

Image 1. KM survival estimate in the first year after diagnosis

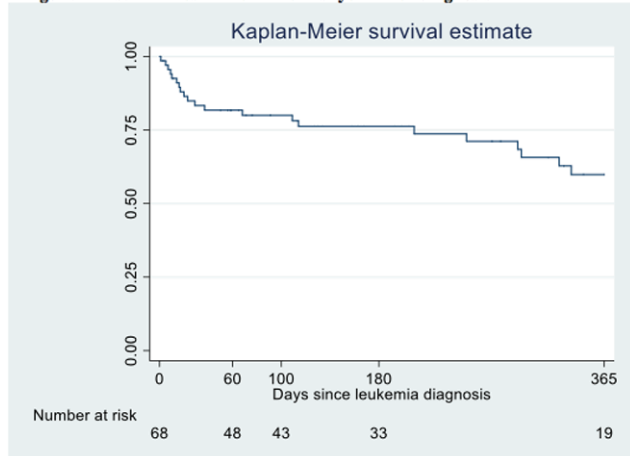
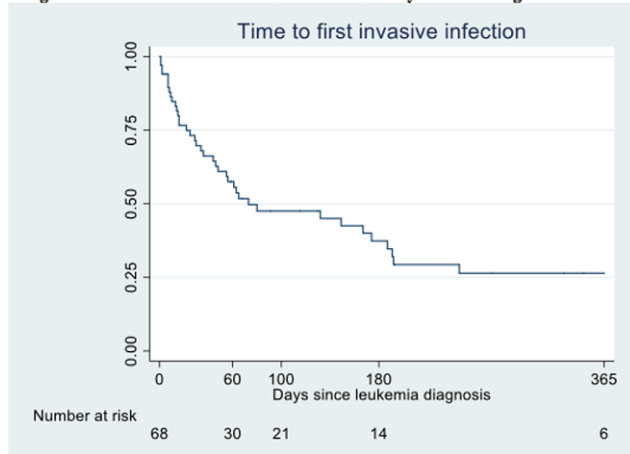


Image 2. Time to first invasive infection in the first year after diagnosis*



*Patients censored at one year, end of study, or death (whichever came first)

Disclosures. All authors: No reported disclosures.

1682. Dengue Fever Outbreak Investigation in Upper Egypt in 2015

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Background. Surveillance is the backbone of infectious diseases control but an outbreak of a new pathogen to a developing country may have devastating consequences given less prepared healthcare systems in such countries. In October 2015, there was a sharp rise of febrile illnesses reported in Dairof Fever Hospital which prompted the general department for fever hospitals in the Egyptian ministry of health (MOH) to constitute a scientific committee for field visit study in Dairof fever hospital.

Methods. The committee held meetings at Dairof fever hospital, educated local healthcare providers, examined all isolated patients and requested samples of 118 isolated patients to be sent to central laboratories of MOH. Entomological services were also part of the committee and surveillance was started in the affected area.

Results. Out of 118 samples, 28 came back positive for Dengue virus type 1 by ELISA and PCR. Entomological surveillance revealed the presence of *Aedes aegypti* larvae and adult mosquito at the sites where cases were living; consequently, entomological control measures for dengue vector were immediately set leading to a dramatic decline in the density of adult mosquito (from 23% to 0%) and larvae (from 25% to 0.5%).

Conclusion. The prompt response of the MOH in Egypt led to rapid control of Dengue fever outbreak but educating healthcare workers about possible imported infectious diseases would have halted the outbreak much earlier which shows the importance of Infectious Diseases training in developing countries.

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1683. Empathy Scale Validation Among Expectant Seroconcordant Couples

Enrolled in HIV Care and Treatment in Zambézia Province, Mozambique
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Background. Among patients enrolled in HIV care and treatment in rural Mozambique, 30% abandon treatment within a year. A cluster randomized controlled trial assessing the impact of couple-based vs. individual treatment for concordant couples on viral suppression (the HoPS+ trial) hypothesizes that harnessing family support will improve patient outcomes. Individuals with high levels of empathy will likely provide greater social support for treatment retention and adherence. This study validates a locally tailored version of the interpersonal reactivity index (IRI)—cognitive empathy (CE) and affective empathy (AE)—among expectant parents living with HIV in Zambézia province, Mozambique.

