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## Successful treatment of nightmares may reduce psychotic symptoms in schizophrenia

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### Abstract

Nightmares occur more frequently in patients with schizophrenia than they do in the general population. Nightmares are profoundly distressing and may exacerbate daytime psychotic symptoms and undermine day-to-day function. Clinicians do not often ask about

nightmares in the context of psychotic illness and patients may underreport them or, if nightmares are reported, they may be disregarded; it may be assumed that they will disappear with antipsychotic medication and that they do not, therefore, require separate intervention. This is a missed opportunity because Image Rehearsal Therapy, among other psychological and pharmacological interventions, has proven effective for nightmares in non-schizophrenia populations and should be considered at an early stage of psychotic illness as an important adjunct to standard treatment. There is active ongoing research in this field, which will undoubtedly benefit patients with schizophrenia in the future.

**Key words:** Sleep; Nightmares; Psychosis; Nightmare-inducing drugs; Image rehearsal therapy

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**Core tip:** A substantial percentage of persons suffering from psychotic illness such as schizophrenia experience frightening nightmares that aggravate their disease symptoms. New treatments for nightmares in the general population are starting to be applied to schizophrenia patients, as are new treatments for other associated sleep problems. This is very promising research that clinicians need to heed, as the lessening of nightmare distress will also help to alleviate daytime psychotic symptoms.

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### INTRODUCTION

Hearing or imagining malevolent threats is the hallmark



of delusions and hallucinations in people with psychotic illness; it is also the stuff of nightmares. The DSM-5 identifies nightmares as being extremely distressing, long-lasting, and well-remembered dreams that involve threats to survival, security, or physical integrity. There are many ways in which the delusions and hallucinations of psychotic illness overlap with the substance of nightmares: in the centrality of the protagonist to the plot of the story line, in the illusion of reality despite improbable circumstances, in the thematic content (persecution, danger, humiliation) and in the resulting emotions<sup>[1,2]</sup>. Nightmares can be conceptualized as forming part of the ego disorders that lead to “bizarre” or unreal delusions, considered by Bleuler as fundamental dimensions of schizophrenia<sup>[3,4]</sup>. Bleuler also believed that the thought disorders found in schizophrenia mirrored the condensation, displacement and symbolic distortions that characterize dreams and nightmares<sup>[5]</sup>.

Almost everyone experiences nightmares occasionally, and they are especially commonplace in childhood. About 50%-60% of children aged 5 to 10 years have frequent nightmares<sup>[6]</sup> and approximately 2.5% of these children continue to have nightmares after the age of 10<sup>[7]</sup>. Prevalence studies in adults report that from 2% to 6% of the general population have frequent (one or more per week) nightmares<sup>[8,9]</sup>, but that the prevalence is higher in psychiatric patients<sup>[8,10,11]</sup>.

## NIGHTMARES AND SCHIZOPHRENIA

In the context of schizophrenia, approximately 10% of persons with this diagnosis have been reported to experience frequent nightmares<sup>[12]</sup>. Some reports place the prevalence from somewhat to substantially higher in schizophrenia<sup>[13]</sup>. Although frequency is important, it is the distress of the nightmares that predicts both psychopathology and day time function<sup>[14]</sup> because nightmares interfere with restorative sleep and because the distress experienced at night carries over to the day.

Compared to bad dreams, nightmares are more bizarre or outlandish; they usually involve violence, and the narrative almost always ends in failure and misfortune for the dreamer. The usual reaction to nightmares is terror<sup>[15]</sup>. For reasons of personality traits or past experience, some individuals are more at risk than others, both for nightmare frequency and for the resulting distress<sup>[16]</sup>. What is clinically worrisome is that, even when a person with a diagnosis of psychotic illness reports the disturbing occurrence of nightmares (which they do not do unless specifically asked), it is rarely addressed in therapy. This is in marked contrast to the deliberate clinical targeting of nightmares when reported by persons with a diagnosis of posttraumatic stress syndrome. Nightmares need to be addressed in the context of schizophrenia for three main reasons. Firstly, they can be early warning signs of impending psychotic illness requiring early intervention<sup>[17,18]</sup>. Secondly, they often signal increased delusional severity as well as cognitive decline and, therefore, may require treatment

reconsideration<sup>[12]</sup>. Thirdly, there is a strong association between nightmares and suicide, which demands serious attention<sup>[19-23]</sup>.

