

P-10

The frequency of Philadelphia Poison Control Center calls in relation to the lunar cycle in 2017

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Objective: To evaluate whether there is an association between lunar phases and the frequency of Philadelphia poison control center (PCC) phone calls. Our hypothesis is that there is an increase in number of Philadelphia PCC phone calls during the full moon phase (FMP) of the lunar cycle versus the new moon phase (NMP).

Methods: This was a retrospective study evaluating all Philadelphia PCC phone calls during January 1, 2017 through December 31, 2017. Based on prior studies evaluating emergency department visits and the lunar cycle, an FMP was described as the time when the moon's whole disk is fully and visibly illuminated and an NMP was described as the period when the moon is covered by the sun and not visible.[1] A period of +/- 2 days for each phase was utilized, capturing a total of 5 days per period.[1] Our primary outcome was the frequency of calls made during the NMP versus the FMP. Our secondary outcome was the frequency of calls during the two moon phases stratified by gender.

Results: A total of 58,326 PCC calls were reviewed. There were 9,537 calls during the NMP and 9,747 calls during the FMP for the year 2017. There were 210 more calls during the FMP, but this was not found to be statistically significant. Using Chi-Square analysis, an increased number of phone calls made by females (4,381) versus males (4,156) was found during the FMP, a difference of 225 ($p = 0.015$).

Conclusion: These results differ from previous research performed by the Maryland PCC, which showed a statistically significant increase in number of phone calls during the FMP of the lunar cycle as compared to the NMP [2]. Additionally, the Maryland PCC did not find any difference in number of phone calls based on gender during the FMP. [2] The discrepancy in outcomes may be due to differences in PCC phone calls based on location, and even decade.

References:

1. Blackman S and Catalina D. The moon and the emergency room. *Perceptual and Motor Skills*. 1973. 37:624-6.
2. Oderda GM and Klein-Schwartz W. Lunar cycle and poison center calls. *Journal of Toxicology: Clinical Toxicology*. 1983. 20(5):487-95.