

Review

Ultrasound in psycho-oncology: Early detection, patient anxiety, and the role of radiologists in psychological support

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Abstract: Ultrasound plays an essential role in cancer detection and follow up, yet the psychological experience surrounding this procedure has received limited attention. This review explores the intersection between diagnostic imaging and patient psychology within the context of psycho oncology, focusing on how communication and environmental factors influence anxiety and trust. Evidence from recent studies shows that patients often experience significant emotional tension before and during ultrasound examinations, driven by uncertainty, prior medical experiences, and perceived risk of recurrence. However, anxiety can be effectively reduced through empathetic communication, clear explanations, and supportive interaction by radiologists and sonographers. The review also highlights that a calm physical environment, pre scan orientation, and post scan reassurance contribute to a more positive patient experience. Integrating psychological awareness into routine radiology practice requires no major workflow changes but consistent efforts in communication, training, and empathy. By viewing the ultrasound encounter as both a diagnostic and psychological process, radiology departments can promote emotional comfort, trust, and resilience among patients. The review concludes that radiologists who combine technical expertise with compassion can transform ultrasound from a source of anxiety into an opportunity for psychological support and healing.

Keywords: anxiety; communication; oncology; patient trust; psycho-oncology; radiologist; ultrasound

1. Introduction

Psycho-oncology has emerged as an essential discipline that explores the psychological, social, and behavioral dimensions of cancer care [1,2]. It recognizes that emotional well-being is deeply intertwined with diagnostic and therapeutic experiences [3]. Among various medical specialties, diagnostic imaging plays a unique yet underexplored role in shaping a patient's psychological state [4]. Ultrasound, as a primary modality for cancer screening and follow-up, represents one of the earliest contact points between a patient and the healthcare system [5]. Its capacity for real-time visualization and immediate feedback can make it both reassuring and anxiety-provoking, depending on how the information is communicated and interpreted [6].

Ultrasound examinations are often associated with uncertainty and anticipation [7]. For many patients, especially those undergoing cancer screening or surveillance, the act of waiting for an image interpretation can trigger substantial anxiety [8]. Unlike laboratory tests, ultrasound involves direct observation of internal organs, which can create a

heightened sense of vulnerability [9]. Fear of discovering a malignancy, ambiguous findings, or the need for further imaging can amplify emotional distress [10]. This anxiety may not only affect the patient's immediate experience but can also influence long-term attitudes toward follow-up appointments and adherence to screening programs [4].

Radiologists and sonographers occupy a pivotal position within the psychological landscape of medical imaging [11]. Their verbal explanations, tone, and interpersonal approach can significantly shape patient perceptions [12]. When communication lacks empathy or clarity, it can intensify fear and uncertainty [13]. Conversely, supportive and transparent interaction can alleviate anxiety and build trust. Studies in radiology and psycho-oncology have shown that effective communication reduces perceived threat and enhances patient satisfaction [14]. However, psychological support is often not included as a formal component of imaging practice, leading to a gap between technical proficiency and emotional care [15].

The relationship between ultrasound and psychological responses is bidirectional. On one hand, early detection through ultrasound can save lives and improve prognostic outcomes, fostering relief and reassurance [16]. On the other hand, false positive findings or inconclusive results may lead to heightened stress, depressive symptoms, or avoidance of future screening [17]. This dual nature underscores the need to balance diagnostic accuracy with psychological sensitivity [18].

This review aims to integrate existing evidence on the psychosocial implications of ultrasound in oncology. Specifically, it explores three interrelated themes: the psychological impact of ultrasound based early detection, patterns, and determinants of patient anxiety during imaging, and the evolving role of radiologists as psychological support providers. By situating ultrasound within the framework of psycho oncology, this narrative review seeks to highlight how emotional understanding and communication competence can enhance both diagnostic quality and patient well-being. It further calls for the incorporation of psychological literacy into radiology education and practice, ensuring that the technological precision of ultrasound is matched by human compassion.

