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Stigma among health professionals towards patients with substance use disorders and its consequences for healthcare delivery: Systematic review

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ABSTRACT

Background: Healthcare professionals are crucial in the identification and accessibility to treatment for people with substance use disorders. Our objective was to assess health professionals' attitudes towards patients with substance use disorders and examine the consequences of these attitudes on healthcare delivery for these patients in Western countries.
Methods: Pubmed, PsycINFO and Embase were systematically searched for articles published between 2000 and 2011. Studies evaluating health professionals' attitudes towards patients with substance use disorders and consequences of negative attitudes were included. An inclusion criterion was that studies addressed alcohol or illicit drug abuse. Reviews, commentaries and letters were excluded, as were studies originating from non-Western countries.
Results: The search process yielded 1562 citations. After selection and quality assessment, 28 studies were included. Health professionals generally had a negative attitude towards patients with substance use disorders. They perceived violence, manipulation, and poor motivation as impeding factors in the healthcare delivery for these patients. Health professionals also lacked adequate education, training and support structures in working with this patient group. Negative attitudes of health professionals diminished patients' feelings of empowerment and subsequent treatment outcomes. Health professionals are less involved and have a more task-oriented approach in the delivery of healthcare, resulting in less personal engagement and diminished empathy.
Conclusions: This review indicates that negative attitudes of health professionals towards patients with substance use disorders are common and contribute to suboptimal health care for these patients. However, few studies have evaluated the consequences of health professionals' negative attitudes towards patients with substance use disorders.

Contents

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1. Introduction

Although alcohol use is socially accepted in Western societies, substance use is a major public health problem. In Europe, 11.8% of all deaths in the age group 15–64 years are attributed to alcohol-related causes (World Health Organization, 2012) and, worldwide, 4% of the causes of death are attributable to alcohol and illicit drug use (World Health Organization, 2009). Furthermore, alcohol and illicit drug use accounts for 5.4% of the global burden of disease (World Health Organization, 2010). Substance use problems are also a risk factor for other societal problems, such as absenteeism at work, accidents, and loss of productivity (World Health Organization, 2003, 2011). Although treatment enhances the likelihood to recover (Dawson et al., 2006), only 24.1% of people with lifetime alcohol dependence ever seek treatment (Hasin et al., 2007). Additionally, only 14.7% of people with a substance dependence received professional help in the past year (Grella et al., 2009). Patients do not often disclose or admit having a substance use problem (Substance Abuse and Mental Health Services Administration, 2011). Since the majority of patients with substance use problems seek treatment in the first place for other problems (such as headaches), health professionals play a crucial role in the identification of these problems and the accessibility to treatment (Mersy, 2003; Muhrer, 2010).

Stigmatizing attitudes of health professionals towards people with substance use problems may negatively affect healthcare delivery and could result in treatment avoidance or interruption during relapse (Ball et al., 2006; Eaton, 2004; Neale et al., 2008). Previous studies demonstrate the negative effects of stigma experiences among people in treatment for substance use disorders on recovery and feelings of self-efficacy (Luoma et al., 2007; Schomerus et al., 2011). Negative attitudes of health professionals towards patients with an alcohol or other drug addiction are known to lead to poor communication between professional and patient, diminished therapeutic alliance, and misattribution of physical illness symptoms to substance use problems, also referred to as diagnostic overshadowing (Palmer et al., 2009; Thornicroft et al., 2007). As known from stigma research in general, factors that could mitigate stigmatizing attitudes are attribution beliefs and knowledge of and experience with a stigmatized condition (Corrigan et al., 2003, 2001b; Penn et al., 1994; Weiner et al., 1988). These factors may influence health professionals' attitudes towards patients with substance use disorders. Thus, overall the attitudes of health professionals have the potential to influence the diagnosis, treatment, and rehabilitation of substance use disorders.

Attitudes of health professionals towards patients with substance use disorders have been investigated among different disciplines and settings (Au, 2006; Moodley-Kunnie, 1988). A literature review of nurse's attitudes towards substance misusing patients revealed greater acceptance of these patients although a minority of nurses still regard these patients as immoral and unlikely to recover (Howard and Chung, 2000). However, no overview of recent evidence and findings is available about studies investigating attitudes of different health professionals towards patients with substance use disorders. Therefore, the primary aim of this systematic review is to assess health professionals' attitudes towards patients with substance use problems in Western countries. Secondary aims are to describe which factors cause negative attitudes of health professionals towards these patients, and examine the impact of these negative attitudes on healthcare delivery.