Methods. Using baseline data from 558 participants from the HOPS+ trial, we used a maximum likelihood exploratory factor analysis with a promax oblique rotation to assess the culturally relevant questions from the IRI. We examined discriminant and construct validity through analysis of subscale relationships by sex, age, education, and depression and intra-person reliability over time with an interclass correlation model ($n = 119$).

Results. Our participants live in 6 districts and receive health care at 24 health facilities. The median age was 25 (IQR: 22 to 30), 50% were female, and 44% were single. Participants had a median of 5 years of formal education (IQR: 2–7). Half of them report their occupation as “farmer” and 17% screened positive for depression. On a scale of 0–4, the median baseline CE score was 2.6 (IQR: 1.9–3.2) and the median baseline AE score was 1.9 (IQR: 1–2.6). Males (2.6 vs. 2.4, $P < 0.01$), participants who finished primary school (2.7 vs. 2.5, $P < 0.01$), and older participants (2.6 vs. 2.5, $P = 0.04$) had higher CE scores, while depressed participants had higher AE scores (2.3 vs. 1.8, $P < 0.01$). We found moderate stability over time (CE ICC: 0.63, AE ICC: 0.54) in a subset of 119 study participants.

Conclusion. While depression is associated with 12.5% higher AE scores, older participants, males, and those high levels of education had higher scores on the CS scale. This preliminary work will inform future work on the HoPS+ trial and guide future interventions aimed at increasing retention in and adherence to treatment in people living with HIV.

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1684. Clinical Profile and Outcome of Scrub Typhus-Related Acute Respiratory Distress Syndrome in Adults Presenting to a Tertiary Care Hospital in North India

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Background. To study the clinical profile and outcome of adult patients presenting with Scrub typhus ARDS in emergency at our institute.

Methods. Prospective observational study which included 126 adult patients presenting to emergency department at, PGIMER Chandigarh, a tertiary care referral institute in northwestern India with acute febrile illness with ARDS (acute onset respiratory distress within one week of fever or new/worsening respiratory symptoms with $\text{PaO}_2/\text{FiO}_2$ ratio less than 300 with PEEP or CPAP more than 5 cm H_2O from January 2016 to December 2017. All the patients consenting for the study underwent detailed clinical evaluation and investigated for the etiology as per standard protocol followed at our institute with special emphasis to rule out tropical illnesses like scrub typhus, malaria, leptospirosis, dengue and H1N1 influenza. Patients were followed till discharge.

Results. Out of 126 patients eligible for the study, 45.2% were males and 54.8% were females. 47.6% were admitted in the monsoon/post-monsoon period. In addition to fever and dyspnea, cough (75.8%), hepatomegaly (56%), myalgia (63%), splenomegaly (31.3%), pedal edema (34.2%), pallor (40.4%), and vomiting (48.4%) were the common symptoms observed. Scrub typhus in 33.3%, followed by H1N1 influenza in 15.8%, co-infections in 12.6%, leptospirosis in (4.76%), dengue in (3.96%) and malaria in 3.17% of the patients, were the most common etiologies encountered. In 26.9% patients, no definite infective etiology could be found. Among the scrub typhus patients, 16 required ventilation. SOFA score of more than 6 was noted in 24 (57.14%) patients with scrub typhus as compared 9 (47.3%) patients with H1N1 infection. 12.1% of patients with scrub typhus succumbed to their illness when compared with 36.8% of patients with H1N1 infection. At admission in emergency female sex ($P = 0.048$), age less than 45 years, ($P = 0.020$), abdominal pain ($P = 0.011$), presence of hepatosplenomegaly ($P = 0.001/0.010$), thrombocytopenia $<150,000$ ($P = 0.001$), transaminitis ($P = 0.00$) were significant predictors of a diagnosis of scrub typhus when compared with a non-scrub typhus etiology of patients with fever and ARDS.

