

P2-535 **PROGRESS TOWARDS ERADICATION OF POLIOMYELITIS IN GHANA: A REVIEW OF EASTERN REGION- GHANA, 1997–2009**

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Background Poliomyelitis is a highly infectious viral disease transmitted feco-orally, mainly affecting children under 15 years old. One in 200 infections leads to irreversible paralysis and immunisation can prevent poliomyelitis. Acute Flaccid Paralysis (AFP) surveillance, is used to documents the presence or absence of wild polio-virus. An in-depth review of AFP data in the Eastern Region was undertaken to assess the progress towards interruption of polio-virus transmission and to identify opportunities for system improvement.

Methods We conducted a secondary data analysis of AFP cases reported to the Regional Health Directorate from 1997 to July 2009. We reviewed records, calculated AFP surveillance performance indicators and described AFP-cases, surveillance indicators and polio vaccination by person, place and time.

Results Between 1999 and July 2009, of the 273 AFP-cases reported, one wild polio-virus was recorded. The non-polio AFP rate ranged from 0.12 to 3.94/100 000 and stool adequacy from 60% to 80%. The prevalence of non-polio entero-viruses was 8.4%. Thirty seven percent of the AFP-cases were males <5 years old. Most AFP-cases 38/273 (14.0%) occurred in October with Suhum District recording the highest 30/273 (11.0%). The commonest site of paralysis was the right lower limb 85/273 (31.0%) and asymmetric paralysis represented 169/273 (62%). Forty percent (109/273) of AFP-cases had three polio-vaccine doses. Completeness of data from case-based forms was however inadequate.

Conclusions The AFP surveillance indicators reflect consistent progress towards interruption of polio-virus transmission. However, the programme needs to improve on the completeness of case-based forms and stool quality. Surveillance officers have been re-trained on data management.

P2-536 **CO-OCCURRENCE OF ANXIETY AND DEPRESSION AMONG OLDER ADULTS IN LOW AND MIDDLE-INCOME COUNTRIES: FINDINGS FROM THE 10/66 STUDY**

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Background There is relative little information about the prevalence and risk factors of co-morbid anxiety and depression in later life. These disorders are often associated with worse response to treatment than either condition alone, and researching its epidemiology in diverse settings is vital to policy makers. We therefore investigated the co-occurrence of anxiety and depressive syndromes among older adults living in developing countries and measured the separate and joint effect of these two disorders on levels of associated disability.

Method The 10/66 study carried out cross-cultural surveys of all residents aged 65 or over (n=15021) in 11 sites in seven countries (China, India, Cuba, Dominican Republic, Venezuela, Mexico and Peru). Anxiety was measured by using the Geriatric Mental State Examination (GMS) and the AGE-CAT diagnostic system. Depression was assessed according to ICD-10 and EURO-DEP criteria. Disability was measured by using the WHO-Disability Assessment Scale Version II (WHODAS-II). Negative binomial regression

models (ZINBs) were used to investigate the association between common mental disorders and disability.

Results Co-morbid anxiety and depression was high (range %: 14.4–26.8) in the Latin American and Indian sites. Gender, socio-economic status, urbanicity and physical co-morbidities were associated with the different co-morbid states. Having both disorders was linked to higher disability scores than having anxiety or depression alone.

Conclusions Given the close association of co-morbid anxiety and depression with disability, new policies to improve prevention, recognition and treatment will be needed to adapt to ageing populations and their mental health needs.

P2-537 **TRACKING PROGRESS TOWARDS ELIMINATION OF IODINE DEFICIENCY DISORDERS IN PUDUCHERRY (INDIA), A SCHOOL BASED STUDY**

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Background and Objectives Iodine deficiency disorders (IDDs) though largely preventable continue to be an important public health problem worldwide. IIDs have been reported from Puducherry and the surrounding States. We undertook this survey in all the four districts of the UT of Puducherry to study the prevalence of goitre in a sample of school children, to measure the level of iodine in salt samples and to determine the median urinary iodine concentration in a sample of these children so that the progress towards IDD elimination in the region can be assessed.

Methods In a cross-sectional study among 2581 school-going children in the age group of 6–12 years in the UT of Puducherry. A total of 30 clusters were selected by the PPS (Population proportion to size) method. The children were clinically examined for presence of goitre, urine samples were collected and salt samples from their kitchens were tested for iodine concentration.

Results The total goitre prevalence (TGP) was 27.5% (moderately endemic) among the children examined. The median urinary iodine concentration (MUI) was 142.9 µg/l (normal 100–199 µg/l). Only 7% of children (target <20%) showed low MUI (<100 µg/l). Iodine content was found to be adequate (>15 ppm) in over 60% (target >90%) of the salt samples.

Interpretation and Conclusions Goitre is still an important public health problem in Puducherry and as it's important for the mental development of children, the various operational factors need to be identified to strengthen the NIDDCP and improve the consumption of iodised salt.

P2-538 **USING THE CES-D SCALE IN A LARGE COHORT AND DEALING WITH MISSING DATA: APPLICATION TO THE FRENCH E3N COHORT**

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Introduction The CES-D scale is commonly used to assess depressive symptoms (DS) in large population-based studies. Missing data (MD) in one or several of the 20 items of the scale are frequent and may create biases. Reasons for not completing items and impact on the estimation the prevalence of DS under various hypotheses are explored.

Methods 71 412 women from the French E3N cohort returned in 2005 a questionnaire containing the CES-D scale. An interview study was carried out on a random sample of 204 participants to examine different hypotheses for the MD mechanism. The prevalence of DS was estimated with different methods for handling MD: complete cases analysis, single imputation, multiple imputation from CES-D items with or without covariates under missing at random (MAR) and missing not at random (MNAR) assumptions.

