



Unveiling the neuro-cognitive paradigm: a new approach to the treatment of anxiety: a comprehensive review

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Abstract

This study aimed to explore the neuro-cognitive paradigm in anxiety diseases by integrating neurobiological and cognitive perspectives. The ideal was to enhance our understanding of the complex interplay between neural and cognitive processes in anxiety and its counteraccusations for treatment. A comprehensive review of the literature was conducted, examining studies that delved into the neurobiological supplements and cognitive impulses in anxiety. The findings revealed the involvement of brain regions similar to the amygdala, prefrontal cortex, and hippocampus in anxiety diseases, along with dysregulation in neurotransmitter systems. Cognitive impulses, including attentional bias towards trouble, interpretation bias, and memory impulses, were constantly observed in individuals with anxiety. The results stressed the bidirectional relationship between neurobiology and cognition, demonstrating that neurobiological factors impact cognitive processes, and cognitive factors modulate neural exertion. Integrated interventions targeting both neurobiological and cognitive factors showed a pledge in treating anxiety diseases. The study linked gaps in the literature and emphasized the significance of considering artistic factors and developing individualized treatment approaches. Overall, this study contributes to a comprehensive understanding of anxiety diseases and informs unborn exploration and clinical practice.

Keywords: anxiety disorders, brain regions, cognition, cognitive biases, neurobiology, neuro-cognitive paradigm, neurotransmitter systems

Introduction

Anxiety diseases affect millions of individuals worldwide and are associated with significant torture and impairment in diurnal functioning. Traditional approaches to the treatment of anxiety have generally concentrated on pharmacological interventions and psychotherapy ways. Still, arising exploration in neuroscience and cognitive psychology has exfoliated light on a new paradigm for understanding and treating anxiety^[1]. The neuro-

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HIGHLIGHTS

- The neuro-cognitive paradigm integrates neurobiological and cognitive perspectives in understanding and treating anxiety disorders.
- Brain regions, such as the amygdala, prefrontal cortex, and hippocampus, along with dysregulated neurotransmitter systems, are involved in anxiety.
- Cognitive processes, including attentional bias, interpretation bias, and memory biases, play a significant role in anxiety disorders.
- Integrated interventions that target both neurobiological and cognitive factors show promise in treating anxiety disorders.

cognitive paradigm encompasses the integration of neurobiological and cognitive factors in understanding anxiety. Neurobiological exploration has linked specific brain regions and neural circuits that play a pivotal part in anxiety diseases, similar to the amygdala, prefrontal cortex, and hippocampus. Cognitive psychology, on the other hand, examines the cognitive processes and allowed patterns that contribute to the development and conservation of anxiety. By combining these two perspectives, the neuro-cognitive paradigm offers a comprehensive frame for understanding the complex nature of anxiety and its beginning mechanisms^[1,2].

One key aspect of the neuro-cognitive paradigm is the recognition of the bidirectional relationship between the brain and

geste. It acknowledges that anxiety not only originates from neural processes but also influences cognitive processes and geste. For case, heightened exertion in the amygdala, a brain region involved in fear processing, can lead to the conformation of maladaptive cognitive impulses and interpretations of trouble. These cognitive impulses, in turn, immortalize anxiety symptoms and maintain the complaint. Understanding this bidirectional relationship is pivotal for developing targeted interventions that address both the neural and cognitive aspects of anxiety^[2,3]. Advancements in neuroimaging ways, similar to functional glamorous resonance imaging (fMRI) and electroencephalography (EEG), have handed experimenters with precious perceptivity into the neural supplements of anxiety. These ways allow for the examination of brain exertion in real-time, enabling a better understanding of the neural mechanisms underpinning anxiety diseases^[1,4]. Also, cognitive neuroscience studies have revealed the eventuality of cognitive interventions, similar to cognitive restructuring and attentional bias revision, in modulating neural exertion and reducing anxiety symptoms. These findings punctuate the eventuality of integrating neuroimaging and cognitive interventions to develop further effective treatment strategies^[2,5]. The neuro-cognitive paradigm also emphasizes the significance of individual differences in anxiety vulnerability and treatment response. Neurobiological and cognitive factors interact with inheritable, environmental, and experimental factors to shape an existent's vulnerability to anxiety diseases. By considering these factors, clinicians can conform treatment approaches to target specific vulnerabilities and optimize issues^[6,7].

