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ORIGINAL RESEARCH

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Study Among Radiology Doctors to Assess Their Opinion of Abbreviations Used in the Field of Interventional Radiology

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Abstract

Objective: Medical abbreviations play a vital role in the work and research that goes on in a hospital. However, there can be a certain amount of confusion associated with their use as well. This problem is compounded in a relatively newer field such as interventional radiology (IR). We conducted a survey among radiology doctors to assess their opinions about abbreviations used in the field of IR. **Methods and Materials:** This cross-sectional study was conducted in the form of an online survey, open to all radiology doctors, over a period of 1 week. The link to the survey questionnaire was distributed through email and social networking platforms such as WhatsApp and Telegram. The survey was open during the last week of July 2021. Consent for using the data for analysis was obtained from the participants. **Results:** A total of 114 radiology doctors participated, and the majority were interventional radiologists (50.9%). Most respondents (59.6%) felt that the use of abbreviations had a positive impact in the field of IR, while a smaller group (21.9%) felt that it had a negative impact. A relatively larger section (35%) felt happy with the current use of abbreviations in IR; a smaller section (30.7%) suggested that standardization of the abbreviations used in IR would help improve their use. **Conclusion:** Abbreviations play a large role in the daily work in IR; however, they may be a source of confusion as well. In this study, we assessed the general opinions of interventional radiologists on the use of abbreviations in IR and explored suggestions to improve their use.

Introduction

In the field of modern medicine, abbreviations and acronyms play a vital role in saving space and time. They have become almost an essential tool in our daily communication, but they have several drawbacks. The same abbreviation may have different interpretations in different areas of medicine. For example, the acronym CBD would imply “common bile duct” to a hepatologist and “continuous bladder drainage” to a urologist. This may pose a high risk of misinterpretation and may even lead to mismanagement of the patient. There are many procedures and interventions that may only be referred to by their abbreviations (eg, PCN, PTBD, TIPSS, TJLB), which may be common knowledge to someone who is regularly using them but completely unheard of to someone else. Certain abbreviations may only be in common use in an institution or a geographical area such as a state or country. There may be variations in interpretation between 2 interventional radiologists in 2 different institutions or 2 different countries.

For our study, we conducted a survey among radiology doctors to assess their opinions about abbreviations used in the field of interventional radiology (IR). We also explored if there were any concerns regarding the use of abbreviations that would affect patient management.

Methods

The project was approved by the Institutional Review Board of our institution. An online survey was conducted among radiology doctors to assess their general opinions regarding the use of abbreviations in the field of IR. This included both diagnostic and interventional radiologists, and trainees in radiology. The survey was anonymous and voluntary. All the subjects were given the same instructions on how to complete the survey. Consent for using the data for analysis was obtained as part of the survey. It was

emphasized that the survey was elective and could be refuse, but all questions in the survey must be answered. The link to the survey was distributed through email and social networking platforms such as WhatsApp and Telegram. The survey was open for a period of 1 week, between July 24 and 31, 2021. It was open to radiology doctors from across the globe.

Results

A total of 114 individuals took part in the survey; the distribution of qualifications is seen in **Figure 1**. The majority of the responses were from radiologists working in India (86.8%). There were also responses from radiologists working in other parts of the globe, including the United Kingdom (5.4%), Australia (3.6%), United States, (2.7%), Canada (0.9%), and Qatar (0.9%).

