Trends in Pancreatic Cancer Incidence Across Socioeconomic Strata: A Longitudinal Study

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Abstract

Pancreatic cancer remains one of the most lethal malignancies worldwide, characterized by its aggressive nature and poor prognosis. While advances in cancer research have shed light on potential risk factors and treatment modalities, the influence of socioeconomic status on disease incidence continues to garner attention. In this longitudinal analysis, we delve into the intricate interplay between household income levels and pancreatic cancer incidence over a twenty-year period, seeking to unravel the nuanced dynamics driving disparities in disease burden across socioeconomic strata.

Introduction

The aggressive nature and poor prognosis associated with pancreatic cancer make it one of the most lethal malignancies worldwide. Although advancements in cancer research have provided insights into potential risk factors and treatment approaches, the role of socioeconomic status in influencing disease incidence remains a topic of significant interest.
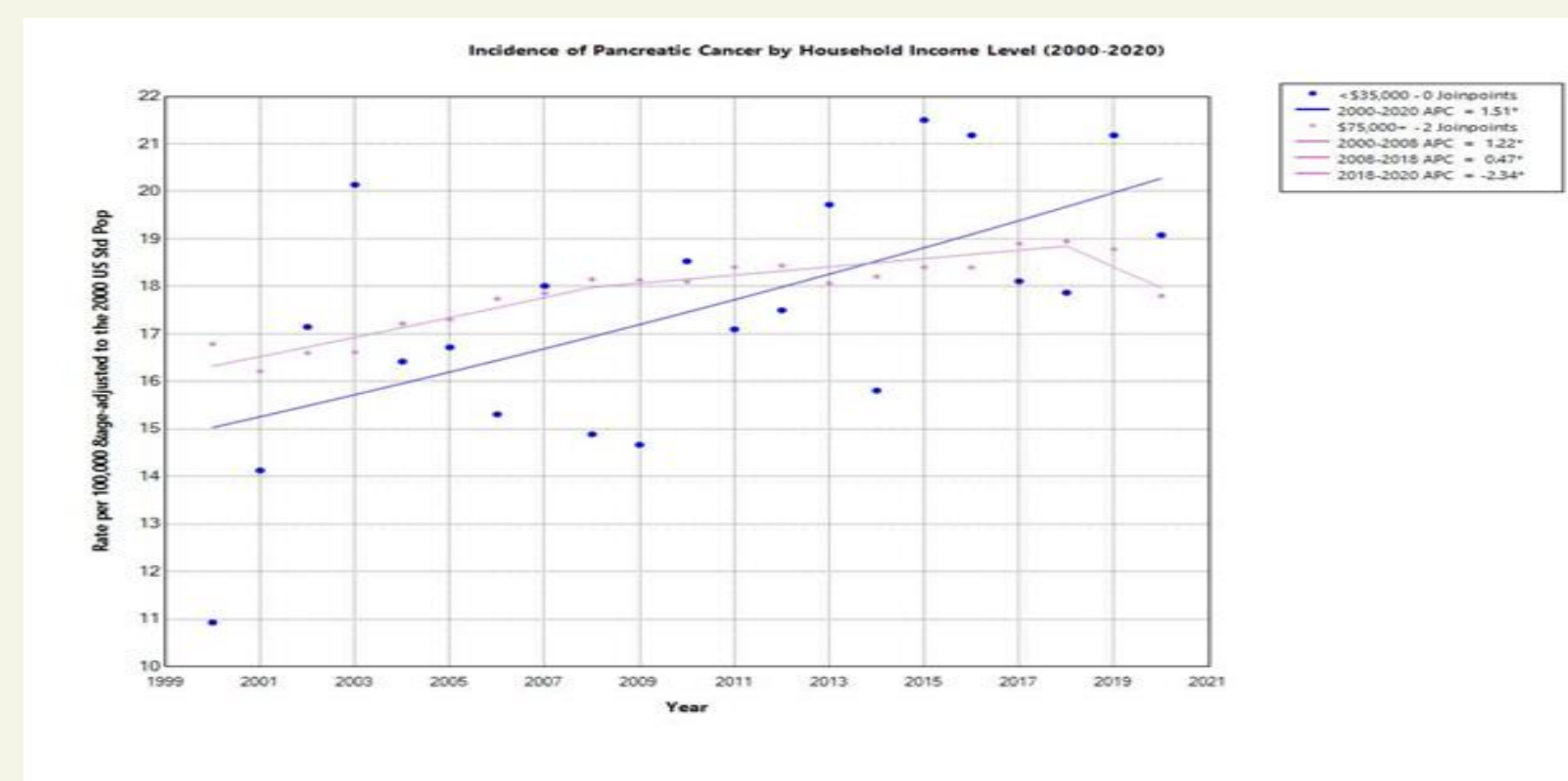
Materials & Methods

Incidence-SEER Research Plus Limited-Field Data, 22 Registries, Nov 2022 Sub (2000-2020) was used to extract Incidence rates for pancreatic cancer by household income levels.
SEER*Stat 8.4.3 was used to obtain age-adjusted rates for different groups.
The Average Annual Percent Change (AAPC) of the trend was evaluated using join-point regression analysis, via Join-point software, version 5.0.2. by the National Cancer Institute, to create log-linear time trends.

Results

The study examined pancreatic cancer incidence trends across household income levels from 2000 to 2020. It found a consistent increase in incidence rates among households earning less than $35,000, with a steeper slope compared to higher-income households. High-income households initially exhibited higher rates but experienced a significant decrease in the rate of change in 2008, followed by a divergence in trends, highlighting complex dynamics in pancreatic cancer disparities over time.
AAPC was 1.507%(95% CI 0.288-3.02) for Households with income <$35,000 and 0.483% (95% CI 0.36-0.65) for Households with Income $75,000+

Table(s) Figure (s)

Incidence of Pancreatic Cancer by Household Income Level (2000-2020)

Discussion

Our study reveals a persistent income gradient in pancreatic cancer incidence over the two-decade period, with households earning less than $35,000 experiencing a steeper increase compared to those earning $75,000 or more. Multiple inflection points were also appreciated in higher-income households ($75,000+).
The observed fluctuations in pancreatic cancer incidence among different income brackets underscore the complex interplay of socioeconomic factors and health outcomes, warranting further research to elucidate underlying mechanisms.

Discussion

This study shows that there exist disparities in healthcare among different household income levels. These disparities exist not only with of survival, but also with regards to incidence of pancreatic cancer in the United States of America. More studies are warranted to elucidate reprobate risk factors that contribute to this trend.

References and Acknowledgements

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