2. Ultrasound and early cancer detection: Promise and psychological cost

Ultrasound imaging is one of the most accessible and widely used tools in oncology. It provides a real-time and radiation-free method for identifying tumors in organs, such as the breast, thyroid, liver, ovary, and prostate. Its value lies in the ability to detect structural changes at an early stage, often before clinical symptoms appear [19]. From a psycho-oncology perspective, the moment of detection transcends a mere technical event. It represents a psychological threshold where uncertainty transforms into fear, relief, or hope [20]. Early identification can improve survival rates, as shown by various studies [21]. However, it also confronts individuals with the emotional weight of a potential cancer diagnosis, highlighting the need for psychological support [22].

2.1. Advantages of ultrasound in early tumor detection

Ultrasound's affordability, safety, and immediate feedback make it a central component of population screening programs and follow-up monitoring. In many

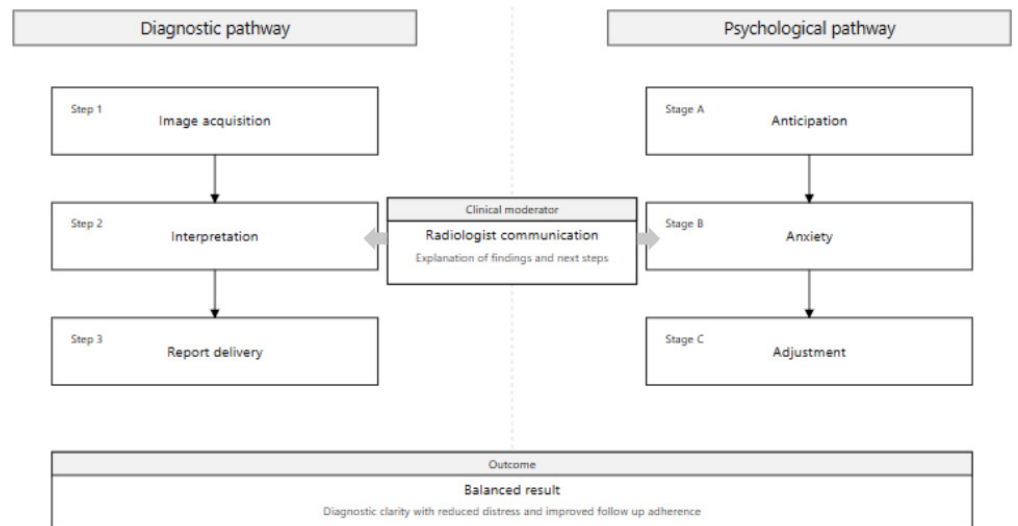


Figure 1. Conceptual flow of ultrasound based early cancer detection and corresponding psychological response.

healthcare systems, it serves as the first point of contact for suspected breast cancer, linking patients to further clinical evaluation [23]. **Figure 1** illustrates this dual pathway, showing how early detection through ultrasound initiates both clinical action and psychological adaptation. The left side of the figure represents the diagnostic process, such as image acquisition, interpretation, and report delivery, while the right side mirrors the emotional process that includes anticipation, anxiety, and adjustment. The intersection point symbolizes where communication by the radiologist directly influences patient distress [24].

Clear communication during the ultrasound session can reduce the psychological impact of early detection. When radiologists explain findings and possible next steps, patients experience less anxiety and greater trust in the process [25]. In contrast, vague or abrupt communication can create confusion and distress [26]. This contrast highlights that technical skill alone does not ensure patient-centered care. Empathetic communication and psychological understanding are equally important in delivering high-quality imaging services [27].

2.2. Psychological burden of screening and incidental findings

While early screening provides clear clinical benefits, it is often accompanied by emotional strain. Many patients report increased anxiety before and after an ultrasound examination. This anxiety becomes more intense when results are delayed or when incidental findings require additional testing. **Table 1** summarizes evidence

Table 1. Comparative patient anxiety levels across imaging modalities.

Imaging modality	Typical use	Mean anxiety score (STAI)*	Common psychological trigger
Ultrasound	Breast, thyroid, liver	46–55	Waiting for interpretation, unclear findings
Mammography	Breast screening	50–60	Fear of pain, radiation exposure
MRI	Soft tissue, brain, metastasis	55–65	Claustrophobia, loud noise, uncertainty
CT	Whole body or chest	45–50	Radiation exposure, incidental findings

*STAI = State Trait Anxiety Inventory. Scores above 45 indicate significant anxiety.

from published studies comparing anxiety levels among patients undergoing different imaging modalities for cancer detection.