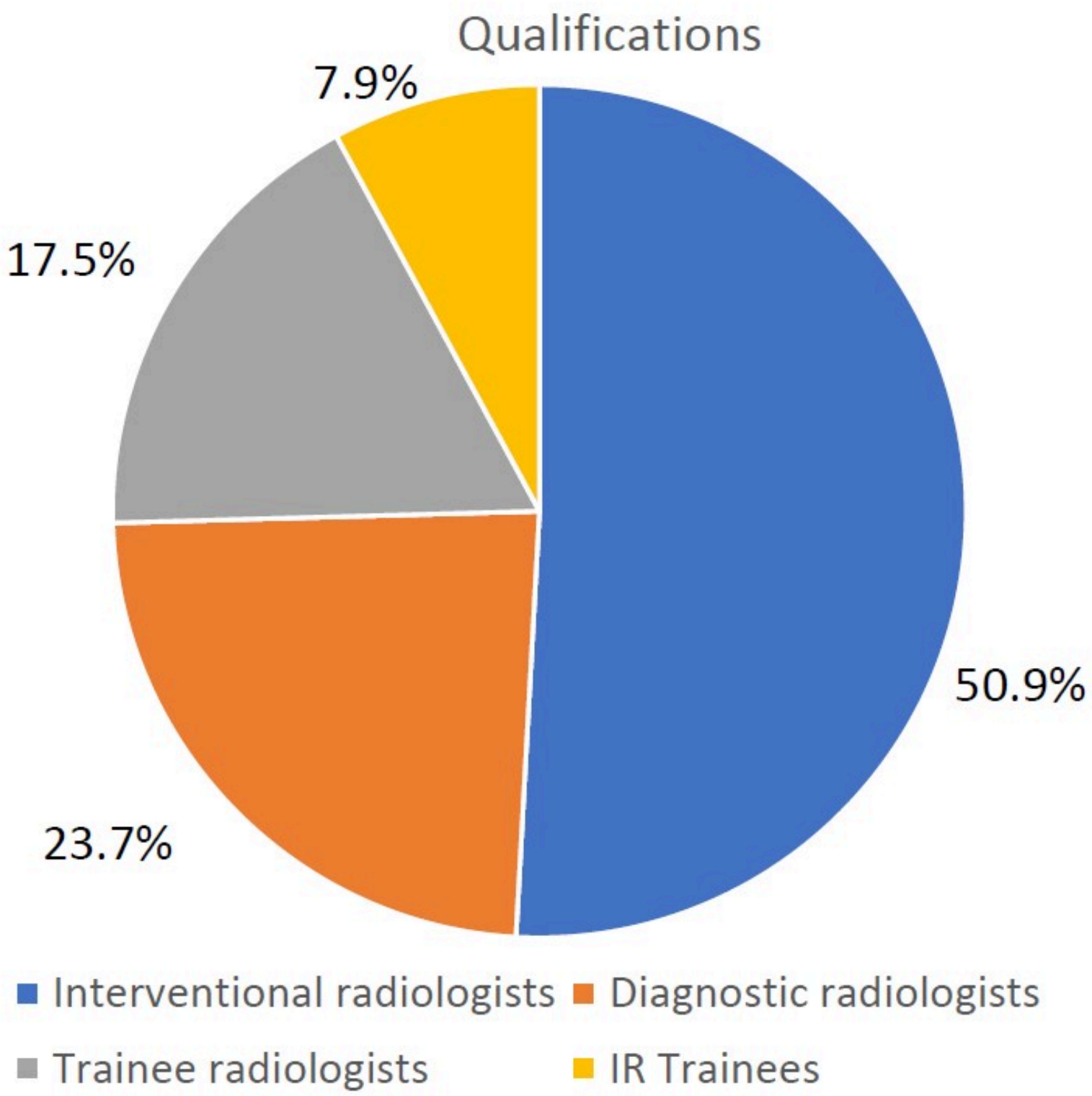

Figure 1. The distribution of interventional radiologists, diagnostic radiologists, and trainees who participated in the survey.

The majority of respondents (n = 68, 59.6%) felt that the use of abbreviations had an overall positive impact on work and research in the field of IR. A small proportion (n = 25, 21.9%) of respondents felt that the use of abbreviations had no impact, and a smaller proportion (n = 21, 18.4%) felt that the use of abbreviations had an overall negative impact in the field of IR (**Figure 2**).

