

5-2019

Changing Trends in US Hospitalizations with Sphincter of Oddi Dysfunction: Insights from the National Inpatient Sample Database

Khwaja F. Haq

Raja C. Chakinala

Mohammad A. Siddiqui

Shantanu Solanki

Muhammad Ali

See next page for additional authors

Authors

Khwaja F. Haq, Raja C. Chakinala, Mohammad A. Siddiqui, Shantanu Solanki, Muhammad Ali, Zubair Khan, Abhishek Bhurwal, Khawaja S. Haq, Anam S. Burney, and Faiza Bhatti

CHANGING TRENDS IN US HOSPITALIZATIONS WITH SPHINCTER OF ODDI DYSFUNCTION: INSIGHTS FROM THE NATIONAL INPATIENT SAMPLE DATABASE

Haq, Khwaja F.¹; Chakinala, Raja Chandra³; Siddiqui, Mohammad Arsalan¹; Solanki, Shantanu²; Khan, Muhammad Ali⁴; Khan, Zubair⁵; Bhurwal, Abhishek⁶; Haq, Khwaja S.⁷; Burney, Anam S.⁷; Bhatti, Faiza¹

1. Gastroenterology & Hepatology, Henry Ford Hospital, Detroit, MI, United States. 2. Medicine, Guthrie Robert Packer Hospital, Sayre, PA, United States. 3. Medicine, New York Medical College at Westchester Medical Center, Valhalla, NY, United States. 4. Gastroenterology & Hepatology, University of Alabama at Birmingham, Birmingham, AL, United States. 5. Medicine, University of Toledo Medical Center, Toledo, OH, United States. 6. Gastroenterology & Hepatology, Robert Wood Johnson University Hospital, New Brunswick, NJ, United States. 7. Medicine, Kingsbrook Jewish Medical Center, Brooklyn, NY, United States.

Introduction

Sphincter of Oddi plays an important physiologic role by controlling the flow of biliary and pancreatic secretions through the ampulla of Vater into the duodenum.

Sphincter of Oddi dysfunction (SOD), either from stenosis or dyskinesia, has been associated with complications such as biliary pain, idiopathic recurrent pancreatitis, and post-ERCP pancreatitis.

Limited epidemiological data exists on the number of hospitalizations, demographic variations, cost of care, and comorbidity measures associated with SOD.



1. *Curr Opin Gastroenterol.* 2018 Sep;34(5):282-287. doi: 10.1097/MOG.0000000000000455. Sphincter of Oddi dysfunction: sphincter of Oddi dysfunction or discordance? What is the state of the art in 2018? Hyun JJ(1)(2), Kozarek RA(1).
2. *Front Nutr.* 2017 Jan 30;4:1. doi: 10.3389/fnut.2017.00001. eCollection 2017. Sphincter of Oddi Function and Risk Factors for Dysfunction. Afghani E(1), Lo SK(1), Covington PS(2), Cash BD(3), Pandol SJ(1).

Objective

Assess the burden of Sphincter of Oddi Dysfunction (SOD) in the US inpatient population

Analyze inpatient hospitalization trends, demographic variations, cost of care, and comorbidity measures associated with SOD

NIS Database

- National Inpatient Sample (NIS) is the largest publicly available all-payer inpatient health care database in the United States, yielding national estimates of hospital inpatient stays.
- Approximates a 20-percent stratified sample of discharges from U.S. hospitals, excluding rehabilitation and long-term acute care hospitals.
- Retains a large sample size, which enables analyses of rare conditions, uncommon treatments, and special patient populations.



NIS Database

- Researchers and policymakers use the NIS to make national estimates of health care utilization, access, charges, quality, and outcomes.
- Data are available from 1988 through 2016, which allows analysis of trends over time.
- The number of States participating in the NIS has grown from 8 in the first year to 46, plus the District of Columbia, at present.

