International child health group

G438 TRENDS IN REPORTED ANTIBIOTIC USE AMONG SICK CHILDREN UNDER FIVE YEARS ACROSS LOW- AND MIDDLE-INCOME COUNTRIES IN 2005–2017: A SYSTEMATIC ANALYSIS OF 132 NATIONAL SURVEYS FROM 73 COUNTRIES

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Background Global antibiotic consumption assessments have relied on pharmaceutical sales data that do not measure individual-level use, and are often unreliable or unavailable for low- and middle-income countries (LMICs). To help fill this evidence gap, we compiled data from national surveys in LMICs in 2005–2017 reporting antibiotic use for sick children under five years. Based on 132 Demographic and Health Surveys and Multiple Indicator Cluster Surveys from 73 LMICs, we analysed trends in the proportion of reported antibiotic use among children under five years with fever, diarrhoea, or cough with fast or difficult breathing symptoms by region, income classification and symptom complaint.

Methods A logit transformation was employed to estimate the outcome using a linear Bayesian regression model. The model included country-level socioeconomic, disease incidence and health system covariates to impute estimates for country-years with missing values.

Results Across LMICs, reported antibiotic use among sick children under five years increased from 36.8% (UI: 28.8%–44.7%) in 2005 to 43.1% (UI: 33.2%–50.5%) in 2017. Low-income countries experienced the greatest rise (34%) from 29.6% (UI: 21.2%–41.1%) in 2005 to 39.5% (UI: 32.9%–47.6%) in 2017 although levels remained lowest of any income group throughout the study period.

Conclusion We found a limited but steady increase in reported antibiotic use for sick children under five years across LMICs in 2005–2017 although overlapping uncertainty intervals complicate interpretation. This increase was driven by gains in low-income countries. Our study expands the evidence-base from low-income countries where strengthening antibiotic consumption and resistance surveillance is a global health priority.

G439 RECOGNISING AND REPORTING CHILD ABUSE IN CLINICAL PRACTICE: A QUALITATIVE STUDY OF PAEDIATRICIANS IN BOGOTÁ, COLOMBIA

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Aims Child abuse is extremely prevalent worldwide but overwhelmingly underreported and underrecognised, meaning the scope of the problem is often underrepresented. Paediatricians are in a unique position to identify and stop cases of child abuse from escalating. This purpose of this study was to identify potential barriers amongst paediatricians in recognising

and reporting child abuse cases in their practice. UNICEF highlighted that in Colombia, careful attention was required to tackle violence against children, as some people considered exploitation and abuse as normal or acceptable and that there is an 'insufficient budget, services and trained human resources..to meet the needs of children'.

Methods A review of relevant literature highlighted under recognition and underreporting of suspicious cases of abuse and described confusion and inconsistencies in paediatrician's role and involvement in detection and reporting. This descriptive phenomenological study utilised a qualitative research design with 9 in-depth semi-structured interviews, conducted with paediatricians working in clinical practice in Bogotá, Colombia.

Results The main barriers noted were fear, inadequate training and guidelines and lack of confidence or understanding in the follow up process. Factors which were shown to positively impact on reporting included the role of the multidisciplinary team, level of perceived responsibility, and their relationship and level of communication with the patient and their family. These factors were all shown to impact on a paediatrician's clinical reasoning in determining if a child is being abused and if they should report it, along with their gut feeling and ability to identify signs of abuse.

Conclusion Child abuse is a complex interplay of factors, with a large difficulty in clinical practice in identifying the 'cut off' between 'normal parenting' and abuse. This study highlighted the need for standardisation and renewal of training on child abuse for paediatricians throughout their undergraduate and postgraduate career, with screening tools and guidelines that would increase paediatricians' awareness and confidence in dealing with child abuse. The results of the study highlight a framework with a complex interlinking and interdependency of factors affecting clinical practice with no 'one size fits all approach' in regard to recognising, reporting and safeguarding an at-risk child.

G440(P) VALIDATION OF WORLD HEALTH ORGANIZATION DEFINITION OF ACUTE ENCEPHALITIS SYNDROME WITH CENTRAL NERVOUS SYSTEM INFECTION IN NEPALI CHILDREN

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Aims World Health Organisation(WHO) defines acute encephalitis syndrome(AES) as a person of any age, at any time of year, with the acute onset of fever and a change in mental status and/or new onset of seizures in order to identify patients with possible acute encephalitis(AE). We aimed to compare and validate WHO definition of AES with the diagnosis of all central nervous system(CNS) infections, bacterial meningitis (BM), viral encephalitis and Japanese Encephalitis (JE). We also aimed to validate positive cerebrospinal fluid (CSF) cytology and biochemistry result with the diagnosis of BM and JE.

