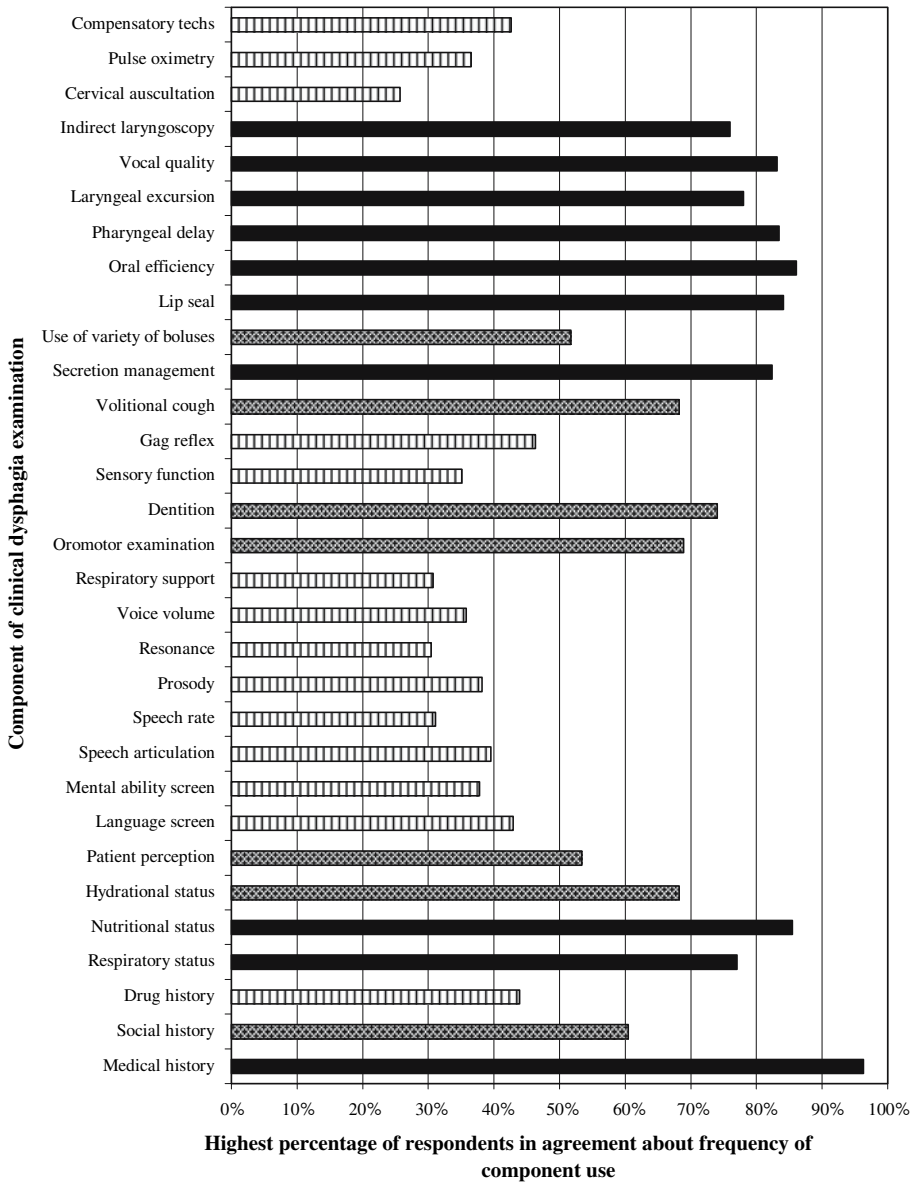

Fig. 3. Agreement on the use of components. As for the U.S. study, responses were categorized as "always", "usually", "sometimes". "seldom", or "never", and the number of respondents in each category was measured. The bar reflects the category with the most respondents. It can range from 20% (where responses are equally split between the five categories) to 100% (complete agreement on one category).