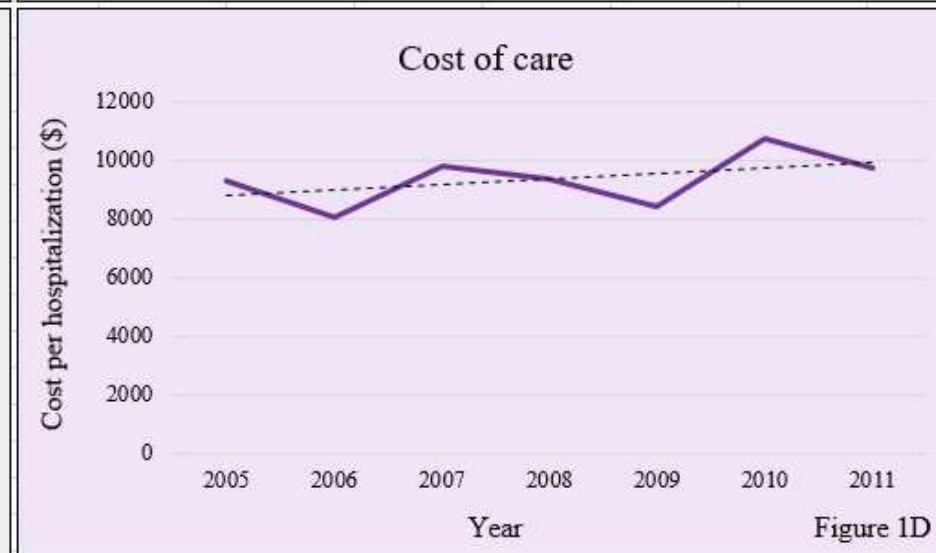
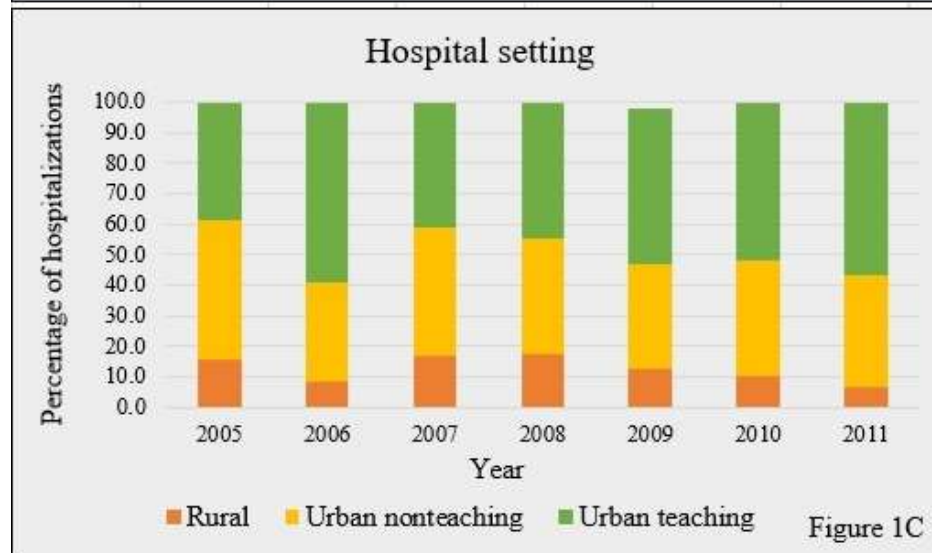
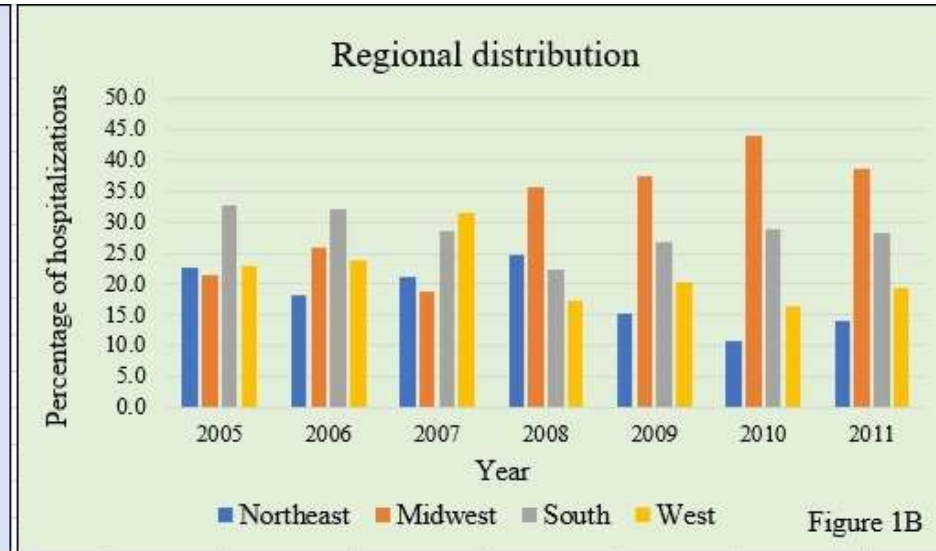
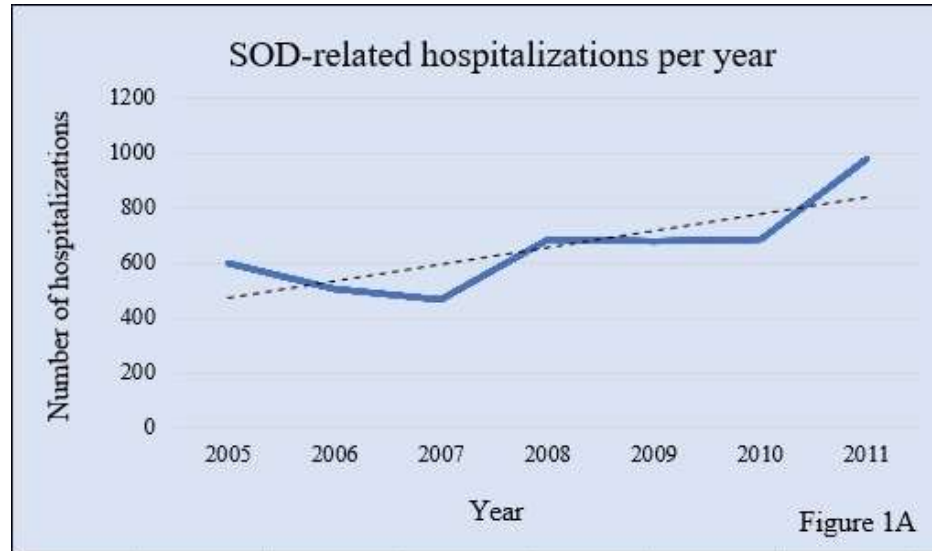