2. Methods

2.1. Search strategy

The databases of Pubmed, Psycinfo, and Embase were systematically searched for articles published in English or Dutch between January 2000 and November 2011. These three databases were selected to cover biomedical literature from Pubmed as well as psychological literature from Psycinfo. Embase was chosen to broaden the search results to European journals since Pubmed mainly includes American journals. The particular time span was chosen since the aim was to assess recent evidence and findings addressing attitudes of health professionals' towards patients with substance use problems. To formulate search terms the Population, Intervention, Comparison and Outcomes approach (PICO; Liberati et al., 2009) was used to create groups of medical subject headings or text words: (1) population: health personnel, (2) intervention/exposure: substance use disorders, (3) comparison: was not applicable for the aim of this review, and (4) outcomes: attitudes of health personnel, healthcare delivery, (social) stigma. Health personnel represented health professionals in general and specific professions such as nurses and general practitioners. The second group of search terms described substance use disorders. In this systematic review, only alcohol and illicit drug abuse were included. Therefore, the subject directory "NOT" was used to exclude studies on smoking and tobacco. The last group of search terms comprised outcomes such as attitudes, healthcare delivery, motivation and work satisfaction, prejudice, and stigma. The outcomes group was subdivided into three categories since attitudes, healthcare delivery, and stigma were of interest. The subject directories "OR" and "AND" were used to separate synonyms and link the different search term groups, respectively. Using the specific search terms involved in each database, search strategies were very similar for each database (Table 1). Table 2 shows the specific inclusion and exclusion criteria.

2.2. Study selection

Fig. 1 shows a flowchart of the selection process. In the first selection phase, titles of all articles were screened based on three inclusion criteria: (1) focus on alcohol and/or drug abuse, (2) health professionals were subject of the study and (3) attitudes, explanations for negative attitudes, healthcare delivery, or stigma were considered. Any article that fulfilled two of the inclusion criteria, or that the reviewer was uncertain about, proceeded to the next selection phase. The first selection was done by LvB and a random selection of 10% of all titles was screened by a second reviewer (EB) which resulted in 94% agreement between the two reviewers. The second selection phase comprised independent judgement of the

