

and adverse event investigations (14.6%). Foremost cited products were bevacizumab and sorafenib. Sponsorship was independent (43.4%), not reported (28.7%), industry (6.6%), or inaccessible at time of assessment (21.3%). Many SLRs were from China. **CONCLUSIONS:** In our analysis, PLoS ONE published the most SLRs. Journals offering open access are attracting a growing number of SLRs and many boast a diverse readership. A significant body of work is emerging from China where, as in the rest of the world, the majority of SLRs appear to be independently sponsored. SLRs are valued by clinical, payer, and regulatory decision-makers, since they provide a convenient synthesis of available evidence to address knowledge gaps and facilitate translation of research into practice.

PHP61 DISPENSING OF VITAMIN PRODUCTS BY RETAIL PHARMACIES IN SOUTH AFRICA

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OBJECTIVES: Few studies have been conducted on vitamin dispensing patterns in retail pharmacies in South Africa. The aim of this study was to analyse the dispensing patterns of vitamins (ATC group A11) over a one year period in a group of community pharmacies in South Africa. **METHODS:** A retrospective drug utilisation study was conducted on community pharmacy electronic dispensing records in South Africa for 2013. All products in ATC subgroup A11 were extracted and analysed. **RESULTS:** A total of 164 233 vitamin products were dispensed to 84 805 patients. Most patients were females (62.64%) and most of the vitamin products (59.62%) were dispensed to females. Males received on average 2.09 (SD=2.63) vitamin products per year, compared to 1.84 (SD=2.13) products for females. Ergocalciferol (A11CC01) was the most often dispensed (37.48% of all vitamin products), followed by plain Vitamin B-complex products (A11EA00) accounting for 32.77%. Ergocalciferol is only available on prescription in South Africa (50 000 IU tablets or 50 000 IU/ml oily drops). The tablets are relatively inexpensive (approximately R2.50 per tablet). Of all the dosage formulations, tablets were preferred (62.84% of all vitamin products). Most injections were for Vitamin B1 or Vitamin B combination products. Vitamin B injections have recently been rescheduled in South Africa to prescription-only products and consumers therefore no longer can buy these products from a pharmacy or ask the pharmacist to administer a Vitamin B injection without a prescription. The number of vitamin products dispensed increased steadily over the year. **CONCLUSIONS:** Vitamins are important in treating nutritional deficiencies, yet few studies on vitamins have been conducted in pharmacies. It is expected that the change in the over-the-counter availability of Vitamin B injections in South Africa will impact on their dispensing and usage patterns. It will be important to monitor the effect that this change in prescribing status will have on vitamin sales in pharmacies.

PHP62 BIOSIMILAR SUBSTITUTION POLICIES: AN OVERVIEW

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OBJECTIVES: Substitution has been implemented for generics in most markets and very often resulted in high uptake correlated with fast and strong price erosion. Although biosimilars and generics are different, the low biosimilar penetration in most of Europe prompted some countries to discuss the implementation of substitution for biosimilars as an initiative to quickly reduce healthcare spending by boosting their uptake. The objective of this study was to identify initiatives undertaken worldwide with regards to biosimilar substitution and their potential implications. **METHODS:** A literature review was conducted from European and national health authorities' websites, Generics and Biosimilars Initiative website, Medline® database, and available grey literature. **RESULTS:** In Europe, European Medicines Agency leaves substitution responsibility to national regulators. Sixteen EU Member States have either law or guidelines prohibiting automatic biosimilar substitution. In 2013, France became the first European country to pass a law for biosimilar substitution. In 2014, Norwegian government set up a clinical study to assess interchangeability of Remicade® (infliximab) and its biosimilar. In the United-States, the Food and Drug Administration has the authority to designate a biosimilar as interchangeable but substitution is then regulated at state level. Thirty one states have currently considered legislation establishing standards for biosimilar substitution. In Canada, interchangeability remains a provincial decision. So far, one province positioned against substitution. The Pharmaceutical Benefits Advisory Committee in Australia recently considered marking biosimilar as equivalent to reference product, which would allow substitution at pharmacy level. In South Korea, Japan and South Africa automatic substitution is prohibited at pharmacy level. **CONCLUSIONS:** In most countries, the choice of treatment with a reference biologic or with a biosimilar remains a clinical decision entrusted to the prescribing physician. Enhancing substitution may increase the penetration of biosimilars which constitutes an additional therapeutic option available to practitioners.

PHP63 MULTIPLE USE OF ANTIBIOTIC IN POST OPERATIVE PATIENTS IN TERTIARY CARE HOSPITAL OF QUETTA, PAKISTAN

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OBJECTIVES: Present study is conducted to determine the trend and use of antibiotics among the post-operative patients of tertiary care hospital. **METHODS:** The present study was designed as retrospective study. The data was obtained from the records of tertiary care hospital (Bolan Medical complex Hospital). The data was gathered randomly from the record for the period between July to October, 2015. Information regarding antibiotic use along patient related data was obtained. The collected data was reviewed, coded, verified and statistically analyzed using SPSS. **RESULTS:** Data from the patients, who has been prescribed antibiotic after

surgery was obtained. a total of 325 records were include in the study. Appendicitis was most common cause of admission (N= 124, 40.6%). Most of the patients (N= 209, 68.5%) hospitalized for maximum of 4 days in hospitals after surgery. Most commonly prescribed antibiotics were Ceftriaxone, Metronidazole and Gentamicin. Cases of multiple antibiotic in treatment were high, in which triple antibiotics containing treatments were leading (N=220, 72%) followed by double antibiotics containing treatments (N= 85, 28%). **CONCLUSIONS:** The study revealed that there was high number of antibiotics prescribed to the post operative patients irrationally, as there is no evidence for the prescription of these antibiotics. Antibiotics are prescribed in multiple forms. There is strong need of a local Guidelines to be established for use of antibiotics rationally.

