Mr. Timothy Lemmer, Editor, The Wall Street Journal

Dear Mr. Lemmer,

I am a project management professional and independent research astrologist with an MSc degree in electrical engineering. I have substantial and relevant experience in mathematics, physics, astronomy, probability theory, statistics, and scientific research of astrology.

Whether the full moon has a direct impact on hospital admissions ("Hospitals Really Believe Bad Things Happen On a Full Moon", A-HED, Oct. 17) has been hotly debated by scholars, medical professionals, research astrologers, astronomers and skeptics for many decades. Readers, however, could walk away from your article with the skewed impression that the case has been officially settled. Far from it – scholarly research on the lunar effect is divided: about half of the papers found evidence and half didn't.

Ms. Grind's article is unbalanced because it only cites negative research results along with questionable anecdotal evidence. In addition, the two references to lunar effect research have serious problems. Thompson & Adams (1996), for example, choose to analyze averages and percentages of number of admissions rather than the actual counts. This approach dilutes any effect that could possibly be found by analyzing the raw data. The data time frame chosen for the analysis is not an integer multiple of the lunar cycle (the phenomenon being studied), which makes discovery of a cyclic pattern more difficult. The final conclusion of the article ("full moon has no effect") is also erroneous: *absence of evidence* ("no significant differences were found... on days of the full moon") is not the same as *evidence of absence* (which is their faulty conclusion). See Altman & Bland (1995) for more on this concept.

The second of her two references, Margot (2015), also suffers from many issues: personal prejudice and partisan agenda against astrology, biased literature review to emphasize negative results, cherry-picked evidence, and mistakes in statistical analysis. For a detailed description of these and other problems with Margot's article, please see Román *et al* (2015), Marko (2015) and Snow (2015). This latter piece also covers the wider issue of anti-astrology polemic within skeptic circles.

Without relevant training and experience, professionals in other disciplines cannot be experts in astrology, regardless of their standing. Yet Drs. Thompson & Adams are cited and Professor Margot referenced, quoted and pictured in the article as authorities on the subject. Why was not a single expert on lunar effect research consulted? Just as fund managers are not consulted on the building architecture of stock exchanges, doctors and astronomers are not the source of wisdom on astrology.

Sincerely,

Peter Marko, Research astrologist (Ottawa, Canada)

- Altman & Bland (1995). Absence of evidence is not evidence of absence. *British Medical Journal*, 311, 485. <u>http://www.bmj.com/content/311/7003/485.long</u>
- Grind (2016). Hospitals Really Believe Bad Things Happen On a Full Moon. *The Wall Street Journal*. <u>http://www.wsj.com/articles/hospitals-really-believe-bad-things-happen-on-a-full-moon-1476719218</u>
- Margot (2015). No Evidence of Purported Lunar Effect on Hospital Admission Rates or Birth Rates. *Nursing Research*, 64(3), 168-175). <u>https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4418782/</u>
- Marko (2015). Denying the lunar effect: astronomer dabbles in astrology and gets it wrong... again. *The Astrological Journal*, 57(4), 47–50.
- Román et al. (2015). Full Moon and Gastrointestinal Bleeding: Response to Margot (2015). *Nursing Research*, 64(3), 173-175). <u>https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4418774/</u>
- Snow (2015). Astrology's Critics a Dedicated Bunch. Astrology News Service. <u>http://astrologynewsservice.com/articles/</u> <u>astrologys-critics-a-dedicated-bunch/</u>

Thompson & Adams (1996). The Full Moon and ED Patient Volumes: Unearthing a Myth. *American Journal of Emergency Medicine*, 14(2), 161-164. <u>http://www.ajemjournal.com/article/S0735-6757%2896%2990124-2/abstract</u>