Methods

- Retrospective study using National Inpatient Sample (NIS) database
- Diagnosis code (ICD-9: 576.5)
- Study period 2005-2011
- Statistical significance of variation determined using Cochran-Armitage trend test using Statistical Analysis System (SAS) software



Results



Results

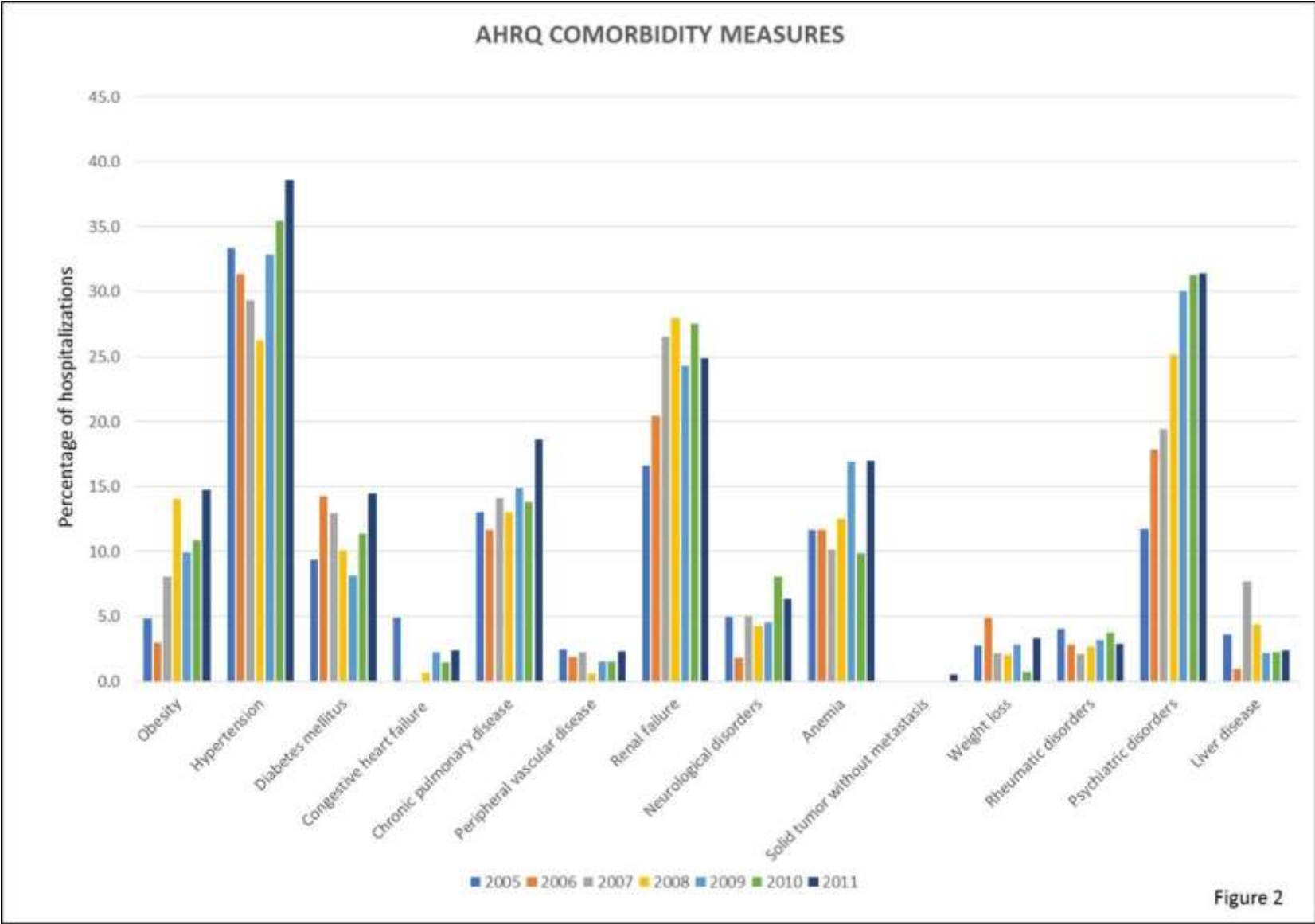


Figure 2



Conclusion

A significant rise in the number of SOD related hospitalizations, with changing trends in demographic variations, cost of care and associated comorbidities, was seen during the study period.

Further studies are needed to identify factors responsible for such trends to better elucidate our findings.

Limitations

- Studies using such large databases are potentially vulnerable to errors arising from coding imprecision
- NIS records each hospitalization as a separate entry; difficult to separate index cases from readmissions
- Our data allowed us to look at overall in-hospital trends only; no related long term outpatient data was analyzed