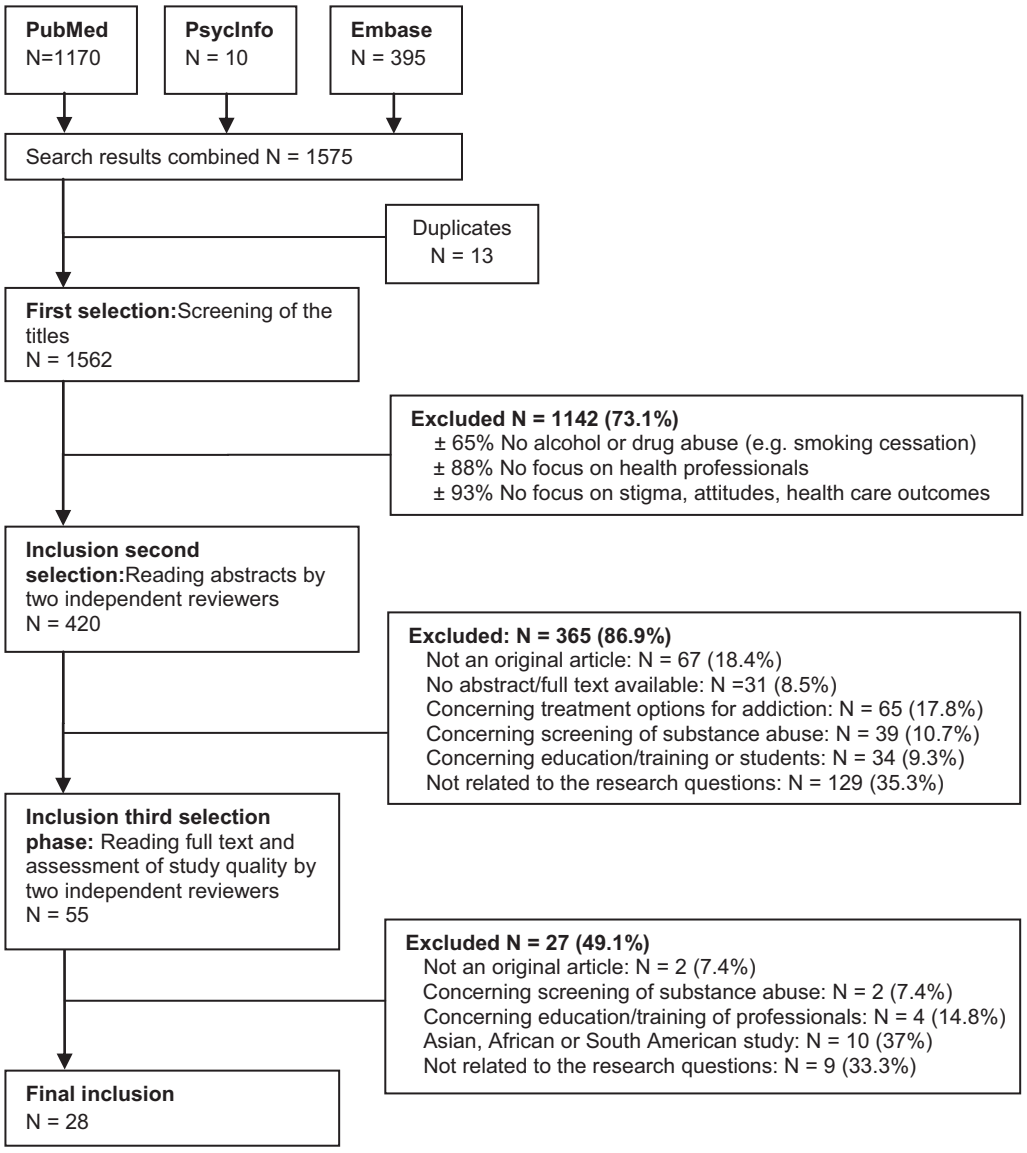

Fig. 1. Flowchart of the literature selection process.

abstracts by two reviewers and in the last selection phase the full texts were assessed, again by two independent reviewers (LvB and HG, EB or JvW). Any disagreements in the selection of articles were resolved by discussion to reach consensus between the reviewers, or by consulting a third reviewer. Studies originating from Asia, Africa or South America were excluded in the last selection phase since substance use in these countries is socially, historically and culturally different from Western countries and therefore not suitable for this review (Gureje et al., 1997; Room, 2006; Room et al., 1996). Studies which primarily focussed on attitudes of health professionals in a very specific setting or explicit subgroup of patients with substance problems were also excluded since the aim was to provide an overview of health professional's attitudes in general. Finally, study quality of the articles was assessed using the quality indicators of Buckley et al. (2009) as shown in Table 3.

2.3. Data extraction

Data were extracted on the originating country and setting where the study was conducted, study population, sample size, study design, outcomes and measurements, and main results or conclusions (Tables 4 and 5). This was done by LvB and a second reviewer (HG, EB or JvW) verified the extracted data. Disparities were resolved by discussion and reviewing the original studies. For each study, results were extracted based on the following questions: (1) what attitudes and beliefs do different health professionals have about patients with substance use disorders? (2) what explanations are provided for negative attitudes of health professionals? (3) what are the consequences of these attitudes on healthcare delivery and quality of care for patients with substance use disorders? The results are reported in a thematic analysis because of the heterogeneity of the studies with regard to study population, design, and setting. The terms and definitions for patients or attitudes as used in the originating studies are used in this review.

3. Results

3.1. Search results

The search process yielded 1562 potentially relevant citations. After the first selection phase, 420 citations were included.

Table 1
Search strategy for the present review.

