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Psychiatrists' and dentists' knowledge and attitudes regarding adverse drug reactions of psychotropic drugs

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ABSTRACT

Psychotropic drugs may induce impairments in the mouth, jaw and face area. Currently, appropriate pharmacoepidemiologic data are missing. Therefore, a questionnaire-based telephone survey of two non-representative samples of psychiatrists and dentists was conducted. Most of the psychiatrists (79.7%) and dentists (76.5%) indicated that psychotropic drugs may induce dental adverse drug reactions (ADR); in both samples there was an approximately equally sized, relevant proportion of participants who did not believe in the risk of dental ADR of psychotropic drugs (psychiatrists 20.3%; dentists 23.5%). About one third of the participants of both samples (psychiatrists 34.9%; dentists 35.9%) felt that dental ADRs of psychotropic drugs are a serious health problem. The majority of both groups (psychiatrists 97.8%; dentists 97.0%) had never reported a dental ADR. Most psychiatrists and dentists appeared to be aware of the risk of dental ADRs by psychotropic drugs. A relevant proportion of participants of both groups considered psychotropic drugs to be irrelevant regarding dental ADRs; therefore, there may be information needs in both groups. The willingness to report dental ADRs of psychotropic drugs was low in both groups; the evaluation of the actual relevance of this drug-related risk is impeded by the absence of reports of suspected ADRs.

1. Introduction

Psychotropic drugs are indispensable for the treatment of many mental disorders (Huhn et al., 2014). They are very frequently prescribed with remarkable increases of prescription volumes in Western countries in the last decades (Lockhart and Guthrie, 2011; Steffenak et al., 2012; Karanges et al., 2014; Warnock et al., 2014; Noordam et al., 2015; Piovani et al., 2016; Schwabe and Paffrath, 2016). Apart from cognitive dysfunction (Macqueen and Young, 2003), impairments of the extrapyramidal motor system (Haddad et al., 2012), sexual dysfunction (Gregorian et al., 2002), cardiotoxic (Hasnain and Vieweg, 2014) and metabolic effects (Gahr et al., 2016), several psychotropic drugs may also cause dental adverse drug reactions (ADR). These include xerostomia/hyposalivation with increased risk for caries, gingivitis, periodontitis and stomatitis (Papas et al., 1993; Boyd et al., 1997; Sjögren and Norström, 2000; Hu et al., 2016), bruxism (Isa Kara et al., 2017), gingival overgrowth (Cornacchio et al., 2011), dysgeusia (Schiffmann et al., 1998), and mucosal changes (Fratto and Manzoni, 2014). This is frequently not adequately addressed in the clinical context, although adverse effects of psychotropic drugs on oral

health even need particular attention, especially in psychiatric patients: Mental disorders as schizophrenia spectrum disorders and major depression are regularly treated with psychopharmacotherapy and, moreover, are associated with compromised oral hygiene and an increased risk for impairments in the mouth, jaw and face area (Sjögren and Norström, 2000; Persson et al., 2009; Tani et al., 2012). Schizophrenia spectrum disorders and major depression are associated with a remarkably reduced quality of life (Brenes, 2007; Lysaker et al., 2018). Impaired oral health is also associated with reduced quality of life (Sischo and Broder, 2011). Considering the manifold impairments related to psychiatric disorders, treatment-related impairments of quality of life as dental ADRs of psychotropic drugs merit greater attention.

From a general perspective, about 5% of all patients receiving any pharmacotherapy develop ADRs (Thürmann and Schmitt, 1998) and 3–6% of all hospital admissions are caused by ADRs (Einarson, 1993; Mühlberger et al., 1997; Lazarou et al., 1998; Moore et al., 1998; Thürmann and Schmitt, 1998; Schneeweiss et al., 2002; Dormann et al., 2003; Pirmohamed et al., 2004). Results of a metaanalysis of prospective studies on ADRs among inpatients suggest that fatal ADR range on place four of death statistics (Lazarou et al., 1998). ADRs have also

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considerable economic implications. A 18-month prospective pharmacoepidemiologic study in an internistic clinic in Germany indicated that about 20% of all inpatient treatment days are caused by ADRs (Dormann et al., 2004). According to results of a study from England about 4% of the total bed capacity is continuously claimed by the inpatient treatment of ADRs, resulting in annual costs of about 706 million Euros (Pirmohamed et al., 2004). Therefore, ADRs are a major global health problem and need to be taken seriously.

Currently, there is a lack of pharmacoepidemiologic data on dental ADRs of psychotropic drugs (Fratto and Manzon, 2014), possibly due to reduced willingness to officially report or insufficient detection of such ADRs resulting in underreporting. In addition, there is a lack of knowledge regarding the relevant caregivers' attitudes towards this drug safety aspect. Considering that dental health is not a regular focus of psychiatric treatment and the identification of a possible relation between a dental pathology and a treatment with a psychotropic drug may be difficult within dental treatment, dental ADRs of psychotropic drugs constitute an interdisciplinary problem.

