Drug and Alcohol Dependence 199 (2019) 116–121

Contents lists available at ScienceDirect

Drug and Alcohol Dependence

journal homepage: www.elsevier.com/locate/drugalcdep

Barriers to seeking help for physicians with substance use disorder: A review

Flora Vayr[a], Fabrice Herin[a,b,*], Benedicte Jullian[c], Jean Marc Soulat[a,b], Nicolas Franchitto[c]

[a] Occupational Diseases Department, Toulouse-Purpan University Hospital, Toulouse, F-31000, France
[b] INSERM UMR 1027, Université de Toulouse III, Toulouse, F-31000, France
[c] Department of Addiction Medicine, Toulouse-Purpan University Hospital, Toulouse, F-31000, France

ARTICLE INFO

Keywords:
Substance use disorder
Impaired physician
Mandatory reporting
Occupational health
Psychiatric comorbidity

ABSTRACT

Background: Substance use disorders (SUD) might concern as many as 8–15% of physicians. Previous studies suggest that self-diagnosis and self-medication are common practices among physicians. The aim of this review was to identify if barriers to seeking help and medical care for impaired physicians exist. We also aimed at characterizing the nature of these barriers.

Methods: The review included scientific papers published on the MEDLINE and PsychINFO databases between January 2000 and September 2018. The inclusion criteria were: (i) articles that focused on SUD in physicians. The exclusion criteria were: (i) no mention of SUD; (ii) no mention of barriers to seeking help; (iii) articles focused on burn-out and work-related stress; (iv) articles focused on risk factors or treatments for SUD; (v) articles focused on psychiatric comorbidities and (vi) those focused on other professionals.

Results: Potential barriers to seeking help that were identified for impaired physicians with SUD included denial of the disease and of loss of performance, fear of stigma, psychiatric comorbidities, fear of familial/social/professional and economic consequences and a lack of knowledge.

Conclusions: Different barriers to seeking help could be identified. Priority should be given to educating medical students to ameliorate this. Increased awareness should reduce the stigma, which, even nowadays, still prevents some physicians from seeking help.

1. Introduction

Substance use disorder (SUD) in physicians has been studied for decades. However, recently, there has been a growing interest in how to recognize peers suffering from SUD who are in need of help (Lawson and Boyd, 2018). The first scientific articles concerning impaired physicians were published sixty-five years ago (Fox J de W, 1954; Wall, 1958). Today, the prevalence of SUD among physicians remains difficult to assess due to the impact of the stigma on those concerned and the different methodologies used in studies. However, most authors report that SUD is likely to concerns as much as 8 to 15% of all physicians (Baldisseri, 2007; Cummings et al., 2011; Dhai et al., 2006; Johnson, 2009; Killewich, 2009; Samuelson and Bryson, 2017; Seppala and Berge, 2010; Sudan and Seymour, 2016). Medical specialties are not equally affected. Anesthesiologists, emergency physicians, psychiatrists and general practitioners belong to a high-risk group (McLellan et al., 2008; Bryson and Silverstein, 2008). The high level of time constraints, overwork, lack of leisure time, increased responsibilities due to patients' expectations (Johnson, 2009; Killewich, 2009; Samuelson and Bryson, 2017; Seppala and Berge, 2010) as well as anxiety and depression are well-known high-risk factors for SUD in physicians. Previous studies suggest that self-diagnosis and self-medication are common practices among physicians, including when they are with SUD (Baldisseri, 2007; Boisaubin, 2001; Montgomery et al., 2011). Our review aimed at identifying if barriers to seeking help and medical care for impaired physicians exist. We also aimed at characterizing the nature of these barriers. This exploratory review gathers updated data on the topic, which is addressed creatively by presenting original aspects. The existence of barriers to reporting SUD for relatives and co-workers of impaired physicians were also of interest.

2. Methods

2.1. Eligibility criteria

We conducted a literature review between January 2000 and September 2018 on the MEDLINE and PsychINFO databases. We used the following keywords: "impaired physician", "substance use

* Corresponding author at: Occupational Diseases Department, University Hospital, Toulouse, Bâtiment Turiaf, Place du Dr Baylac, 31059 Toulouse Cedex 9, France.
E-mail address: herin.f@chu-toulouse.fr (F. Herin).

