

A dizziness questionnaire is helpful when assessing patients with dizziness in telephone consultations during the COVID-19 pandemic

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Abstract

No abstract as per guidelines. Key Points instead. Key points * The Roland Dizziness Questionnaire (RDQ) helped clinicians make a diagnosis in patients with dizziness during a telephone consultations * Use of the RDQ reduced the need for additional investigations and telephone follow-up * Use of the RDQ does not significantly reduce the need for face-to-face appointments * Both patients and clinicians found the RDQ a useful addition to the assessment

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Key points

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Introduction

On March 20th 2020, ENT UK recommended to its members that all routine clinics should be cancelled, and telephone review should be the first approach for all outpatients who do not need urgent treatment(1). Our ear, nose and throat (ENT) department sought to reduce delays and distress to patients by offering telephone assessments for suitable patients. Evidence supports making dizziness diagnoses from the medical history (2) alone, making telephone clinics appropriate.

We investigated whether a questionnaire would facilitate assessment and diagnosis of vestibular disorders over the telephone. Other studies have used questionnaires to enable diagnosis in patients complaining of dizziness, but most have focused on a single diagnosis e.g. BPPV (3) or disease severity(4). We selected a dizziness questionnaire described by Roland et al add ref because it was short, had been validated by its

developers and was able to differentiate peripheral vestibular pathology from other causes of dizziness(5). Such a distinction could enable clinicians to decide whether patients need further investigations, a face-to-face appointment, or referral to another specialty. This has the potential to reduce the number of visits to the hospital for each patient.

The primary objectives of this study were to assess whether use of the Roland (5) dizziness questionnaire (RDQ): facilitated diagnosis; reduced the number of investigations and face-to-face appointments; and increased discharges. Secondly, clinicians and patients were asked to rate the questionnaire's helpfulness.

Methods

Ethical Considerations: The Research Operational Committee (ROC) at West Suffolk Hospital approved our project proposal for a randomised prospective study titled 'Utility of A Dizziness Questionnaire in ENT Balance Assessments in Times of COVID-19'.

Participants: All 115 patients awaiting a first balance assessment were included in the study. Patients were randomly assigned to study and control groups. 57 patients received a questionnaire (questionnaire group (QG)) and 58 patients did not (non-questionnaire group (NQG)). The QG patients received a letter in the post asking them to complete the questionnaire and return it using a pre-stamped and addressed envelope, and explaining that this implied consent to participate. If returned in time, the clinician conducting the telephone consultation would read the RDQ before the consultation. The NQG group did not receive anything by post.

All telephone consultations were timed, and at the end of each consultation the clinician completed a survey. Any QG patients who did not return a completed questionnaire were excluded from analysis. Any patients for which the clinician did not complete the survey were also excluded.

Analysis: The CONSORT reporting guideline was used in preparation of this manuscript. The results were analysed using Microsoft Excel. The response rate (returned completed questionnaires) in the QG was 70%, so the sample was considered representative. As the results constituted categorical data with a small sample size, Fisher's exact test was used to assess for a statistical difference between the two groups. A p-value of <0.05 was considered significant.

Results

115 patients were randomised, 57 to receive a questionnaire (questionnaire group, QG) and 58 to not receive a questionnaire (non-questionnaire group NQG) (See Figure 1). . The age range of patients was 13 – 95 years with a mean age of 59 years. All patients were contacted and offered a telephone consultation for their balance complaint. Some patients were not contactable or declined the consultation as their problem had resolved. In the QG 40 of 57 patients completed and returned the questionnaire in the envelopes provided, giving a response rate of 70%. Five of these patients' questionnaires arrived after their appointment, but since completion likely affected their ability to articulate their symptoms, they were included in the study. Thirty-five of 57 (61%) patients in the QG and 47/58 (81%) patients in the NQG were included in the analysis. Fifty-seven patients of 82 (70%) of the patients were female. Five clinicians conducted the consultations, three consultants and two specialist registrars. Fifty-two of 85 (61%) patients had their consultation with an ENT consultant and 33/85 (39%) with a specialty registrar. In the QG 22/38 (51%) were seen by a consultant. In the NQG 30/47 (64%) patients were seen by a consultant. The mean duration of telephone consultations was 13 minutes (range 3 -31 minutes) with no difference between the two groups (p=1).

