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Abstract

Depression and cardiovascular disease: a pharmacoepidemiologic perspective

by

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Depressive disorder and cardiovascular disease comprise the two health conditions with higher burden in public health. It is known that individuals suffering from chronic illness are more likely to suffer psychological disturbances. In both cases treatment relies mostly on pharmacological interventions. Neuro-physiological and psychosocial links have been proposed to explain the interaction between depression and cardiovascular conditions.

Our aim was to study the association between depression and cardiovascular disease from a pharmacoepidemiologic perspective, namely the likelihood for the treatment of

depression to be associated with the treatment of cardiovascular disease, and the factors affecting this association.

The study was comprised of two stages: a) a systematic review of available literature on the association of antidepressant drugs use with cardiovascular therapy; b) a cross-sectional study where treatment with antidepressant drugs was considered the outcome of interest, evaluating the effect of selected determinants including concomitant use of cardiovascular treatment.

The systematic literature review consisted of a search on MEDLINE, EMBASE and PsycINFO databases using pre-specified keywords. 4 publications were included in the review out of 1008 citations initially retrieved. The published evidence reveals a small number of studies and inconclusive results. Predominantly the authors suggest a strong influence by factors, such as gender and intensity of contact with the healthcare system.

A cross-sectional study was conducted based on self-reported information on drug use, collected through interviews from a cohort of adults residents the city of Porto, Portugal. The data about the drugs used regularly in the year previous to the interview were then coded and classified according to the ATC classification system. Gender, age, marital status, educational attainment, employment situation and medical history were also collected. Of the 1852 individuals participating in the study, 1016 completed the Beck Depression Inventory and were asked the number of medical visits during the preceding 12 months.

In the complete cohort, the prevalence of antidepressants use was 7.0% (95%CI: 5.8, 8.2) and depression was reported by 4.3% (95%CI: 3.4, 5.3) of the participants.

Although antidepressant use was associated with female gender, some age strata, divorced/widowed marital status and cardiovascular drug use in the univariate analysis, after adjusting for demographic and social factors, using unconditional logistic regression, the association with cardiovascular drug use dissipated. The only factors remaining positive were female gender and self-reported depression.

In a second analysis, those participants with a $BDI \geq 10$ or had reported using at least one antidepressant drug, were classified as depressed and were included in the sub-analysis to assess the likelihood of antidepressant use among depressed patients adjusting for age and gender together with number of medical visits and cardiovascular drug use. Female gender (OR=2.72; 95%CI: 1.20, 6.15) and a greater

number of medical visits in the previous year [OR=3.88 (95%CI: 1.55, 9.75) for 2-5 visits, and OR=11.40 (95%CI: 3.92, 33.14) for 6-11 visits, compared to 0-1 visits] had a statistically significant association with antidepressant use in patients classified as depressed.

The results of this study are in line with the results from previous research and allow us to conclude that the use of antidepressants is not likely to be associated with concomitant use of cardiovascular therapies. The apparent association may be the result of parallel chronic conditions and intense contact with the health care system.