The data indicate that ultrasound can generate levels of anxiety comparable to those experienced during MRI scans, although the emotional experience associated with each may differ [28]. Real-time visualization of internal organs can heighten a patient's awareness of potential health issues. Patients may misinterpret the facial expressions or pauses of the sonographer as indications of negative findings [29]. When incidental findings such as benign nodules are identified, patients often experience lingering worry even after receiving reassurance, a phenomenon commonly referred to as "scanxiety" [30].

Cultural beliefs and previous experiences with cancer significantly influence emotional responses to diagnostic procedures. In collectivist cultures, patients may experience increased stress due to family expectations or fears of social stigma [31]. For high-risk populations, such as women with a significant family history of breast cancer, repeated ultrasound monitoring can intensify hypervigilance and intrusive thoughts regarding the possibility of recurrence [32].

Figure 2 visualizes the emotional curve of the ultrasound screening journey. Anxiety typically peaks in three phases: before the scan due to anticipation, during the scan due to exposure and uncertainty, and after the scan while waiting for results. The curve declines only when the radiologist provides clear and compassionate communication.

Ultrasound functions as both a medical and psychological experience. It offers diagnostic confidence while exposing patients to emotional uncertainty [33]. Bridging this gap requires deliberate communication strategies and collaboration between radiology and psycho-oncology teams [34]. Recognizing that diagnosis involves both image interpretation and emotional response ensures that early detection contributes not only to longer survival but also to improved psychological well-being [34].

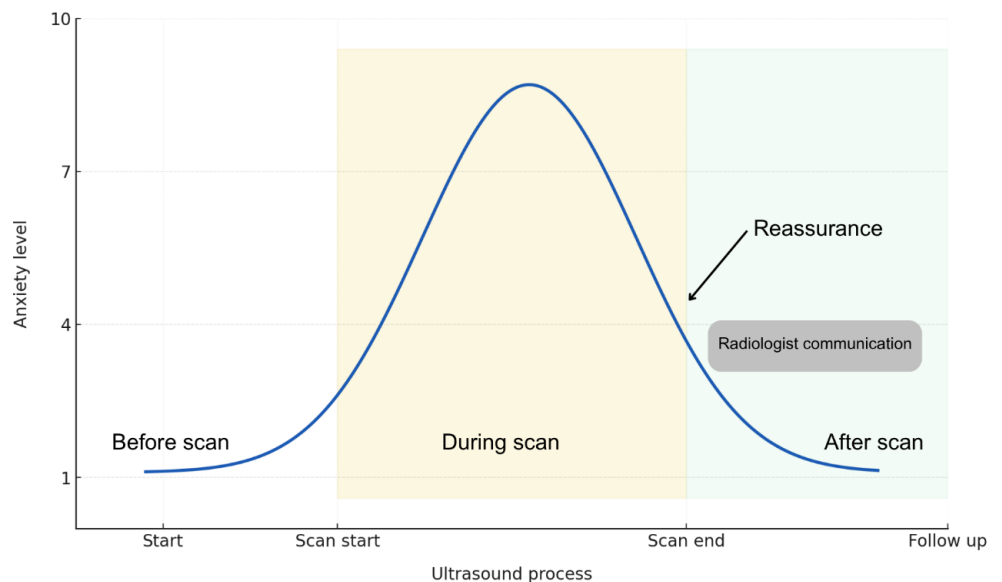


Figure 2. Emotional curve of patient anxiety during the ultrasound screening process.

3. Patient anxiety in ultrasound settings

Anxiety is one of the most frequently reported psychological reactions among patients undergoing diagnostic imaging. In the context of ultrasound, the emotional response can be particularly intense because of the immediacy and transparency of the procedure [11]. Unlike laboratory tests, ultrasound allows patients to witness their internal anatomy in real time, often interpreting the examiner's expressions and pauses as cues to the seriousness of their condition. This visual immediacy creates a unique psychological environment in which uncertainty, anticipation, and fear coexist with trust and curiosity [35].

