عنوان مقاله:

Time Series Analysis of Cutaneous Leishmaniasis in Sabzevar Northeastern Iran Using Segmented Regression Model

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خلاصه مقاله:

Background and aims: Cutaneous leishmaniasis (CL) is one of the most important parasitic diseases in the world. Sabzevar city is endemic area for CL in the north east of Iran. The aim of this study was to evaluate the time distribution of cutaneous leishmaniasis (CL) in Sabzevar County using the segmented regression model. Methods: This ecological study used the existing data related to the rural districts of Sabzevar County that were obtained from the Health Deputy of this county during ۲۰۱۱-۲۰۱۷. In addition, the segmented regression model was applied to evaluate the time trend of CLs. Finally, Joinpoint software was used for time series analysis. Results: A total of ۱۹۱۲ CL cases occurred in Sabzevar County from ۲۰۱۱ to ۲۰۱۷, with an incidence rate of ۹۳.۶۱ per ۱۰۰ ۰۰۰. The highest and lowest observed incidence rates were in ۲۰۱۱ (۲۵ per ۱۰ ۰۰۰ persons) and ۲۰۱۵ (۳.۲۴ per ۱۰ ۰۰۰ persons), respectively. Based on the results, the annual incidence of CL in the intended region decreased and the annual percent change was equal to -۲۲.۴۰. Further, the time series analysis using segmented regression by rural districts showed a change point in the trend of the incidence of leishmaniasis in three rural districts (Pain Joveyn and Joghatai in ۲۰۱۴ and Qasabeh-ye Sharqi in ۲۰۱۳). In other words, the trend was different before and after the change point in the mentioned districts. Conclusion: In general, the results indicated that interventional, preventive, and therapeutic measures for breaking the chain of CL transmission in Sabzevar have been desirable in recent years. Eventually, it is suggested that further time-series studies be conducted at the level of the month or a longer interval in order to better evaluate the period effect and secular trend.

کلمات کلیدی: