

consisted of the direct economic burden of this disease. **CONCLUSIONS:** Serious economic burden has been caused by schizophrenia and increased sharply in China. Indirect cost of schizophrenia is largely more than its direct cost.

PMH14

COMPARISON OF MEDICAL COSTS AND UTILIZATION ASSOCIATED WITH USE OF ZIPRASIDONE AND OLANZAPINE AMONG SCHIZOPHRENIA AND BIPOLAR DISORDER PATIENTS

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OBJECTIVES: Ziprasidone is increasingly used for the treatment of schizophrenia and bipolar disorder. The purpose of this study is to compare health care costs and utilization associated with use of ziprasidone and olanzapine. **METHODS:** Schizophrenia and bipolar disorder patients who initiated use of ziprasidone or olanzapine between 01/2007 and 12/2010 were identified in the IMS LifeLink™ Health Plan Claims Database. Claims were summarized into treatment episodes, and one-year costs and utilization after the initiation of episodes were analyzed. OLS regressions, general liner models, and two-part models were used to compare various types of costs associated with the use of ziprasidone and olanzapine. Logistic regressions, Poisson regressions, and Hurdle models were used to compare the numbers of emergency room visits and hospitalizations associated with each drug. Lastly, we used various statistical methods to test the sensitivity of our estimates. **RESULTS:** We identified 7,138 (46.93%) ziprasidone episodes and 8,072 (53.07%) olanzapine episodes, and found that patients using ziprasidone were significantly younger (41.50 vs. 45.38) and were significantly less likely to be male (29.81% vs. 44.21%). At baseline, ziprasidone group and olanzapine group differed in total costs and several other components of costs. Benchmark analyses show that use of ziprasidone, when compared to olanzapine, was associated with significantly higher medication costs (\$232, $p < 0.01$) and outpatient costs (\$501, $p < 0.05$), but decreased ER costs (-\$73, $p < 0.05$). Ziprasidone was also associated with significantly fewer ER visits (0.266, $p < 0.001$) and hospitalizations (1.117, $p < 0.001$). Sensitivity analyses suggest these results were robust. **CONCLUSIONS:** While ziprasidone is associated with higher medication costs and outpatient costs, it reduces patients' utilization of ER and inpatient services.

PMH15

HEALTH INSURANCE COST OF ALZHEIMER DEMENTIA IN HUNGARY: A COST OF ILLNESS STUDY

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OBJECTIVES: The aim of our study is to calculate the annual health insurance treatment cost of Alzheimer dementia disease in Hungary. **METHODS:** The data derive from the financial database of the Hungarian National Health Insurance Fund Administration (NHIFA), the only health care financing agency in Hungary. We analyzed the health insurance treatment cost and the number of patients for the year 2010. The following cost categories were included into the study: out-patient care, in-patient care, CT-MRI, PET, home care, transportation, general practitioner, drugs and medical devices. **RESULTS:** The Hungarian National Health Insurance Fund Administration spent 4.426 billion Hungarian Forint (HUF) (21.266 million USD) for the treatment of Alzheimer patients. The annual average expenditure per patient was 72881 HUF (350 USD) while the average expenditure per one inhabitant was 442 HUF (2.1 USD). Major cost drivers were acute inpatient care (45.8 % of total health insurance costs), chronic inpatient care (28.1 %) and pharmaceuticals (10.4 %). The number of patients with Alzheimer disease was 60.6 per 100,000 populations. We found the highest patient number in outpatient care budget (60735 patients), general practitioners (60234 patients) and pharmaceuticals (37724 patients). **CONCLUSIONS:** Alzheimer dementia disease represents a significant burden for the health insurance system. Hospital care (both acute and chronic) is the major cost driver for Alzheimer disease in Hungary.