3.1. Sources of anxiety

Anxiety during ultrasound examinations arises from several overlapping sources. Procedural factors include the physical setting of the imaging room, the sound of the machine, and the sensation of the transducer moving across the body [36]. Cognitive factors relate to fear of what may be discovered, particularly when the test is ordered for cancer screening or follow-up [37]. Emotional factors include prior traumatic medical experiences, cultural attitudes toward illness, and personal coping styles. For example, patients who have previously undergone surgery or chemotherapy often exhibit anticipatory anxiety before imaging appointments [38]. Their fear is not limited to the test itself but extends to what the image might reveal about recurrence or disease progression.

Qualitative studies have described this experience as a cycle of “scanxiety,” a term used to express the distress that begins days before the test and peaks while waiting for results [39]. **Figure 2** illustrates this typical trajectory. The curve shows that anxiety starts low before the scan, peaks during image acquisition, and gradually declines after clear communication by the radiologist. The pattern highlights that the most critical moment for psychological support occurs immediately after the scan when uncertainty can either resolve or escalate depending on how the findings are discussed [40].

3.2. Measured psychological impacts

Quantitative studies in psycho-oncology indicate that anxiety during ultrasound examinations is indeed measurable and clinically relevant [41]. Although ultrasound is often regarded as a straightforward and safe procedure, its psychological impact can be significant, particularly among patients undergoing cancer screening or surveillance [42]. Instruments like the State-Trait Anxiety Inventory and the Hospital Anxiety and Depression Scale are commonly employed to evaluate these emotional responses before and after imaging [43]. These tools enable researchers to detect subtle changes in anxiety levels across different procedural stages and patient demographics.

As indicated in **Table 2**, anxiety levels can vary based on the clinical context and the perceived seriousness of the examination. Patients undergoing breast ultrasounds for diagnostic or screening purposes typically report elevated anxiety levels. This heightened anxiety is often due to the emotional sensitivity surrounding breast health and fear of potential malignancy [44]. Conversely, patients undergoing thyroid

Table 2. Typical anxiety levels reported in patients undergoing ultrasound examinations.

Patient group	Assessment tool	Typical anxiety level	Clinical context
Women attending breast ultrasound	STAI or HADS	High	Diagnostic or screening session
Thyroid nodule patients	HADS or BAI	Low to middle	Pre biopsy or follow up
Abdominal or pelvic cancer patients	STAI	Middle	Routine surveillance
Oncology follow up patients	STAI	Middle to high	Post therapy monitoring

ultrasound tend to display low to moderate anxiety levels, likely attributable to the generally benign nature of most thyroid findings and their familiarity with follow-up visits [45].

Abdominal or pelvic cancer patients often report moderate levels of anxiety, which may stem from the stress of ongoing monitoring and their adaptation to repeated imaging. Even among those accustomed to the surveillance procedures, uncertainty regarding potential disease progression can perpetuate emotional strain [46]. Oncology patients in post-therapy monitoring typically display moderate to high anxiety levels. For these individuals, each imaging scan can serve as a symbolic test of remission; thus, any ambiguous results or requests for additional imaging can trigger significant distress [47].

Overall, these observations show that ultrasound anxiety is multifactorial. The level of distress is influenced not only by disease risk but also by prior experiences and personality traits [37]. Importantly, the decline in anxiety after the scan strongly depends on how results are conveyed. When medical professionals provide timely explanations and reassurance, anxiety typically drops quickly [48]. In contrast, limited feedback or vague communication tends to prolong uncertainty [11]. Recognizing these patterns allows medical departments to target psychological support more effectively, ensuring that diagnostic precision is matched by emotional care.

3.3. Vulnerable populations

Certain groups are more prone to heightened anxiety. First-time screeners often experience significant reactions because of unfamiliarity with the procedure and its implications; however, specific evidence supporting this assertion was not found in the referenced literature. Cancer survivors undergoing surveillance may interpret any follow-up imaging as a test of remission, making them particularly sensitive to ambiguous findings [5]. Individuals with high health-related anxiety or prior exposure to serious illness in family members likely exhibit elevated responses, but specific citations were not available to detail the latter sentiment. Age, gender, and cultural background further modulate this experience. Women, for instance, tend to report greater prescan tension in breast and gynecologic imaging contexts, possibly due to heightened body awareness and social narratives surrounding cancer risk. Evidence relevant to this gender difference was not found in the referenced literature, particularly in a cancer imaging context [49].