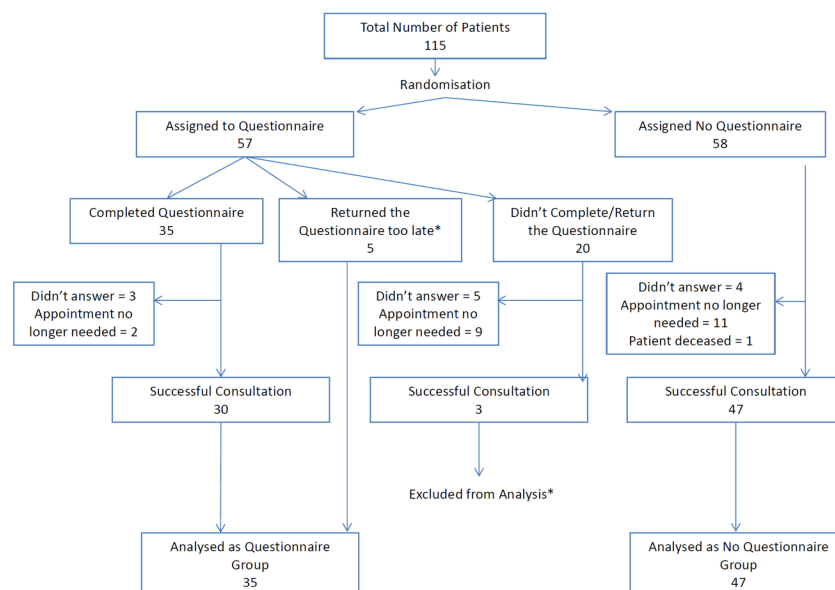


Figure 1. Consort Diagram

In the QG the likelihood that the clinician would make a diagnosis (77%) was higher than in the NQG (57%) but this did not reach statistical significance, $p=0.0555$ (Table 1). The two most common diagnoses were Benign Paroxysmal Positional Vertigo (BPPV) 18/85 (21%) and Vestibular Migraine 16/85 (20%) (Figure 2). There was no significant difference in the distribution of diagnoses made in the two groups. Clinicians requested additional investigations, such as MRI scans, for 9/35 (26%) of patients in the QG, compared to 34/47 (72%) patients in the NQG, and this difference was statistically significant $p = 0.0409$. A greater proportion of QG patients were referred for vestibular physiotherapy 6/35 (17%), than in the NQG 6/47 (13%). After the initial telephone consultation, 18/35 (51%) of QG patients were discharged compared to 19/47 (40%) in the NQG. There were significantly fewer telephone follow-up consultations requested in the QG, 6/35 (17%), compared to the NQG 20/47 (43%), $p=0.0173$.

Population (Patients who had a complete consultation n = 82)	Questionnaire group (n = 35)	No Questionnaire Group (n = 47)	P-value (if available)
Age Range = 13 – 95 years	13 – 83 years	25 - 95 years	
Age Mean = 59	58	60	
Age Median = 62	58	68	
Female = 57 (70%)	23 (66%)	34 (73%)	0.629
Duration of Consultation (mins)			
Mean = 13	13	13	1
Median = 14	14	13	
Able to make a Diagnosis over Telephone % = 66%	27 (77%)	27 (57%)	0.0986
Patient required an additional face-to-face appointment = 23%	11 (31%)	8 (17%)	0.1855
Patients required additional investigations = 39%	9 (26%)*	34 (72%)*	0.0409*
Patients were referred for vestibular physiotherapy = 15%	6 (17%)	6 (13%)	0.7536
Patients discharged after the telephone consultation = 45%	18 (51%)	19 (40%)	0.3736
Patients required additional telephone follow-up = 32%	6 (17%)*	20 (43%)*	0.0173*