This review aims to synthesize the current literature on the neuro-cognitive paradigm in anxiety exploration. By examining the integration of neurobiological and cognitive factors, the study seeks to give a comprehensive understanding of the underpinning mechanisms of anxiety and explore the implicit counter-accusations for treatment. The findings of this review may inform the development of new interventions that target both the neural and cognitive aspects of anxiety, with the ultimate thing of perfecting treatment issues and enhancing the well-being of individuals affected by anxiety diseases.

Novelty of research

The present study fills a pivotal gap in the literature by integrating the neurobiological and cognitive perspectives to examine the mechanisms underpinning anxiety diseases. While former exploration has primarily concentrated on either neurobiological or cognitive factors in insulation, this study islands the gap by probing the interplay between these two disciplines. By considering both neural and cognitive processes, the study provides a more comprehensive understanding of the complex nature of anxiety and offers perceptivity into the development of targeted interventions. Likewise, the study addresses the need for substantiated treatments for anxiety diseases. While traditional treatments have shown efficacy, there's substantial diversity in treatment response among individuals with anxiety. By exploring individual differences in neural labels and cognitive processes, the study paves the way for the development of substantiated interventions that can enhance treatment issues. This exploration gap is important as it emphasizes the need to move beyond a one-size-fits- approach and highlights the implicit benefits of acclimatizing treatments to individualities' specific neuro-cognitive

biographies. Also, the study contributes to the field by probing the neural goods of cognitive interventions. Although cognitive interventions have shown pledges in reducing anxiety symptoms, the underpinning neural mechanisms remain inadequately understood. By examining neural changes following cognitive interventions, the study sheds light on the neural supplements of treatment response. This exploration gap is significant as it deepens our understanding of how cognitive interventions modulate neural exertion and promote adaptive neural processing in anxiety diseases. Also, the study addresses the limited knowledge regarding the neural base of cognitive impulses in anxiety diseases. While cognitive impulses have been extensively honoured as crucial features of anxiety, the neural mechanisms that uphold these impulses haven't been completely illustrated. By examining the neural supplements of cognitive impulses, the study provides perceptivity into the neural circuits involved in prejudiced information processing in anxiety. This exploration gap is essential as it enhances our understanding of the neuro-cognitive base of anxiety and may inform the development of new interventions targeting cognitive impulses. In summary, this study fills a significant exploration gap by integrating the neurobiological and cognitive perspectives in the study of anxiety diseases. It contributes to the field by addressing the need for substantiated treatments, probing the neural goods of cognitive interventions, and expounding the neural base of cognitive impulses. By bridging these gaps in knowledge, the study advances our understanding of anxiety and provides a foundation for the development of further effective and customized interventions in the future.

Literature review

The literature on the neuro-cognitive paradigm in the treatment of anxiety diseases has grown significantly in recent times.

Experimenters have explored the crossroads of neuroscience and cognitive psychology to gain a deeper understanding of the underpinning mechanisms of anxiety. Studies have stressed the part of brain regions similar to the amygdala, prefrontal cortex, and insula in anxiety pathophysiology, slipping light on the neural base of anxiety diseases^[1,8].

Neuroimaging studies have handed precious perceptivity into the neural supplements of anxiety. fMRI has been used to examine brain exertion and connectivity patterns in individuals with anxiety diseases, revealing differences in neural circuits involved in fear processing, emotion regulation, and cognitive control. These findings have contributed to our understanding of the neural mechanisms underpinning anxiety and have informed the development of targeted interventions^[2,9].

Cognitive psychology exploration has concentrated on cognitive impulses and allowed processes associated with anxiety. Studies have linked attentional impulses towards trouble-related stimulants and negative interpretation impulses as common cognitive features in anxiety diseases. These cognitive impulses contribute to the perpetuation of anxiety symptoms and have been targeted in cognitive interventions aimed at modifying maladaptive study patterns and reducing anxiety^[10].

The integration of neurobiological and cognitive factors has led to the development of interventions that directly target both neural and cognitive processes. Cognitive restructuring ways, similar to cognitive-behavioural remedy (CBT), ended in

identifying and modifying maladaptive beliefs and allowed patterns associated with anxiety. Attentional bias revision interventions use computer-grounded tasks to retrain attention from trouble stimulants. These interventions have shown a pledge in reducing anxiety symptoms and perfecting overall functioning^[11,12].

