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ADVERSE DRUG EVENTS AND ELECTRONIC MEDICAL RECORDS: RESULTS FROM THE 2007-2008 NATIONAL AMBULATORY MEDICAL CARE SURVEY

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OBJECTIVES: The goal of this study was to evaluate the impact of electronic medical record (EMR) use on the frequency of visits due to an adverse event as reported in the National Ambulatory Medical Care Survey (NAMCS) 2007-2008 database. The specific objective was to determine the frequency of adverse events in patient visits that included the use of an EMR compared to visits without the use of an EMR. An adverse event was defined as an adverse outcome from medical or surgical care or an adverse drug event. **METHODS:** The study design was a retrospective, cross-sectional, observational analysis of the NAMCS database from 2007-2008. Patient visits that were the result of an adverse event were selected from all established patient visits. The frequency of adverse events was analyzed with respect to the use of an EMR. Patient visits were weighted with a statistical multiplier to generate national estimates. **RESULTS:** An adverse event occurred in 44,035,493 (2.6%) patient visits. Of these visits, 26,067,600 (1.5%) did not include the use of an EMR, while 17,967,893 (1.1%) included use of an EMR. The majority of visits including the use of an EMR were by female patients (59.4%), white patients (83.2%), or patients age 45-64 years (29.2%). Only 40.2% of established patient visits included the use of an EMR. **CONCLUSIONS:** Adverse event frequency was lower in patient visits that utilized an EMR as compared to patient visits that did not include the use of an EMR. Increasing EMR use will allow healthcare professionals to further prevent adverse events.

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STATUS OF PHARMACIST AT COMMUNITY LEVEL: AN EXPLORATORY STUDY IN QUETTA, PAKISTAN

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OBJECTIVES: To study the status of pharmacists working at community pharmacies in Quetta city, Pakistan. **METHODS:** A cross-sectional survey was designed to conduct this study. A questionnaire about status of pharmacists working at community pharmacies was constructed, content validated and used. Pharmacists were hired for data collection and analyses were done by SPSS 15. **RESULTS:** All 415 community pharmacies of the city were approached and 392 responded (94.45%). Major respondents (81.25%) did not possess the basic requirement of Pharmacy degree although the community pharmacies were licensed under a qualified person. There were only 18.75% pharmacies were a qualified pharmacist possessing pharmacy degree was present. People with higher secondary education (31.25%) were found mostly involved in running community pharmacies. The knowledge of medicines and generics was quite high (74.95%). Drug guides (45.25%) and information given by medical sales representatives (30.25%) played a key role in the generation of this information. It was also reported by 65.50% that as business is less profitable, pharmacies cannot afford a full time pharmacist where as 41.50% described unemployment/lack of opportunities in other sectors, the reason of running a community pharmacy. 61.25% of the respondents had an experience of more than 5 years working at community pharmacies. All pharmacies sold packed medications and dispensing was not done on any of the community pharmacy. **CONCLUSIONS:** Pharmacist at the community level is important to minimize drug use problems. There must be strict monitoring by the concern departments and license issuing authorities in order to promote proper medication practices at community levels. In addition, the presence of Pharmacist at pharmacies shall be declared mandatory.

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UTILIZATION AND COST OF THE HEALTH PLAN - EFFECTS OF SPOUSAL BEREAVEMENT

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OBJECTIVES: To evaluate the effects of widowhood on the outpatient and hospital health services used by beneficiaries of a private health care plan in Brazil. **METHODS:** Cohort study of beneficiaries listed as married of the health plan in the database of January 2007, consisting of 29,932 couples. In a follow-up period of 36 months was verified the date of death of a spouse, this being the date of entry into the study. After exclusion of one case, 487 had records of use and cost of health care examined during 12 months before and after the death. The covariables in the study were the type of procedure (consultations, tests and admissions), sex and age (up to 59 years, 60-69, 70-79, 80 or more years). The statistical analysis used the Student t test for paired observations and a confidence interval of 95%. The significance level was set at $p < 0.05$. **RESULTS:** Between the two periods, the average number of consultations increased from 3.77 to 4.66 ($p < 0.001$), tests from 16.88 to 23.16 ($p < 0.001$) and admissions from 0.18 to 0.30 ($p = 0.007$). Regarding medical and hospital expenditures (direct costs), this increased from U$ 1,246.69 to U$ 1,941.47 ($p = 0.001$). In the segmented analysis by age groups, variations in quantities and costs of visits and tests were statistically significant ($p < 0.05$), differently of admissions ($p > 0.05$). As for the evaluation by gender, only the variations of the mean number of admissions and total cost were not significant ($p < 0.05$). **CONCLUSIONS:** This study demonstrated the increased use of health services and direct costs of medical and hospital appointments, tests and admissions after the loss of a spouse. The mourning should not be overlooked from the perspective of management, may be a predictor of morbidity and use of health plan.

