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Assessing Subject Experience Associated with MRI Examinations: A Cross-Sectional Study from Jaipur, India

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ABSTRACT

Background: Magnetic Resonance Imaging (MRI) is an indispensable diagnostic modality; however, the enclosed scanner environment, prolonged examination duration, and high acoustic noise frequently result in patient discomfort and anxiety. These factors may adversely influence patient cooperation, scan tolerance, and image quality. Understanding subject experience is therefore essential for improving patient-centred MRI practice.

Aim: To assess subject experience associated with MRI examinations, with specific emphasis on discomfort, anxiety, phobia, and noise disturbance.

Materials and Methods: A descriptive cross-sectional study was conducted among patients undergoing MRI examinations at a tertiary care imaging centre in Jaipur, India. A total of 299 participants (partial dataset representing approximately 50% of the total PhD sample) were included. Data were collected using a structured, self-administered, closed-ended questionnaire based on a four-point Likert scale. Variables assessed included anxiety inside the MRI scanner, noise disturbance, discomfort due to prolonged immobility, dizziness, metallic taste sensation, warm sensation, and claustrophobic anxiety. Data were analysed using descriptive statistics, including mean, median, standard deviation, interquartile range, and percentages, using SPSS version 23.

Results: The study population comprised 155 males (51.8%) and 144 females (48.2%), with a mean age of 41.9 ± 13.8 years (median: 41 years; range: 11–84 years). Noise disturbance was the most prevalent complaint, reported by 81.6% of participants. Discomfort related to prolonged scan duration and immobility was reported by 67.2%, while 60.2% experienced anxiety inside the MRI scanner. Less frequently reported symptoms included dizziness (14.4%), metallic or weird taste (6.4%), and warm sensation (6.4%). A prior history of claustrophobic anxiety was reported by 3.3% of participants. The mean Likert score was highest for noise disturbance (3.25 ± 0.74), indicating it as the dominant factor affecting patient experience.

Conclusion: MRI examinations are associated with significant patient discomfort, predominantly due to acoustic noise, prolonged immobility, and scanner-related anxiety. Implementation of targeted interventions such as improved patient counselling, effective communication, and noise-reduction strategies may substantially enhance patient comfort and compliance during MRI procedures.

Keywords: Magnetic Resonance Imaging; Patient Experience; Anxiety; Noise Disturbance; Claustrophobia; Diagnostic Imaging

INTRODUCTION

Magnetic Resonance Imaging (MRI) is one of the most advanced diagnostic imaging modalities in contemporary medical practice due to its excellent soft-tissue contrast, multiplanar imaging capability, and absence of ionising radiation. It plays a pivotal role in the diagnosis and follow-up of neurological, musculoskeletal, cardiovascular, and abdominal pathologies. Despite these advantages, MRI examinations are frequently associated with negative patient experiences related to the scanner's physical environment and procedural characteristics, which may compromise patient compliance and image quality [1].

Conventional MRI scanners have a cylindrical, tunnel-like structure that requires patients to remain supine within a confined space for prolonged periods, typically 20 to 60 minutes, depending on the examination protocol. This enclosed environment may induce psychological distress, particularly anxiety and claustrophobia, in susceptible individuals. Claustrophobia is characterised by symptoms such as shortness of breath, chest tightness, sweating, trembling, dizziness, and a fear of loss of control, which can lead to premature termination of the scan or excessive patient motion [2,3]. Studies have reported that nearly 40–50% of patients experience moderate to severe anxiety during MRI examinations [2].

In addition to psychological discomfort, MRI examinations expose patients to intense acoustic noise generated by rapid gradient coil switching. Sound pressure levels during MRI can range between 120 dB and 131 dB, depending on the pulse sequence and scanner configuration. Prolonged exposure to such noise, especially without adequate hearing protection, can result in patient discomfort, anxiety, and transient alterations in cochlear function [4,5]. Noise has been consistently identified as one of the most disturbing aspects of MRI examinations across different age groups and magnetic field strengths [6].

Several patients also report unusual sensory experiences during MRI, including dizziness, vertigo, metallic or bitter taste sensations, and warmth. The perception of metallic taste, often referred to as the *electrogustatory effect*, has been attributed to electromagnetic field interactions with oral structures and has been reported in a significant proportion of patients, particularly at higher magnetic field strengths [7]. Mild dizziness and vertigo may result from the interaction of static magnetic fields with the vestibular apparatus of the inner ear, while warm sensations may be related to radiofrequency energy deposition and local tissue heating within safety limits [8,9].