https://doi.org/10.1016/j.drugalcdep.2019.04.004
Received 12 October 2018; Received in revised form 4 March 2019; Accepted 11 April 2019
Available online 18 April 2019
0376-8716/

disorder", "mandatory report", "occupational health", "opiate substitution treatment", "denial" and "psychiatric". The search terms were selected during a discussion after an exploratory search of the relevant literature. The reference lists of articles that were included and topic-related systematic reviews were also scanned to identify possible additional articles of interest. Articles published before the year 2000 were not included. In fact, the authors wished to focus on recent studies because developing knowledge and specific policies related to SUDs have become a priority since the late 1990s. As a matter of fact, therapeutic developments and various forms of health care support for impaired physicians have recently emerged. Fortunately, many countries including France (the French Addiction Plan) and the United States (the American Board of Addiction Medicine) offer certification in the specialty of addiction medicine. In addition, continuing medical education programs have become more prevalent over the decades, resulting in improved standards of care for patients with substance use disorders and contributing to a reduction in the stigma (Kunz and Wiegand, 2016). To take all these factors into consideration, articles published both in English and French were selected without any limit based on the types of articles (reviews, original articles, case reports, editorials, correspondences, etc.) or methodologies.

2.2. Selection of the studies

An initial selection of the articles identified was based on the relevance of their title and the abstract. To limit potential confounders, we chose to include only studies that focus on barriers to seeking help. A barrier was defined as a factor that prevents an individual from gaining access to health care. Barriers mentioned in the article were included if they were reported by at least one of the selected articles. All potential barriers were described using adjectives or adverbs such as "common", "often", "likely" and "seldom". These terms were added in a descriptive manner according to the assessment of the impact of the identified barriers performed by the authors of the cited articles. The second phase established the relevance of the full-text articles. The inclusion criteria were: (i) articles on SUD among physicians. The exclusion criteria were: (i) no mention of SUD, (ii) no mention of barriers to seeking help, (iii) articles specifically focused on burn-out and work-related stress, (iv) articles only focused on risk factors or treatments for SUD, (v) articles only focused on psychiatric comorbidities (vi) and those focused on other professionals (students, other healthcare professionals). One investigator (FV) first read all the titles found in the search and eliminated those that were obviously irrelevant. Based on the abstract, articles that clearly did not meet the inclusion/exclusion criteria described above were excluded. When no abstract was available, the decision was made based on the title alone. Each abstract was assessed independently and by 2 different authors (FV and BJ). The full-text articles that were either judged relevant or contained insufficient information to make a decision were then obtained. The full texts of potentially relevant articles were then reviewed by two reviewers (FV and BJ) for eligibility according to the inclusion and exclusion criteria described above. Disagreements were resolved with the input of a third author (FH) in order to reach a consensus.

2.3. Data collection process

The selected articles were included in the review and data were extracted independently by one reviewer and checked by a second reviewer. The information comprised the identification of the article (authors, year of publication, journal) and the methodology used. The data gathered was used to address the following aspects: barriers associated with SUD, familial/social/professional and economic consequences of SUD, barriers associated with psychiatric comorbidities, lack of knowledge related to addictology and finally barriers for relatives and co-workers of impaired physicians. Data extraction was performed independently by 3 authors (FV, BJ and NF) with 2 reviewers per article.

3. Results

3.1. Search strategy

Three hundred and forty-four scientific articles were identified with the search strategy, including 101 duplicates. Titles and abstracts were analyzed and 86 articles were considered relevant for the topic. The presence of inclusion criteria and the absence of exclusion criteria were assessed for these 86 articles. Fifty-three were excluded. Finally, 33 articles were included in the review. The types of articles were: 15 reviews (Baldisseri, 2007; Bismark et al., 2014; Boisaubin and Levine, 2001; Brown et al., 2009; Bryson and Silverstein, 2008; Dhai et al., 2006; Magnavita et al., 2010; Marshall, 2008; Merlo and Gold, 2008; Samuelson and Bryson, 2017; Sudan and Seymour, 2016; Taub et al., 2006; Tyssen, 2007; Watkins, 2010; Wilson et al., 2009), 2 qualitative studies (Bismark et al., 2016; Cummings et al., 2011), 6 cross-sectional studies (Cottler et al., 2013; DesRoches et al., 2010; Holtman, 2007; Merlo and Greene, 2010; Wijesinghe and Dunne, 2001; Wunsch et al., 2007), 4 opinion papers (Breen, 2011; Harty-Golder, 2009; Johnson, 2009; Killewich, 2009), 3 correspondences (Brewster, 2010; Henderson, 2015; Truex, 2010), one editorial (Bryson, 2010), one case report (Seppala and Berge, 2010) and one case series (Gentile, 2008). The following sections describe the different barriers to seeking help for impaired physicians as identified in this review.