1 Population: health personnel
#1 Health personnel
#2 Medical staff
#3 Nursing staff
#4 Nurses
#5 Physicians
#6 General practitioners
#7 Psychiatrists[a]
#8 Health professionals
#9 Psychologists
#10 Social workers
#11 #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10
2 Exposure: substance-use disorders
#12 Substance-related disorders
#13 Alcoholism
#14 Drug users
#15 Smoke (NOT)
#16 Tobacco (NOT)
#17 #12 OR #13 OR #14 NOT #15 NOT #16
4 Outcomes: attitudes of health personnel, healthcare delivery, stigma
#18 Attitude of health personnel
#19 #17 AND #18
#20 Delivery of health care
#21 Health priorities
#22 Process assessment health care
#23 Quality of health care
#24 #20 OR #21 OR #22 OR #23
#25 Social stigma
#26 Stereotyping
#27 Social distance
#28 Social perception
Combining search term groups:
#29 #25 OR #26 OR #27 OR #28
#30 #11 AND #17 AND #24 AND #29
#31 #19 AND #24
#32 #19 AND #29
#33 #30 OR #31 OR #32

*This strategy is related to the PubMed search. Very similar versions were used to search PsycInfo and Embase but adapted for the specific search terms used in these databases.

[a] The search terms printed in italics are not Mesh-terms.

Abstracts of these remaining citations were judged by two independent reviewers of which 55 citations proceeded to the next phase. In this phase, full texts of the remaining citations were examined leading to the final inclusion of 28 studies which met the inclusion criteria. Because all these studies fulfilled the quality criteria as defined by the quality indicators of Buckley et al. (2009), equal weighting was assigned to each of these studies.

Table 2
Inclusion and exclusion criteria for the present review.

Inclusion criteria
• Studies focusing on attitudes of healthcare professionals towards patients with substance use disorders (alcohol or illicit drug abuse)
• Studies focusing on stigma, perception or healthcare delivery as a consequence of these attitudes
• Subjects of the study are health professionals or a combination of health professionals and (medical) students
Exclusion criteria
• Studies primarily focusing on health professionals' attitudes towards a specific subgroup of substance abusers; e.g. pregnant women, sexual minorities, ethnic minorities because of 'double stigma'.
• Studies primarily focusing on attitudes of health professionals towards screening and identification of substance use problems
• Studies primarily focusing on attitudes of health professionals towards interventions to treat substance use problems, e.g. methadone maintenance treatment, needle and syringe provision, 12-step programs
• Studies focusing only on medical students
• Studies conducted in Asia, Africa, and South America since substance use in these continents is culturally, historically and socially different from Europe, North America and Australia

Table 3
Quality indicators as developed by Buckley et al., 2009.

Research question: is the research question(s) or hypothesis clearly stated?
Study subjects: is the subject group appropriate for the study being carried out
Data collection methods: are the methods used reliable and valid for the research question and context?
Completeness of data: have subjects dropped out? Is the attrition less than 50%? is the questionnaire response rate acceptable?
Control for confounding: have multiple factors or variables been removed or accounted for where possible?
Analysis of results: are the statistical or other methods of results analysis used appropriate?
Conclusion: is it clear that the data justify the conclusions drawn?
Reproducibility: could the study be repeated by other researchers?
Prospective: does the study look forwards in time rather than backwards
Ethical issues: were all relevant ethical issues addressed?
Triangulation: were results supported by data from more than one source?

*Studies were of acceptable quality when at least 7 indicators were met.

3.2. General findings

Of the 28 studies, 12 were conducted in Australia, seven in the UK, five in the USA, one in Canada, and one in Ireland. Furthermore, one study was a cross-country comparison of eight European countries and one study compared health personnel's attitudes in the USA and the UK. Study populations varied between the 28 studies: seven studies compared a variety of different professionals. In addition, study populations included nurses ($N = 8$), professionals of addiction or mental healthcare institutions ($N = 7$), and physicians ($N = 4$). One study focused on physicians as well as nurses. Five studies included patients as study population besides healthcare professionals. Twenty studies had a quantitative nature in which the Substance Abuse Attitude Scale (SAAS, $N = 5$) and the Alcohol and the Alcohol Problems Perception Questionnaire (AAPPQ, $N = 4$) were frequently used questionnaires. Five studies conducted interviews or focus groups, two studies included an implicit association tests, and in two studies observations were used. The qualitative studies generally focused more on distal topics such as impeding factors in healthcare delivery to patients with substance use disorders, perceptions and motives of health professionals, and processes of empowerment and collaboration with patients.

