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## **The Occurrence of Peritonitis in Patients Undergoing Peritoneal Dialysis Associated with the Weather Variation; A Meta-analysis Study**

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**Objectives:** To determine the peak time for increased risk of PD infection and also the magnitude of this effect, results of seasonal variability were assessed against the number of PD patients as a meta-analytic investigation.

**Methods:** A meta-analysis was conducted by searching data from both electronic and printed sources. Search strings used included infection, peritoneal dialysis, and seasonal weather as descriptors to determine the variation in outcome rate. The search was cited directly from sources written in English and Thai languages, and included 9 databases ;Google Scholar, PubMed, ProQuest, Embase, Cochrane Library, Scopus, ProQuest Dissertation &Theses Global, TCI and ThaiJo.Independent data extraction was performed by two reviewers following the Meta-analysis of Observation Studies in Epidemiology (MOOSE) guidelines Metastatistics were evaluated using the Mantel-Haenszel fixed effect model to calculate pooled risk ratio (RR) with 95% confidence intervals (CIs). Forest plots were used for visual expression of pooled effect size. The current study was registered a priori in the International Prospective Register of Systematic Reviews (PROSPERO) with registration number as: CRD42020193355.

**Results:** Thirty-one articles were included and 21 were excluded. The number of eligible participants was 9,713 from 9 published reports and 1 unpublished report. The majority of the reports were retrospective observational designs (four prospective studies, five retrospective studies, while the rest were unpublished). Data from ten studies were pooled and fitted to a random effects model. Pooled effect sizes at RR 1.28 (95% CI:1.10 to 1.48) indicated that PD infection prevalence was more than 28% higher during the summer than the winter season.

**Conclusions:** Summer time was determined to have a higher risk of PD infection, at nearly 30% greater than the winter season. Hence, definitive evidence was shown for increased risk of PD-related peritonitis, especially during the summer season.

Figure 1 shows the pooled estimates of the meta-analysis dataset.

  
**KSN 2021**  
**FULLY VIRTUAL MEETING**  
**September 02 (Thu) - 05 (Sun)**