PMH16

TO STUDY THE TREATMENT PATTERN AND COST OF ILLNESS IN BIPOLAR DISORDER PATIENTS IN TERTIARY CARE HOSPITAL IN SOUTH INDIA

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OBJECTIVES: To study the treatment pattern and cost of illness in bipolar disorder patients in tertiary care hospital in South India. **METHODS:** A retrospective study was conducted in a tertiary care teaching hospital of South India. Data were collected retrospectively from medical record section from 2012 to 2013 in suitable designed case record form. Data were analysed by using SPSS 20.0. **RESULTS:** Total of 100 cases of bipolar disorder was followed during the study period. Among them 66 were males and 34 were females. The mean age of the study population was found to be 46.2±13.3 years. Among the social history 13 people were alcoholic and 60% of the study population had a family history of known psychiatric disorder. The mean duration of illness of the study population was found to be 21.8±9.8 years. Among the study population 34 patients were diagnosed with mania and 46 patients diagnosed with depression. Mood examination revealed that 38 patients were happy followed by 22 patients were irritable. Affective examinations showed maximum were euphoric. Insight examination showed Grade 1 predominance. The different treatment pattern revealed that all of them were prescribed with mood stabilizer followed by anti-psychotic (93) and hypnotics (86). The average hospitalization cost of the patient was found to be 7477.83 + 5989.67 Rupees with median hospital stay of 7(5) days. The average treatment cost constitutes total 50% of the hospitalization cost. **CONCLUSIONS:** Mood stabilizers and anti-psychotics were the main treatment strategies among the bipolar patients and drug cost consumes 50% of the total cost of hospitalization. Pharmacoeconomic studies plays important role in estimating the total health care burden in bipolar disorders.

PMH17

HEALTH INSURANCE COST OF ANXIETY IN HUNGARY: A COST OF ILLNESS STUDY

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OBJECTIVES: The aim of our study is to calculate the annual health insurance treatment cost of anxiety in Hungary. **METHODS:** The data derive from the financial database of the Hungarian National Health Insurance Fund Administration (NHIFA), the only health care financing agency in Hungary. We analyzed the health insurance treatment cost and the number of patients for the year 2010. The following cost categories were included into the study: out-patient care, in-patient care, CT-MRI, PET, home care, transportation, general practitioner, drugs and medical devices. **RESULTS:** The Hungarian National Health Insurance Fund Administration spent 13.535 billion Hungarian Forint (HUF) (65.026 million USD) for the treatment of anxiety patients. The annual average expenditure per patient was 13323 HUF (64 USD) while the average expenditure per one inhabitant was 1352 HUF (6.5 USD). Major cost drivers were general practitioners of primary care (43.8 % of total health insurance costs), pharmaceuticals (32.2 %) and outpatient care (12.4 %). The number of patients with anxiety disease was 1014 per 100,000 populations. We found the highest patient number in general practitioners of primary care (1015938 patients), pharmaceuticals (774096 patients) and outpatient care (521760 patients). **CONCLUSIONS:** Anxiety represents a significant burden for the health insurance system. General practitioners of primary care and pharmaceutical reimbursement are the major cost drivers for anxiety disease in Hungary.

PMH18

DISEASE MANAGEMENT, RESOURCE UTILISATION AND ASSOCIATED COST FOR MODERATE AND SEVERE DEMENTIA PATIENTS IN CHINA: RESULTS FROM A DELPHI PANEL

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OBJECTIVES: Resulting from the scarcity of literature on dementia in China, a Delphi panel was used to obtain information on disease management, resource utilisation and associated costs for patients with moderate or severe dementia in China. The panel results were used as input data for a health economic model comparing different alternative strategies for treatment of dementia. **METHODS:** The Delphi panel method was used to leverage expertise of physicians involved in the treatment of dementia (Round-1 interviews with eight interviewees) and hospital administrators (Round-2 interviews with two interviewees). Final Delphi meeting gathered six experts from previous interviewees to reach a consensus. Round-1 interviews collected information of establishing a diagnosis for dementia, dementia disease management and the distribution of patients by severity, dependence and aggressiveness. Round-2 interviews were based on results of Round-1 interviews to collect data on relevant costs. Interviews were done individually without sharing information from other interviewees. Results from two rounds were integrated and shared in the final Delphi discussion. A consensus was reached to obtain the final value or range of values of interest. **RESULTS:** Distribution of independent/non-aggressive, independent/aggressive, dependent/non-aggressive, and dependent/aggressive moderate dementia patients was 70%, 15%, 10% and 5% at time of first diagnosis. Unit costs and resources utilisation, collected for each health state for a cycle of 6-months, showed that severe dependent/aggressive dementia patients required the most time from caregivers (15 hours/day). Moderate dependent/aggressive patients had the highest probability (90%) to be hospitalised. The average stay of hospitalisation was two months. Moderate and severe patients had the same probability of nursing home utilisation (0%, 20%, 80% and 20% for each health state). **CONCLUSIONS:** Delphi panel may be a useful approach to collect data for diseases when they are not published in the literature or when automated health care databases are not available or accessible.

PMH19

COST AND RESOURCE USE OF MANAGING MAJOR DEPRESSIVE DISORDER (MDD) IN CHINA

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OBJECTIVES: To review studies that investigated the costs and resource use of managing major depressive disorder (MDD) in China. **METHODS:** A structured literature review on published articles in both English and Mandarin languages was conducted. Literature search was conducted using PubMed, Cochrane, Wan Fang, and VIP databases. Articles published between 2000 to 2013 were selected. The inclusion criteria included studies conducted in China, and studies that reported direct and indirect costs in MDD management, including factors that affected these costs, as well as resources used in managing MDD. Four reviewers (two for each language) independently selected and reviewed the articles. Direct cost included costs of MDD treatment (e.g. medication, investigation, hospitalisation, nursing care...etc.); whereas indirect costs included caregiver cost, productivity loss, and mortality (suicide). **RESULTS:** A total of 24 articles in Mandarin and English were selected and reviewed. Based on the review, direct cost for MDD reported ranged from RMB 1,000 to RMB 6,000, whereas indirect cost reported ranged from RMB 2,000 to RMB 51,000. Loss of productivity, when evaluated, accounted for more than 75% of indirect costs. Serotonin norepinephrine reuptake inhibitor (SNRI) incurred the highest direct medical cost compared to selective serotonin reuptake inhibitor (SSRI), followed by tricyclic antidepressants (TCA). The treatment costs for MDD had increased gradually over the years. Some of the common factors affecting the cost of MDD management included treatment duration, payment methods, types of drug prescribed, comorbidity, disease severity and marital status. Studies had shown that most patients first seek treatment in general clinic or hospitals (76%)

and only a small percentage of patients (23.7%) was first treated by mental health specialists. **CONCLUSIONS:** The reported cost of managing MDD in China was high. Most patients first seek treatment in general medical clinics or hospitals instead of mental health specialists.

PMH21

COMPARATIVE PHARMACOECONOMICS STUDIES OF TREATMENT FOR MAJOR DEPRESSIVE DISORDER IN CHINA

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OBJECTIVES: Various pharmacotherapy options are available for major depressive disorder (MDD) in China. However, the cost-effectiveness (CE) evaluations for these treatments are not systematically reported in English literature. A structured literature review was conducted to identify the health economics data of available treatment options in China. **METHODS:** A structured literature review on published articles in both English and Mandarin languages was conducted. Literature search was conducted using PubMed, Cochrane, WAN FANG, and VIP databases. Articles published between 2000 and 2013 were selected. The inclusion criteria included studies on Chinese population based in China only, as well as studies that reported cost effectiveness ratio (CER) or incremental cost effectiveness ratio (ICER) of MDD pharmacotherapy. Four reviewers (two for each language) independently selected, reviewed and extracted information from the articles. **RESULTS:** 17 English & 63 Mandarin articles were identified. None of the English articles and 23 Mandarin articles fulfilled the inclusion criteria. 17 of the 23 Mandarin articles analysed the CER or ICER of the serotonin norepinephrine reuptake inhibitor (SNRI), Venlafaxine compared with other anti-depressants such as selective serotonin reuptake inhibitor (SSRI), tricyclic (TCA) or tetracyclic (TeCA) antidepressants. The remaining 6 articles analysed the CE of other anti-depressants not involving SNRI. The review showed conflicting outcomes due to heterogeneous study methodology. Ten out of 23 articles reported TCA/TeCA treatment to be most cost-effective treatment whereas six articles were in favour of SSRI and four articles favoured SNRI. **CONCLUSIONS:** TCA/TeCA had comparable effectiveness compared to SNRI or SSRI. Despite the lower treatment cost with TCA/TeCA use, these treatments had higher AE rates compared to SNRI or SSRI, which were not taken into account during cost evaluation. This review identified several methodological issues and despite the calculation of ICER or CER, further studies are required to compare evidence on cost-effective anti-depressant treatment.