Table 2. Comparison of demographic data for respondents in U.S. study [26] and this study

	Data for U.S. study	Data for UK/Ireland study
Percentage of respondents working as SLT or SLP for 6 or more years	73%	79%
Median range-category (number of years) working as an SLT or SLP	6–10 years	6–10 years
Percentage of respondents working 20 or more hours per week	91%	91%
Percentage of respondents reporting 50% or more of caseload comprised dysphagia	68%	70%
Median range-category (hours) classroom training before working with dysphagia	1–5 hours	11–15 hours
Median range-category (hours) supervised work before working with dysphagia	6–10 hours	16+ hours
Percentage of respondents reporting videofluoroscopy available in their facility	58%	73%

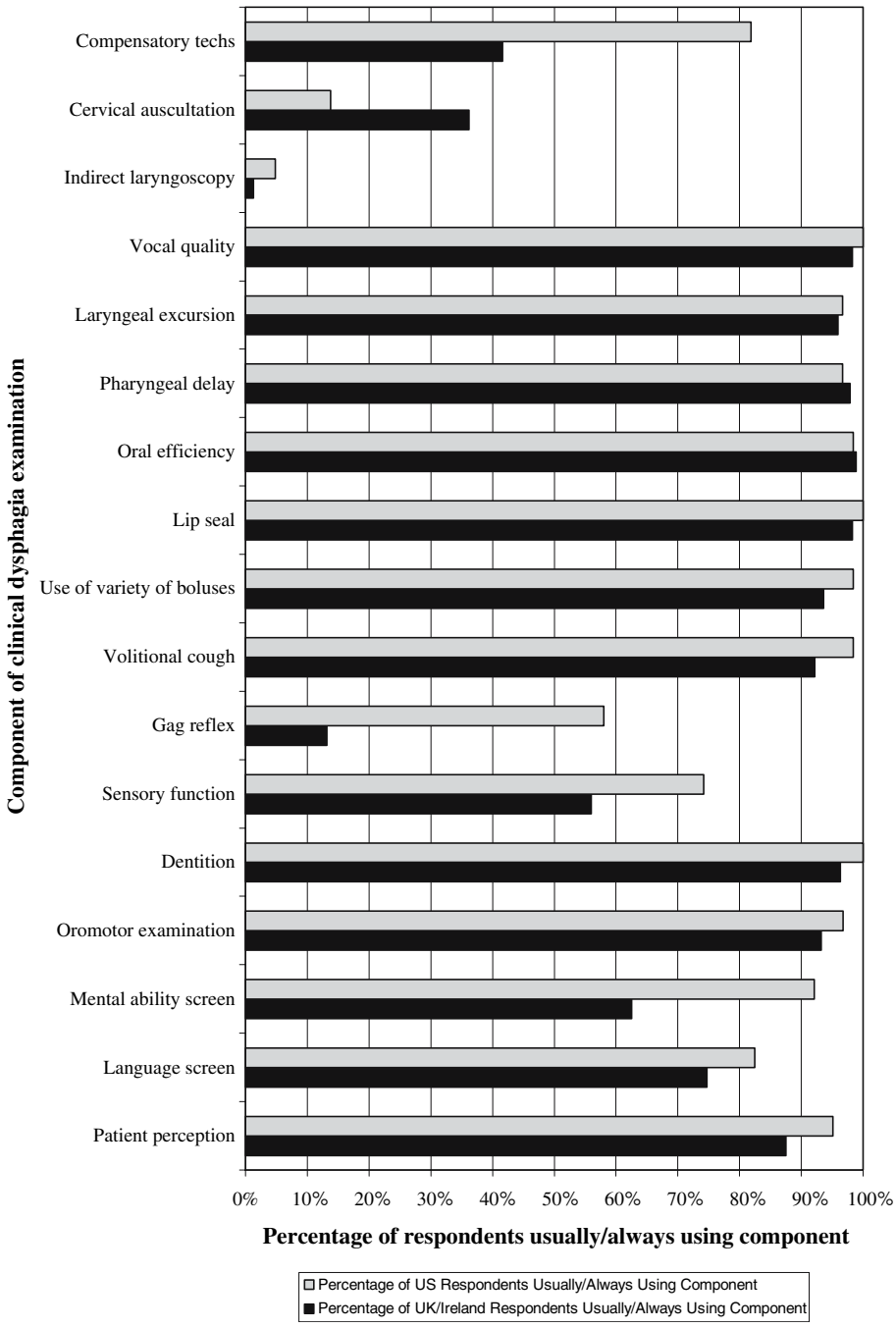

Fig. 4. Comparison between UK/Ireland and U.S. data for percentage of respondents reporting usually or always using each component of the clinical dysphagia examination.

