Comparison of results from email and web survey on public health jurisdictions' website, United States - 2020

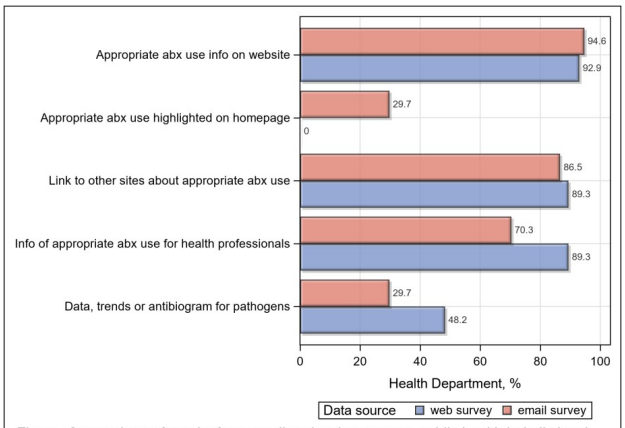

Figure. Comparison of results from email and web survey on public health jurisdictions' websites, United States — 2020

Conclusion. Public health jurisdictions have begun to use websites to increase awareness about the threat of antimicrobial resistance. However, the limited presence of information on appropriate antimicrobial use for the public, health professionals and veterinarians suggest the need for improvement. Gaps exist between the awareness of the epidemiologists and laboratorians and the information reported on public health jurisdictions' websites. Websites can be expanded and better leveraged to increase visibility of AMR and appropriate antimicrobial prescribing across One Health domains.

Disclosures. **All Authors**: No reported disclosures

922. Increasing incidence of obstructive sleep apnea in patients with HIV: A nationwide database analysis

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Session: P-44. HIV: Complications and Special Populations

Background. There is an increasing recognition of the burden of chronic non-communicable diseases in patients living with HIV. Fatigue, somnolence and mood symptoms are often reported in this patient population, leading to concern for undiagnosed OSA. We aimed to use the National Inpatient Sample (NIS) to determine incidence of OSA in patients with HIV, and its impact on inpatient outcomes.

Methods. All index admissions reported to the NIS between 2007 and 2016 were included in the analysis. Logistic regression models were used to determine demographic risk factors, as well as comorbid conditions associated with OSA, and the impact of OSA on inpatient outcomes

Results. There was a significant increase in the number of admissions for HIV patients with a comorbid condition of OSA from 766 in 2007 to 3250 in 2016 (p-value < 0.001), corresponding to an annual increase of 15.5%. In patients with OSA, obesity was less often reported in HIV patients (16.0%) vs non-HIV patients (18.6%). HIV-positive patients with OSA had a significant association with hypertension, heart failure, obesity, diabetes, lipodystrophy, renal failure and disorders of pulmonary circulation. OSA was not a risk factor for inpatient mortality. Peak incidence of OSA was reported earlier in females compared to males.

Conclusion. There has been a significant increase in the reported incidence of OSA in patients with HIV, likely representing an increase in awareness of OSA, as well as a true increase in OSA incidence in the post-combination antiretroviral therapy era.

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923. Long-term Mortality after Histoplasma Infection in People Living with HIV

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Session: P-44. HIV: Complications and Special Populations

Background. Histoplasmosis is a common opportunistic infection afflicting people living with HIV (PLWH) globally. There are no data on long term survival of PLWH with histoplasmosis.

Methods. We conducted a single-center retrospective cohort study of PLWH diagnosed with histoplasmosis between 2002 and 2017. Data collected included demographics, clinical characteristics, treatment, and mortality. Patients were categorized into three groups based on length of survival after diagnosis: early mortality (death within 90 days), late mortality (death at or after 90 days), and survivors. Between group differences in demographic and clinical characteristics were assessed using Chi square for categorical variables and Mann-Whitney U non-parametric tests for continuous variables. Mortality was compared using Cox proportional hazards. Insurance type (i.e. private versus public option) served as a surrogate indicator of socioeconomic status (SES). Patients diagnosed with histoplasmosis in or after 2008 were considered a part of the modern ART era, regardless of treatment regimen.

Results. Our review found 54 PLWH infected with histoplasmosis from 2002-2017. Overall mortality was 37%, with 14.8% early mortality and 22.2% late mortality. Median survival time in the early mortality group was 13.5 days (IQR 2.5-41 days), and 338 days (IQR 180.5-803.3) in the late mortality group. Compared to the late mortality group, survivors were over 6 times more likely to have suppressed HIV viral load at last observation (HR 6.19, p=0.013). Median HIV viral load at last observation was lower among the survivors (2 log copies/ml, IQR 0, 4.5) compared to the late mortality group (4.1 log copies/ml, IQR 2.6,5.5) (p=0.010). Survivors were twice as likely to have private insurance, but this did not reach statistical significance (HR 2.19, p=0.14). There was no statistically significant difference in survival based on the availability of modern ART (p=0.85). The year of diagnosis made no difference with regards to survival (p=0.914).

Baseline Characteristics of PLWH with Histoplasmosis

	Survived n=34 (%)	Early mortality n=8 (%)	Late mortality n=12 (%)	P value
Male	23 (67%)	6 (75%)	8 (67%)	0.911
Age (median, IQR)	43 (32, 51)	41 (36, 49)	36 (25, 40)	0.773
Race				0.105
African American	16 (47%)	7 (87%)	9 (75%)	
Non African American	17 (50%)	1 (13%)	2 (17%)	
Site of infection				
CNS	3 (9%)	0 (0%)	0 (0%)	0.393
Pulmonary	24 (71%)	6 (75%)	7 (58%)	0.670
Bloodstream	15 (44%)	3 (38%)	8 (67%)	0.327
Other				
Presenting symptoms				
Fever	26 (76%)	4 (50%)	10 (83%)	0.217
Cough	17 (50%)	4 (50%)	5 (42%)	0.878
Night sweats	10 (29%)	1 (13%)	5 (42%)	0.375
Dyspnea	13 (38%)	3 (38%)	6 (50%)	0.760
Chest pain	6 (18%)	0 (0%)	3 (25%)	0.329
Arthralgias	3 (9%)	0 (0%)	1 (8%)	0.686
Dysphagia	5 (15%)	2 (25%)	2 (17%)	0.781
Weight loss	22 (65%)	5 (63%)	5 (42%)	0.370
GI symptoms	23 (68%)	4 (50%)	8 (67%)	0.635
Disseminated disease	26 (76%)	5 (63%)	11 (92%)	0.293

HIV-related Characteristics of PLWH with Histoplasmosis

	Survived (n=34)	Late mortality (n=12)	P value
Median CD4 count (median, IQR)	12 (6, 46)	26 (8, 52)	0.515
Median HIV viral load at diagnosis (median, IQR)	5.5 (4.4, 6.2)	5.2 (3.8, 5.5)	0.250
Median HIV viral load at last observation (median, IQR)	2.0 (0, 4.5)	4.1 (2.6, 5.5)	0.010
New HIV diagnosis at diagnosis	18 (53%)	3 (25%)	0.095
Median time for HIV diagnosis to histoplasma diagnosis, years (median, IQR)	0.2 (0, 13.6)	3.5 (0.1, 5.3)	0.871
ART-experienced	14 (41%)	7 (58%)	0.194
Modern ART	12 (35%)	4 (33%)	0.902
HIV viral load suppressed at last observation	14 (41%)	2 (17%)	0.125
HIV viral load suppressed at diagnosis	1 (3%)	2 (17%)	0.098
History of previous OIs	17 (50%)	9 (75%)	0.133
Pneumocystis pneumonia	10 (29%)	2 (17%)	
Disseminated MAC	2 (6%)	0 (0%)	
Tuberculosis	0 (0%)	1 (8%)	
Oral Candidiasis	4 (12%)	2 (17%)	
Cryptosporidium	0 (0%)	1 (8%)	
CMV	2 (6%)	2 (17%)	
Kaposi Sarcoma	1 (3%)	0 (0%)	
Toxoplasmosis	1 (3%)	1 (8%)	
Private Insurance	13 (38%)	1 (8%)	0.053
History of substance abuse	13 (38%)	2 (17%)	0.171
History of psychiatric illness	4 (12%)	0 (0%)	0.214

Conclusion. Histoplasmosis continues to be associated with high mortality among PLWH. Improved long-term survival is seen in patients with suppressed HIV viral loads.

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925. Adverse Events Due to Inappropriate Prescribing in Older Adults Living with HIV

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Session: P-44. HIV: Complications and Special Populations

Background. People living with HIV (PLWH) are aging and experience age-related comorbidities as well as physiological changes leading to a higher risk for polypharmacy, drug-drug interactions, inappropriate prescribing and related adverse events (AE). Prior studies have highlighted a growing concern for inappropriate prescribing in older PLWH. The objective of this study was to examine the prevalence of AEs resulting from inappropriate prescribing in PLWH > 65 years of age.