Another important contributor to patient discomfort during MRI is the requirement for prolonged immobility. Many patients undergoing MRI suffer from pain, trauma, or degenerative conditions, making it difficult to remain motionless throughout the examination. Movement during scanning not only increases patient discomfort but also leads to motion artifacts, degraded image quality, repeated sequences, and prolonged scan time, thereby increasing patient stress and departmental workload [10].

Patient experience during MRI is influenced not only by scanner-related factors but also by contextual and interpersonal elements such as communication with radiology staff, prior knowledge of the procedure, and psychological preparedness. Evidence suggests that inadequate explanation of the procedure and lack of reassurance significantly increase anxiety levels, whereas effective patient education and communication can substantially improve scan tolerance and overall experience [11,12].

Although several international studies have explored MRI-related anxiety and discomfort, there is limited literature from the Indian subcontinent assessing subject experience during MRI examinations using structured questionnaires. Given the high patient volume and increasing reliance on MRI in Indian healthcare settings, understanding patient-reported experiences is essential for developing patient-centred strategies to improve comfort, compliance, and diagnostic efficiency.

Therefore, the present study was undertaken to assess subjects' experiences associated with MRI examinations, with particular emphasis on discomfort, anxiety, phobia, and noise disturbance, using a structured questionnaire-based approach at a tertiary care imaging centre in Jaipur, India.

AIM AND OBJECTIVES

Aim

To assess subject experience associated with Magnetic Resonance Imaging (MRI) examinations, with particular emphasis on discomfort, anxiety, phobia, and noise disturbance among patients undergoing MRI procedures.

Objectives

1. To evaluate the level of anxiety experienced by patients during MRI examinations.
2. To assess the degree of discomfort related to prolonged scan duration and restricted movement during MRI procedures.

3. To determine the impact of acoustic noise produced by MRI scanners on patient experience.
4. To identify the prevalence of claustrophobic and phobia-related symptoms associated with the MRI scanner environment.
5. To assess the occurrence of sensory effects, including dizziness, metallic or weird taste, and warm sensation during MRI examinations.
6. To analyse the overall pattern of patient-reported experiences during MRI examinations using a structured questionnaire-based approach.

MATERIALS AND METHODS

Study Design: A descriptive, cross-sectional questionnaire-based study was conducted to assess the subjects' experience with MRI examinations. The cross-sectional design was selected as it allows evaluation of patient-reported experiences at a single point in time, which is appropriate for assessing discomfort, anxiety, and sensory effects during diagnostic imaging procedures.

Study Setting: The study was conducted at the Department of Radiation and Imaging Technology at a tertiary care imaging centre in Jaipur, Rajasthan, India. The MRI unit caters to a high volume of outpatient referrals for neurological, musculoskeletal, abdominal, and spine imaging.

Study Duration: The study was conducted over 18 months, as approved by the institutional research and ethics committees.

Study Population: Patients undergoing routine MRI examinations during the study period.

Sample Size: For the present research paper, 299 participants were included, representing approximately 50% of the planned PhD sample. This partial dataset was intentionally utilised to allow subsequent analysis and publication using the remaining data.

Inclusion Criteria

Patients fulfilling the following criteria were included in the study:

- Outpatients (OPD) referred for MRI examination
- Conscious, cooperative, and oriented patients
- Patients of both genders
- Patients willing to provide informed written consent
- Patients undergoing MRI with or without contrast
- Patient age group from 18-50 Years

Exclusion Criteria

Patients meeting any of the following criteria were excluded:

- Critically ill or unstable patients
- Patients requiring sedation during MRI
- Non-cooperative or unconscious patients
- Patients unwilling to provide informed consent
- Patients with contraindications to MRI

MRI Equipment and Examination Protocol: All MRI examinations were performed using a 1.5 Tesla superconducting MRI scanner. Standard body coils and surface coils were used depending on the type of examination. Imaging protocols were selected according to clinical indication and institutional guidelines. Patients were provided with routine hearing protection prior to scanning.

Data Collection Tool

Questionnaire Design: Data were collected using a structured, self-administered, closed-ended questionnaire, developed based on previously published literature on MRI-related discomfort and anxiety. The questionnaire consisted of nine items assessing the following domains:

1. Anxiety inside the MRI scanner
2. Noise disturbance during scanning
3. Dizziness during MRI
4. Fear related to scanner structure
5. Metallic or weird taste sensation
6. Discomfort due to prolonged scan duration and immobility
7. Prior familiarity with MRI procedure
8. Warm sensation during scanning
9. History of anxiety related to confined spaces

Responses were recorded on a four-point Likert scale: *Disagree (1), Neutral (2), Agree (3), Strongly Agree (4)*.