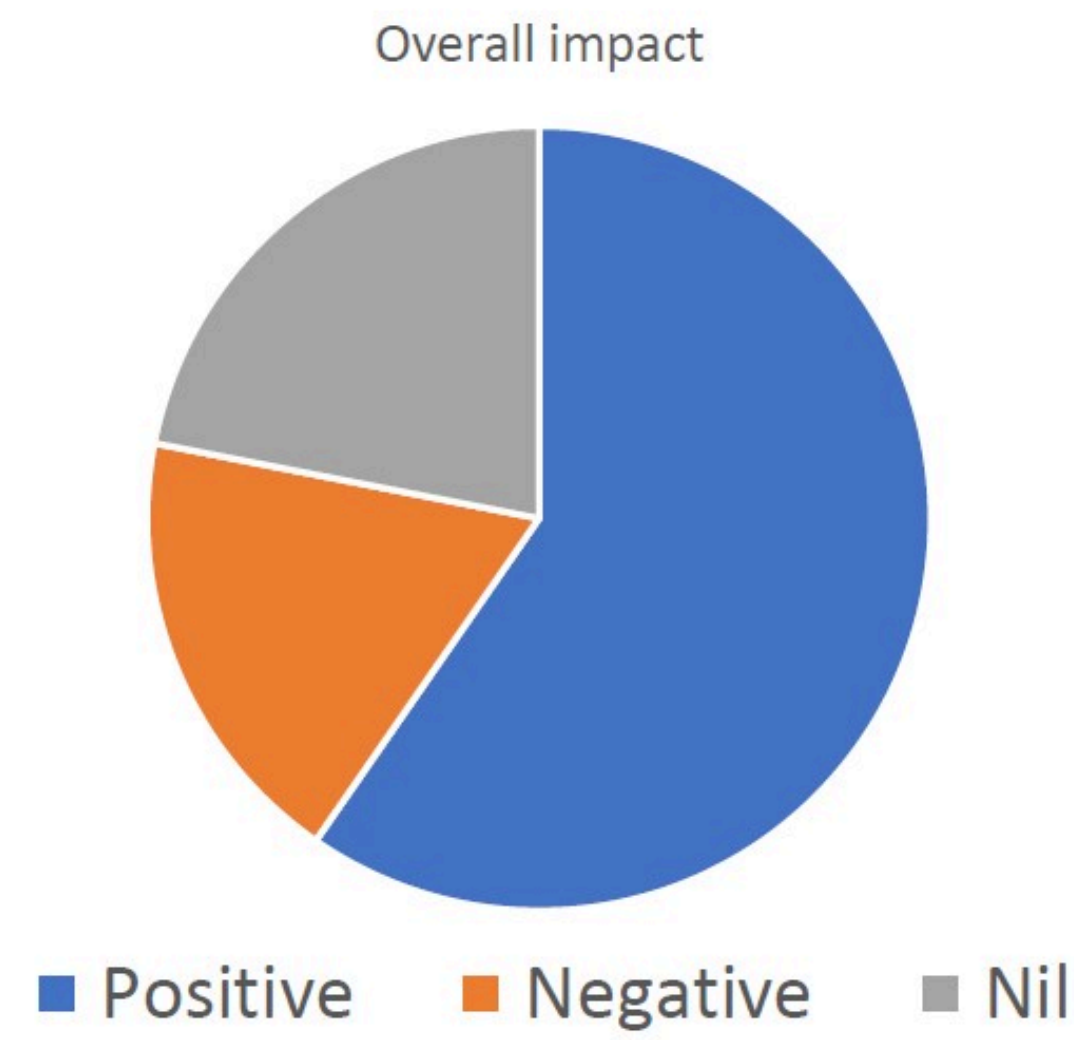

Figure 2. The respondents' opinions on the overall impact of abbreviations in the field of interventional radiology.

The most liked abbreviations used in IR included TACE (trans-arterial chemoembolization), TIPSS (transjugular intrahepatic portosystemic shunt), PTBD (percutaneous transhepatic biliary drainage), BRTO (balloon-occluded retrograde transvenous obliteration), and TARE (trans-arterial radioembolization).

The most common reason (n = 49, 43%) for liking an abbreviation was that it was easier to remember the abbreviation than the full expansion, especially when it concerned various procedures performed in IR. A smaller group (n = 31, 27.2%) liked it if the abbreviation was unique and had no chance of misinterpretation or confusion with its use. Another section of respondents (n = 27, 23.7%) preferred the use of abbreviations in IR as it increased the efficiency of work and research (**Figure 3**).