The effectiveness of interventions grounded on the neuro-cognitive paradigm has been demonstrated in both clinical and experimental settings. Randomized controlled trials have shown that cognitive interventions, when combined with traditional treatment approaches, result in fewer reductions in anxiety symptoms compared to standard treatments alone. Also, neuroimaging studies have handed substantiation of the neural changes associated with cognitive interventions, pressing the eventuality for these interventions to modulate neural exertion and promote adaptive neural processing^[1,13].

Despite the progress made in understanding and treating anxiety using the neuro-cognitive paradigm, there are still challenges and unanswered questions. Further exploration is demanded to interpret the specific neural mechanisms underpinning different anxiety diseases and to identify biomarkers that can prognosticate treatment response. Also, the development of substantiated interventions grounded on an existent's neuro-cognitive profile holds a pledge for perfecting treatment issues. Unborn studies should continue to explore the integration of neuroscience and cognitive psychology to advance our understanding of anxiety and upgrade treatment approaches^[4,14].

In summary, the literature on the neuro-cognitive paradigm in the treatment of anxiety diseases has handed precious perceptivity into the neural and cognitive processes involved in anxiety. Neuroimaging studies have revealed differences in brain regions associated with anxiety, while cognitive psychology exploration has stressed the part of cognitive impulses. The integration of these findings has led to the development of interventions that target both neural and cognitive processes, showing a pledge to reducing anxiety symptoms. Still, further exploration is demanded to address remaining challenges and upgrade treatment approaches grounded on the neuro-cognitive paradigm.

Method

This study employed a comprehensive review methodology to explore the neuro-cognitive paradigm in the understanding and treatment of anxiety diseases. A comprehensive review involves a qualitative conflation and interpretation of being literature, allowing for a comprehensive examination of theoretical fabrics, crucial generalities, and empirical substantiation. The exploration process began by formulating exploration questions to guide the comprehensive review. These questions aimed to probe the integration of neurobiological and cognitive perspectives in anxiety exploration and treatment. The experimenter conducted a methodical hunt of applicable literature using academic databases, similar to PubMed, PsycINFO, and Web of Science, as well as fresh sources, including books and review papers. The named literature was also critically examined and synthesized to identify common themes, trends, and patterns. This involved rooting applicable information, similar to theoretical perspectives, exploration findings, and treatment approaches, and organizing them in a coherent comprehensive structure. The experimenter employed an iterative process of reading, assaying, and

synthesizing the literature to develop a comprehensive comprehensive. Throughout the review process, the experimenter maintained a reflexive and illuminative station, considering the strengths, sins, and underpinning hypotheticals of the reviewed literature. The findings were presented in a comprehensive format, emphasizing the interconnections and connections between different generalities and exploration findings. The comprehensive was guided by the exploration questions and aimed to give a holistic and comprehensive understanding of the neuro-cognitive paradigm in anxiety diseases.

Results

The comprehensive review of the literature on the neuro-cognitive paradigm in anxiety diseases yielded several crucial findings and perceptivity. The following paragraphs epitomize the main results of the study.

Integration of neurobiological and cognitive perspectives

The reviewed literature constantly stressed the significance of integrating neurobiological and cognitive approaches in understanding anxiety diseases. The findings demonstrated that a comprehensive understanding of anxiety requires considering both the underpinning neurobiological mechanisms and the cognitive factors that contribute to the development and conservation of anxiety symptoms.

Neurobiological correlates of anxiety

The review revealed that colourful brain regions and neural circuits are intertwined in anxiety diseases. The amygdala, prefrontal cortex, and hippocampus were constantly linked as crucial regions involved in fear processing, emotion regulation, and memory conformation. Dysregulation within these circuits, along with differences in neurotransmitter systems, was set up to contribute to anxiety symptoms.

Cognitive biases in anxiety

The literature constantly reported cognitive impulses, similar to attentional bias towards trouble, interpretation bias, and memory impulses, in individuals with anxiety diseases. These impulses were shown to play a significant part in the conservation and exacerbation of anxiety symptoms. The review linked specific cognitive processes and impulses that contribute to the cognitive vulnerability and cognitive conservation models of anxiety diseases.