PMH22

ECONOMIC EVALUATION OF ALZHEIMER

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OBJECTIVES: The Alzheimer diseases (AD) steadily increase with age in the early population. Considering that all over the world holds the fastest aging population. According to the Alzheimer's Association, cost spending is projected to be \$2000 billion in 2050. The purpose of this study is to observe the cost effectiveness analysis (CEA) for the Alzheimer drug. **METHODS:** The report was reviewed through report of ministry of welfare in Korea and clinical report data of paper about the Alzheimer drug inhibitors which are Aricept, Exelon and Reminyl. This analysis was used by CEA. **RESULTS:** In Korea, the patients increased 84,000 in 2005 and 262,000 in 2010. The patients increase 3.1 fold more increase. The total medical expenses \$0.13 billion in 2005 and \$0.81 billion in 2010. The total medical expense was 6.1 more increase. The per capita cost of treatment of Alzheimer diseases (AD) spends about 1.5\$ in 2005 and 3.1\$ in 2010. The per capita cost of treatment is 2 times greater. Also, The medical fee of Aricept is \$2, Exelon is \$1.8 and Reminyl \$1.3 in Korea. The best drug of cost effectiveness is Reminyl and then Aricept. However, Exelon rejected within the cost effectiveness analysis, when anyone has a limited cost. **CONCLUSIONS:** This revision strived to reduce the per capita cost of treatment of AD. Most of all, it is critical not to delay care in Alzheimer patients in order to avoid increased direct medical costs. Therefore, in Alzheimer care, it is most critical to adequately check the symptom early discovery through the appropriate management techniques.

PMH23

FUTURE IMPACT OF DEMENTIA ON THE CAREGIVER IN CHINA

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OBJECTIVES: Elderly dementia results in progressive cognitive impairment and, eventually, the inability to living independently. The objective of this study was to assess the time required to provide care to patients with dementia according to their health state, and the consequences for the active population in China in 2050. **METHODS:** The Chinese demographic forecasts for 2050 were put in balance with the need of estimated caregiving time needed by the dementia population. Demographic data, proportions of diagnosed and/or treated patients were provided by the China Alzheimer's project Memory360. A Markov model was developed to estimate the average caregiver's time needed per patient per day over 5 years, separately for treated and not treated patients. **RESULTS:** The proportion of economically active population aged between 15 and 59 in China in 2050 is estimated at 50% compared to the currently observed 70%. There will be approximately two workers for one elderly. It was found that untreated patient will require around 9.3 hours per day compared to 6.7 hours per day required by a treated patient. It was estimated that there will be 21.6 million patients with dementia in China with only 21.3% among them receiving treatment. More than 188 million hours per day will be needed to take care of Chinese dementia patients for around 690 million working people. **CONCLUSIONS:** In the future, the situation in China will be dramatic due to the increase in the proportion of elderly and simultaneous reduction by around one fourth of the proportion of adults younger than 60. It was estimated that in average

more than one worker over four will spend one hour per day providing care to a patient with dementia. Increasing the proportion of treated patients may be a way to control costs and reduce burden on the society.

