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Title: Assessment of the Visibility of Radiologists through Structured Interview Approach: Our Experience in Low-literacy Mammography Patients

Running Head: Visibility of Radiologists

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ABSTRACT

This paper reports our experience in detecting the visibility of radiologists to low-literacy mammography patients by using a structured interview approach. Mammography patients were specifically selected for this purpose because patients' ability to discriminate between technicians, radiologists and referring physicians can be tested more efficiently in an interactive encounter. In 74 women participated in the study, the percentage of patients who assigned the radiologist as a doctor was 41.8%. Of these patients, 77.4% were aware that radiologist was a specialist. Considering the literacy level of patients, the potential value of structured interview approach should be discussed in developing measurement methods to assess visibility of radiologists to patients. In addition, face to face interaction provided by this approach may be valuable in giving hindsights about the content and the context of the relationship between patients and radiologists, so that radiologists can become more visible.

Keywords: Communication, measurement, literacy, mammograph

INTRODUCTION

In the year 2017, European Society of Radiology (ESR) published a concept paper on value-based radiology in response to a recently developed paradigm called “value-based healthcare” (1).

According to value-based healthcare, value is defined as “patient’s health outcomes relative to the costs of achieving the outcomes” (2). ESR states that this definition is fundamentally flawed, because it disregards the correct diagnosis as an outcome, considering it only if it’s wrong or a cause of complications. In this paradigm, a correct diagnosis is taken for granted, radiologists are seen as costs, and volume of imaging examinations is of no significance in outcome assessment.

In fact, radiologists have been cautiously reporting about such an “invisibility” that may lead to commoditization of radiology services (3). Commoditization is a marketing term which can be defined as “competition that is based primarily on cost and service, with little regard for quality” (4). In case of radiology services, commoditization denotes that radiologists’ value is an undifferentiated good, and radiologists are easily interchangeable to reduce costs. In Turkey, radiologists are already experiencing the practical implications of this process: Due to governmental policy of service procurement, radiology reports are written by faceless radiologists located at distant places, with no visibility of their material existence and the function they serve.

What is the reason behind invisibility of radiologists to policy makers? Traditionally, radiologists were perceived as “doctor’s doctor” rather than “patient’s doctor”, which have made them to be perceived as technical adjuncts to service provided by clinicians. However, from the perspective of healthcare management, radiologists and clinicians are internal customers whose primary aim of existence is to serve external customers, i.e., patients and their families. Therefore, if radiologists are

to enhance their visibility, the endeavors should focus on visibility to patients, not the other stakeholders. This view requires development of a measurement method for a healthy assessment of radiologists' visibility to patients, both as a physician and a specialist.

In this paper, we report our experience in detecting the visibility of radiologists to mammography patients by using a structured interview approach.

METHODS

Ethics

This cross-sectional study was approved by Clinical Research Ethics Committee of Erciyes University (Date: 01.04.2016, Case number: 2016/244).

Study Setting and Patients

The study was conducted at a single academic hospital during January of 2018. Participants were women who were referred to the Breast Imaging Unit of a single academic hospital for either screening or diagnostic purposes. After their examination was completed, patients were invited to enter a structured interview session which was conducted by the same off-site radiologist. As a method of conduct, structured interview was preferred to surveys because the latter may preclude reliability of findings due to high level of reading frustration in low-literacy populations, as in our patient group. The interview involved introductory questions about patient's age and education level (as determined by the last schooling grade patients had completely finished), followed by the main part which included two questions which aimed to assess patients' ability to discriminate the radiologist as a doctor and a specialist, respectively. The flow of questions and directives in the main

part of the structured interview is presented in the Table. The statistical data includes descriptive analysis of the findings.

RESULTS

Seventy four women participated in the study (mean age, 52.2±8.7 years; age range, 33-79 years; mean years of schooling, 6.4±4.0 years). Only 14 women (18.9%) had 10 or more years of schooling.

During the structured interview, the number of patients who assigned the radiologist as a doctor was 31 (41.8%). Thirteen patients (17.5%) incorrectly assigned the radiologist as a technician, and 30 patients (40.5%) were not sure about the radiologist's profession. Out of 31 patients who assigned a correct role to the radiologist, 24 patients (77.4%) were aware that radiologist was a specialist (or, in their terms, "a branch in medicine"), whereas 7 patients (22.5%) claimed that radiologists were either general practitioners, or, they are not sure about the discrimination.

DISCUSSION

Mammography patients were specifically selected because this examination requires patients' interactive (i.e., face to face) encounter with referring physicians, technicians, and radiologists so that their ability to discriminate between them can be tested more efficiently.

According to previous studies from Europe and United States, percentage of patients who identify radiologists as doctors range from 14% to 60% (5-9). To our knowledge, there is only one study which has investigated the identity of radiologist as a specialist (7). However, these studies rely on web-

based or hard copy surveys. In our study, most of the women (80%) had 10 or less years of schooling, which is the threshold level for reading frustration according to the single readability index in Turkish language (10). This finding shows that web-based or hard copy surveys may not suffice in reliable assessment of visibility of radiologists to low-literacy populations.

During the interviews, we have observed that patients had strong willingness to discuss the significance and the implications of their imaging findings, thus turning the interviews into question-and-answer sessions frequently. This observation gave us additional hindsights about how to alleviate the problem of visibility: As Neiman suggests, radiologists should talk to patients everyday by introducing themselves and giving a short description of radiologists' education and what they do (11). Although direct communication can be encouraged as a necessary part of a radiology practice, we believe that it is not necessary for radiologists to advertise themselves during direct communication. All we have to do is to remember the basic expectations in patient-physician communication, such as introducing ourselves to patients; continuous orientation to what's happening; sharing information; discussing significance of findings and providing opportunities to ask questions (12). Turning "back to basics" may be the cheapest and the best strategy.

CONCLUSION

Although it is conducted on a limited group of patients, our study showed that radiologists are invisible to a significant percentage (nearly 60%) of mammography patients in our hospital. Considering the literacy level of patients, the potential value of a structured interview approach, including the one suggested in this study, should be discussed in developing a measurement method to assess visibility of radiologists to patients. Face to face interaction provided by this approach may

also be valuable in giving hindsights about the content and the context of the relationship between patients and radiologists, so that radiologists can become more visible.

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Table. Flow of questions and directives in the main part of the structured interview

Question 1: A few moments ago, your mammography images were reviewed and a breast ultrasound examination was done by our friends. Do you know what profession do our friends belong in?

Directive: Regardless of patients' initial response, her contention was challenged by making paired comparisons between three options (i.e., technologist, radiologist and "I am not sure"), first between technologist and radiologist, followed by the preferred option and "I am not sure". During the second comparison, it was emphasized that the interview is not an examination to pass, and patients' honesty will be appreciated.

Question 2 (If the patient correctly identified the radiologist as a doctor): Remember your Public Healthcare Unit. I am sure you met one of the general practitioners working in that unit. A general practitioner is a doctor who takes care of most health problems. In case you need a special healthcare, general practitioners refer you to a specialist like a gynecologist or oncologist. My question is: What is the radiologist like? Is she a kind of doctor like a general practitioner or like a specialist?

Directive: To ensure that the answer is not arbitrary, the researcher requested for more explanation when necessary.