Validity and Reliability: Content validity of the questionnaire was established through expert review by faculty members from the Department of Radiation and Imaging Technology. The questionnaire was prepared in English and Hindi to ensure clarity and comprehension. A pilot review ensured that all questions were easily understood by participants.

Data Collection Procedure: Eligible patients were approached prior to their MRI examination. The study's purpose was explained in detail, and written informed consent was obtained. Participants completed the questionnaire independently, with assistance provided when required. Confidentiality and anonymity were strictly maintained.

Data Management: Completed questionnaires were checked for completeness and coded numerically. Data were entered into Microsoft Excel and subsequently transferred to SPSS software for analysis. Data cleaning was performed to identify and correct entry errors.

Statistical Analysis: Statistical analysis was performed using SPSS version 23 and Microsoft Excel 2010.

- Categorical variables were expressed as frequencies and percentages
- Continuous variables (e.g., age) were summarised using mean, standard deviation, median, interquartile range, and minimum–maximum values
- Likert-scale responses were analysed descriptively, and mean Likert scores were calculated to rank discomfort factors

A p-value < 0.05 was considered statistically significant for inferential analysis planned in the full PhD dataset.

Ethical Considerations: Ethical approval for the study was obtained from the Institutional Ethics Committee. Written informed consent was obtained from all participants prior to data collection. Patient confidentiality was maintained throughout the study, and no personal identifiers were used in data analysis or reporting.

RESULTS

Participant Characteristics

A total of 221 participants undergoing MRI examinations were included in the final analysis after applying the inclusion criteria. The demographic characteristics of the participants, including gender distribution and age profile, are summarized below.

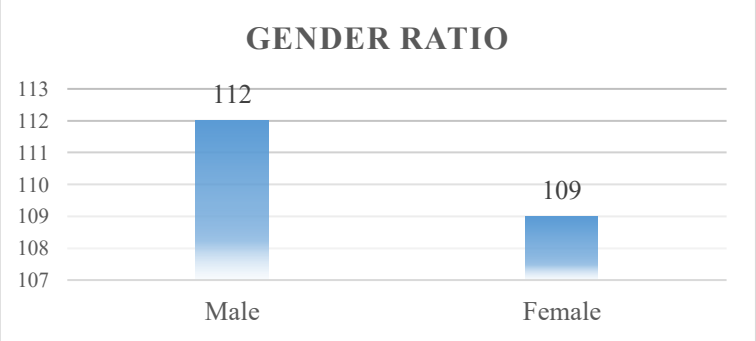
Gender Distribution

Among the 221 participants, 112 (50.7%) were male and 109 (49.3%) were female, indicating an almost equal distribution between the two genders. The minimal difference between male and female participants suggests that the study population was well-balanced, allowing reliable evaluation of MRI-related experiences without significant gender bias.

Table 1. Gender distribution of participants (n = 221)

Gender	Frequency (n)	Percentage (%)
Male	112	50.7
Female	109	49.3
Total	**221**	**100**

Figure 1: Gender distribution of participants (n = 221)



Age Distribution

Participants ranged in age from 19 to 50 years, representing adult patients undergoing MRI for various clinical indications. The mean age of the study population was 35.99 ± 8.55 years, indicating that most participants were middle-aged adults. The median age was 37 years, close to the mean, suggesting a relatively symmetric age distribution within the study population.

The interquartile range (IQR) was 29–44 years, demonstrating that half of the participants were concentrated within this age group. This indicates that MRI examinations were most frequently performed among individuals in their third and fourth decades of life.

Table 2. Descriptive statistics of age

Parameter	Value
Mean age	35.99 years
Standard deviation	±8.55

Median age	37 years
IQR	29–44 years
Minimum age	19 years
Maximum age	50 years

Patient Experience During MRI

Patient experiences during MRI examinations were evaluated using a 4-point Likert scale with the following response categories: Disagree, Neutral, Agree, and Strongly Agree. The results of each symptom or discomfort factor are described below.

Anxiety Experienced Inside the MRI Scanner

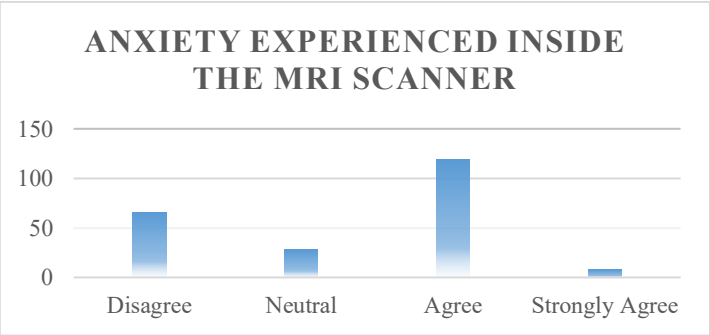
Anxiety inside the MRI scanner was reported by a considerable proportion of participants. Specifically, 119 participants (53.8%) agreed that they experienced anxiety during the MRI examination, while 8 participants (3.6%) strongly agreed. In contrast, 66 participants (29.9%) disagreed, indicating that they did not experience anxiety during the procedure, while 28 participants (12.7%) reported a neutral response.

