In many clinical studies, patients may be asked to report their medication adherence, presence of side effects, substance use, and hospitalization information during the study period. However, the exact occurrence time of these recurrent events may not be available due to privacy protection, recall difficulty, or incomplete medical records. Instead, the only available information is whether the events of interest have occurred during the past period. In this paper, we call these incomplete recurrent events as repeated current status data. Currently, there are no valid standard methods for this kind of data. We propose to use the Andersen-Gill proportional intensity assumption to analyze such data. Specifically, we propose a maximum sieve likelihood approach for inference and we show that the proposed estimators for regression coefficients are consistent, asymptotically normal and attain semiparametric efficiency bounds. Simulation studies show that the proposed approach performs well with small sample sizes. Finally, our method is applied to study medication adherence in a clinical trial on non-psychotic major depressive disorder.