*Statistically significant

Table1. Telephone consultation outcomes

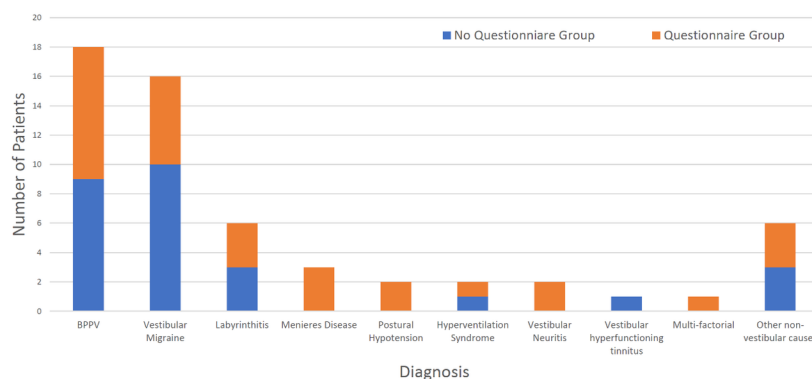


Figure 2. Diagnoses made

Across both groups, specialty registrars were significantly more likely to refer patients for vestibular physiotherapy, in 9/33 (27%) cases vs 3/52(6%) of cases for consultants ($p=0.0091$). Consultants were significantly less likely to request any investigations for patients in the QG 2/20 (10%) versus 14/30 (47%) in the NQG ($p=0.0055$). No differences in outcomes were observed in either group between specialty registrars and consultants when it came to making a diagnosis, requesting additional face-to-face appointments, discharging patients and requesting telephone follow-up.

Sixteen patients who received and returned a completed questionnaire 16/35 (46%) found the questionnaire a positive addition to their consultation, 3/35 (9%) did not find it a positive addition and 16/35 (46%) were unsure. The clinicians found the questionnaire helped the consultation 24/35 (69%) of the time and thought that in 22/35 (63%) of cases, they would have found the questionnaire helpful even in a pre-COVID19, face-to-face consultation.

Discussion

The COVID-19 pandemic presents an opportunity to explore new ways to care for patients. Across the NHS, clinicians have had to adapt to reduced capacity, infection control and social distancing measures. Increasingly, virtual clinics are being introduced in secondary care. Studies have shown that diagnosis of peripheral vestibular pathology e.g. BPPV, made by telephone interview, compares favourably with diagnoses made by neuro-otologists in face-to-face clinics(6). Our study investigated whether telephone consultations for patients with dizziness had different outcomes when a diagnostic questionnaire was used. The findings suggest the questionnaire helped clinicians make a diagnosis, reduced the need for additional investigations and reduced telephone follow-up.

A number of questionnaires have been used in the management of dizziness such as the dizziness handicap inventory (DHI)(7) and the University of California, Los Angeles Dizziness Questionnaire (UCLA-DQ)(8). The results described above comprise the first report to specifically investigate the usefulness of a questionnaire in telephone consultations. These results show that using the Roland dizziness questionnaire (RDQ) as an adjunct to telephone consultations reduced the need for patients to come into hospital for face-to-face consultations and reduced the number of investigations ordered and reduced the number of telephone follow-up appointments. The initial telephone consultation freed up ENT outpatient capacity for face-to-face consultations for conditions that need visual assessment, such as hoarseness or suspected cholesteatoma.

Our findings do not suggest that the questionnaire changes the rate of requests for further face-to-face ENT assessments. This may be because conditions such as Benign Paroxysmal Positional Vertigo (BPPV) require face-to-face diagnosis and treatment (Dix-Hallpike and Epley manoeuvres respectively) or perhaps patients with hearing loss struggle with telephone consultations. In the future treatments for conditions such as BPPV could potentially be delivered by tele-medicine e.g. by developing devices such as a cell phone balance trainer(9).

Other studies have described the patient perceptions of telemedicine in ENT practice during the COVID-19 pandemic(10). We did not include a formal assessment of patient perception and satisfaction with the telephone consultation in our study. But we did ask both patients and clinicians about usefulness of the questionnaire. Telemedicine has been adopted out of necessity during the COVID-19 pandemic, but 46% of patients found the questionnaire useful, suggesting growing acceptance of this ‘new normal’. In an even greater proportion of consultations (69%), clinicians found the questionnaire helpful – showing the usefulness of this questionnaire clinically.

Conflict of interests

The authors declare that they have no conflict of interest.

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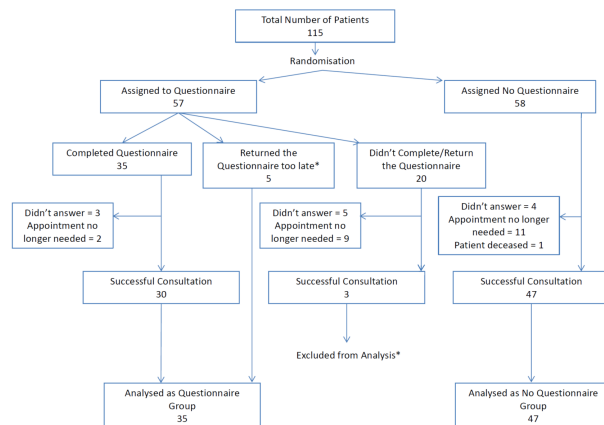


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