3.3. Attitudes of health professionals

Generally, health professionals were found to have a negative attitude towards patients with substance use problems. A European study compared health professionals' attitude towards different patient groups in different European countries. Health professionals' regard for working with substance users, especially drug users, was consistently lower compared with other patients groups, such as patients with depression or diabetes (Gilchrist et al., 2011). Attitudes of health and social care professionals towards illicit drug users were strongly negative. In a qualitative study reporting about six focus groups among health and social care professionals, the majority of in total 35 professionals preferred the care for these patients to be provided solely by addiction specialists; it emerged that most of these professionals feel unable or unwilling to empathize with patients who use illicit drugs (McLaughlin et al., 2006). Another study found that nurses were poorly motivated and reported low levels of satisfaction to care for patients who use illicit drugs (Ford et al., 2008). A vignette study among health professionals showed that professionals held more stigmatizing attitudes towards patients with an active substance use disorder compared to patients with other mental illnesses; the professionals in that study were more positive about patients who are recovering from an addictive disorder compared to patients in relapse, and patients

Table 4
Characteristics and design of the studies.

Study	Country	Study population	Sample size	Setting	Design
Albery et al. (2003)	UK	Non-specialized health care professionals (general nurses, social workers, community workers etc.)	*N* = 189	Non specialized drug workers which attended training on drug related issues participated in the study.	Quantitative study evaluating the predictability of a model explaining therapeutic commitment by situational constraints, role security and role requirements (path analysis).
Brener et al. (2007)*	Australia	Health care workers (doctors and nurses) IDU patients with hepatitis C virus (HCV)	*N* = 60 health care workers and 2 of their clients *N* = 120 clients	Different treatment facilities around the Sydney metropolitan area: liver clinics, hospital drug health department, drug and alcohol treatment facilities and GPs which attract IDU patients.	Quantitative study combining explicit and implicit attitudes and considering attitudes of professionals as well as clients. Professionals' attitudes towards IDU and HCV patients. Patients' attitudes towards their professionals.
Brener et al. (2010a)*	Australia	Health care workers (doctors and nurses)	*N* = 60 health care workers	Services that attract IDU patients around the Sydney metropolitan area such as needle and syringe programs, methadone clinics, drug user treatment facilities.	Quantitative study using attitudes of health professionals towards IDU patients to predict behaviours like feelings of worry and opinion whether IDU patients should disclose their hepatitis C status.
Brener et al. (2010b)	Australia	Drug using clients Health care workers of residential rehabilitation facilities	Quantitative measures: *N* = 92 clients. Qualitative interviews *N* = 13 Qualitative interviews: *N* = 8 health professionals	Residential rehabilitation facilities in Sydney.	Mixed methods, questionnaire for clients and qualitative interviews with clients as well as health care professionals.
Curtis and Harrison (2001)	Australia	Staff of different alcohol and other drug treatment facilities Consumers of different alcohol and other drug treatment facilities	*N* = 57: *N* = 9 nurses, *N* = 7 psychologists, *N* = 14 counsellors *N* = 1 doctor *N* = 26 consumers	Alcohol and other drug treatment facilities in a large regional city in New South Wales, Australia: inpatient detoxification unit, outpatient clinic, methadone maintenance clinic, residential detoxification and rehabilitation units	Qualitative study using in-depth interviews, participant observations and informal contact. Both clients' and health care professionals' perspective.
Deans and Soar (2005)	Australia	Mental health professionals caring for clients with dual diagnosis	*N* = 13 health professionals: *N* = 10 nurses, *N* = 1 social worker, *N* = 1 psychiatrist, *N* = 1 psychologist	Psychiatric service in Victoria, Australia. Health professionals who care for clients diagnosed with mental illness and a coexisting alcohol and other drug disorder (dual diagnosis).	Qualitative study using in-depth interviews with health professionals.
Ding et al. (2005)	USA	HIV-infected patients who are IDU Primary HIV care physician of these patients	*N* = 2864 HIV patients, only 17.1% was current IDU *N* = 373 physicians of these patients (75% response rate)	Patients and physicians of a HIV Cost and Services Utilization Study. Patients were non-institutionalized and the physician they saw most recently or frequently was approached.	Quantitative study using a cross sectional survey. Both clients' and health care professionals' perspective.
Ford et al. (2008)*	Australia	Nurses of a representative Australian sample	*N* = 1605 nurses (50% response rate)	Representative sample of the Australian Capital Territory nurse population.	Quantitative study. Cross-sectional survey to investigate nurses' attitudes towards IDU patients and the impact of workplace drug and alcohol education on these attitudes.
Ford et al. (2009)*	Australia	Nurses of a representative Australian sample	*N* = 1605 (50% response rate)	Representative sample of the Australian Capital Territory nurse population.	Quantitative study. Cross-sectional survey examining the association between workplace drug and alcohol education and nurses' therapeutic attitude and their intention to engage with IDU patients.
Ford (2011)*	Australia	Nurses of a representative Australian sample	*N* = 311 nurses Part of a larger survey among *N* = 1605 nurses	Representative sample of the Australian Capital Territory nurse population.	Study is part of a larger survey using quantitative measures. This paper presents interpretation of one open-ended question in this survey. Question focuses on interpersonal challenges in the nursing role for IDU patients.