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MIXED EVIDENCE FOR THE "HEALTHY ADHERER EFFECT" IN A SAMPLE OF 22,070 ADULTS WITH CHRONIC DISEASE IN THE UNITED STATES

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OBJECTIVES: The "healthy adherer effect" posits that part of the association between non-adherence and suboptimal health outcomes is the possible confounding effect of worse lifestyle behaviors of non-adherers. Our objective was to test the "healthy adherer effect" among US adults with chronic disease. **METHODS:** We conducted a cross-sectional survey of 22,070 adults with asthma, hypertension, diabetes, hyperlipidemia, osteoporosis, GERD, depression, or anxiety from the Harris Chronic Disease Panel. Respondents were classified into one of three mutually-exclusive categories: (1) persisters (i.e., currently taking medication); (2) non-persisters (i.e., discontinued medication in the past year); and (3) non-fulfillers (i.e., did not obtain the first fill for a new prescription in the past year). Respondents also completed items on life style behaviors: weight and height to derive BMI, smoking status; alcohol use; physical exercise; seatbelt use; and receipt of an influenza vaccination in the past year. Linear and logistic regression was used to model individual lifestyle behaviors on self-reported adherence status controlling for demographic characteristics. **RESULTS:** Multivariate regressions revealed no statistically-significant associations between adherence status and BMI (continuous), weekly-moderate exercise, weekly-vigorous exercise, binge drinking, and obesity as defined by the BMI. Multivariate regressions revealed that non-persisters and non-fulfillers were significantly less likely to report having a flu shot in the past year (OR=0.76 and 0.73, respectively). Compared to persisters, non-persisters were more likely to be current smokers (OR=1.19, p=.0043) and were less likely to always use seat belts (OR=0.80, p=.0009). **CONCLUSIONS:** In this Internet sample of 22,070 adults with chronic disease, we found mixed evidence for a "healthy adherer effect." Non-persisters and non-fulfillers differed from persisters on some, but not all, lifestyle behaviors. Future research should link both adherence behaviors and life-style behaviors to risk of mortality and hospitalization.

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MORTALITY AFTER SPOUSAL BEREAVEMENT IN BENEFICIARIES OF THE HEALTH PLAN

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OBJECTIVES: To evaluate the mortality rate in beneficiaries of a health plan in Brazil after spouse death, compared with the expected in the population. **METHODS:** Cohort study of beneficiaries of the health plan listed as married in 2007, consisting of 29,932 couples. Thereafter began a follow-up of 36 months for verification of death of either spouse. During this period, entered the study at the date of death of spouse, 308 widows and 180 widows. The mortality rate observed in the group was compared with expected mortality for the population of reference, according to sex and age. Statistical analysis was considered the Standard Mortality Ratio (SMR), with evaluation of significance by the method of Poisson approximation with Byar and the Fisher exact test, with an confidence interval of 95%. The significance level was set at $p<0.05$. **RESULTS:** The mean age for males was 65.24 years (95% CI 51.03 to 79.45) and 63.91 years for females (95% CI 53.15 to 80.67). Observed in period 35 deaths in the group (7.17%). In the first 12 months after bereavement, mortality was 12 for an expected 6.15, SMR to 1.95 ($p = 0.0477$). The SMR in 24 months was 2.02 ($p = 0.0026$) and at 36 months of 1.85 ($p = 0.0018$). **CONCLUSIONS:** This study showed higher than expected mortality to significant levels in people who have experienced the death of a spouse.Measures to support and healthcare for families who lives grief can be an interesting alternative in the social aspect and somehow contribute to reducing the risk of mortality at the expected level for sex and age.

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INCREASE IN UNINTENTIONAL FATAL POISONINGS BY NOXIOUS SUBSTANCES IN KANSAS CITY, MISSOURI, FROM 1999 TO 2008

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OBJECTIVES: 1) To describe the trends of unintentional fatal poisonings by noxious substances in Kansas City, Missouri, from 1999 to 2008 and 2) to identify demographic risk factors associated with unintentional fatal poisonings. **METHODS:** This was a retrospective study using the death data for Kansas City, Missouri. The data included the cause of death, sex, race, age, annual income, and Health Zone for each individual. Unintentional fatal poisonings by noxious substances were identified by ICD-10 codes X40-X49. Age-adjusted death rates and age-specific death rates of fatal poisonings were calculated for every year. Chi-square tests were used to compare death rates for each demographic variable. A multiple logistic regression analysis was conducted to measure the odds ratio (OR) of fatal poisonings due to sex, age, annual income, and Health Zone. **RESULTS:** Out of 38,785 deaths from all causes, 473 (1.2%) were identified to be due to unintentional fatal poisonings. Age-adjusted death rates from unintentional fatal poisonings increased from 7 per 100,000 population in 1999 to 14 in 2008, while the all-cause age-adjusted death rates declined from 1999 to 2008. From 1999 to 2003, the age group 35-44 years old had the highest death rate of unintentional fatal poisonings, whereas from year 2004 to 2008, the age group 45-54 years old had the highest death rate. In the logistic regression, compared with the age group of 55 years and older, the age group of 35-44 years old had an OR of 44.06, and the age group of 45-54 years old had an OR of 21.49. There were differences in ORs by sex, annual income,