3.4. Role of communication

Effective communication remains a critical tool in reducing patient anxiety. Clear explanations of the purpose, process, and limitations of medical imaging can help

transform anxiety into reassurance [50]. Studies have shown that when radiologists maintain a calm tone, provide clear feedback, and engage in consistent eye contact, patients often experience an increased sense of control and trust, which can reduce anxiety [51]. Conversely, the use of abrupt or overly technical language, lack of eye contact, or visible concern from the healthcare provider can heighten a patient's distress [52]. Communication serves as the connecting bridge that can guide patients from anxiety to reassurance through empathy and clarity [53].

3.5. Strategies for clinical practice

To manage anxiety effectively, several strategies can be incorporated into routine imaging practice. These include brief pre scan explanations, gentle verbal cues during the examination, and post scan reassurance about when and how results will be communicated. Simple interventions such as soft lighting, minimal background noise, and the presence of a supportive staff member have been shown to reduce physiological arousal [54,55]. In oncology settings, integrating psycho oncology principles into radiology workflow, such as referring anxious patients for counseling or including a brief psychological assessment can further enhance the patient experience [56,57].

The psychological environment of the ultrasound suite should therefore be viewed as part of the diagnostic process rather than an adjunct to it. By cultivating empathy, awareness, and communication skills, radiologists and sonographers can transform a potentially stressful encounter into an opportunity for psychological support and trust building [54,55].

4. The role of radiologists in psychological support

Radiologists and sonographers play a pivotal yet often underrecognized role in the emotional experience of patients undergoing ultrasound. Although their primary task is diagnostic interpretation, their words, tone, and demeanor can significantly influence the psychological state of patients [58]. In the context of psycho-oncology, this interaction becomes particularly meaningful as imaging sessions frequently coincide with moments of high emotional vulnerability [59]. The radiologist, therefore, functions not only as a technical expert but also as a key figure in providing short-term psychological support [60].

4.1. Beyond technical expertise

The image acquisition and interpretation process are traditionally seen as an objective task, but patients often perceive it as an interpersonal exchange. Subtle elements such as how the operator greets the patient, explains the procedure, or reacts to unexpected findings can affect the patient's emotional stability [34]. A calm and confident tone can instill reassurance, while abrupt silence or visible concern may trigger fear [50]. Because ultrasound allows for real-time visualization, patients watch the screen closely and interpret body language cues instantly [11]. Thus, technical skill and emotional regulation are inseparable during the imaging process.

Radiologists who demonstrate empathy through simple verbal affirmations, such as "everything looks okay so far" or "we are just taking a few more images for clarity,"

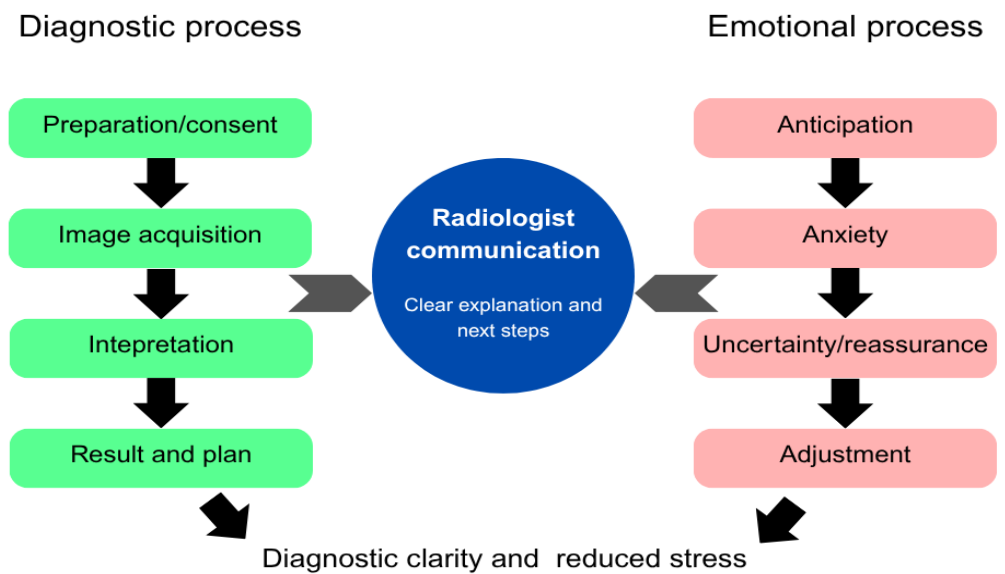


Figure 3. Conceptual model of communication and emotional modulation during ultrasound.