Conclusion. Scrub typhus is an important, treatable tropical infection causing ARDS especially in monsoon/post-monsoon seasons in Northwestern India.

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1685. Retrospective Analysis of *Strongyloides* Hyperinfection-Dissemination Syndrome Risk Factors in a County Hospital

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Background. *Strongyloides stercoralis* is a parasitic infection endemic to tropic, subtropic, and temperate regions globally, affecting nearly 100 million people. Clinical disease ranges from asymptomatic strongyloidiasis (AS) to hyperinfection-dissemination syndromes (HDS), a syndrome of accelerated autoinfection and fulminant illness. This study aims to identify risk factors for HDS in a county hospital.

Methods. Subjects admitted to Ben Taub Hospital in Houston, TX, a safety net facility providing care to uninsured and underinsured Harris County residents, from 2012–2016 were identified by ICD-9 and -10 codes. Charts were retrospectively reviewed, and statistical analysis was completed using chi-square with R-software.

Results. 15 subjects with strongyloidiasis were identified, 9 (60%) with AS and 6 (40%) with HDS. There was no statistical demographic difference between the groups in terms of age, country of origin, or presence of co-morbidities, including chronic T-cell-mediated immunosuppressed states, such as HIV, diabetes mellitus, chronic kidney disease, malignancy, and malnutrition. When compared with patients with AS, patients with HDS were more likely to have acutely received immunosuppressant medications, such as corticosteroids or chemotherapy, prior to admission ($P = 0.009$). Common presenting symptoms, including abdominal pain, diarrhea, cough/dyspnea, and rash, were similar between the groups. Subjects with HDS were more likely to present with hypotension ($P = 0.017$) and have concurrent severe infections ($P = 0.0361$) at the time of presentation, reflecting the subjects' underlying immunosuppressed status. Additionally, there was no difference in levels of peripheral eosinophils in subjects with AS vs. HDS. However, subjects with AS were more likely to have a positive serum *S. stercoralis* IgG ($P = 0.002$).

Conclusion. HDS should be considered in all individuals from endemic regions who have acutely received immunosuppressive medications presenting with hypotension, irrespective of chronic underlying co-morbidities. Recognizing the high likelihood of co-infection with virulent pathogens is of particular importance in subjects with HDS. As diagnostic tests are unreliable in subjects with HDS, empiric treatment is imperative.

Disclosures. All authors: No reported disclosures.

1686. Maternal Knowledge and Perceptions about Routine Immunization in a Slum Area of Pakistan

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Background. To know the baseline coverage and potential obstacles for children vaccination before starting a health awareness program.

Methods. A cross-sectional study on immunization coverage in the slum area of Multan, Pakistan was conducted and a total of 312 mothers were interviewed face to face for Knowledge, Attitudes, and Perceptions (KAP).

Results. Among the children less than 3 years, 33% fully, 46% partially and 21% were not at all immunized. High levels of BCG and OPV zero rates (79%) and low rates of OPV3/DPT3 (48%) and measles (41%) vaccines were found. Majority of the mothers were satisfied with the program. Most of the mothers were aware about the importance of vaccination but were ignorant for the need to complete the schedule. There were many misconceptions and beliefs among the mothers of partial and unimmunized children. The majority were of view that vaccines contain ingredients that will make the children infertile.

Conclusion. There is a need to enhance the maternal knowledge about the vaccine-preventable diseases and importance of completing the immunization schedule. Also the misconception about the vaccines need be specifically addressed.

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1687. High-Rates of *Candida auris* Carriage and Co-Colonization with Multidrug-Resistant Organisms (MDROs)

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Background. *Candida auris* is an emerging multidrug-resistant pathogen that can persist in the environment and lead to healthcare-associated outbreaks. Residents of long-term acute care hospitals (LTACHs) are at particular risk for carriage of both MDROs and *C. auris*. However, there are few data on co-colonization rates of *C. auris* with other MDROs in LTACHs.