Methods. This was a retrospective chart review. PLWH followed-up at the outpatient HIV clinic at the University Hospital in New Mexico between 01/01/2015 and 08/21/ 2018 were eligible if they were > 65 years of age and had >1 potentially inappropriate prescriptions (PIP). PIP were identified using the Beers and STOPP/START criteria for inappropriate mediations in elderly, as well as drugs incorrectly dosed, and potentially deleterious drug-drug interactions (DDI). The University of Liverpool's HIV interaction checker and Lexicomp's interaction checker were used to screen for DDI between HIV and non-HIV drugs, and between non-HIV drugs. AEs related to PIPs were collected and their severity was classified using the WHO scale for grading of AEs.

Results. A total of 104 PLWH >65 years of age fulfilled the eligibility criteria. Most patients were male (88.5%) with an average age of 69 years. The majority of patients were virologically suppressed (89%), with an average CD4 cell count of 650 cells/μL. Polypharmacy (>5 non-HIV medications) was identified in all 104 patients; average number of non-HIV medications was 9.4 + 4.8. 30 (28.8%) patients experienced >1 AE, with a total of 53 AEs identified. Of those, 20 (67%) presented with a serious AE. 14 patients (47%) had to seek treatment at an emergency department and 2 patients (7%) had to be hospitalized. The most common AEs included falls (27/53 events; 51%), bleeds (7/53 events; 13%), fractures (4/53 events; 8%). Risk for an AE was significantly associated with increasing number of medications (OR 1.16; 95% CI 1.05-1.29).

Conclusion. PIP and related AEs are common in older PLWH. Interventions to prevent harm including medication reconciliation, medication review, and medication prioritization according to the risks/benefits of individual patients are warranted.

Disclosures. Keenan L. Ryan, PharmD, PhC, Theravance (Advisor or Review Panel member)

926. Antibody Response to HPV Vaccination in Pediatric and Adolescent People Living with HIV (PLWH)

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Session: P-44. HIV: Complications and Special Populations

Background. Immune dysfunction related to HIV infection is associated with an inability to clear HPV infection and may compromise the immunogenicity of quadrivalent HPV vaccine Gardasil® (4v HPV).

Methods. Between 2005 and 2017, males and females 7 to 20 years old age, were offered 3-dose 4v HPV vaccine. Plasma IgG titers to HPV 6 (H6), 11 (H11), 16 (H16) and 18 (H18) were measured using multiplex VLP-based ELISA. For the 36 patients, median interval from 1st dose to 2nd and 3rd doses were 73 and 216 days. Plasma sample 1 was collected at median of 91 days after dose 1, sample 2, 169 and sample 3, 740 after respective vaccine doses. A 4th sample was available for 26 patients, median 2327 days after dose 1. Rank-sum test, X^2 or Fisher's Exact Test were employed.

Results. Before vaccination, 10 (28%) were seropositive to 1 or more HPV types. The baseline seropositives were older than seronegatives (16 years vs 11; p=0.007). After dose 3 all participants had an Ab response to at least 1 HPV type and 32 (89%) were seropositive for 4 HPV types. Seroconversions were H18, 87%; H16 97%; H11, 100%; H6, 97%. Seroconversions after 1 dose of 4v HPV among the baseline seronegatives were 61%, 90%, 86% and 86%, respectively and 22 became seropositive for all 4 types. The 4 baseline seronegative PLWH with partial seroconversion had higher median HIV viral load (VL) compared to baseline seronegative group with full seroconversion (12,920 vs 101 copies/ml; p = 0.052), but had comparable CD4 counts. The rate of post vaccination seropositivity and baseline to peak titer response for each HPV type was not significantly different for baseline sero-groups. Among baseline seronegative, all 19 sampled distant from vaccination remained seropositive to at least 1 HPV type (84% to 3 or more types) and 6 (32%) became seronegative (sero-reversion). Those showing sero-reversion had higher VL compared to the 14 who remained seropositive (9100 vs 48; p =0.015). Time from last dose of 4v HPV to sample 4, CD4%, age, gender, and race/ethnicity were similar between the groups.

Bar Graphs representing Ab response to the 4 HPV types following each dose of 4v HPV vaccine