3.2. Denial

Denial is observed in physicians with SUD (Seppala and Berge, 2010; Marshall, 2008; Merlo and Gold, 2008; Baldisseri, 2007), which could be explained by the fact that some physicians think they are immune to certain diseases such as SUD (Bryson and Silverstein, 2008; Taub et al., 2006; Baldisseri, 2007). Moreover, for some practitioners denial may be reinforced by the personality traits usually observed with academic and professional success (independence, self-confidence, perseverance) (Merlo and Gold, 2008). The patient-physician is often described as having a great sense of invulnerability and self-sufficiency and may not be aware that substance abuse can lead to addiction, loss of autonomy and weakness (Bryson and Silverstein, 2008). Physicians are likely to rationalize their consumption, considering it as self-medication for physical pain, work-related stress or relationship issues (Samuelson and Bryson, 2017). This rationalized denial and highly sophisticated resistance constitute barriers to seeking help (Merlo and Gold, 2008; Bryson and Silverstein, 2008; Dhai et al., 2006). Boisaubin and Levine (2001) describe the natural tendency of physicians to underestimate or ignore their own impairment, which is consistent with previous findings. Admitting to having a problem and to a greater extent seeking assistance are almost impossible (Samuelson and Bryson, 2017; Boisaubin and Levine, 2001), first and foremost because health care providers are expected not to complain and never to acknowledge their needs (Boisaubin and Levine, 2001). Physicians are likely to organize their lives around their professional accomplishment, neglecting the impact of the disease on their life and familial relationships (Magnavita et al., 2010) until they are professionally and socially isolated.

Some physicians who are brilliantly successful are perfectionists and refuse to be examined by other physicians (Magnavita et al., 2010). This mechanism can encourage self-prescribing habits and denial of medical issues (Merlo and Gold, 2008; Tyssen, 2007). Dhai et al (2006) identified four distinct situations: (i) impaired physicians do not recognize the problem, (ii) they are in denial, (iii) they recognize the problem but think they do not need medical care, (iv) they recognize the problem and think they need help but do not take action (Dhai et al., 2006). Denial does not exclusively concern the disease itself, but also the perception of the practitioner's ability to offer safe and reliable medical

care to patients (Magnavita et al., 2010). Finally, denial is considered as a normal psychological mechanism developed to cope with a difficulty (Samuelson and Bryson, 2017). In all aspects of a person's life, a SUD can be painful to admit. Despite the high prevalence of denial in SUD, it should not be underestimated considering the potentially negative, even lethal, consequences (Samuelson and Bryson, 2017). Denial in patient-doctors might explain the delay in the diagnosis of SUD and is detrimental to recovery (Magnavita et al., 2010).

3.3. Stigma associated with SUD

The stigma associated with SUD is reported also as a barrier to seeking help for impaired physicians. The impaired physician may fear the stigma and the feeling of shame that can be associated with the disease. A negative experience of a co-worker who was diagnosed with a SUD and the way they were treated can reinforce this fear (Samuelson and Bryson, 2017; Marshall, 2008). A physician with SUD faces the risk of the stigma associated with the feeling of failure (Wilson et al., 2009; Boisaubin and Levine, 2001; Brown et al., 2009; Marshall, 2008; Bryson, 2010). It is sometimes difficult for society to admit that a physician can be diagnosed with a SUD. One might falsely believe that only the lower social and economic categories are affected by the disease (Seppala and Berge, 2010). Additional features characterize impaired physicians: difficulty accepting the patient role, a tendency to self-prescribe, a tendency to divert attention to the health care of patients to avoid acknowledgment of one's own impairment (Marshall, 2008). Developing specialized healthcare programs that include peers could minimize these barriers, facilitate acceptance of the diagnosis and reduce the level of shame perceived (Marshall, 2008). Selflessness is valued in the medical profession, but this positive concept could isolate those who face medical issues (Samuelson and Bryson, 2017). In contrast, reporting personal difficulties and seeking help can be considered as weaknesses, increasing the fear of stigma by the impaired physician (Wilson et al., 2009; Samuelson and Bryson, 2017).

Wilson et al (2009) report a risk of stigmatization by healthcare providers themselves when taking care of an impaired physician (Wilson et al., 2009). Denial, neglect, feeding rumors and derision have been described as possible reactions by colleagues (Wilson et al., 2009). Wilson et al emphasize the right every impaired physician has to benefit from equal healthcare, like any other patient. Healthcare providers should maintain a certain level of professionalism. In fact, inequalities or privileges that intervene in the relationship between a health care provider and a patient-physician could encourage denial by the impaired physician (Wilson et al., 2009). A permissive attitude, driven by collegiality, for example, can be perceived as an excuse for lack of compliance. A stigma, even positive, is not helpful for the impaired physician, as part of the disease is testing limits. Excessive familiarity, exchange of contact information, feeding rumors and irregular appointments should be avoided (Wilson et al., 2009). The risk of stigma is described by Wilson et al (Wilson et al., 2009). The author emphasizes the inequalities faced by individuals with SUD. An impaired physician does not necessarily benefit from empathy and understanding, unlike other patients (Wilson et al., 2009). The idea of falling off one's pedestal might, to some, justify derision, but this is never tolerable when considering medical care. Wilson et al (2009) highlight the negative impact of stigma, a precipitating factor of the disease.