Reported Frequency of Component Use

Of the components reported as *usually*/*always* used, 48% were used by more than 90% of the respondents. It is reassuring that these are all components taught within accredited basic-level dysphagia courses. However, *assessment of sensory function*, which is also taught, was *usually*/*always* used by only 56% of respondents, with 27% reporting *seldom*/*never* using it. Other authors have discussed the importance of sensation in triggering chewing, salivary flow, and the swallow reflex itself and it is worrisome that this component is often excluded [26].

UK/Ireland SLTs are also taught to use *trials with compensatory techniques*, which just 42% of respondents reported *usually*/*always* using. Emailed comments suggest this may reflect difficulties using these techniques, e.g., with adults with learning disabilities or communication impairments. There may also be some reluctance to use these techniques

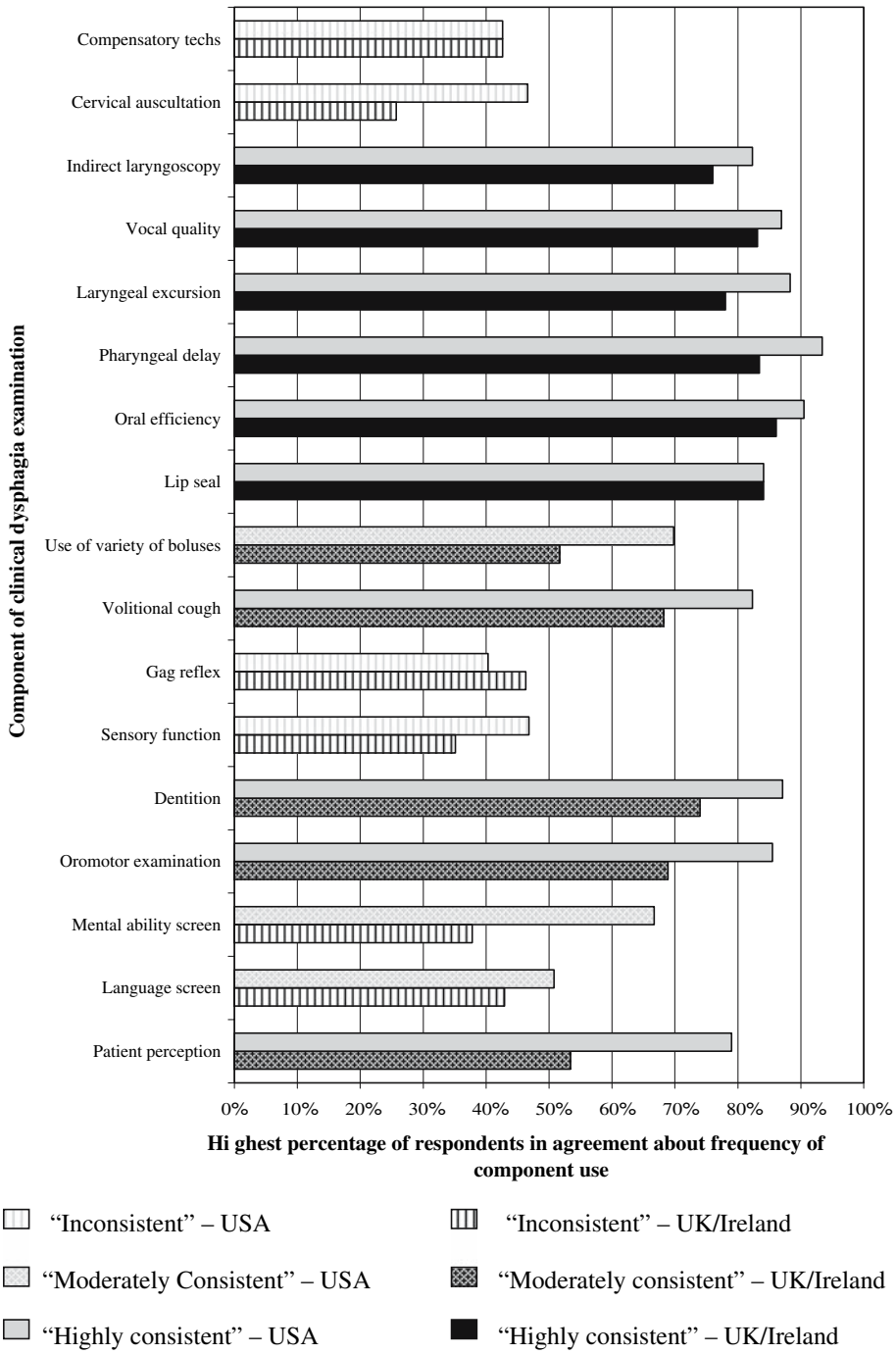

Fig. 5. Comparison between UK/Ireland and U.S. data for highest percentage of respondents who were in agreement about how frequently they use each component of the clinical dysphagia examination.

without the backup of instrumental examination to confirm the effect that they are having [31].

