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THEROREGULATION IN SCHIZOPHRENIA: A HOT TOPIC

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Introduction: Schizophrenia associated with thermal dysregulation

has been demonstrated in several studies, as well as being noted in the observations of clinicians for many years. However, while there is an abundance of research, many of the results have proven to be contradictory, in particular regarding the confounding effect of antipsychotic medication.

To this end we will review the evidence concerning abnormal thermoregulation. Understanding the thermal dysregulation may give us an insight into the pathogenesis of schizophrenia, and a potential role for orexins in the disease.

Objectives: To analyse current experimental literature on thermoregulation in schizophrenia in medicated and unmedicated patients.

Methods: PubMed - searched with MeSH term "schizophrenia", with additional terms; "thermoregulation", "orexin" or "hypocretin".

Results: While there may be disagreements in various studies, the weight of the early evidence points to untreated schizophrenic patients having lower baseline core temperatures, while later studies with neuroleptics showed an increase. Several studies also showed an impaired heat loss in schizophrenic patients, both in medicated and unmedicated patients.

Meanwhile, orexins have been linked to heat production and heat loss during sleep. There are also studies showing that orexins are activated by antipsychotics, and also project to thalamic nuclei that show reduced volume and connectivity in schizophrenia.

Conclusion: The thermal dysregulation seen in schizophrenia is a complex

process, and the underlying pathogenesis remains to be uncovered. This mechanism may involve orexins, which may also play a part in both the pathogenesis of schizophrenia and the relief of symptoms by antipsychotics.