Table 4 (*Continued*)

Study	Country	Study population	Sample size	Setting	Design
Foster and Onyeukwu (2003)	UK	Forensic psychiatric nurses	*N* = 63: ward managers, charge nurse, senior staff nurses, staff nurses and enrolled nurses. (53% response rate)	Forensic psychiatric nurses of an inpatient unit in outer London.	Quantitative study analysing forensic nurses' attitudes towards substance misusing forensic service users. Attitudes of forensic nurses were compared with other mental health professionals.
Giannetti et al. (2002)	Canada	Social work practitioners whose primary field of practice was not addictions	*N* = 105	Social workers of a variety of settings: child welfare, health care gerontology, community mental health and criminal justice who graduated from University of Windsor (Canada).	Quantitative study among health professionals who did not primarily work with patients with an addiction.
Gilchrist et al. (2011)	Europe: GR, ES, BG, IT, SI, SK, PL and Scotland	Multidisciplinary sample of health professionals in 8 European countries: nurses, psychiatrists, physicians, psychologists and social workers	*N* = 866 health professionals: *N* = 92 primary care, *N* = 80 general psychiatry and *N* = 81 specialist addiction services (73% response rate)	Health professionals of primary care, general psychiatry and specialist addiction services in 8 European countries.	Quantitative comparative study in which health professionals' regard towards different patient groups were compared.
Happell et al. (2002)	Australia	Registered Nurses	*N* = 134 (44.3% response rate)	Health professionals of crisis and assessment treatment teams (CATT) in metropolitan Melbourne and in rural Victoria.	Quantitative study serving as a baseline measure of knowledge and attitudes of nurses to monitor effects of an educational program. Study only reports baseline measures.
Happell and Taylor (2001)	Australia	Nurses	*N* = 106 (53% response rate)	Large private medical-surgical hospital with a specialized drug and alcohol unit in metropolitan Melbourne, Victoria, Australia.	Quantitative study investigating the impact of liaison service or advice by specialized nurses on attitudes and knowledge of general nurses about substance-abusing patients.
Howard and Holmshaw (2010)	UK	Mental health inpatient staff (multidisciplinary)	*N* = 84: *N* = 41 nurses, *N* = 5 medical staff, *N* = 5 occupational therapist, *N* = 6 team leaders, *N* = 16 health care assistants and *N* = 11 other function (36% response rate)	Five mental health treatment wards and three residential mental health rehabilitation units.	Mixed methods with questionnaire survey and qualitative interviews. Aim was to explore perception and experiences of inpatient mental health staff in supporting inpatient service users experiencing both mental health problems and illicit substance use.
Kelleher and Cotter (2009)	Ireland	Doctors and nurses of the emergency department	*N* = 66 doctors and nurses (46% response rate) *N* = 44 staff nurse, *N* = 14 clinical nurse manager, *N* = 3 senior house officer, *N* = 3 registrar, *N* = 2 consultant	Emergency departments of three university teaching hospitals in Ireland.	Quantitative study investigating emergency department doctors and nurses' knowledge and attitudes regarding problematic substance use and substance users.
May et al. (2002)	USA	Practicing anaesthesiologists	*N* = 512 (31% response rate)	Metropolitan medical college. Participants were active members of the American Society of Anaesthesiologists in Illinois and Wisconsin.	Quantitative survey to investigate attitudes on addiction and its treatment among anaesthesiologists.
McGillion et al. (2000)	UK	General practitioners (GPs)	*N* = 112 (54% response rate)	GPs working in inner London area.	Quantitative study using questionnaires to examine attitudes and knowledge of GPs towards opiate misusers.
McLaughlin et al. (2006)	UK (Northern Ireland)	Health and social care professionals	*N* = 35: *N* = 9 nurses, *N* = 14 GPs, *N* = 3 health visitors, *N* = 3 pharmacists, *N* = 1 social worker, health promotion worker and health centre manager	Health or social care professionals that have experience with people that use illicit drugs were included. Purposive sampling was used: professionals that could contribute to the discussion from their specific background were included.	Qualitative study using interviews and focus groups. Participants were encouraged to raise other issues of pertinence to the research topic. A literature review was used to determine an interview schedule and questions.
Peckover and Chidlaw (2007)	UK	Qualified district nurses	*N* = 18 (82% response rate)	Two different city based primary care trusts in Northern England with a culturally diverse and largely urban population marked by high levels of social disadvantage.	Qualitative study using semi-structured interviews. Examination of nurses' understanding and practices related to discrimination and inequality issues of drug misusers.