Few studies address the risk of stigma associated with pharmacological substances prescribed in addiction medicine. Merlo et al mention the negative perception of methadone, an opioid substitution treatment (Merlo and Gold, 2008). The authors conclude that this medication should be avoided in specialized therapeutic programs for impaired physicians. Prescribing naltrexone or buprenorphine would be preferable in this context (Merlo and Gold, 2008).

3.4. Psychiatric comorbidities

A proportion of healthcare professionals, with or without SUD, are diagnosed as having psychiatric comorbidities (Boisaubin and Levine, 2001; Cottler et al., 2013). Mood and anxiety disorders are the most prevalent (Boisaubin and Levine, 2001; Sudan and Seymour, 2016; Wijesinghe and Dunne, 2001). As much as 50% of all physicians with SUD are believed to be affected (Merlo and Gold, 2008; Sudan and Seymour, 2016; Tyssen, 2007). Data reveal that in the general population psychiatric comorbidities increase the risk of SUD. Drug consumption is a means of self-medication to alleviate psychiatric symptoms (Brown et al., 2009; Marshall, 2008; Cummings et al., 2011; Gentile, 2008). In everyday practice, symptoms related to SUD and those related to a psychiatric comorbidity are intertwined. An integrative clinical assessment and therapeutic program are often necessary (Bryson and Silverstein, 2008; Bryson, 2010). Psychiatric comorbidities deter the impaired physicians from seeking help and reduce the chances of recovery and returning to work after treatment (Seppala and Berge, 2010). Previous findings suggest that female physicians are two times more likely than male physicians to have a dual disorder which associates SUD and psychiatric comorbidities (Wunsch et al., 2007).

3.5. Familial, social, professional and economic consequences

Impaired physicians might be reluctant to seek help for fear of the consequences they may face if the diagnosis is revealed to their relatives, superiors or the medical board (Samuelson and Bryson, 2017; Merlo and Gold, 2008; Wilson et al., 2009; Baldisseri, 2007). Fear that confidentiality will not be respected by health care providers encourages them to avoid seeking help (Gentile, 2008). Some authors indicated that impaired physicians will not take the risk of damaging their career through disciplinary actions (Marshall, 2008). The possibility of mandatory reporting by colleagues or health care providers they confide in could exacerbate the impaired practitioner's isolation (Breen, 2011; Truex, 2010). Finally, impaired physicians consider a referral for health care to be similar to an admission of failure and that this would systematically lead to the withdrawal of their professional license (Seppala and Berge, 2010: Marshall, 2008).

3.6. Lack of education

The dearth of available information concerning addiction medicine provided during initial and continuing medical training is mentioned by several authors (Seppala and Berge, 2010; Wilson et al., 2009; Taub et al., 2006; Watkins, 2010; Desroches et al., 2010). Seppala and Berge highlight the difficulty for general practitioners to diagnose and treat impaired colleagues (Seppala and Berge, 2010).

3.7. Barriers for relatives and co-workers

Physicians should conform to acceptable standards of practice. Failure to meet these obligations is a cause for great concern considering that a sick doctor can place patients at risk. The degree of responsibility entrusted to doctors is the highest and the safety of patients is the priority (Boisaubin and Levine, 2001; Baldisseri, 2007). "First, do no harm" is the first paradigm any medical student must learn. When SUD renders a professional unable to provide competent medical services, their colleagues have the responsibility to act, primarily to protect patients. Concerns about serious flaws in professional judgment of impaired physicians have prompted medical boards and the legislator to create a rule that addresses this issue. Therefore, mandatory reporting was introduced in deontological codes and became a legal measure, with different terms according to the country (Bismark et al., 2014). The impact of mandatory reporting is widely discussed in the literature (Bryson and Silverstein, 2008; Taub et al.,