Overall, 127 participants (57.4%) reported experiencing anxiety to some extent during MRI scanning. This finding indicates that psychological discomfort is relatively common during MRI examinations, likely due to the confined scanning environment and the unfamiliarity of the procedure for some patients.

Table 3. Anxiety experienced inside the MRI scanner

Response	**Frequency**	**Percentage (%)**
Disagree	66	29.9
Neutral	28	12.7
Agree	119	53.8
Strongly Agree	8	3.6
Total	**221**	**100**

Figure 2: Anxiety experienced inside the MRI scanner



Noise Disturbance During MRI

MRI scanner noise was identified as the most common source of discomfort among participants. A total of 130 participants (58.8%) strongly agreed that the noise produced during MRI was disturbing, while 53 participants (24.0%) agreed.

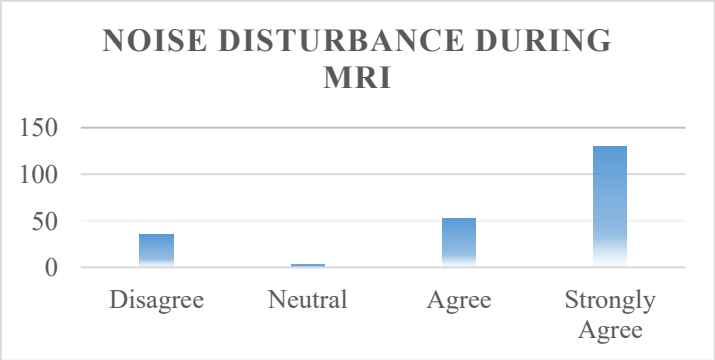
Only 35 participants (15.8%) disagreed, suggesting that they were not disturbed by the noise, while 3 participants (1.4%) reported neutral responses.

Overall, 183 participants (82.8%) reported annoyance due to MRI noise, indicating that acoustic noise is a major factor influencing patient comfort during MRI examinations.

Table 4. Noise disturbance during MRI

Response	Frequency	Percentage (%)
Disagree	35	15.8
Neutral	3	1.4
Agree	53	24.0
Strongly Agree	130	58.8
Total	**221**	**100**

Figure 3: Noise disturbance during MRI



Dizziness During MRI

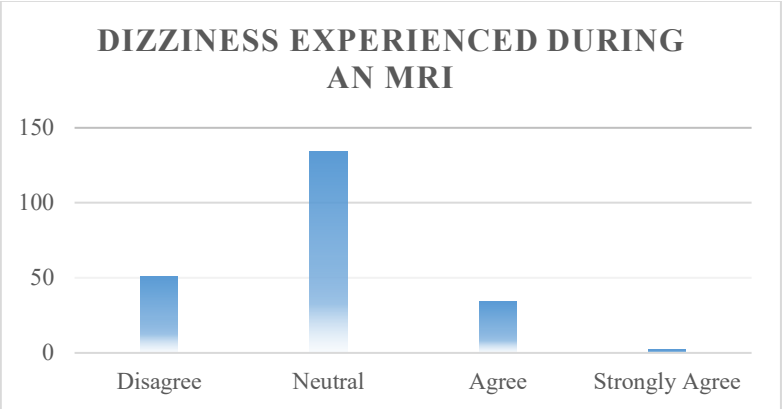
Dizziness was reported by a smaller proportion of participants compared to anxiety and noise disturbance. Among the participants, 34 (15.4%) agreed, and 2 (0.9%) strongly agreed that they experienced dizziness during MRI scanning. Meanwhile, 51 participants (23.1%) disagreed, indicating that they did not experience dizziness.

Most participants (134, 60.6%) reported neutral responses, suggesting that dizziness was not a prominent symptom among individuals undergoing MRI examinations.

Table 5. Dizziness experienced during an MRI

Response	Frequency	Percentage (%)
Disagree	51	23.1
Neutral	134	60.6
Agree	34	15.4
Strongly Agree	2	0.9
Total	**221**	**100**

Figure 4: Dizziness experienced during an MRI



Fear Due to the MRI Scanner Structure

Fear of the MRI scanner's physical structure was relatively uncommon among participants. A large majority of participants (175, 79.2%) disagreed that the MRI machine's structure caused fear.