Table 4 (*Continued*)

Study	Country	Study population	Sample size	Setting	Design
Pinikahana et al. (2002)	Australia	Mental health professionals	*N* = 173: *N* = 134 registered nurses, *N* = 16 social workers, *N* = 12 psychologists, *N* = 3 psychiatrists and *N* = 3 occupational therapists (46% response rate)	Professionals of crisis assessment and treatment teams in metropolitan Melbourne and in rural Victoria in Australia.	Quantitative study examining mental health professionals' knowledge and attitudes regarding drug and alcohol abuse and treating patients with these problems.
Rao et al. (2009)	UK	Health professionals	*N* = 108: 58% qualified nurses, 13% health care assistants, 9% unknown profession (54% response rate)	Health professionals of 4 National Health Services in South East England. Two acute medical trusts and two mental health trusts.	Quantitative study to investigate differences in stigmatizing attitudes of health professionals towards forensic, schizophrenic and substance-abusing patients.
Russell et al. (2011)	USA and UK	Addiction treatment providers	*N* = 591: *N* = 372 UK and *N* = 219 USA (response rate unknown due to opportunistic sampling)	Recruitment via associations, databases and subscribers of e-newsletters. All working in the addiction treatment.	Quantitative study comparing attribution beliefs of addiction treatment providers in de the USA and countries outside the USA.
Saitz et al. (2002)	USA	Residents and faculty physicians	*N* = 144 primary care physicians: *N* = 95 residents and *N* = 49 faculty physicians (92% response rate)	Primary care internal medicine residents and faculty outpatient primary care practices of a residency program.	Quantitative survey assessing different experiences in caring for patients with depression, hypertension, alcohol, or drug problems.
Segal and Dittrich (2001)	USA	Patients who had visited psychiatric emergency services (PES) between 1985 and 1986	*N* = 683 observations of patients who visited one of 9 PES (3.9% refusal rate)	Psychiatric emergency services in San Francisco Bay Area, Los Angeles or California Central Valley site.	Observations assessing all interactions, including telephone contacts, medical records and all information available to the clinician.
Strauser et al. (2009)	USA	Community-based rehabilitation service providers who were recruited during a 1-day workshop addressing psychiatric disabilities.	*N* = 98: *N* = 46 with bachelor's degree, *N* = 52 masters degree (All participated)	Rehabilitation services in Midwestern USA states.	Quantitative study investigating differences in level of stigma between bachelors' and master degree rehabilitation service providers. Also work experience was taken into account.
von Hippel et al. (2008)	Australia	Drug and alcohol nurses	*N* = 44	Nurses of treatment facilities, needle and syringe exchange program and primary care facilities that care for IDU people in the Sydney metropolitan area.	Quantitative study using a questionnaire and implicit association test to test implicit attitudes towards people who use injecting drugs.

IDU = Injecting drug use.
GPs = General practitioners.
HIV = Human immunodeficiency virus.
HCV = Hepatitis C Virus.
* Same study sample.

that were abstaining and working also evoked more positive attitudes (Rao et al., 2009).