Results 45% of the 71 412 presented at least one missing value in the scale. The interviews showed that participants were not embarrassed to fill in questions about DS. Potential reasons of nonresponse were identified. MAR and MNAR hypotheses remained plausible. Among complete responders, the prevalence of DS was 26.1%. After multiple imputation under MAR assumption, it was 28.6%, 29.8% and 31.7% among women presenting up to 4, 10 and 20 missing values, respectively. The estimates were robust to the different imputation models, and the various scenarios of MNAR data.

Conclusion The CES-D scale can easily be used to assess DS in large cohorts. Multiple imputation under MAR assumption with the CES-D items only allows to reliably handle MD.

P2-539 **RABIES: KNOWLEDGE, ATTITUDE AND PRACTICE SURVEY IN BAALBECK AND ZGHARTA DISTRICTS - LEBANON 2010**

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Introduction Between 1992 and 2009, 19 human rabies cases were reported to the Ministry of Health. In summer 2010, two human rabies deaths were reported from Zgharta and Baalbek. Therefore, Knowledge, Attitude and Practice (KAP) study was conducted in both districts.

Objectives The objectives are to: assess KAP of Zgharta and Baalbek population towards rabies; measure the association of knowledge score to possible factors; and provide basic awareness to the population.

Methods A cross-sectional study was conducted. Target sample size was 97 per district (10% error margin, 5% α). Six random villages were selected. One person aged 20 and above per household was selected. Face to face interview using structured questionnaire was administered. Knowledge scores were extracted. A flyer was distributed to provide households with basic awareness. Data were entered using EpiData 3.1 and analysed using STATA 10.

Results 196 respondents were interviewed. In Zgharta, 39% were males and mean age was 43 years, while in Baalbek 45% were males and mean age was 40 years. The majority of respondents in Zgharta (85%) and Baalbek (95%) heard about rabies, yet 80% stated having no/little information. 50% in Zgharta and 62% in Baalbek scored 6/9 or more on knowledge. Participants will seek medical care if bitten by stray dogs than scratched/bitten by domestic dogs. Only in Zgharta, knowledge self-evaluation and internet access were significantly associated with knowledge score.

Conclusion A comprehensive awareness campaign targeting the public is required to increase the population's knowledge about rabies' impact on health and the way to prevent the disease onset.

P2-540 **EPIDEMIOLOGIC FEATURES OF PRION DISEASES IN JAPANESE ELDERLY: RESULTS FROM THE SURVEILLANCE**

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Introduction Incidence and mortality of prion diseases has been increasing in Japan, especially in aged populations. The objective of

this study was to investigate epidemiologic features of prion diseases in Japanese elderly.

Methods Since 1999, the Creutzfeldt-Jakob disease (CJD) Surveillance Committee collects data of all prion diseases by referring to registries to The Intractable Disease Treatment Research Program, reports of CJD as a notifiable disease and requests for prion protein gene or 14-3-3 protein analysis. In diagnosing prion diseases, all the referrals were assessed according to the case definition proposed by WHO. In the present study, patients with prion diseases over 65 years were analysed.

Results By August 2010, 1533 cases were confirmed and 996 (65%) were over 65 years of age. Among them, there were 798 (80%) sporadic CJD (sCJD), 35 (4%) dura mater graft-associated CJD (dCJD), 151 (15%) familial CJD (fCJD), 8 Gerstmann-Sträussler-Scheinker disease and three unclassified CJD. Proportions of sCJD and fCJD were higher in older patients than in younger patients. Percentage of definite cases which needs pathological confirmation were low (9% in sCJD, 46% in dCJD and 13% in fCJD) because only 12% underwent autopsy. The mean age at onset was 74 years. The latest follow-up survey revealed that 78% had died. The mean length of time from the onset to death was 15 months, which was 10 months shorter than in younger cases.

Conclusion In Japanese elderly, proportions of sCJD and fCJD were larger. Efforts to increase definite cases are needed to identify them correctly.

P2-541 **THE IMPACT OF DEPRESSION AND DEPRESSIVE SYMPTOMS ON HEALTH SERVICE USE: THE SAO PAULO AGEING & HEALTH STUDY (SPAHS)**

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Introduction Depression is strongly associated with use of health services and disability among older adults, however it is still poorly diagnosed and treated. It is still unclear how severity of depression is associated with health service use.

Methods The present study is part of the SPAHS, a population-based study that investigated the epidemiology of mental disorders in 2072 community-dwelling elderly aged 65+ from economically disadvantaged areas of São Paulo, Brazil. ICD-10 depression and depressive symptoms (non ICD-10 depression) were assessed with the Geriatric Mental State and the Neuropsychiatric Inventory. Information on health services use was collected with a standardised questionnaire.

Results 2024 SPAHS participants were assessed for depression. Prevalence of depressive symptoms (23.1%) was approximately four times higher than ICD-10 depression (4.9%). Participants without depression used less health services than those with any severity of depression. The number of participants who used outpatient and inpatient services increased with severity of depression. Forty (41%) participants with depression and 144 (31%) with depressive symptoms had three or more out-patient consultations during the three months previous to the study assessment, and 15 (15%) participants with depression and 26 (5.6%) with depressive symptoms used inpatient services.

Conclusion From a population perspective, depressive symptoms have a higher impact than ICD-10 depression on health services use. Health services professionals, particularly those in primary care, must be aware of the increased likelihood of diagnosing depression or depressive symptoms in older adults who use health services more frequently. These individuals must be targeted by case-finding strategies.