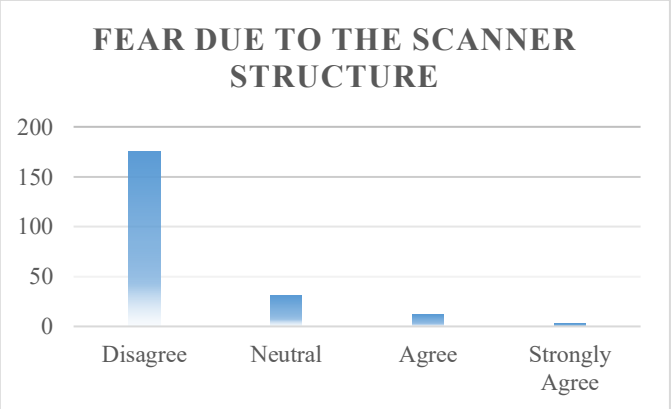
In contrast, 31 participants (14.0%) reported neutral responses, while 12 participants (5.4%) agreed and 3 participants (1.4%) strongly agreed that the machine structure caused fear.

These results indicate that although a small proportion of participants felt apprehensive about the scanner structure, most patients were comfortable with the machine environment.

Table 6. Fear due to the scanner structure

Response	Frequency	Percentage (%)
Disagree	175	79.2
Neutral	31	14.0
Agree	12	5.4
Strongly Agree	3	1.4
Total	**221**	**100**

Figure 5. Fear due to the scanner structure



Metallic or Weird Taste Sensation

A small proportion of participants reported experiencing a metallic or unusual taste sensation during MRI scanning. Specifically, 12 participants (5.4%) agreed, and 4 participants (1.8%) strongly agreed that they experienced such sensations.

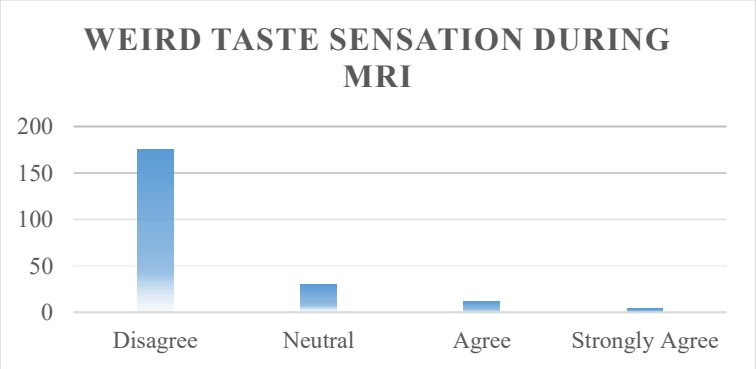
Most participants (175, 79.2%) disagreed with this statement, while 30 (13.6%) responded neutrally.

These findings indicate that metallic taste sensation during MRI examinations is relatively uncommon.

Table 7. Weird taste sensation during MRI

Response	Frequency	Percentage (%)
Disagree	175	79.2
Neutral	30	13.6
Agree	12	5.4
Strongly Agree	4	1.8
Total	**221**	**100**

Figure 6. Weird taste sensation during MRI



Discomfort Due to Long Scan Duration and Immobility

Discomfort related to prolonged scan duration and restricted movement was another frequently reported problem. A total of 148 participants (67.0%) agreed, and 3 participants (1.4%) strongly agreed that the long duration of MRI scanning caused discomfort.

Meanwhile, 35 participants (15.8%) disagreed, indicating that they did not experience discomfort due to scan duration, and 35 participants (15.8%) reported neutral responses.

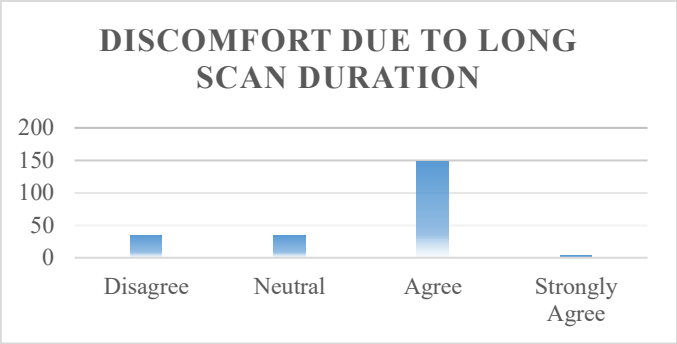
Overall, 151 participants (68.4%) experienced discomfort due to prolonged immobility, making it the second most common issue after noise disturbance.