Eighty-four percent of respondents reported *usually/always* incorporating *obtain patient's drug history*, and although this is high, it is of concern that 8% reported *seldom/never* doing this. It is well established that medications may cause or exacerbate dysphagia, including antipsychotics, antibiotics, opiates, and diuretics [32–34]. Our dysphagia advice may also have implications for drug administration [35]. It may be that failure to include this component is the result of difficulty in accessing the information in certain circumstances, e.g., within the community setting. As part of a multidisciplinary team, we must ensure that this information is made available before accepting a referral.

Assessment of speech articulation/intelligibility was *usually/always* completed by 75% of respondents, with 17% reporting *seldom/never* completing it. Dysarthria is one of the few clinical indicators that

has been linked with both oral and pharyngeal stage dysphagia [16]. Although many dysarthric patients will be identified during oromotor examination, mild dysarthria may be detected only during assessment of intelligibility. This component can be easily incorporated for all patients.

Screening/assessment of mental abilities was *usually/always* completed by only 63% of respondents. A patient who is recommended strategies to ensure a safe swallow may be placed at risk if he/she has an unidentified mental or cognitive impairment. Screening tools are available that could be easily incorporated into our dysphagia assessments [36, 37].

Consistency in Reported Practice

Results have shown that variability is high among UK/Ireland clinicians. Only 10/31 items (32%) achieved high levels of consistency, with more than 75% of clinicians agreeing on how frequently they use that component. For 22/31 components (71%), responses were spread across all five options from *never* to *always* using that component. No items achieved 100% consistency across respondents, and only *obtain patient's medical history* achieved a greater than 90% consistency. In fact, all components had responses across at least three of the five possible options on the ordinal scale.

The "inconsistent" items, with less than 50% of respondents agreeing on frequency of use, included those that have already raised concern, namely, *obtain patient's drug history*, *screening/assessment of mental abilities*, *assessment of speech articulation/intelligibility*, and *assessment of sensory function*.

It is interesting that *pulse oximetry* and *cervical auscultation* were rated "inconsistently." Despite significant interest in the literature for these components, there is clearly disagreement among SLTs regarding their importance in clinical dysphagia evaluation. This may reflect the fact that each SLT is making his/her own decision about whether to incorporate these components, with no clear conclusions in the literature or central guidance within dysphagia training courses.

Comparison with U.S. Data

The agreement between the UK/Ireland and the U.S. data was high, with the percentage *usually/always* using components in the U.S. being within 10% of that in the UK/Ireland for 12/17 components (71%) [26].

UK/Ireland SLTs were more likely to report using *cervical auscultation* than SLPs in the U.S. (an additional 22% reported *usually/always* using this). However, recent research has demonstrated the low reliability of cervical auscultation [22, 23]. As a profession we must ensure that our practice is guided by the evidence available.

U.S. respondents were more likely to use *trials with compensatory techniques*, with an additional 40% reporting *usually/always* using them. It is unlikely that this is purely a result of differences in client groups across the studies and may represent a genuine difference in practice.

U.S. respondents were more likely to assess *gag reflex*, with an additional 45% reporting *usually/always* doing so [26]. A second U.S. study supported these findings, reporting a mean use of palatal gag in 48% of assessments and pharyngeal gag in 56% of assessments [25]. It is well established that there is no direct link between gag reflex and dysphagia, and it is reassuring that UK/Ireland SLTs are working in line with these findings [38, 39].

U.S. respondents were more likely to include *assessment of sensory function* and *screening/assessment of mental abilities*, with an additional 18% and 29%, respectively, reporting *usually/always* using these components [26]. As previously discussed, these are areas that UK/Ireland SLTs may wish to improve.

The pattern of consistency across UK/Ireland and U.S. respondents was the same, but the U.S. results showed slightly higher levels of consistency. Where ten items were rated "highly consistently" in the U.S., only six were in this study. Where only four items were rated "inconsistently" in the U.S., six were in this study.