can significantly reduce anxiety levels [57]. Conversely, if patients sense hesitation, ambiguity, or rushed communication, their stress may persist even after the examination [61]. This dynamic highlights the need for radiologists to receive communication training similar to that provided in other patient-facing medical fields [62].

4.2. Components of effective communication

Figure 3, presented earlier, illustrates the two parallel processes that unfold during an ultrasound session: the diagnostic process and the emotional process. The communication node acts as a bridge that translates complex medical information into a psychologically digestible form. Effective communication has three essential components.

The first component is empathy, which conveys understanding and respect for the patient's emotional state. Even a brief acknowledgment such as "I understand that waiting for results can be stressful" can humanize the encounter [63]. The second component is clarity, achieved by using simple, nontechnical language when describing findings or procedures [64]. The third component is support, which involves guiding the patient through what to expect next, such as how results will be communicated and when to follow up [64]. **Table 3** below outlines how different communication behaviors influence emotional outcomes during ultrasound.

Table 3. Communication behaviors and their effects on patient anxiety.

Communication style	Description	Typical patient reaction	Emotional outcome
Supportive and empathetic	Clear explanations, calm tone, reassurance about next steps	Patient feels safe and informed	Anxiety decreases rapidly
Neutral and brief	Factual communication without emotional tone	Patient understands but remains tense	Anxiety decreases slowly
Technical and impersonal	Use of jargon, minimal eye contact, limited feedback	Patient feels uncertain and ignored	Anxiety persists
Avoidant or silent	Limited response to patient cues or questions	Patient interprets silence as bad news	Anxiety increases sharply

The table illustrates that the manner of communication can determine whether an ultrasound encounter becomes therapeutic or distressing. Supportive behaviors promote trust, while impersonal or avoidant styles amplify fear.

4.3. Integrating psychological awareness into radiology practice

Integrating psychological awareness into radiology does not require major workflow changes. Small, structured interventions can make a meaningful difference. Radiology departments can adopt short communication protocols before and after each scan. For example, the operator might begin by explaining the duration and purpose of the test, then conclude by outlining when and how results will be provided. When time allows, a brief check in such as “Do you have any concerns before we start?” signals attentiveness and empathy [65,66].

Team-based training can also strengthen communication consistency. Workshops that simulate patient interactions can help staff recognize common triggers of anxiety and practice responding with calm and clarity. Some institutions have begun including psycho educational modules in sonography programs to train future radiologists in patient centered communication [65,66].

4.4. Radiologist wellbeing and emotional regulation

It is equally important to acknowledge the emotional demands placed on radiologists themselves. Continuous exposure to patients’ fear and uncertainty can lead to emotional fatigue or compassion fatigue. Institutions should therefore support staff through peer discussions, reflective practice, and adequate rest periods [13]. When radiologists feel psychologically balanced, they are better equipped to provide reassurance to patients [67].

Radiologists occupy a central position at the intersection of technology and humanity. Their communication not only shapes diagnostic accuracy but also determines the emotional trajectory of each patient encounter [68]. By cultivating empathy, clarity, and supportive dialogue, radiologists contribute to both psychological recovery and trust in the healthcare system [69].

5. Strategies for enhancing psychological support in ultrasound practice

Building on the understanding that communication and empathy are key determinants of patient experience, this chapter outlines several strategies that can be implemented within ultrasound practice to enhance psychological support. These strategies combine environmental design, communication training, patient education, and institutional policy development. The goal is to integrate psychological awareness into daily imaging routines so that emotional care becomes as natural as technical precision [70].