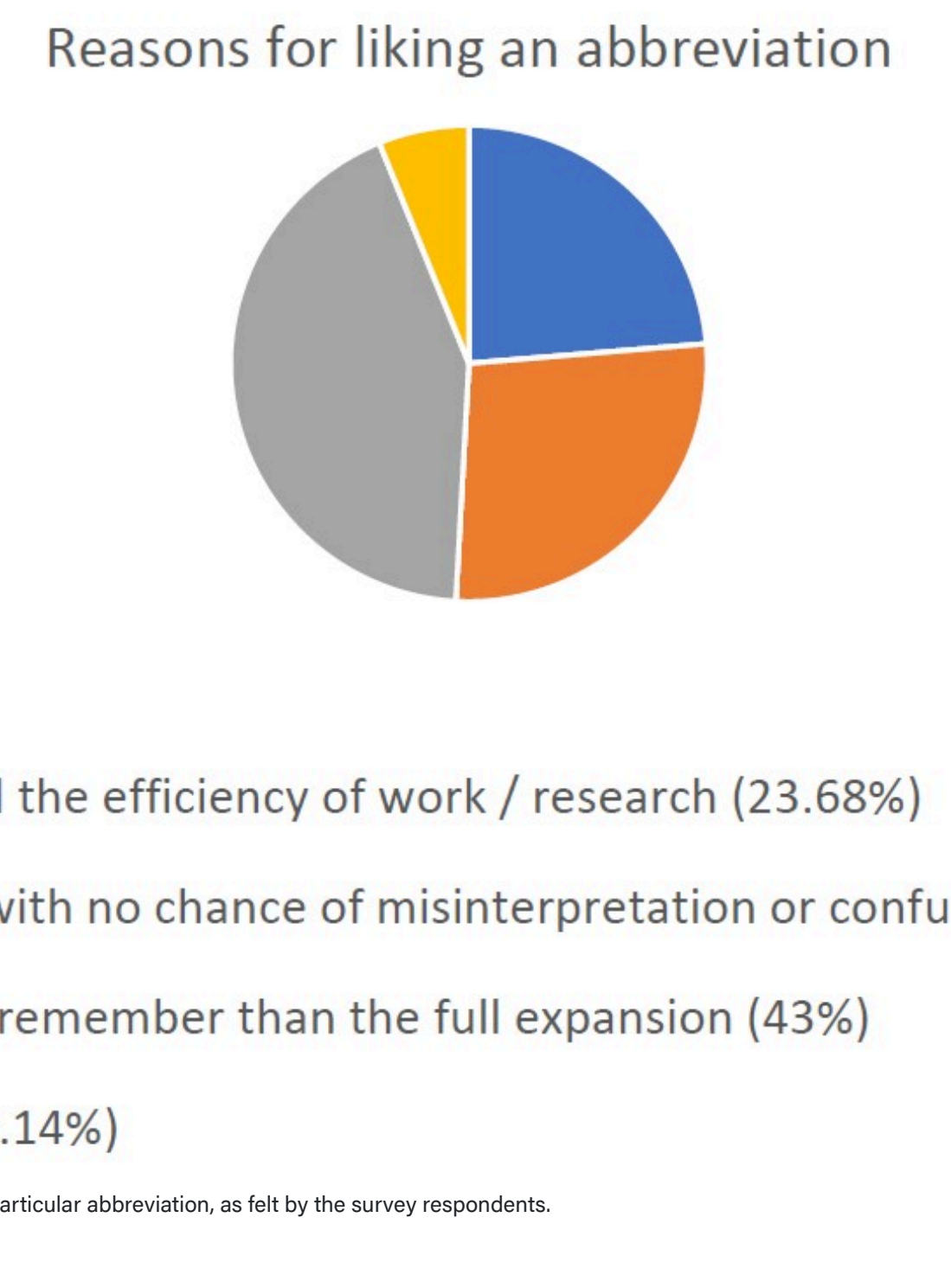

Figure 3. The reasons for liking a particular abbreviation, as felt by the survey respondents.

There was a question in the survey regarding the most disliked abbreviation. Thirty-seven individuals (32.45%) responded that they had no particular abbreviation that they disliked. The most common reason for disliking an abbreviation was if there were too many similar sounding abbreviations (n = 28, 24.56%). Other reasons included if there were different interpretations of the same abbreviation in different institutes or countries (n = 17, 14.91%) and if the abbreviation did not appropriately represent its full expansion (n = 14, 12.28%) (**Figure 4**).