Table 8. Discomfort due to long scan duration

Response	Frequency	Percentage (%)
Disagree	35	15.8
Neutral	35	15.8

Agree	148	67.0
Strongly Agree	3	1.4
Total	**221**	**100**

Figure 7. Discomfort due to long scan duration



Warm Sensation During MRI

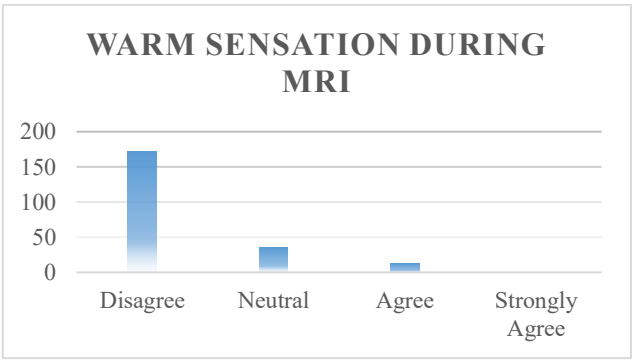
A small proportion of participants reported a warm sensation during MRI scanning: 13 participants (5.9%) reported experiencing warmth during the scan, while 172 participants (77.8%) disagreed, indicating they did not experience this symptom.

Additionally, 36 participants (16.3%) reported neutral responses, suggesting that the sensation was either absent or minimal for most participants.

Table 9. Warm sensation during MRI

Response	Frequency	Percentage (%)
Disagree	172	77.8
Neutral	36	16.3
Agree	13	5.9
Strongly Agree	0	0

Figure 8. Warm sensation during MRI



Claustrophobic Anxiety

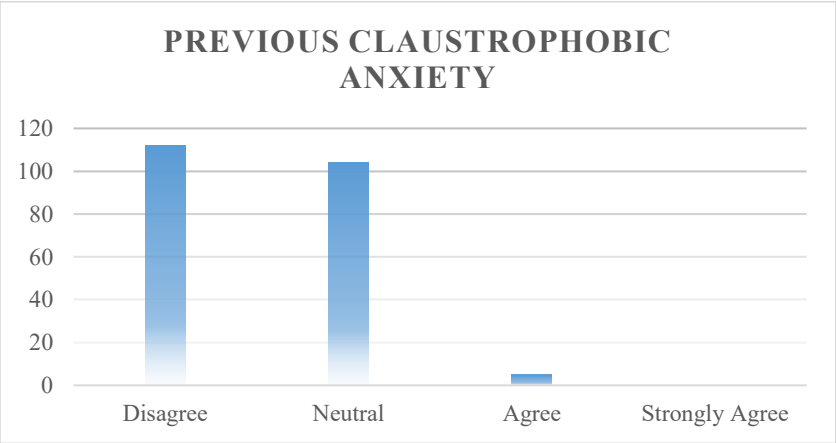
Very few participants reported a previous history of claustrophobic anxiety. 5 participants (2.3%) agreed that they had anxiety related to confined spaces, while 112 participants (50.7%) disagreed, and 104 participants (47.1%) reported neutral responses.

These results indicate that severe claustrophobic anxiety was uncommon among the participants included in the study.

Table 10. Previous claustrophobic anxiety

Response	Frequency	Percentage (%)
Disagree	112	50.7
Neutral	104	47.1
Agree	5	2.3
Strongly Agree	0	0

Figure 9. Previous claustrophobic anxiety



Overall Findings

The results demonstrate that noise disturbance (82.8%), discomfort due to prolonged scan duration (68.4%), and anxiety inside the MRI scanner (57.4%) were the most frequently reported issues during MRI examinations. Other symptoms, such as dizziness, a metallic taste sensation, a warm sensation, and claustrophobic anxiety, were comparatively less common but still present among a small subset of participants.

These findings highlight that both psychological factors (anxiety) and physical factors (noise and prolonged immobility) play important roles in influencing the overall patient experience during MRI examinations.

DISCUSSION

The present study evaluated patient experience associated with MRI examinations, focusing on anxiety, noise disturbance, discomfort due to prolonged immobility, and other sensory effects. The findings indicate that several physical and psychological factors influence patient comfort during MRI procedures.

One of the major findings of this study was that 57.4% of participants reported experiencing anxiety inside the MRI scanner. MRI examinations require patients to remain inside a narrow cylindrical scanner for extended periods, which can provoke psychological stress and discomfort. Similar observations have been reported in previous studies. Lueken et al. reported that MRI procedures may trigger anxiety and panic-like symptoms,

particularly in individuals sensitive to confined environments or unfamiliar medical procedures. Anxiety during MRI is an important concern because it may reduce patient cooperation and lead to movement during scanning, potentially affecting image quality and diagnostic accuracy.