Methods. We conducted a point prevalence survey for MDROs, *C. auris* and *C. difficile* in a Chicago LTACH in March 2019. A combined axilla/groin E-swab (Copan) was collected and plated for *C. auris* isolation using CHROMagar Candida (Hardy). A rectal E-swab (Copan) was collected for *C. difficile* PCR and MDRO detection including Carbapenem-resistant *Enterobacteriaceae* (CRE), Extended-spectrum B-lactamases (ESBLs) and Vancomycin-resistant *Enterococci* (VRE). Each swab was plated directly on VACC agar (Vancomycin, Amphotericin B, Ceftazidime, Clindamycin) and CHROMagar ESBL (Hardy). Bruker MALDI-TOF was used for bacterial and yeast identification and disc diffusion method for antimicrobial susceptibility testing. ESBL phenotypic confirmation was done using double-disc synergy method per CLSI guidelines. Carbapenemase production was confirmed using Xpert Carba-R assay (Cepheid). *C. difficile* PCR was performed using Xpert *C. difficile*/Epi assay (Cepheid).

Results. Of 38 patients 36 were eligible for the study (2 patients declined). Overall, 26/36 (72%) patients had an MDRO. Eight (22%) patients were positive for *C. auris*. Eight (22%) patients had ESBLs (2 *P. mirabilis* and 6 *E. coli*), six (17%) had CREs that were all bla_{KPC} positive (4 *K. pneumoniae*, 1 *E. coli*, and *K. pneumoniae*). Eight (22%) patients were positive for other gram-negative (GN)-MDROs including 1 *A. baumannii*, 3 *P. aeruginosa*, 2 *E. cloacae*, 1 *E. asburiae* and 1 *P. aeruginosa*, and *A. baumannii*. 20 patients (56%) had VRE colonization. Five (14%) were *C. difficile* PCR positive. 7/8 (87.5%) patients with *C. auris* were also colonized with another MDRO (2 VRE, 1 ESBL, 1 VRE, ESBL and KPC, 1 VRE and GN-MDRO, 1 VRE, ESBL and GN-MDRO, 1 VRE, KPC, and GN-MDRO).

Conclusion. We found a high rate of MDRO co-colonization among patients with *C. auris* carriage. Continuous active surveillance may be appropriate in LTACHs to limit the spread of *C. auris* and other MDROs.

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1688. Invasive Ocular Candidiasis: Who Is Really at Risk?

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Background. The Infectious Disease Society of America recommends that all patients with candidemia undergo a dilated retinal examination to exclude invasive ocular candidiasis. However, it remains unclear whether there are patients with candidemia who do not warrant routine surveillance because the risk of ocular infection is low.

Methods. We conducted a retrospective cohort study of all patients with candidemia diagnosed at three academic medical centers (Duke, University of North Carolina and University of Virginia) from 2012 to 2017. We collected risk factors for invasive ocular candidiasis based on previous literature and compared them between patients with and without invasive ocular candidiasis. We then built a multivariate logistic regression model to assess which risk factors were significant for developing invasive ocular candidiasis.

Results. Overall, 942 patients were diagnosed with candidemia over the study period. The mean age was 55.9 years, 56% were men, 25% were non-White. Among these patients, 120 (13%) were also diagnosed with invasive ocular candidiasis, 10% with chorioretinitis and 3% with vitreous involvement. In our logistic regression analysis, central venous catheter presence [OR 8.35 (3.53, 19.77)], intravenous drug use [OR 5.02 (2.63, 9.58)], immunosuppression [OR 2.40 (1.55, 3.70)], total parenteral nutrition [OR 2.28 (1.42, 3.66)], non-White race [OR 1.65 (1.07, 2.55)], older age [OR 1.02 (1.01, 1.03)], and female gender [OR 0.57 (0.37, 0.89)] were risk factors for developing invasive ocular candidiasis. In addition, we found that persons with candidemia due to *C. albicans* were more likely to have invasive ocular candidiasis [OR 1.86 (1.22, 2.85)].

Conclusion. This cohort represents the largest study of patients with candidemia who developed invasive ocular candidiasis to date. Based on our findings, clinicians should develop targeted and cost-effective strategies for endophthalmitis screening.