2006; Breen, 2011; Henderson, 2015; Desroches et al., 2010; Bismark et al., 2014, 2016). A physician has a legal and professional obligation to report particular events or clinical conditions to the appropriate government or regulatory agency. Some authors describe violations of moral and professional obligations by impaired physicians. Bryson et al. (2008) explain how physicians may divert drugs, for example by charting the use of a substance when either an alternate medication or none at all was administered, substituting syringes containing a drug for ones containing saline or other substances or searching through sharps containers for residual drugs (Bryson and Silverstein, 2008). Cummings et al describe other techniques: stealing from hospitals, defrauding patients, using medication samples or misusing valid prescriptions (Cummings et al., 2011). Drug abuse and dependency is often associated with clinical misjudgments and reduced professional performance and is likely to place patients at risk (Dhai et al., 2006). Alcohol and other drug abuse have been identified as the main cause of medical license withdrawal (15% of cases) (Holtman, 2007). However, despite the obvious signs and risks, co-workers and relatives often postpone intervention (Marshall, 2008). Co-workers are reluctant to intervene in the impaired physician's private life. A "conspiracy of silence" can be observed in the work environment or at home and often acts as a precipitating factor for relatives' and co-workers' denial (Seppala and Berge, 2010). Denial can even prevent co-workers from acknowledging the problem despite the exhibition of symptoms by the impaired physician, at least for some time (Samuelson and Bryson, 2017). If the impaired physician is a superior, fear of professional consequences may prevent physicians from acting (Seppala and Berge, 2010; Watkins, 2010), along with fear of retaliation (Baldisseri, 2007; Desroches et al., 2010). Co-workers might want to spare the impaired physician negative legal consequences or being treated punitively and stigmatized (Marshall, 2008; Taub et al., 2006; Truex, 2010; Desroches et al., 2010). Some authors mention the difficulty for physicians to admit that a member of the medical community might have a problem (Taub et al., 2006). When signs remain subtle and veiled, uncertainty concerning the diagnosis of SUD delays action due to fear of being prosecuted for defamation (Killewich, 2009; Samuelson and Bryson, 2017; Sudan and Seymour, 2016; Taub et al., 2006; Harty-Golder, 2009; Baldisseri, 2007). Impaired physicians may seemingly perform their daily activities adequately and in such cases a collegial opinion is required. Silence can be an attempt to protect someone's reputation or the public image of an institution (Baldisseri, 2007). Reporting an impaired co-worker puts the whistle blower in social discomfort (Samuelson and Bryson, 2017; Dhai et al., 2006). Drawing attention to a member of the medical community can give an impression of betrayal (Killewich, 2009). Some physicians prefer to believe that someone else will take care of the problem and that it is not their responsibility (Samuelson and Bryson, 2017; Marshall, 2008; Desroches et al., 2010). Other colleagues underestimate the difficulties and excuse mistakes in an attempt to protect the impaired physician out of empathy (Marshall, 2008). According to some authors, physicians do not report SUD because they think their action will not lead to caring and efficient medical care (Brewster, 2010; Bismark et al., 2016). On the family level, relatives fear social and economic consequences associated with the loss of a medical license and legal measures (Merlo and Gold, 2008; Seppala and Berge, 2010). Finally, some authors highlight the risk of suicide when the diagnosis is publicly revealed (Johnson, 2009; Samuelson and Bryson, 2017). Pressure, stress, fear and shame perceived by impaired physicians in this critical moment of their life can lead to desperation. Physicians are even more at risk than the general population considering their pharmacological expertise (particularly in anesthesiology) (Samuelson and Bryson, 2017). Similarly, physicians confronted with the ultimatum of drug testing may choose to sacrifice their career by quitting rather than providing evidence. These circumstances are tragic since medical care can be provided and patients, when compliant, are likely to recover. In addition, return to a normal life and work is possible (Samuelson and Bryson, 2017).

4. Discussion

4.1. Summary of evidence

Barriers to seeking help for impaired physicians with SUD can be identified in the medical literature. Denial, loss of performance, fear of stigma, psychiatric comorbidities, predictable social/familial/professional and economic consequences of the diagnosis and lack of education during initial and continuing medical training should be addressed, but first, they must to be recognized. Many of these factors represent barriers to reporting for co-workers and relatives, despite the known adverse consequences of silence under these circumstances. There are various steps in the management of impaired doctors, which requires an integrated approach by trained professionals. On an individual level, the obstacles to seeking help are of interest for health care providers who take care of impaired physicians. A precise understanding of the patients' resistance enables use of a personalized and more efficient therapeutic program. Similarly, physicians should be aware of these mechanisms and teach their students to recognize these in order to optimize the identification of an impaired physician among colleagues and promote early intervention. Hopefully, impaired physicians themselves will find some answers in this work. In general, this review could help to reinforce existing policies focused on the prevention and early detection of SUD among physicians. To remove the obstacles identified, medical students should be taught the mechanisms of addiction to reduce the stigma. In the past, misconceptions regarding addictions might have led to underserved judgement. Recent studies provide new perspectives. In the future, early education concerning the diagnosis and treatment of SUD could reduce the delay before referral for care of impaired physicians. Considering the ever-increasing challenges of medical practice, often characterized by long, stressful work hours and the strong tendency of physicians to work hard and neglect their own vulnerability, SUD could be considered as an occupational risk. Raising medical students' awareness of this subject is crucial, particularly in high-risk groups (anesthesiology, emergency medicine, psychiatry, etc.). The high prevalence of psychiatric comorbidities among physicians with SUD should justify a systematic screening and an integrative therapeutic program.