5.1. Creating a calming environment

The physical environment of the ultrasound room contributes greatly to patient comfort. Soft lighting, neutral wall colors, and minimal background noise can lower physiological arousal before the scan [71]. Comfortable temperature, privacy curtains, and clear signage also help reduce pre-procedural stress [72]. Simple modifications

such as playing gentle instrumental music or displaying natural images on the wall have been associated with calmer moods and lower anxiety scores in medical imaging settings [73]. A calm environment signals professionalism and care, allowing patients to approach the procedure with reduced tension.

5.2. Prescan orientation and patient education

Anxiety often arises from uncertainty. Providing a short explanation before a medical scan can transform fear into understanding. A brief orientation might include how long the procedure will take, whether any discomfort is expected, and when results will be available. Inadequate preparation has been identified as a significant cause of anxiety before a scan, with many patients reporting that lack of specific information contributes most to their anxiety [74].

Printed leaflets or digital videos that explain the purpose and process of the ultrasound in clear, nontechnical language can further reinforce comprehension. Patients who understand what will happen are more likely to remain relaxed, cooperative, and receptive to reassurance [74].

5.3. Communication protocols during the scan

During the examination, communication should remain clear, respectful, and continuous. Short phrases such as “You may feel a little pressure here” or “We are almost done” help maintain connection and reduce anxiety peaks, as inadequate preparation is a significant cause of anxiety before imaging procedures [74]. Non-verbal cues, including facial expressions and tone of voice, are equally important. Sonographers and radiologists should aim for calm, steady speech, and consistent pacing of movements, as patient preparation can impact their experience during diagnostic procedures [75]. While the relationship between communication style and patient anxiety levels may not be directly illustrated in the provided literature, it is established that effective educational interventions can reduce anxiety and enhance patient trust through improved communication strategies [76]. **Figure 4** illustrates

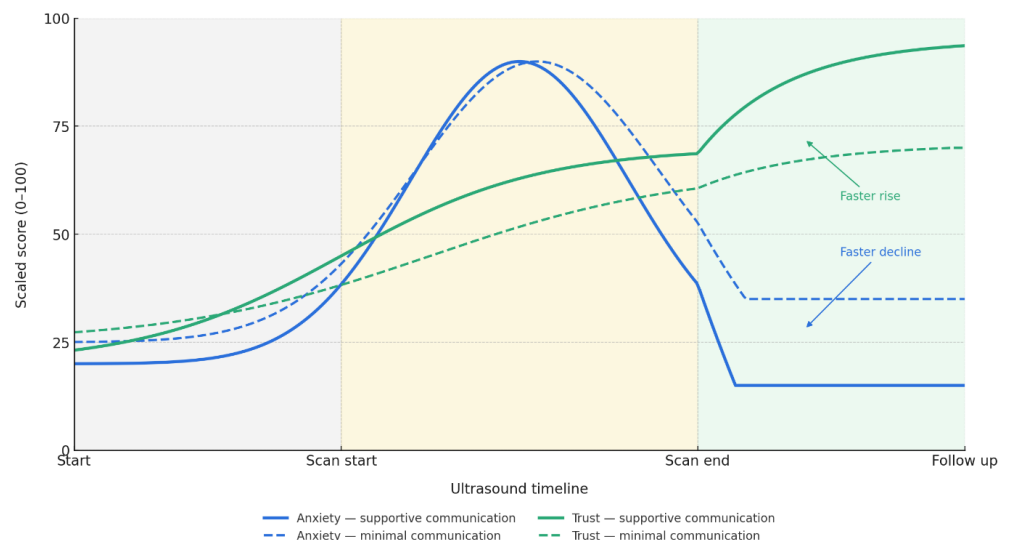


Figure 4. Relationship between communication quality, anxiety trajectory, and patient trust.

the relationship between communication style, patient anxiety level, and perceived trust throughout the imaging process.

The figure shows that when communication is supportive, patient anxiety declines more rapidly and trust increases steadily. In contrast, limited feedback or ambiguous remarks prolong anxiety even after the scan.