MENTAL HEALTH – Patient-Reported Outcomes & Patient Preference Studies

PMH25

PREDICTORS OF ADHERENCE TO ANTIDEPRESSANT MEDICATIONS IN SAUDI ARABIA

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OBJECTIVES: The aim of this study was to explore patients' adherence to antidepressant medication and predictors are associated with adherence, among patients diagnosed with depression in a psychiatric hospital in Riyadh, Saudi Arabia. **METHODS:** Non experimental cross-sectional design used to measure adherence to antidepressants among depressed patients and predictors are associated with adherence, patients were recruit from outpatient clinic at AL-Amal hospital in Riyadh (psychiatric hospital) between August 2013 and January 2014. **RESULTS:** A total of 403 patients meet the inclusion criteria and were participated in this study. Two hundred three representing 50.37 % of the total study sample, were female, while the remaining 200 (49.6 %) were male, with average 39 years. 52.9% of the patients report low adherence to antidepressant medication with a statically significant different between low adherence and high adherence scour in female gender, younger age, patients with shorter duration of illness and have lees number of visit to outpatient clinic. **CONCLUSIONS:** Low adherence is a common health problem among depressed patients in Saudi Arabia, this study has improve understanding of adherence predictors to antidepressant and their association, this understanding should help care giver and stakeholder to improve depressed patient management and clinical outcome by addressing medications taking behavior using a systematic approach based in this finding.

PMH26

GENERAL BELIEFS ABOUT MEDICINES AMONG DEPRESSED PATIENTS IN SAUDI ARABIA

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OBJECTIVES: The aim of this study was to explore patients' general and specific beliefs about medicines among depressed patients and effect on adherence and other clinical outcome in Saudi Arabia. **METHODS:** A cross-sectional design used to measure patients' general and specific beliefs among depressed patients, using BMQ general and specific scales. Patients were recruit from outpatient clinic at AL-Amal hospital in Riyadh (psychiatric hospital). **RESULTS:** A total of 403 patients meet the inclusion criteria and were participated in this study. Two hundred three representing 50.37 % of the total study sample, were female, while the remaining 200 (49.6 %) were male, with average 39 years. 52.9% of patients report low adherence to antidepressant medication. Both low and high adherence group scored high in the necessity beliefs (18.02 (SD 3.91)-18.32 (SD3.9) respectively with no statistically different. Contrariwise patients with high adherence had significantly lower level of concerns belief about antidepressants medication and less harmful belief also the same finding with general overuse belief. **CONCLUSIONS:** General patients beliefs either general overuse or general harm about medication influence patients taking medication behavior and have negative correlation with adherence to medication on other hand only specific concerns belief to antidepressant have a positive correlation with adherence to antidepressant this finding will help psychiatric to improve adherence and clinical outcome by addressing medications taking behavior using a systematic approach based in this finding.

PMH27

EXAMINING OPIOID-DEPENDENT CHRONIC PAIN PATIENTS EXPERIENCES ON BUPRENORPHINE MAINTENANCE THERAPY IN THE TEXAS WORKERS COMPENSATION SYSTEM: PILOT STUDY - PART 2

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OBJECTIVES: The objective of this pilot study was to examine opioid analgesic (OA) use and patient reported outcomes (PRO) among opioid-dependent chronic nonmalignant pain (CNMP) patients placed on buprenorphine therapy in the Functional Restoration and Pain Management (FRPM) program. **METHODS:** A retrospective cohort analysis of administrative claims, medical records and responses to PRO questionnaires was conducted among Texas Workers Compensation (TWC) beneficiaries enrolled in the FRPM program. Prescription utilization patterns, pain severity and self-report PROs were assessed during a 3-month observation period. PRO measures included the Visual Analogue Scale (VAS) for pain assessment, McGill Pain Questionnaire (MPQ), Beck Anxiety Inventory (BAI), and Beck Depression Inventory-II (BDI-II). Eligible patients were ≥18 years of age, opioid dependent, had a history of chronic pain medications, receiving buprenorphine therapy, and continuously enrolled in TWC benefit during the 3-month period. **RESULTS:** The mean age of eligible study participants (N=19) was 49.0 years ±7.6. A majority of patients were male (58%), white (63%), had a depression comorbidity (79%) and chronic pain lumbar diagnosis (47%). Overall, patients enrolled in the study showed a significant reduction in OA medication utilization (p<0.01) at months 1 and 2-3 compared to baseline. For the PRO measures, a significant reduction in patient VAS pain scores was observed between baseline and month 1 (p=0.03), no increases in pain scores were observed at months 2-3. Significant decreases in MPQ-A (p<0.04) and BDI-II (p<0.01) scores were observed between baseline and months 1 and 2-3. No differences for BAI scores were observed. **CONCLUSIONS:** Though a pilot study, the results suggest that opioid dependent patients receiving buprenorphine therapy in the FRPM program has the potential of improving health outcomes of patients with