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Radiology reporting of obesity: a survey of patient and clinician attitudes

T.E. Murray [a,*], S.D. Ma [b], F. Doyle [c], M.J. Lee [a,d]

[a] Department of Radiology, Beaumont Hospital, Dublin, Ireland
[b] Our Lady's Hospice, Harold's Cross, Dublin, Ireland
[c] Division of Population Health Sciences, Royal College of Surgeons in Ireland, Ireland
[d] Royal College of Surgeons in Ireland, Ireland

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AIM: To determine whether obesity information obtained via imaging techniques is desirable for clinicians and patients, and to investigate whether it impacts clinical decision-making.

MATERIALS AND METHODS: Parallel surveys were designed to assess patient and clinician attitudes to the medical utility and social stigma of reporting obesity on radiology reports performed for other reasons.

RESULTS: Where obesity was noted at medical imaging performed for any reason, clinicians and patients strongly agreed that it should be included in the radiology report (5.9 and 5.8, respectively, on a seven-point preference score ranging from strongly disagree [1] to strongly agree [7]). Clinicians and patients indicated a preference for a quantitative report. Clinicians somewhat disagreed and patients disagreed that a radiology report describing obesity would be considered insulting (3 and 2.1, respectively). Clinicians and patients agreed that they would be more likely to discuss overweight/obesity if it was described in a radiology report (5.3 and 6.1 respectively). Clinicians and patients agreed that radiology reports describing obesity would influence future management/behaviour (4.5 and 6.2, respectively). Clinicians strongly disagreed that they would avoid sending patients for scans if obesity was reported (1.3). Patients also disagreed that including such information on a report would result in imaging avoidance (1.9).

CONCLUSION: Both clinicians and patients indicate a clear preference for obesity-related information on radiology reports for examinations performed for any reason. Surveyed attitudes suggest including such information is not considered insulting, and is unlikely to result in avoidance of imaging.

Introduction

The prevalence of obesity and the performance of medical imaging studies are both rising worldwide. Radiology studies performed for other reasons can be used to diagnose and quantify obesity, and correlate with obesity-related surrogate markers (such as serum glucose, triglycerides, low-density lipoprotein cholesterol, and inflammatory markers) and endpoints such as all-cause mortality.[1,2] Diagnosing obesity on imaging for other reasons fulfils many of the criteria of a screening test.[3]

Unlike other risk factors such as osteopenia, coronary artery calcification, and carotid stenosis, there exists a lack of clear reporting guidelines, and a lack of consensus amongst clinicians and radiologists. Although obesity is

* Guarantor and correspondent: T. Murray, Department of Radiology, Beaumont Hospital, Dublin, Ireland. Tel.: +00353 (1) 8092790.
E-mail address: timothymurray@rcsi.ie (T.E. Murray).

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both a strong risk factor and disease state, it possesses a unique social stigma.[4] The sensitivity of patients, radiologists, and referring clinicians to the language of obesity overshadows any reporting or discussion, although little research has been conducted in this area. A survey was performed to explore patient and clinician attitudes towards the radiology reporting of obesity, to assess how such information should be presented, and to investigate other factors that may influence preferences for such information.

Materials

Two separate six-question surveys were designed, one aimed at patients and one aimed at clinicians. The content of both surveys were similar across each question, with the wording and language adapted for both patients (simplified English with use of first-person where appropriate), and clinicians (medical English with reference to third-person patients where appropriate). Both surveys consisted of five rating-scale questions (seven-point range) assessing the strength of preference for a range of issues. Possible responses were strongly disagree[1]; disagree[2]; somewhat disagree[3]; undecided[4]; somewhat agree[5]; agree[6]; strongly agree.[7] A further Likert scale question was included, assessing clinical and patient preference for how obesity should be quantified on radiology reports. Question format and phrasing was performed by both radiologists and non-medical specialist researcher with survey research experience. The institutional ethics committee approved both the study protocol and the survey documents, all of which were collected anonymously, with the anonymous right to refuse consent explained to all participants.

A hard-copy survey was administered to all hospital clinicians (the largest group of referrers to radiology) at both medical grand rounds and surgical grand rounds in the same month at a large university teaching hospital (Electronic Supplementary Material S1). This sample size was chosen as it offered the largest cross-section of clinicians in the least possible sittings without personnel overlap. There were no exclusion criteria from the clinician survey.

The patient survey along with an explanatory cover letter was administered to all outpatients attending the general radiology department between 9 am and 5 pm on a single day (Electronic Supplementary Material S2). A single day was chosen to ensure no repeat sampling. Inpatients were excluded for two reasons; firstly, as they do not register prior to scanning at Beaumont Hospital and are thus difficult to capture in the institution involved, and secondly, as there are issues of autonomy and capacity within the inpatient population. Outpatients who were unable to read the explanatory cover letter due to infirmity, language, or communication difficulty were excluded. Children were excluded. Where requested by outpatients, additional help from the principal investigator was provided to clarify patient questions. The results were tabulated and analysis performed on Numbers (MacOS) within which quantitative analysis and analysis of means were performed. Survey reporting was performed in accordance with the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines for cross-sectional observational studies, with study checklist completed (Electronic Supplementary Material S3).[5]

Results

Fifty-eight completed clinician surveys were returned representing a variety of grades of doctors, and several nurse practitioners (Table 1). Fiftey-eight completed patient surveys were performed. In five returned surveys, there were individual items omitted (the remaining completed items were included for analysis), all other surveys were completed in full.

Should obesity be described on the imaging report?

Where obesity was present at medical imaging performed for any reason, clinicians and patients strongly agreed that it should be included in the radiology report (clinician response mean of 5.9 of a seven-point scale, standard deviation of 1.1, and patient response M= 5.8, SD 1.7; Fig 1).

Preferred format of obesity/overweight information

A preference for a quantitative report was indicated by 72.4% of clinicians and 64.3% of patients, which would describe the level of adiposity in relation to a reference range. A qualitative report, simply indicating the presence or absence of obesity, was preferred by 13.8% of clinicians and 25% of patients. The remaining 13.8% of clinicians and 10.7% of patients expressed no preference.

Perceived insult

Clinicians somewhat disagreed and patients disagreed that a radiology report describing obesity would be considered insulting (M=3.0, SD=1.5 and M=2.1, SD=1.8 respectively; Fig 2).

Risk of scan avoidance if obesity was reported

Clinicians strongly disagreed that they would avoid sending patients for scans if the radiology report included obesity (M=1.3, SD=0.6; Fig 3a). Patients also disagreed that including such information on a report would result in avoidance of medical imaging (M=1.9, SD=1.7; Fig 3b).

Table 1
Survey respondents.

	Medical	Surgical
Attending (consultant)	11	3
Resident (intern/house officer/registrar)	29	10
Nurse practitioner	4	1
Total	58	

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