HEALTH CARE USE & POLICY STUDIES – Equity and Access

PHP64 ASSESSING EQUITY OF HEALTH SERVICE UTILIZATION OF RURAL RESIDENTS IN CHINA: A CASE STUDY OF Z COUNTY, SHAANXI PROVINCE

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OBJECTIVES: China is far behind the international standard in health equity. The main purpose of this paper is to evaluate the equity of health services utilization of rural residents in western China and analyze its influencing factors, thus raising policy suggestions to improve the equity of health system. **METHODS:** Related data on health services utilization of rural residents were collected through random-sampling household surveys. Based on the standardized variable of Health Need, the parallel equity of rural residents' health service utilization is assessed by calculating Concentration Index (CI) and mean-value and difference testing among residents of different income levels, while the vertical equity is evaluated by calculating Index of Dissimilarity (ID) among residents of different ages. Besides, Two-step Model is adapted to analyze its influencing factors. **RESULTS:** On outpatient service utilization, Standard CI of two-week outpatient visiting rate, two-week outpatient visiting times and outpatient expenditure are 0.1048, 0.1213 and 0.5178 respectively, while ID of the three indexes mentioned above are 0.054719, 0.056134 and 0.011823 respectively ($P < 0.05$). On inpatient service utilization, Standard CI of annual hospitalization rate, annual hospitalization times, days of hospitalization, inpatient expenditure and its compensation level are 0.07914, 0.0543, -0.098, 0.3012 and 0.1740 respectively, while ID of the five indexes mentioned above are 0.053098, 0.06122, 0.308912, 0.316444 and 0.379235 respectively ($P < 0.05$). Health status, financial ability, educational level and marital status have significant influence on health service utilization equity. **CONCLUSIONS:** Parallel inequity of health service utilization of rural residents of different income levels exists in outpatient expenditure, inpatient expenditure and its compensation level, while vertical inequity of rural residents of different ages exists in days of hospitalization, inpatient expenditure and its compensation level. Comprehensive measures should be considered to alleviate the inequity of health service utilization in rural residents who live alone, come from less well-off families and have poorer health, lower educational levels.

PHP65 ASSESSING EQUITY OF HEALTH SERVICE UTILIZATION OF URBAN RESIDENTS IN CHINA: A CASE STUDY OF B CITY, SHAANXI PROVINCE

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OBJECTIVES: Data on health services utilization of urban residents collected through random-sampling household surveys are analyzed to access the equity of health service utilization of urban residents in western China. **METHODS:** Variable of Health Need of urban residents is standardized through Logistic Model, Negative Binomial Model and Possion Model. Residents are divided into 5 groups by per capita annual income in families, and parallel equity of health service utilization is assessed by calculating Concentration Index (CI) and mean-value and difference testing among residents of different income levels. While residents are divided into 8 groups by ages, and vertical equity is evaluated by calculating Index of Dissimilarity (ID) among residents of different ages. **RESULTS:** On outpatient service utilization, Standard CI of two-week outpatient visiting rate, two-week outpatient visiting times, outpatient expenditure and its compensation level are -0.0040, -0.0115, 0.0244, 0.2356 respectively, while ID of the four indexes mentioned above are 0.2709 ($P < 0.05$), 0.3285 ($P < 0.05$), 0.3434 ($P < 0.05$), 0.3785 ($P = 0.5489$) respectively. On inpatient service utilization, Standard CI of annual hospitalization rate, annual hospitalization times, days of hospitalization, inpatient expenditure and its compensation level are 0.1110, 0.0200, 0.0260, 0.0336 and 0.1449 respectively, while ID of the five indexes mentioned above are 0.3139, 0.3408, 0.3814, 0.4397, 0.4691 respectively ($P < 0.05$). **CONCLUSIONS:** Equity of outpatient service utilization is poor in that urban residents with low-income or over the age of 65 get fewer outpatient compensation fees, while equity of hospitalization service utilization is weak in that low-income urban residents use fewer hospitalization services and get less hospitalization compensation fees, and that urban residents over the age of 65, who is in most health service demand, can neither get the most hospitalization services nor receive a higher proportion of hospitalization compensation. Comprehensive measures should be taken to improve the equity of health service utilization in urban residents who are old-aged or come from less well-off families.

PHP66 THE INTERTEMPORAL CHANGES OF HEALTH SERVICES UTILIZATION DURING THE LAST DECADE: THE CASE OF AUSTRITY INFLICTED ON GREECE

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OBJECTIVES: The factors which determine health services utilization (HSU) and access to health services are at the epicentre of health policy discussions, in an