Another significant finding of the study was that noise disturbance was the most frequently reported discomfort factor, with 82.8% of participants reporting annoyance from MRI acoustic noise. MRI scanners produce loud knocking and tapping sounds during rapid gradient coil switching during image acquisition. Previous studies have also identified acoustic noise as one of the most disturbing aspects of MRI examinations. Radomskij et al. reported that MRI acoustic noise can exceed 120 dB, depending on the pulse sequence, potentially causing discomfort and temporary auditory effects if adequate hearing protection is not used. The high prevalence of noise-related discomfort observed in the present study highlights the importance of providing proper ear protection and informing patients about expected noise levels before the examination.

Discomfort related to prolonged scan duration and restricted movement was also frequently reported. In the current study, 68.4% of participants experienced discomfort due to long scanning time and immobility. MRI examinations often require patients to remain motionless for extended periods to avoid motion artefacts. For patients experiencing pain or musculoskeletal conditions, maintaining a fixed position can be physically uncomfortable. Similar findings have been reported in previous studies, where prolonged examination duration was identified as a major contributor to patient discomfort during MRI procedures.

The study also assessed other sensory experiences during MRI. Dizziness was reported by 16.3% of participants, a metallic or unusual taste sensation by 7.2%, and a warm sensation during scanning by 5.9%. These sensory effects are generally mild and transient. Previous research suggests that such sensations may result from interactions between magnetic fields and the vestibular or sensory systems. Chakeres et al. demonstrated that exposure to strong static magnetic fields can affect vestibular function, potentially causing dizziness in some individuals.

Fear related to the MRI scanner's physical structure was relatively uncommon in the present study. Only 6.8% of participants reported fear of the scanner structure, indicating that most patients were comfortable with the MRI environment. Similarly, claustrophobic anxiety related to confined spaces was reported by only 2.3% of participants, suggesting that severe claustrophobia was rare among the study population. Previous studies have reported higher rates of claustrophobic reactions during MRI examinations; however, patient preparation and improved scanner design may help reduce these reactions.

Overall, the present study's findings indicate that noise disturbance, prolonged immobility, and scanner-related anxiety are the most important factors influencing patient experience during MRI examinations. Sensory effects such as dizziness, metallic taste, and warm sensation occur less frequently but may still affect a small proportion of patients. Addressing these factors through effective patient counselling, improved communication, and appropriate noise-reduction strategies may enhance patient comfort and compliance during MRI procedures.

CONCLUSION

The present study evaluated patient experience associated with Magnetic Resonance Imaging (MRI) examinations and identified several factors that influence patient comfort during the procedure. The findings demonstrate that noise disturbance, prolonged scan duration with restricted movement, and anxiety inside the MRI scanner are the most prominent factors affecting patient experience.

A considerable proportion of participants reported experiencing anxiety during MRI examinations, indicating that the confined scanner environment and unfamiliarity with the procedure may contribute to psychological discomfort. In addition, MRI acoustic noise was identified as the most common source of disturbance, affecting most participants. Discomfort related to prolonged immobility during the examination was also frequently reported, highlighting the physical challenges associated with maintaining a fixed position for an extended period.

Other sensory effects, such as dizziness, a metallic taste, and a warm sensation, were reported by a smaller proportion of participants and were generally less prominent than noise- and anxiety-related discomfort. Fear associated with the MRI scanner structure and claustrophobic anxiety were relatively uncommon in the study population.

Overall, the findings suggest that both psychological factors (such as anxiety) and physical factors (such as acoustic noise and prolonged immobility) play important roles in shaping patient experience during MRI examinations. Improving patient preparation through proper counselling, providing adequate hearing protection, and optimising scanning protocols may help enhance patient comfort, reduce anxiety, and improve overall MRI examination tolerance.

Limitations of the Study

Although the present study provides valuable insights into patient experiences during MRI examinations, several limitations should be acknowledged. First, the study was conducted at a single imaging centre, which may limit the generalizability of the findings to other healthcare settings with different patient populations or MRI systems. Second, the study relied on self-reported responses via a questionnaire, which may introduce response bias, as participants' perceptions of discomfort or anxiety may vary. Third, the study design was cross-sectional, which allows assessment of patient experiences at a single point in time but does not establish causal relationships between specific factors and patient discomfort. Additionally, the study primarily used descriptive analysis, and associations between demographic variables and MRI-related experiences were not extensively explored. Finally, patients with severe claustrophobia or those unable to complete MRI examinations were not included, which may have resulted in an underestimation of the true prevalence of MRI-related anxiety and discomfort.