4.2. Limitations

Our review has several limitations that should be noted. First, the number of studies that were included was relatively small due to the limitations of the search and screening processes. In addition, such a small number of studies may have been a result of the restricted inclusion criteria. To limit potential confounders, we chose to include only studies that clearly dealt with barriers to seeking help. The source of data gathered for this review was articles characterized by various levels of evidence. Characterization of SUD among physicians is a burning issue. Collecting data on the subject remains difficult considering the impact of the stigma associated with such a disease. Information concerning the early phases of substance abuse is also scarce since physicians are more likely to share their experience after admission into therapeutic programs. Our review was performed with a rigorous methodology. However, the full text of four articles could not be found.

4.3. Perspectives

Considering their occupational exposure, physicians should benefit from medical monitoring throughout their career. Preventive medicine is aimed at improving the physical, mental and social well-being of employees, preventing occupational diseases and injuries and reducing occupational exposure that can alter health and safety at work. In this review, only two studies mentioned the role of occupational health physicians (Magnavita et al., 2010; Marshall, 2008). Occupational

health physicians are specialized in prevention, which involves communication skills and scientific and technical knowledge of problems experienced by workers. They use the tools associated with primary, secondary and tertiary prevention to improve the health of the employees in their charge (Magnavita et al., 2010). The medical monitoring required for employed physicians is an opportunity to make an early diagnosis of SUD and refer the patient to a specialist. Occupational health physicians can facilitate the organization of medical care by adjusting the patient's work schedule, and part-time work could be suggested. Their action is intended to help physicians to keep their job, or enter/re-enter the labor market (Magnavita et al., 2010). Magnavita et al (2010) emphasize that the main role of occupational health physicians is a preventive one. Fulfilment of the respective professional obligations is assessed by medical boards or government institutions (Magnavita et al., 2010). Collaboration between the addiction specialist, the occupational health physician and the patient should be encouraged to ensure maximum benefit for the patient (Marshall, 2008). Marshall et al mention the difficulty for an impaired physician to be referred to a specialist, which therefore delays appropriate medical care. To conclude, medical monitoring by an occupational health physician is considered to be a protective factor that facilitates early detection and support for impaired physicians (Marshall, 2008).

Several countries have developed programs aimed at assisting physicians with SUD. In the United States of America, state physician health programs (PHP) were established in the late 1970s. The programs operate under the authority of medical licensing boards and are supported by the American Medical Association. PHP programs support physicians with SUD throughout the recovery process, from the initial evaluation to treatment and long-term monitoring. In Canada, a website "http://e-santedesmedecins.com" collects resources concerning physicians' health. This initiative was supported by many national institutions such as "Ontario", "uOttawa Faculty of Medicine", "The Canadian Medical Foundation", the "Canadian Medical Association", the "Canadian Association of Internes & Residents" and "*Fédération des médecins residents du Québec*". The aim is to enable physicians to assess their own difficulties and to generate peer support. In Québec, the "Quebec Physicians' Health Program" (QPHP) which was founded in 1990 was designed to provide assistance and support for physicians, residents and medicals students who are facing personal difficulties such as severe psychological and emotional stress, psychiatric disorders, abuse or addiction to alcohol or psychotropic drugs, and sexual misconduct. The "European Association for Physician Health" (EAPH) is a network of groups and individuals interested in promoting physicians' health. It provides a forum to facilitate communication about the treatment of doctors by doctors, encourage the development of specific care programs for physicians and support research in this field. In Spain, the "Comprehensive Assistance Program for Sick Physicians" ("*Programa d'Atenció Integral al Metge Malalt*", PAIMM) established by the College of Physicians of Barcelona in 1998 is probably one of the most compelling examples of a specialized program dedicated to physicians. This pioneer program has access to specialized hospital units, day hospitals and outpatient treatment, for physicians. In the United Kingdom, the "Sick Doctors Trust" (SDT) was established in 1996 by a group of physicians personally concerned by substance use disorder and who questioned the lack of effective specialized structures designed to help health care practitioners who were experiencing difficulties as a result of alcohol or drug use. The SDT is recognized by the "General Medical Council", the "BMA", "The Practitioner Health Program", "The Medical Council on Alcohol" and other bodies. In France, medical monitoring is carried out by occupational health units for salaried physicians. Moreover, the association "Physician, Organization, Work, Health" ("*Medecin, Organisation, Travail, Santé*", also called "MOTS") was created in 2010 in the Midi-Pyrénées region and provides telephone consultations and assistance from physicians specialized in occupational health and ergonomic principles. An association called "*Soins aux Professionnels de Santé*" ("Care for Health Care Providers") operates a national helpline which provides assistance to health care providers. The "Association for the Assistance of Health Care Professionals and Independent Medical Practitioners" ("*Association d'Aide aux Professionnels de Santé et Médecins Libéraux*") has a helpline that provides telephone consultations by psychologists. Finally, the French College of Anesthetists ("*College français des Anesthésites-Réanimateurs*", also called "CFAR") established the "Committee for the Occupational Health of Anesthetists" in 2009 ("*Santé des Médecins Anesthésistes Réanimateurs au Travail*", also called "SMART").

