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Optimizing the Radiology Experience through Radiologist–Patient Interaction

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Abstract

Objective: This survey-based study aims to investigate patients' understanding of and expectations regarding radiologists in the outpatient setting, specifically focusing on knee magnetic resonance imaging (MRI) at an urban, quaternary care academic medical center.

Materials and Methods: A comprehensive survey was administered to adult patients undergoing knee MRI over a one-year period at the specified medical center.

Results: The survey findings reveal that a minority of patients undergoing knee MRI during the study period were aware of the radiologist's role, aligning with existing literature. Only around one-third of patients anticipated meeting the radiologist during their radiology department visit for knee MRI. Although the majority of surveyed patients expressed a desire to contact the individual who interpreted their exam, only one patient did so during the study. However, six respondents from the follow-up group reported contacting the person who read their exam through various means.

Conclusion: Despite the majority of patients expressing a wish to communicate with the individual interpreting their knee MRI, actual contact with radiologists was limited. The study suggests that patients' understanding of the radiologist's role may influence their communication behaviors. The findings highlight the need to explore and address barriers in patient-radiologist communication in outpatient settings.

Keywords: radiology, patient education, knee MRI

Introduction

Radiology reporting practices play a crucial role in shaping patients' medical records, whether in the inpatient or outpatient settings. Within radiology literature, there has been significant interest in assessing the effectiveness of radiology reporting from the perspectives of referring physicians, patients, and radiologists. Particularly, attention has been directed towards how and by whom results are conveyed to patients, with a recent focus on autonomy and patient-centered care. (Johnson et al., 2012)

Despite advancements such as electronic medical records and patient portals, patients continue to express dissatisfaction with how they receive their medical imaging results. Patients prefer access to detailed information with minimal delay. Recent studies indicate that patients prefer receiving their imaging results directly from the referring physician and desire access to both the report and original images. (Safdar et al., 2011)

However, there remains limited public awareness regarding the role of radiologists in patient care, as evidenced by only a subset of patients correctly identifying the radiologist's role in various surveys. This lack of awareness is understandable given that radiologists often work without direct patient interaction. Nevertheless, some studies have shown that patients view positively the prospect of meeting the radiologist interpreting their examinations, prompting this study to delve into patient attitudes towards this interaction. Consequently, this study aims to assess a simple communication intervention aimed at enhancing patients'

understanding of the radiologist's role and improving their satisfaction with the medical imaging communication process. (Mangano et al., 2014)

Materials and Methods

Study Population

Eligible participants included all adult patients aged 18 and above undergoing knee MRI , at the medical center. Patients without a known email address were excluded since email was a primary mode of communication. Refer to Appendix A for a sample communication.

Survey Design

The survey was collaboratively designed and implemented by the radiology department staff and a statistician. It assessed four main areas: 1) patient demographic information, 2) patient knowledge of radiology including perceptions of the radiologist's role, 3) patient preferences for communication of test results, and 4) patients' perceived ease of access to their health care records. Refer to Appendix B for the complete survey instrument.

Survey Protocol

Patients were approached for consent at least one business day before their scheduled MRI appointment. Upon consent, a pre-appointment survey was sent via email. The survey emphasized voluntary participation, the option to withdraw at any time, and no impact on clinical care. Patients were incentivized with entry into a prize drawing upon survey completion.

Participating patients underwent knee MRI per standard protocol. Within two to four business days post-MRI, patients received a diagnostic report accompanied by an intervention: a cover letter introducing the attending radiologist who interpreted the MRI (including a photograph, greeting, and invitation to communicate directly). See Figure 1 in the Appendices for the complete cover letter. Patients were encouraged to contact the radiologist with questions or comments. A follow-up survey was administered two weeks after the MRI. Survey data and communications with radiologists were managed through the Human Imaging Research Office (HIRO) for diagnostic reports.

Statistical Analysis

Data were collected via REDCap and analyzed using SPSS v24. Descriptive statistics and univariate analyses were employed. Chi-square and independent t-tests were used for nominal and continuous variable comparisons, respectively. Nonresponse bias for surveys was assessed by comparing the age and sex distribution of all knee MRIs during the study period.

Results

Out of 135 contacted patients, 63 declined participation, three lacked email addresses and were excluded, leaving 69 consenting participants. Forty-nine responded to the initial survey, and 36 to the follow-up, resulting in a response rate of 25.6% as per AAPOR guidelines.

Demographics

Among the 49 respondents, 71.4% were female, with a mean age of 42.4 years. Most (95.9%) had prior medical imaging, predominantly MRI (71.4%), and varied educational backgrounds.

Role of the Radiologist

Initially, 47.9% of respondents correctly identified a radiologist as a "medical doctor." Post-intervention, this rose to 69.4%, although not significantly different statistically. Understanding of the radiologist's role remained largely unchanged after the intervention.

Imaging Experience

Most respondents (75.5%) expected imaging results within two days post-exam, and this expectation increased post-intervention to 83.3%.

Communication with the Radiologist

The majority (85.4%) desired communication with the radiologist, mainly via email (51%) or MyChart® (44.9%). Only one patient communicated with the radiologist directly, while six contacted the person interpreting the exam using various methods.

Nonresponse Bias Analysis

No evidence of nonresponse bias was found based on age or gender.

Validity and Reliability Analysis

Content validity was ensured through expert evaluation and the study exhibited expected relationships supporting construct validity.

These results highlight patient preferences for communication with radiologists and their understanding of the radiologist's role, emphasizing the need for effective communication strategies in radiology reporting practices.

Discussion

Our study revealed that many patients, despite their high level of education, lacked understanding of the radiologist's role in their care, and this understanding did not significantly improve after personal communication from the radiologist. We also observed a gap between patients' expressed desire to communicate with their radiologist and their actual engagement in such communication. (Koney et al., 2016)

The initial survey results confirmed ongoing trends in radiology literature. Patients, in line with the trend towards autonomy and access to medical records, expressed a desire for access to their radiology reports and expected quick turnaround times for report availability. Interestingly, while most participants found it desirable for the interpreting physician to be available for discussion, only one out of 49 actually engaged with the radiologist. This suggests that while the option of contacting the radiologist is reassuring to patients, many are satisfied with the potential for interaction without actual engagement. This warrants further investigation. (Cabarrus et al., 2015)

Public awareness of the radiologist's role remains limited, with only a subset of patients correctly identifying the radiologist's role. In our study, only 23% of respondents knew that radiologists are medical doctors. Surprisingly, there was an inverse correlation between education level and awareness that radiologists are physicians. This lack of understanding may contribute to the limited enthusiasm for consulting radiologists observed in our study, as patients may not fully grasp the value of such consultations. (Henshaw et al., 2015)

Although most patients expressed a desire to contact the person interpreting their MRI, only one patient did so. However, six follow-up respondents reported contacting the interpreting individual through various means, possibly mistaking other radiology staff for the radiologist. This highlights the need for clear introductions by radiology staff to ensure patient understanding. (Kuhlman et al., 2012)

The discrepancy between patients' expressed desire to communicate with radiologists and their actual engagement suggests a complex issue beyond a simple lack of communication pathways. Patients may feel uncertain about reaching out to radiologists due to a lack of understanding of their role. Alternatively, patients may feel reassured by the option to contact the radiologist without actual communication. (Halbesleben and Whitman, 2013)

Conclusion

Despite personalized communication attempts, patient education regarding the radiologist's role remains challenging. Understanding why patients do not engage with radiologists despite the opportunity warrants further investigation. Collaboration with other specialties to enhance patient understanding of radiologists' contributions to care may be beneficial for the radiology community moving forward.

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