It is interesting to consider a number of the items with differing levels of consistency between the UK/Ireland and U.S. respondents. The U.S. respondents were "highly consistent" in *always* including *presence/strength of volitional cough, adequacy of dentition for chewing*, and *structural/functional oral motor examination*, whereas UK/Ireland respondents achieved only "moderate consistency" for these items. These findings suggest that U.S. SLPs are more confident in the importance of including these components in a clinical dysphagia examination than their UK/Ireland counterparts. However, it is unclear from these data why this should be the case. It is possible that these differences reflect the different dysphagia training practices between the two locations. However, it is also worth considering that although these results may show that U.S. clinicians are more consistent than those in the UK/Ireland, it

may also be that the larger sample size in this UK/Ireland study gives a more representative view of actual practice.

Although the level of specific dysphagia training appears higher for UK/Ireland respondents than those in the U.S., this is still an area of concern. Guidelines from the Royal College of Speech and Language Therapists recommend a minimum 40 hours of supervised work before working with dysphagia [40], but 133 (45%) respondents reported having had less than 16 hours. Of these, 44/133 (33%) had had no supervised work at all and 23 (17%) had been working with dysphagia only within the last 5 years—the time during which the guidelines were published. SLT managers must check that guidelines are being met to ensure that patients are not put at unnecessary risk.

Analysis of Study Design

The questionnaire used in the study has been shown to be reliable, with good intrarater agreement on repeat completion of the questionnaire. Several respondents commented that they found the questionnaire format easy to use. The small numbers of technical problems reported with the questionnaire were far outweighed by the benefits of a computer-based survey outlined in Table 1.

The 28% response rate to this study appears low when considered against the main comparison paper which had a response rate of 48% [26]. One previous study of this type, using a postal rather than email-based survey, considered factors affecting response rates in more detail [27]. In line with this earlier research, (1) a covering email detailing the benefits of participation was sent, (2) participants were offered research findings before publication, and (3) participants were assured that all responses would be made anonymous before analysis. With an email-based survey, self-addressed return envelopes and "lost mail" labels were not necessary. We also used followup and thank-you emails, in line with guidance recently published within the UK [29].

It is worth noting that the U.S. authors targeted their questionnaire at a group of SLPs who were known to work with dysphagia, whereas this study's target population was much wider. It is clear from the number of rejected email addresses (20%), that some of the database information was out of date and this issue has been brought to the attention of RCSLT. At the end of data collection, 17 SLTs who were known to work with dysphagia were emailed and asked whether they had received the questionnaire. Eight of 17 (47%) reported that they had not, suggesting that the professional body may hold inaccurate or missing information for a high number of members. We can hypothesize that a high proportion of the potential SLTs never received the email, thus, the response rate may have been far higher than 28%. Finally, SLTs were not asked to reply if they were unable to participate for any reason. Forty-six potential participants did choose to inform the authors that they were inappropriate for inclusion and it is likely that a further number of SLTs were inappropriate but chose not to contact.

There were no controls to ensure that respondents did not refer to earlier answers when completing the repeat questionnaire. However, with only two questionnaires being fully identical across the first and second completion, it is unlikely that the large majority of respondents referred to their first answers.

Instructions to respondents could have been improved because some respondents were unsure whether to indicate what they *try to do* or what they *actually do*. A number of response emails indicated that these two possibilities may be different for certain client groups, such as adults with learning disabilities, adults with dementia, and adults with communication difficulties. This may explain some of the inconsistency if some respondents answered based on what they try to do and some based on what they are actually able to achieve in their dysphagia assessments.

The Future

Full literature reviews for each of the individual components of the clinical dysphagia examination lay beyond the realm of this study. It would be useful to compare the data obtained for some of these individual components with the detailed evidence relating to those components in the literature.

In addition, it was not within the scope of this study to compare responses across different levels of experience or client groups. A number of SLTs working with adults with learning disabilities replied that they felt the questionnaire had a very acute bias, with many questions difficult to answer for their client group. It will be interesting to compare responses for those working with adult neurology versus adults with learning disabilities and to determine whether consistency increases when client groups are considered independently.

It is likely that research will continue toward guidelines for dysphagia assessment. If these do become available and established in the future, it will be

interesting to repeat this study to determine whether consistency of practice has improved.

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