5.4. Postscan interaction and feedback

Immediately after the scan, the radiologist's explanation carries substantial emotional weight. Even when the full report is pending, brief feedback such as "Your doctor will review the images soon, but overall, the scan went smoothly" can ease uncertainty; however, this specific claim lacks direct support from the cited references. When abnormal findings are suspected, a clear and compassionate statement that additional evaluation is needed helps maintain trust while preparing the patient emotionally, a point that is not adequately supported by the listed references as well. Providing written instructions or contact points for further questions strengthens continuity of care, as suggested by the findings of Khazen et al. where communication tools were developed to address diagnostic uncertainty in a way that supports patient understanding and continuity [77].

5.5. Training and institutional support

Systematic communication training should be part of radiology education and continuing professional development. Workshops focusing on empathy, stress recognition, and patient engagement techniques can improve both staff confidence and patient outcomes [78]. Institutions can further support these efforts by embedding psychological principles into standard operating procedures. For example, incorporating a short patient readiness checklist or anxiety self-rating before imaging allows the team to identify individuals who may need extra reassurance. Although there are studies indicating the value of checklists in enhancing communication and safety in medical contexts, the specific application of a patient readiness checklist in radiology requires more targeted research [79].

Table 4 summarizes practical strategies that can be implemented in routine ultrasound departments to enhance patient psychological support.

5.6. Integrating multidisciplinary psycho oncology approaches

In oncology settings, collaboration between radiology teams and psycho-oncology units can extend psychological care beyond the scan room. Psycho-oncologists can provide consultations for highly anxious patients or deliver short interventions

Table 4. Practical strategies for reducing anxiety during ultrasound examinations.

Strategy	Implementation example	Expected impact
Environmental comfort	Adjust lighting, temperature, privacy, and background sound	Reduces physical tension and anticipatory stress
Prescan education	Short verbal explanation or information leaflet	Improves understanding and reduces fear of unknown
Supportive communication	Use of calm tone and reassurance during scan	Maintains patient trust and lowers anxiety peaks
Post scan reassurance	Brief summary of next steps and expected timeline	Prevents lingering worry and improves satisfaction
Staff training	Communication workshops, simulation exercises	Builds consistency and empathy among imaging staff

focused on coping with uncertainty, as reported by Dilworth et al. who identified systemic barriers to psychosocial care and emphasized the need for improved psychosocial interventions [80]. Regular case discussions between radiologists, oncologists, and psychologists can help align communication styles and ensure coherent messaging to patients, which relates to physicians' awareness of psychosocial competencies in cancer treatment as outlined by [81].

Psychological support within ultrasound practice does not require major technological changes but rather small, consistent actions guided by empathy and awareness. By improving communication, environment, and training, radiology teams can make ultrasound a more humane and reassuring experience, aligning with the call for comprehensive cancer care that integrates psychological support as highlighted by [82]. This approach strengthens diagnostic accuracy, enhances patient satisfaction, and upholds the ethical commitment to holistic cancer care, as supported by the integration of psycho-oncology services, which has been underscored in various studies [83].

6. Conclusion

This review highlights that ultrasound in oncology is not only a diagnostic tool but also a meaningful psychological experience in the patient's cancer care journey. The immediacy and transparency of ultrasound create a unique emotional dynamic where uncertainty, fear, and trust intersect. The findings throughout this paper show that anxiety related to ultrasound is influenced by many factors including procedural, cognitive, and emotional components, and can be reduced through clear communication and psychological awareness.

Radiologists and sonographers carry a dual responsibility: to maintain diagnostic accuracy while addressing the emotional needs of their patients. Effective communication marked by empathy, clarity, and reassurance remains the most powerful nontechnical skill in reducing anxiety and strengthening trust. Structured approaches such as prescan orientation, supportive dialogue during the procedure, and post scan reassurance have been shown to improve patient comfort and satisfaction. The environment of the imaging room, including lighting, privacy, and staff demeanor, also plays a key role in shaping the overall experience.

Integrating psychological awareness into everyday radiology practice does not require major structural change. Small, consistent actions supported by training and teamwork can transform a routine ultrasound examination into a moment of emotional support. Including communication training in radiology education and building cooperation between imaging staff and psycho oncology services can help bridge the gap between technology and compassionate care.

The future of ultrasound in psycho-oncology lies in balancing technical precision with human connection. When radiologists communicate with empathy and awareness, the imaging process becomes more than a diagnostic task; it becomes an opportunity for reassurance, understanding, and emotional healing within the continuum of cancer care.

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