5. Conclusions

Substance use disorder has raised many questions over the past sixty-five years. For physicians, these essentially revolve around the critical question of patients' safety. Although its prevalence among physicians remains uncertain, it would appear that SUD concerns as much as 8 to 15% of physicians. Despite their central role in the care system, diagnosis and referral to medical care for impaired physicians is often delayed. This review has identified the existence of barriers that reinforce this lack of responsiveness. Priority should be given to educating medical students concerning their future occupational exposure. Better awareness should reduce the stigma, which still prevents some physicians from seeking help.

Compliance with ethical standards

Research involving human participants and/or animals.

Ethics approval and consent to participate

This article does not contain any studies with humans or animals conducted by any of the authors.

Informed consent

No individual participants were included in the study.

Availability of data and material

All data generated or analyzed during this study are included in this published article.

Role of funding source

None.

Contributors

FV, FH and NF created the study concept and design. FV, FH and BJ acquired the data. FV, BJ and NF performed the data analysis and interpretation. FV and FH drafted the manuscript. NF and JMS were responsible for the critical revision of the manuscript. All the authors read and approved the final manuscript.

Conflict of interest

None.

References

Baldisseri, M.R., 2007. Impaired healthcare professional. Crit. Care Med. 35 (February (2 Suppl)), S106–S116.

Bismark, M.M., Morris, J.M., Clarke, C., 2014. Mandatory reporting of impaired medical practitioners: protecting patients, supporting practitioners. Intern. Med. J. 44 (December (12a)), 1165–1169.

Bismark, M.M., Mathews, B., Morris, J.M., Thomas, L.A., Studdert, D.M., 2016. Views on mandatory reporting of impaired health practitioners by their treating practitioners:

a qualitative study from Australia. BMJ Open 6 (12), e011988.
Boisaubin, E.V., Levine, R.E., 2001. Identifying and assisting the impaired physician. Am. J. Med. Sci. 322 (July (1)), 31–36.
Breen, K.J., 2011. Doctors' health: can we do better under national registration? Med. J. Aust. 194 (February (4)), 191–192.
Brewster, J.M., 2010. Physicians' experiences with impaired colleagues. JAMA 304 (November (17)), 1896 author reply 1896–7.
Brown, S.D., Goske, M.J., Johnson, C.M., 2009. Beyond substance abuse: stress, burnout, and depression as causes of physician impairment and disruptive behavior. J. Am. Coll. Radiol. JACR. 6 (July (7)), 479–485.
Bryson, E.O., 2010. The impaired anesthesiologist: where do we draw the line? J. Clin. Anesth. 22 (August (5)), 311–312.
Bryson, E.O., Silverstein, J.H., 2008. Addiction and substance abuse in anesthesiology. Anesthesiology 109 (November (5)), 905–917.
Cottler, L.B., Ajinkya, S., Merlo, L.J., Nixon, S.J., Ben Abdallah, A., Gold, M.S., 2013. Lifetime psychiatric and substance use disorders among impaired physicians in a physicians' health program: comparison to a general treatment population: psychopathology of impaired physicians. J. Addict. Med. 7 (April (2)), 108–112.
Cummings, S.M., Merlo, L., Cottler, L., 2011. Mechanisms of prescription drug diversion among impaired physicians. J. Addict. Dis. 30 (September (3)), 195–202.
DesRoches, C.M., Rao, S.R., Fromson, J.A., Birnbaum, R.J., Iezzoni, L., Vogeli, C., et al., 2010. Physicians' perceptions, preparedness for reporting, and experiences related to impaired and incompetent colleagues. JAMA 304 (July (2)), 187–193.
Dhai, A., Szabo, C.P., McQuoid-Mason, D.J., 2006. The impaired practitioner – scope of the problem and ethical challenges. S. Afr. Med. J. 96 (October (10)), 1069–1072.
Fox J de W, 1954. Narcotic addiction among physicians. Med. Arts Sci. 8 (4), 96–100.
Gentile, J.P., 2008. Mandated psychotherapy with the impaired physician. Psychiatry Edgmont Pa Townsh. 5 (February (2)), 42–49.
Harty-Golder, B., 2009. Reporting impaired pathologist. MLO Med. Lab. Obs. 41 (February (2)), 36.
Henderson, D.R.F., 2015. Mandatory reporting of impaired practitioners. Intern. Med. J. 45 (June (6)), 684–685.
Holtman, M.C., 2007. Disciplinary careers of drug-impaired physicians. Soc. Sci. Med. 64 (February (3)), 543–553.
Johnson, B.A., 2009. Dealing with the impaired physician. Am. Fam. Phys. 80 (November (9)), 1007–1008.
Killewich, L.A., 2009. The impaired surgeon: revisiting Halstead. J. Vasc. Surg. 50 (August (2)), 440–441.
Kunz, K., Wiegand, T., 2016. Addiction Medicine: Current Status of Certification, Maintenance of Certification, Training, and Practice. J. Med Toxicol. 12 (1), 76–78.
Lawson, N.D., Boyd, J.W., 2018. How broad are state physician health program descriptions of physician impairment? Subst. Abuse Treat. Prev. Policy 13 (1), 30.
Magnavita, N., Magnavita, G., Bergamaschi, A., 2010. The impaired radiologist. Radiol. Med. (Torino) 115 (August (5)), 826–838.
Merlo, L.J., Greene, W.M., 2010. Physician views regarding substance use-related participation in a state physician health program. Am. J. Addict. 19 (6), 529–533.
Marshall, E.J., 2008. Doctors' health and fitness to practise: treating addicted doctors. Occup. Med. Oxf. Engl. 58 (August (5)), 334–340.
McLellan, A.T., Skipper, G.S., Campbell, M., DuPont, R.L., 2008. Five year outcomes in a cohort study of physicians treated for substance use disorders in the United States. The BMJ 4 (November), 337. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2590904/.
Merlo, L.J., Gold, M.S., 2008. Prescription opioid abuse and dependence among physicians: hypotheses and treatment. Harv. Rev. Psychiatry 16 (3), 181–194.
Montgomery, A.J., Bradley, C., Rochfort, A., Panagopoulou, E., 2011. A review of self-medication in physicians and medical students. Occup. Med. (Lond.) 61 (October (7)), 490–497.
Samuelson, S.T., Bryson, E.O., 2017. The impaired anaesthesiologist: what you should know about substance abuse. Can. J. Anaesth. 64 (February (2)), 219–235.
Seppala, M.D., Berge, K.H., 2010. The addicted physician. A rational response to an irrational disease. Minn. Med. 93 (February (2)), 46–49.
Sudan, R., Seymour, K., 2016. The impaired surgeon. Surg. Clin. North Am. 96 (February (1)), 89–93.
Taub, S., Morin, K., Goldrich, M.S., Ray, P., Benjamin, R., 2006. Council on ethical and judicial affairs of the American Medical Association. Physician health and wellness. Occup. Med. Oxf. Engl. 56 (March (2)), 77–82.
Truex, R.C., 2010. Physicians' experiences with impaired colleagues. JAMA 304 (November (17)), 1895–1896 author reply 1896-1897.
Tyssen, R., 2007. Health problems and the use of health services among physicians: a review article with particular emphasis on Norwegian studies. Ind. Health 45 (October (5)), 599–610.
Wall, J.H., 1958. The results of hospital treatment of addiction in physicians. Fed. Bull. 45 (May (5)), 144–152.
Watkins, D., 2010. Substance abuse and the impaired provider. J. Healthc. Risk Manag. J. Am. Soc. Healthc. Risk Manag. 30 (1), 26–28.
Wijesinghe, C.P., Dunne, F., 2001. Substance use and other psychiatric disorders in impaired practitioners. Psychiatr. Q. 72 (2), 181–189.
Wilson, A., Rosen, A., Randal, P., Pethebridge, A., Codyre, D., Barton, D., et al., 2009. Psychiatrically impaired medical practitioners: an overview with special reference to impaired psychiatrists. Aust. Psychiatry Bull. R. Aust. N. Z. Coll. Psychiatr. 17 (February (1)), 6–10.
Wunsch, M.J., Knisely, J.S., Cropsey, K.L., Campbell, E.D., Schnoll, S.H., 2007. Women physicians and addiction. J. Addict. Dis. 26 (2), 35–43.