Methods We conducted a prospective cross-sectional study recruiting children aged between 1 month to 14 years attending Kanti Children's Hospital, Kathmandu, Nepal with altered sensorium and two of the following: fever, seizure, focal neurological deficit, CSF pleocytosis,

electroencephalogram and computer tomography suggestive of encephalitis, over one year. In these patients, VE was if CSF cell count was <1000 cells/mm³ (lymphocyte predominance) and absence of non-viral pathogens in the CSF or blood. BM was CSF cell count >1000 cells/mm³ (polymorph predominance) and CSF protein >0.45 g/L and CSF/plasma glucose $<40\%$, and/or positive Gram stain and/or bacterial culture. JE was VE with ≥ 40 units of anti JE-IgM in the CSF and/or serum. All CNS infections were defined as, suspected cases by treating clinician with or without fever with LP showing CSF cells $>4/\text{mm}^3$.

Results Out of 38, bacterial meningitis was found in 47%, JE 21% and other causes in 32%. Although WHO definition of AES was not significantly associated with all CNS infections (p-value = 0.069), it was significantly associated with VE (p-value ≤ 0.001 , sensitivity 74%, specificity 93%, PPV 94%, NPV 70%) and BM (p-value ≤ 0.001 , sensitivity 30%, specificity 7%, PPV 33%, NPV 6%). Likewise, CSF criteria (cytology and biochemistry) for diagnosing JE was significantly associated with confirmed diagnosis of JE (p-value = 0.001).

Conclusion We validate WHO AES definition of BM and VE and CSF cytology and biochemistry analysis for the diagnosis of JE, as a significantly useful screening tool for children with these diseases specially in resource poor settings, endemic areas and confirmatory tests were not easily available.

G441(P) ABSTRACT WITHDRAWN

G443(P) TO EXPLORE THE POTENTIAL OF GEOGRAPHIC INFORMATION SYSTEM SOFTWARE (GIS) IN IDENTIFYING CHILDREN AT RISK OF MALNUTRITION AND EARLY NON-COMMUNICABLE DISEASES IN A DEPRIVED AREA OF MALAYSIA

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Methods The Geographic Information System software (GIS) is a software that is capable of analysing various geographic data and link them to environmental, socio economic, malnutrition and other health factors which could predict future non-communicable diseases (NCD) in adulthood. To reduce the future burden of NCD, we need to identify these children at risk in the hope that early prevention and intervention strategies would decrease its prevalence.

In 2013, a pilot study involving an interagency research group was formed, to map the location of malnourished children in one of the most deprived districts in Malaysia. A Growth Monitor software was created to capture anthropometric data for children below the age of 5 years, seen in all the health clinics in the districts. The data was used to map the location of the children and entered into the Geoinformation Software (GIS) where factors such as soil fertility, land use changes; soil moisture and flood prone areas were

combined with remote sensing data to produce a malnutrition risk map for the region.

Results A risk-map pictorial image ironically indicated that most of the malnourished and children at-risk resided in the most fertile areas of the districts, but the land was minimally used for agriculture. The research also discovered that even though these children had access to protein-rich fish, these were exported to nearby country in exchange for cash which were used for entertainment purposes.

The use of GIS has been shown to provide a very clear overall view of risks of malnutrition in children and has the capability to track these children at risk with time, enabling earlier intervention to prevent future risks of NCDs.

G444(P) ABSTRACT WITHDRAWN

G445(P) EXPERIENCES OF ACCESSING HEALTH CARE FOR LOW BIRTH WEIGHT INFANTS AMONG CARE GIVERS AND HEALTH CARE PROVIDERS IN HOMA BAY COUNTY OF WESTERN KENYA

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Aims To explore the experiences of accessing care for low birth weight (LBW) infants in rural Kenya, in order to identify the barriers and facilitators to support the development of interventions to improve outcomes of these infants in rural Kenya and other similar settings.

Methods Qualitative research using in-depth interviews. Purposive sampling was used to identify participants with experience of caring for a LBW infant in Homa Bay County, Kenya. These included primary caregivers of LBW infants who had recently been discharged from the New-born Unit at Homa Bay County referral hospital and health care providers in both primary and secondary level health facilities within the County. The interviews were held at the Homa Bay County hospital, conducted in either English, Dholuo or Swahili by an experience research assistant and were audio recorded. They were transcribed verbatim and the non-English transcripts were translated to English. A thematic approach was used to analyse the data.

Results Overall, carers and health care provider experiences focussed more on the barriers to accessing care for LBW infants in this setting. The key barriers were household deprivation, inadequate support networks for mothers of LBW infants, maternal psychological stress associated with having a LBW infant in the community, lack of knowledge about danger signs in LBW infants amongst caregivers, community and health care workers beliefs and attitudes about the poor outcomes of LBW infants and inadequate resources to provide care for LBW infants in the health system. The main facilitators were the information shared by health care providers in some of the antenatal clinics that empowered mothers to access care for their infants earlier and the support of