## TREATMENT PERSPECTIVE

The first step toward treatment is always to inquire about bad dreams and nightmares during the initial assessment, and subsequently during follow up visits. Whenever these are endorsed, the next step is a drug screen because it is possible that drugs utilized to treat the patient are promoting the induction of nightmares<sup>[24,25]</sup>. The drugs that tend to do so fall into several main categories: Hypnotics, beta blockers, statins, dopamine agonists, anti-epileptics, antibiotics, and antidepressants. Anti-epileptics and antidepressants are frequently used to treat persons with psychosis and should be re-evaluated in the presence of nightmares. The most common agents used to treat psychosis are, of course, antipsychotic drugs, which, while able to dampen arousing dream content<sup>[26]</sup>, have not, in general, been found effective for reducing the distress of nightmares, nor for lowering their frequency.

There are specific treatments that have been found effective for nightmares in the non-psychotic population and these are: (1) Relaxation (instructions about relaxing and practice exercises in breathing); (2) Recording (encouraging the writing out of the details of nightmares); (3) Imaginal exposure (deliberately reliving the nightmare in one's imagination); (4) Imagery rehearsal (deliberately changing the script of recurring nightmares, providing happy endings and frequently rehearsing the rewritten script); and (5) Lucid dreaming (learning to become aware during a nightmare that one is dreaming and then changing the script of the nightmare while still dreaming<sup>[27-31]</sup>). Lucid dreaming is interesting because neural correlates of lucid dreaming and of insight deficits in psychosis show striking overlap; fronto-parietal regions are involved in both phenomena<sup>[32]</sup>.

Several specific pharmacological treatments for nightmares have also been evaluated. Prazosin, an anti-alpha adrenergic agent, has shown most evidence of efficacy<sup>[33-35]</sup>. Thus far, the therapies for nightmares with the most evidence to support their use are prazosin and Image Rehearsal Therapy (IRT)<sup>[35-37]</sup>. For those interested in understanding the procedure of IRT, I refer the reader to a very helpful online guide<sup>[38]</sup>.

Specifically in reference to patients with psychosis, IRT has been successfully used for nightmares in inpatient psychiatric settings, but patients with psychosis were excluded from these studies on the assumption that they would not be able to follow instructions<sup>[39-41]</sup>. These studies do show, however, that IRT can be used safely and effectively in psychiatric hospital environments where patients tend to be severely ill. Sheaves *et al*<sup>[42]</sup> treated 5 patients with psychosis with IRT, too small a number to demonstrate effectiveness, but sufficient to show acceptability and feasibility.

The caveats of this approach are that effective treat-

ment of nightmares has not yet been convincingly demonstrated in individuals with psychosis, nor is there evidence that the alleviation of nightmares will reduce psychotic symptoms. On the other hand, psychotic patients are known to respond well to cognitive behavior therapies for other sleep conditions, such as insomnia<sup>[43,44]</sup>, so the chances are that they will be able to respond equally well to nightmare therapies. Nightmares in this population may also respond to post traumatic stress disorder (PTSD) therapies since rapid eye movement (REM) sleep interruption correlates with nightmare complaints caused by stress<sup>[45]</sup>.

Patients with psychosis themselves claim that treatment of sleep problems has a positive impact on many aspects of their lives<sup>[46]</sup>. The better their sleep is, the milder their psychotic symptoms. And vice versa: The less they suffer from psychotic symptoms during the day, the better they are able to sleep<sup>[39]</sup>.

Clinicians also recognize the link, but the treatment of sleep disturbances in this population continues to be limited<sup>[47,48]</sup>. On the whole, mental healthcare providers are not well informed about the consequences of nightmares nor do they know about available treatment options<sup>[49,50]</sup>. Patients may underreport nightmares and rarely seek treatment for them, considering them irrelevant to their main concerns<sup>[51]</sup>. Mental healthcare practitioners may consider sleep problems as mere accessories to a larger psychiatric condition, and, thus, not requiring specific attention<sup>[52]</sup>. This is a missed opportunity because IRT has been shown to be an effective treatment for nightmares in other populations<sup>[40,53]</sup> and should be considered at an early stage of psychotic illness, as an adjunct to standard mental health treatment.

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