To study psychiatrists' and dentists' knowledge and attitudes regarding dental ADRs of psychotropic drugs an explorative cross-sectional survey of psychiatrists and dentists was performed.

2. Methods

2.1. Study design

A cross-sectional questionnaire-based telephone survey was performed.

2.2. Samples

Two non-representative samples of psychiatrists and dentists who participate in the statutory, ambulatory health care in Baden-Württemberg (a federal state of Germany with a population of 10.9 million inhabitants in July 2016) were generated.

All self-employed resident psychiatrists of Baden-Württemberg were included in the sample of psychiatrists; psychiatrists who worked in a medical care center ("medizinisches Versorgungszentrum" [MVZ]) or were employed by a resident psychiatrist as well as doctors with an exclusively neurologic focus were excluded. Possible participants were identified via the online platform of the association of statutory health insurance physicians Baden-Württemberg (www.arztsuche-bw.de) in September 2016 using the search fields "physician group" (=specialist) and "specialist area" (=Psychiatry and psychotherapy). The list of doctors thus obtained was checked for multiple listings of one doctor, inadequate specialization (e. g. specialist in neurology or child and adolescent psychiatry and psychotherapy), and employment status (not self-employed); doctors identified in this way were excluded before the start of the survey.

Identification of possible participants of the sample of dentists was performed via the online tool for dentist search of the platform of the association of dentists of Baden-Württemberg in June (www.lzk-bw.de/zahnarztsuche/); the online search was not restricted by any specializations (e. g. periodontology). The list of dentists thus obtained was checked for multiple listings of dentists; dentists who were not self-employed and dentists with an exclusively orthodontic focus were excluded.

In order to attain comparable sample sizes, the number of participants of the sample of dentists was restricted to dentists with location of their practice in the postal code zone 8 of Baden-Württemberg.

In Germany, employed doctors and dentists in outpatient care are predominantly doctors/dentists who have just finished their university time (particularly regarding dentists) and/or doctors/dentists who usually do not have a completed medical specialization (particularly regarding psychiatrists), meaning that significant experience, especially concerning specific aspects as dental ADRs of psychotropic drugs, may

be absent in employed doctors/dentists. As we intended to generate two samples of "well-experienced" doctors/dentists and comparability regarding features that may influence knowledge, attitudes and handling of dental ADRs, we decided to exclude doctors/dentists who are not self-employed.

2.3. Questionnaires

A questionnaire was developed for each of the samples. Both questionnaires were divided into two parts and written in German language (see supplemental material). The first part, which was equal for both samples, requested personal data (age, gender, duration of the professional activity, mean number of patients per quarter). The second part contained questions that were customized to the respective sample as well as questions equal for both samples (12 questions for dentists 10 for psychiatrists). There were questions related to the *subjective evaluation of the relevance of dental ADRs of psychotropic drugs* (two questions, identical for both samples), to the *subjective assessment of type and frequency of dental ADRs of psychotropic drugs in the own practice*, to the *subjective evaluation of the relation between dental ADRs and particular substances* (four questions, identical for both samples), related to *prevention, detection and handling of dental ADRs* (five questions for dentists; three questions for psychiatrists) and related to the *number of already officially reported suspected cases of dental ADRs related to psychotropic drugs* (one question, identical on both samples). Among these were open questions and questions with specified response options (single and multiple choice, ordinally scaled and dichotomous response options). Before start of the survey both questionnaires were checked for comprehensibility and practicability in a test phase with ten dentists and psychiatrists each; the questionnaires were then modified according to suggestions expressed by the participants of the test phase. Validation of the questionnaires was not performed.

For the current analysis only data related to the first part of the questionnaires and to questions regarding the subjective evaluation of the relevance of dental ADRs and the number of officially reported dental ADRs were considered (posed questions are demonstrated verbatim in Table 2).

2.4. Period and process of the survey

The survey was conducted from June 13, 2016 until August 22, 2016 (dentists) respectively from October 1, 2016 until December 14, 2016 (psychiatrists). Contact details of possible participants were obtained via the above mentioned online platforms. The telephone interviews were performed by AKH. The staffs of the doctor's practice were briefly informed about background and objectives of the survey and then the possibility to talk to the doctor was requested; if necessary, an appointment was made for the interview. The interviews were conducted semi-structured; all questions of the questionnaire with all response options were read to the participant; when difficulties in understanding occurred, the interviewer elucidated the respective point. The given answers were recorded anonymously on the respective questionnaire.

2.5. Exclusion of participants and non-participation

Before the start of the survey the lists of doctors obtained via the online platforms as specified above were checked for in- and exclusion criteria; doctors were excluded accordingly. Participation was categorized as rejected, when staffs of the practice or the respective doctors rejected to participate. If staffs or the respective doctor could not be reached by phone on three different days, the respective doctor was categorized as not available.

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