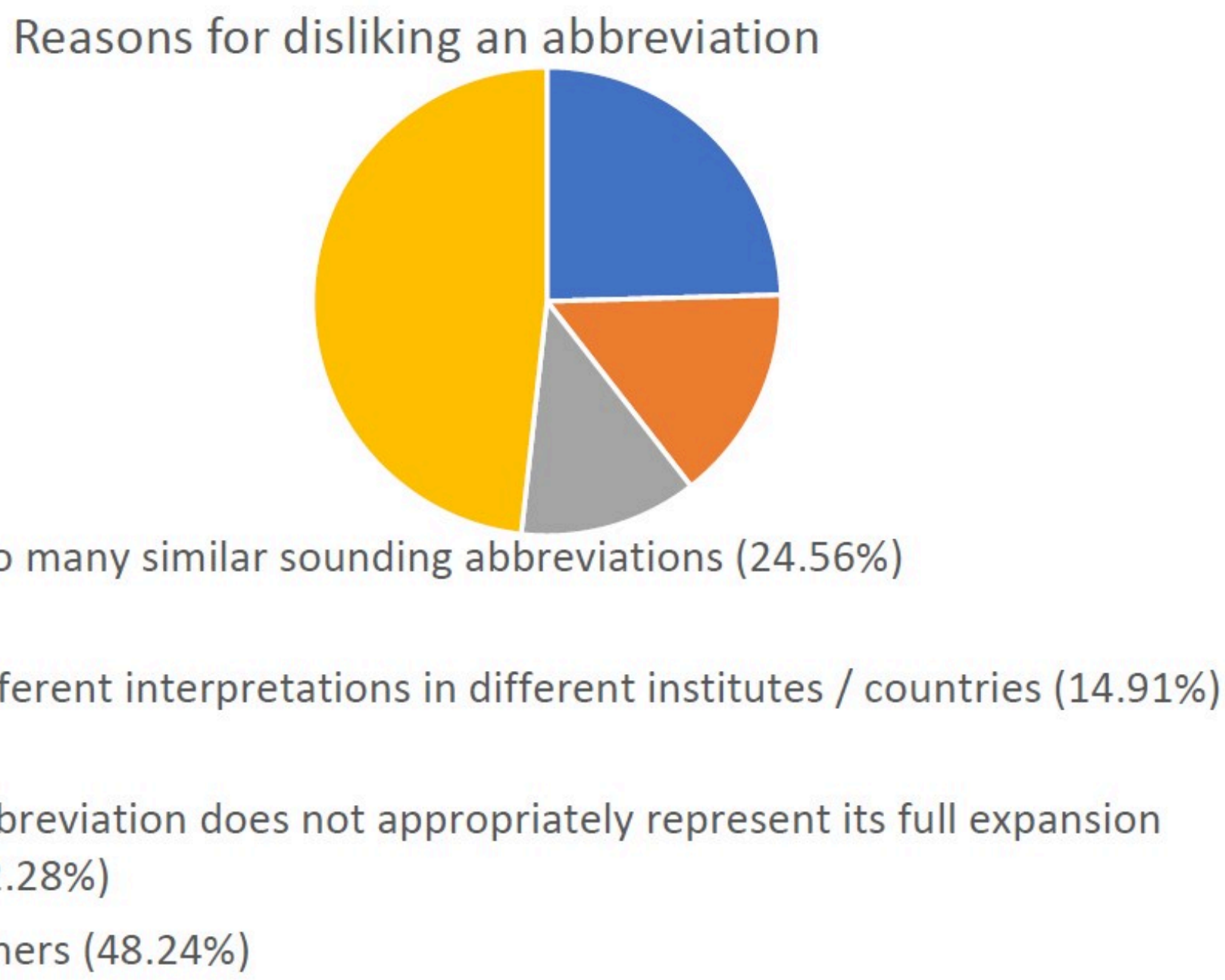

Figure 4. The most common reasons for disliking a particular abbreviation, as felt by the survey respondents.