Recommendations / Clinical Implications

The findings of the present study highlight several important considerations for improving patient comfort during MRI examinations. Since noise disturbance was identified as the most significant factor affecting patient experience, ensuring the consistent use of appropriate hearing protection, such as earplugs or headphones, may help reduce discomfort. Additionally, pre-scan counselling and clear communication regarding the procedure, expected scan duration, and noise levels may help reduce anxiety among patients undergoing MRI for the first time. Providing reassurance and maintaining communication with patients during the examination may further improve their confidence and cooperation.

Measures to improve patient positioning and comfort, such as the use of cushions or supports, may help reduce discomfort associated with prolonged immobility. Where possible, optimizing MRI protocols to minimize scan duration without compromising diagnostic quality may also improve patient tolerance. Furthermore, educational interventions, including informational materials or pre-scan orientation, may help patients better understand the procedure and reduce psychological stress.

Future studies involving larger, multicentre populations, as well as analytical approaches examining the relationships between demographic variables and MRI-related experiences, may provide deeper insights into the factors influencing patient comfort during MRI examinations.

REFERENCES

1. Dewey M, Schink T, Dewey CF. Claustrophobia during magnetic resonance imaging: cohort study in over 55,000 patients. J Magn Reson Imaging. 2007;26(5):1322–1327.
2. James AC, Lau JYF. Anxious and non-anxious adolescents' experiences of non-clinical magnetic resonance imaging research. J Child Psychol Psychiatry. 2013;54(5):556–560.
3. Lueken U, Muehlhan M, Wittchen HU, Kellermann T, Reinhardt I, Konrad C, et al. (Don't) panic in the scanner: how panic patients with agoraphobia experience a functional magnetic resonance imaging session. Eur Neuropsychopharmacol. 2011;21(7):516–525.
4. Radomskij P, Schmidt MA, Heron CW, Prasher D. Effect of MRI noise on cochlear function. Lancet. 2002;359(9316):1485–1486.
5. Versluis MJ, Teeuwisse WM, Kan HE, van Buchem MA, Webb AG, van Osch MJP. Subject tolerance of 7 T MRI examinations. J Magn Reson Imaging. 2013;38(3):722–725.

6. Chou IJ, Tench CR, Gowland P, Jaspan T, Dineen RA, Evangelou N, et al. Subjective discomfort in children receiving 3T MRI and experienced adults' perspective on children's tolerability of 7T MRI: a cross-sectional questionnaire survey. BMJ Open. 2014;4(10):e006094.

7. Heilmaier C, Theysohn JM, Maderwald S, Kraff O, Ladd ME, Ladd SC. A large-scale study on subjective perception of discomfort during 7T and 1.5T MRI examinations. Bioelectromagnetics. 2011;32(8):610–619.

8. Chakeres DW, Kangarlu A, Boudoulas H, Young DC. Effect of static magnetic field exposure of up to 8 Tesla on sequential human vital sign measurements. J Magn Reson Imaging. 2003;18(3):346–352.

9. Cavin ID, Glover PM, Bowtell RW, Gowland PA. Thresholds for perceiving metallic taste at high magnetic field. J Magn Reson Imaging. 2007;26(5):1357–1361.

10. Farinha MN, Semedo CS, Diniz AM, Herédia V. Individual and contextual variables as predictors of MRI-related perceived anxiety. Behav Sci (Basel). 2023;13(5):458.

11. Al Shanbari NM, Alobaidi SF, Alhasawi R, Alzahrani AS, Bin Laswad BM, Alzahrani AA, et al. Assessment of anxiety associated with MRI examination among the general population in the western region of Saudi Arabia. Cureus. 2023;15(2):e34531.

12. Nakarada-Kordic I, Reay S, Bennett G, Kruse J, Lydon AM, Sim J. Can virtual reality simulation prepare patients for an MRI experience? Radiography. 2020;26(3):205–213.

13. Poulsen EN, Olsson A, Gustavsen S, Langkilde AR, Oturai AB, Carlsen JF. MRI of the entire spinal cord—worth the while or waste of time? A retrospective study of 74 patients with multiple sclerosis. Diagnostics (Basel). 2021;11(8):1424.

14. Radomskij P, Prasher D. MRI acoustic noise: patient tolerance and hearing safety considerations. Clin Radiol. 2002;57(9):830–835.

15. Versluis MJ, van Osch MJP. Patient comfort and tolerance in high-field MRI: implications for clinical practice. Magn Reson Med. 2014;72(3):814–821.