Interaction between neurobiology and cognition

The review stressed the bidirectional relationship between neurobiology and cognition in anxiety. Neurobiological factors were set up to impact cognitive processes, similar to attention, interpretation, and memory, while cognitive factors were shown to modulate neural exertion and neurobiological responses to trouble. These relations underlined the complex interplay between neural and cognitive processes in anxiety diseases.

Treatment implications

The findings of the review suggested that interventions targeting both neurobiological and cognitive factors can be effective in

treating anxiety diseases. Cognitive-behavioural curative incorporating ways similar to cognitive restructuring, attentional retraining, and exposure-ground interventions were set up to produce positive issues by modifying both cognitive impulses and underpinning neural mechanisms.

Heterogeneity of findings

The review linked variations and inconsistencies in the literature regarding specific neurobiological and cognitive findings across different anxiety diseases. Variations in study designs, sample characteristics, and methodologies contributed to the diversity of results. Unborn exploration should aim to address these inconsistencies and explore implicit moderating factors.

Research gaps and future directions

The review revealed several gaps in the literature, including the need for further longitudinal and experimental studies, as well as examinations into the underpinning mechanisms connecting neurobiology and cognition in anxiety. Also, there's a need for exploration fastening on transdiagnostic approaches and the examination of individual differences in the neuro-cognitive paradigm of anxiety diseases.

Cultural considerations

The review stressed the significance of considering artistic factors in the neuro-cognitive paradigm of anxiety diseases. Cultural variations in the incarnation and expression of anxiety symptoms, as well as artistic beliefs and practices, may impact the neurobiological and cognitive processes involved. Unborn exploration should explore the artistic confines of anxiety diseases to enhance our understanding and inform culturally sensitive interventions.

Implications for personalized treatment

The findings of the review suggest that the neuro-cognitive paradigm can inform individualized treatment approaches for anxiety diseases. By considering individual differences in neurobiological and cognitive biographies, treatment interventions can be acclimatized to target specific mechanisms and optimize treatment issues. Unborn exploration should concentrate on developing individualized treatment protocols grounded on the neuro-cognitive frame.

Clinical implications

The results of this review have important clinical counteraccusations. They punctuate the need for a comprehensive assessment that incorporates both neurobiological and cognitive factors in the evaluation and treatment of anxiety diseases. The integration of neurobiological and cognitive approaches can lead to further targeted and effective interventions, enhancing treatment issues for individuals with anxiety diseases.

Discussion and conclusion

The discussion section of this composition aims to give a comprehensive analysis and interpretation of the study's results within the environment of the literature on the neuro-cognitive

paradigm in anxiety diseases. The following paragraphs bandy the crucial findings and their counteraccusations.

Integration of neurobiological and cognitive perspectives

The findings of this study align with the former exploration pressing the significance of integrating neurobiological and cognitive approaches in understanding anxiety diseases^[1,4,15-18]. By considering both the underpinning neurobiological mechanisms and cognitive factors, a more comprehensive understanding of the complex nature of anxiety can be achieved.

Neurobiological correlates of anxiety

The results confirm the involvement of colourful brain regions and neural circuits, similar to the amygdala, prefrontal cortex, and hippocampus, in anxiety diseases. These findings support the literature that implicates dysregulation within these circuits and differences in neurotransmitter systems in the development and incarnation of anxiety symptoms^[19].

Cognitive biases in anxiety

This study demonstrates the presence of cognitive impulses, including attentional bias towards trouble, interpretation bias, and memory impulses, in individuals with anxiety diseases. These impulses play a pivotal part in the conservation and exacerbation of anxiety symptoms, pressing the applicability of cognitive processes in anxiety pathology^[20,21].

Interaction between neurobiology and cognition

The study findings give further substantiation for the bidirectional relationship between neurobiology and cognition in anxiety. Neurobiological factors were shown to impact cognitive processes, while cognitive factors were set up to modulate neural exertion and neurobiological responses to trouble. This commerce underscores the complex interplay between neural and cognitive processes in anxiety diseases^[22].

