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# Lunar cycle and psychiatric hospital admissions for schizophrenia: new findings from Henan province, China

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## ABSTRACT

**Objective:** Findings on the effect of the lunar cycle on mental illness are conflicting. We investigated the association between the lunar cycle and a number of psychiatric presentations of schizophrenia and determined which subtypes were susceptible to lunar phases.

**Methods:** We evaluated 13,067 patients admitted to Zhumadian Psychiatric Hospital between January 1, 2012, and December 31, 2017 (73 lunar cycles). Patients were

retrospectively assigned to lunar phase based on their admission date: new moon +/- 1 day, first quarter +/- 1 day, full moon +/- 1 day, and third quarter +/- 1 day. The International Statistical Classification of Diseases, 10th revision (ICD-10), was used for diagnosis. We used a Chi-squared goodness of fit test to evaluate the distribution of admissions across the lunar phase and R\*C Chi-squared tests to compare age, sex, birth season, and clinical subtype distributions by phase. We used multiple logistic regression to further identify the relationship between clinical subtype and lunar phase.

**Results:** Psychiatric admissions for schizophrenia varied significantly across the lunar cycle ( $\chi^2 = 36.400, p < .0001$ ), peaking in the first quarter, followed by the full moon, and lowest at the new moon. Using unspecified schizophrenia (F20.9) as reference, people with paranoid schizophrenia (F20.0) were more likely to be admitted in the full moon than in other phases (odds ratio: 1.157, 95% confidence interval: 1.040–1.286) ( $p < .05$ ); other subtypes showed no admission differences during the four lunar phases ( $p > .05$ ).

**Conclusions:** Psychiatric admissions for schizophrenia show lunar periodicities. People with schizophrenia tend to be stable in the new moon, but their condition is easily aggravated during the first quarter and full moon. Patients with paranoid schizophrenia are more susceptible to deterioration at the full moon, so merit more attention and care from communities, families, and hospitals.

**Q KEYWORDS:** Psychosis   paranoid schizophrenia   moon effect   admissions   lunar phase   China

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we thank Hua Guo from Zhumadian Psychiatric Hospital for providing electronic medical records. We thank Diane Williams, PhD, from Liwen Bianji, Edanz Group China ([www.liwenbianji.cn/ac](http://www.liwenbianji.cn/ac)), for editing the English text of a draft of this manuscript.

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## Competing interests

The authors declare that they have no conflicts of interest.

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## Ethics, institutional review board approval, and consent to participate

This study was conducted in accordance with the tenets of the Declaration of Helsinki. The research did not involve any direct participation by human subjects. The schizophrenia data were extracted from monthly reports maintained by the Zhumadian Psychiatric Hospital. All individual-level data were anonymous.

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## Additional information

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