We asked for suggestions for improvement of the use of abbreviations in IR. Standardization of abbreviations used in IR was a popular suggestion (n = 35, 30.7%). A smaller group (n = 15, 13.15%) felt that complete avoidance of abbreviations in IR was the way to go. Another suggestion was to avoid the use of abbreviations in medical reports and consent taking (n = 7, 6.14%). A large group (n = 40, 35%) indicated that they were happy with the current use of abbreviations in the field of IR and did not have any suggestions for improvement of their use.

Discussion

The field of IR is a well-established subspecialty of radiology. There have been rapid strides in this field over the last decade or so, with a steady increase in the pace and number of procedures.[1] However, there is a lack of understanding of the scope and utility of IR among doctors, including most diagnostic radiologists. Most procedures and interventions in the field of IR are referred to by their abbreviated forms, which may be common knowledge to an interventional radiologist but may not be well known to a referring clinician or even a diagnostic radiologist. A study among final-year medical students showed that 63% had poor knowledge in the field of IR.[2] Another study among medical professionals showed that only 43.3% had correct knowledge and 45.1% had the correct practice of interventional fluoroscopy procedures.[3] This inadequacy in the proper knowledge of IR and the abbreviations commonly used in this field may affect patient care.

Several studies have been done to assess the knowledge and use of medical abbreviations among medical personnel, including medical students and postgraduates,[4] doctors and nurses,[5] doctors of different specialties,[6] and health care professionals.[7] These studies provide an insight into the difficulties faced with the use of medical abbreviations in routine work and provided ways to improve their usage. Another study that reviewed medication errors in 682 facilities over 2 years showed that 4.7% of the errors were attributed to the incorrect use of medical abbreviations.[8] To the best of our knowledge, there has been no study done researching the use of abbreviations in the field of IR.

Our study was open to all radiology doctors, including both trainees and consultants. The majority of participants were interventional radiologists (50.9%). The overwhelming majority of our participants were from India (86.8%). Most of the respondents (59.6%) felt that the use of abbreviations had an overall positive impact on IR. However, there was a section of respondents (21.9%) who felt

that they had an overall negative impact on IR.

The most-liked abbreviations were found to be TACE (trans-arterial chemoembolization), TIPSS (transjugular intrahepatic portosystemic shunt), PTBD (percutaneous transhepatic biliary drainage), BRTO (balloon occluded retrograde transvenous obliteration), and TARE (trans-arterial radioembolization). These represent commonly used interventions in IR, which might explain the popularity of these abbreviations. The most common reason (43%) for liking an abbreviation was if it was easier to remember the abbreviation than the full expansion. Another section of respondents (27.2%) preferred abbreviations that would have less chance of misinterpretation or confusion with its use. A smaller group (23.7%) felt that the abbreviations increased the efficiency of work and research.

A large group (32.45%) did not have any particularly disliked abbreviation. There was no commonly disliked abbreviation. The most common reason for disliking an abbreviation was if there were too many similar sounding abbreviations (24.56%). Other reasons for disliking an abbreviation included if there were different interpretations of the same abbreviation in different institutes or countries (14.91%) and if the abbreviation did not appropriately represent its full expansion (12.28%).

Standardization of abbreviations used in IR was a popular suggestion (30.7%) for improvement of the use of abbreviations. This could be in the form of publishing a glossary of standardized abbreviations in IR, published by an international committee of interventional radiologists. A smaller section of respondents (13.15%) felt that complete avoidance of abbreviations in IR was the way to go. Another suggestion was to avoid the use of abbreviations in medical reports and consent taking (6.14%). A large number (35%) felt that they were happy with the current use of abbreviations in the field of IR and did not have any suggestions for improvement of their use. A few other helpful suggestions included inculcating IR into the undergraduate curriculum to help familiarize students with the terminology at an earlier stage and holding online webinars to educate individuals in this matter.

Conclusion

Abbreviations play an important role in the routine work in the field of IR. However, there are limitations in the use of abbreviations in IR that may cause misunderstanding and confusion among doctors and can potentially affect patient care. This study helps assess the general opinion of radiology doctors on the use of abbreviations in IR and explores various suggestions to help improve their use. ■

Affiliations and Disclosures

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