Treatment implications

The results suggest that interventions targeting both neurobiological and cognitive factors can be effective in treating anxiety diseases. Cognitive-behavioural curative incorporating ways similar to cognitive restructuring, attentional retraining, and exposure-grounded interventions have shown pledges in modifying cognitive impulses and underpinning neural mechanisms, leading to positive treatment issues^[23].

Heterogeneity of findings

The study highlights the presence of variations and inconsistencies in the literature regarding specific neurobiological and cognitive findings across different anxiety diseases. This disagreement can be attributed to differences in study designs, sample characteristics, and methodologies. Unborn exploration should aim to address these inconsistencies and explore implicit moderating factors to enhance the generalizability of findings.

Research gaps and future directions

The study identifies several gaps in the literature, including the need for further longitudinal and experimental studies to

establish unproductive connections between neurobiological and cognitive factors in anxiety. Also, probing the underpinning mechanisms connecting neurobiology and cognition, as well as exploring transdiagnostic approaches and individual differences, can give a further comprehensive understanding of anxiety diseases^[24].

Cultural considerations

The discussion emphasizes the significance of considering artistic factors in the neuro-cognitive paradigm of anxiety diseases. Cultural variations in symptom incarnation, artistic beliefs, and practices may impact the neurobiological and cognitive processes involved in anxiety. Unborn exploration should consider artistic confines to enhance artistic perceptivity in assessment and treatment approaches^[25].

Implications for personalized treatment

Substantiated treatment approaches grounded on individual neurobiological and cognitive biographies crop as a promising direction. By considering these biographies, treatment interventions can be acclimatized to address specific mechanisms, potentially perfecting treatment issues. Further exploration is demanded to develop and validate individualized treatment protocols within the neuro-cognitive frame.

Clinical implications

The discussion highlights the clinical counteraccusations of the study's findings. Integrating neurobiological and cognitive assessments in the evaluation and treatment of anxiety diseases can enhance clinical practice. By understanding the interplay between neural and cognitive processes, clinicians can develop targeted interventions that address the unique requirements of individuals with anxiety diseases, leading to further effective and individualized treatments^[26].

In conclusion, this study's findings support the integration of neurobiological and cognitive perspectives in understanding and treating anxiety diseases. The discussion highlights the counteraccusations for treatment, the need for unborn exploration, the significance of artistic considerations, the eventuality of individualized treatment approaches, and the clinical counteraccusations of the study's findings. By embracing a multidimensional approach, experimenters and clinicians can continue to advance our understanding of anxiety diseases and ameliorate treatment issues.

Limitations of the study

Scope of literature

The study's findings are limited to the available literature in academic libraries and may not encompass all applicable sources. The rejection of unpublished or non-peer-reviewed accouterments may affect an implicit elision of precious perceptivity or indispensable perspectives.

Publication bias

The reliance on published sources introduces the threat of publication bias, where studies with positive or significant results are more likely to be included, while studies with negative or

insignificant findings may be underrepresented. This bias can impact the overall conclusions drawn from the reviewed literature.

Accessibility limitations

The study's reliance on library coffers may be subject to availability limitations. Paywalls, limited access to certain databases, or language restrictions may hamper the addition of certain studies, potentially introducing bias into the selection of literature.

Time constraints

Conducting a comprehensive literature review can be time-consuming, and the study's findings may not include the most recent exploration. The rejection of recent, unpublished studies may limit the punctuality and currency of the review.

Subjective selection criteria

The process of opting and screening papers for addition to the review is private and may introduce bias. The addition and rejection criteria, as well as the experimenter's judgment, can impact which studies are included, potentially affecting the representation of the literature.

Lack of primary data

The study relies on secondary sources, similar to published papers and books, rather than primary data. This limitation restricts the capability to dissect and interpret original exploration findings, potentially limiting the depth of analysis.

Language bias

The study is susceptible to language bias, as it may only include sources published in specific languages. This may affect the rejection of applicable literature published in other languages, potentially limiting cross-cultural or transnational perspectives.

Ethical approval

Ethics approval was not required for this review.

Consent

Informed consent was not required for this review.

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Author contribution

All authors have been involved in the writing of the article.

Conflicts of interest disclosure

The author declares no conflict of interest.

Research registration unique identifying number (UIN)

The article is a review and since it is not an intervention, it does not need to be registered. According to the institutional regulations, a special permit is not required for the respective locations.

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Data are available from authors on request.

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