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ScienceDirect
Research in Social and Administrative Pharmacy ■ (2016) ■–■
RESEARCH IN SOCIAL & ADMINISTRATIVE PHARMACY

Depression screening for prescribed medications with mental health risk: Considerations for clinical decision support, workflow redesign, and health information exchange arrangements

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Abstract

Objective: Depression screening should be increased when prevailing knowledge underscoring medication-associated mental health risk is highest. Depression screening in primary care practices when medications with mental health risk were prescribed was estimated while considering the absence and presence of clinical decision support systems.

Materials and methods: A cross-sectional, descriptive study using the National Ambulatory Medical Care Survey (NAMCS) data from 2008 to 2010 was conducted. Primary care physician visits were classified based on whether a medication prescribed had a contraindication, severe warning, moderate warning, adverse event only, or no documented mental health risk. Adjusted odds of depression screening for each risk warning level were estimated while controlling for important sociodemographic factors and presence of computerized systems for medication warnings and guideline recommendations.

Results: Depression screening at primary care practice visits when medications were prescribed was 2.1% and increased to 2.8% or higher when medications had a moderate or severe mental health risk warning or medication-disease contraindication. Depression screening was increased at visits when at least one medication was prescribed that had a contraindication (AOR = 6.31, $P < 0.001$), severe warning (AOR = 2.04, $P = 0.003$), or moderate warning (AOR = 2.50, $P = 0.012$) for mental health risk, but not for mental health adverse event only warnings alone (AOR = 1.54, $P = 0.074$).

Discussion: Depression screening is increased when medications were prescribed with a documented mental health risk. Presence of clinical decision support systems may help discern between minor and major medication-associated mental health risks.

Competing interests: None.
Funding: None.

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1551-7411/$ - see front matter
http://dx.doi.org/10.1016/j.sapharm.2016.06.008

Conclusions: Appropriately, positioned warning systems with targeted content, workflow redesign, and health information exchange may improve depression screening in at-risk patients.

Keywords: Depression; Decision support systems; clinical; Drug-related side effects and adverse reactions; Depression screening

Background and significance

Major Depressive Disorder (MDD) is a common public health problem both in the United States and worldwide, estimated to affect as many as 13–16% of American adults over their lifetime.[1,2] Patients suffering from MDD have an estimated 42.5 days per year of disability.[3] Major depressive disorder is also significantly associated with suicidal ideation and suicide attempts.[4] Despite the serious consequences of MDD, only 60% of patients appear to seek treatment for their depression,[1] and only 37.4% of depressed patients initiate treatment contact with a health care provider during the initial year of disease onset.[5] The World Health Organization recently reported in their Mental Health Action Plan that 4.3% of the global burden of disease can be attributed to depression.[6]

Since 2002, the United States Preventive Services Task Force (USPSTF) has recommended screening for depression in all adult primary care patients when systems are in place to assure accurate diagnosis, effective treatment, and follow-up.[7] However, a study reported that depression screening was documented at only 2.67% of primary care office visits in the United States from 2005 to 2007.[8] Thus, when considering the low probability of depression screening in conjunction with the significant proportion of patients who delay seeking depression care, it is highly likely that many cases of MDD are undetected and untreated. The USPSTF depression screening recommendations were reaffirmed in 2009[9] and strengthened in 2016.[10]

As collateral effects, medications may contribute to the burden of depression[11–13] and/or suicidality.[14] While the association between some medications and depression has been suspected, definitive evidence of attributable risk is quite variable. Patten and colleagues have twice reviewed the literature regarding medication-induced depression and implicated a number of medications.[11,12] Scientific reports of medication-associated depression and suicidality have also been summarized and described in the tertiary literature.[13,14] The degree of depression or suicidality risk associated with individual medications may vary in magnitude and reflects the evolving consistency and quality of evidence at a given point in time. Therefore, depression screening is a logical precaution that can be implemented when prescribing medications thought to be associated with depression and/or suicidality.

Medication risk information that reflects contemporary understanding is routinely collected, summarized and communicated to health care providers by clinical information curators (e.g., First Databank, Medi-Span, Multum, etc.). Clinical information provided by these organizations serves as the basis for warnings and reminder systems embedded in electronic medical record (EMR) systems (e.g., Epic, Cerner, Meditech, etc.), which are used to communicate medication-associated risks at the point of care. European physicians have reported that "severity of warning" and "clinical status of the patient" were two characteristics of computerized physician order entry systems that were most useful.[15] Implementation of basic decision support systems in US office-based physician practices that include patient histories and problems lists, computerized prescription order entry, comprehensive lists of medications and allergies, and the ability to view laboratory and imaging data have grown from 10.5% to 48.1% of physician practices between 2006 and 2013.[16] However, systematic reviews have suggested that their uptake and effectiveness in influencing practice remains in question.[17]

Although currently unknown, it is hypothesized that the probability of depression screening should increase at physician visits when the prevailing knowledge underscoring risk of medication-associated depression, suicidal ideation, and/or suicide is higher. The absence of such a relationship may provide an opportunity for workflow redesign where appropriately, trained health care personnel can initiate the screening process and monitor consequences of care in support of the aforementioned USPSTF recommendations.