In contrast, some studies specifically found positive attitudes of health professionals towards patients with substance use problems. In one study mental health professionals generally had positive and non-discriminatory attitudes towards patients with substance use disorders. These professionals held positive views on treatment interventions, and the majority rejected moral stereotypes about these patients (Pinikahana et al., 2002). Positive attitudes towards patients with substance use disorders were also found in a study among primary care physicians (Saitz et al., 2002).

Several studies investigated whether attitudes of health professionals differed per discipline and function. According to a comparative study, physicians not working in specialised addiction services reported the lowest regard, whereas professionals working in addiction services reported higher regard towards patients with substance use disorders (Gilchrist et al., 2011). One study revealed that forensic psychiatric nurses had more negative attitudes towards substance misusers compared to other mental health professionals (Foster and Onyeukwu, 2003). Another study showed that anaesthesiologists' attitudes about patients with substance use disorders were generally more negative compared to attitudes of physicians who regularly care for these patients (May et al., 2002).

Five studies found that health professionals, who had more personal or work experience or contact with substance abuse, reported more positive or different attitudes (Brener et al., 2007; Ding et al., 2005; Giannetti et al., 2002; May et al., 2002; Russell et al., 2011). Two studies showed that health professionals, who were more frequently in contact with people who use injecting drugs, expressed more positive explicit attitudes towards these people (Brener et al., 2007; Ding et al., 2005). Another study found that anaesthesiologists with a personal history of addiction reported more positive attitudes towards patients suffering with these problems (May et al., 2002).

3.4. Explanations for negative attitudes

Several explanations for the negative attitudes of health professionals towards patients with substance use disorders have been identified. According to a qualitative study, nurses described the care for patients who use illicit drugs as emotionally challenging and potentially unsafe. Barriers in the care provision to these patients were violence, manipulation, and irresponsibility (Ford, 2011). A study among general practitioners also showed that patients with drug abuse problems are often perceived as manipulative, aggressive, rude, and poorly motivated (McGillion et al., 2000). One study found that health professionals were of the

Table 5
Research tools, outcomes, main results, and conclusion of the studies.

Study	Research tools and outcomes	Main results and conclusion
Albery et al. (2003)	• Drug and Drug Problems Perceptions Questionnaire (DDPPQ) • Drug Problems Occupationally Perceived Questionnaire (DPOPQ) Scales were used to measure and predict therapeutic commitment (TC) as outcomes variable. Indicators of TC were willingness in role, satisfaction in role and task-specific self-esteem. Other measures were situational constraints, role security and basic role requirements.	Therapeutic commitment (TC) of professionals to work with drug and alcohol misusers can be predicted by self-esteem, situational constraints and role support. Contextual factors and role support (process outcomes) play an important role in the levels of TC of health care professionals.
Brener et al. (2007)*	• Professionals: Attitudes to IDU and HCV scale, controllability of IDU scale to measure perceptions of controllability. Wilson Conservatism scale to assess conservatism attitudes of professionals. Implicit association test assessing automatic activation of implicit attitudes. • Clients: Implicit association test and a question to assess explicit attitudes towards health care professionals.	More contact with IDU or HCV clients had a positive effect on explicit attitudes of health care professionals about these clients. HCV clients who attended services with more HCV positive people reported more favourable attitudes towards their health care professional.
Brener et al. (2010a)*	Negative attitudes towards IDU patients were considered by measuring conservatism, perceived controllability, worries and concerns about IDU patients' behaviour and beliefs of health care professionals that IDU patients should be encouraged to disclose their HCV status to health care professionals.	More conservative health care professionals expressed more negative attitudes towards IDU clients because their perception of controllability of IDU was higher. Negative attitudes resulted in more worries and concerns about clients' behaviour and stronger belief that they should be encouraged to disclose their HCV status.
Brener et al. (2010b)	Treatment completion and motivation were assessed using clients' perception of staff discrimination. • Quantitative measures clients: drug and treatment history, severity of drug use, perceptions of staff discrimination and treatment motivations. • Qualitative measurements professionals and clients: perceptions of staff discrimination, impact of discrimination on treatment, interpretation by staff of findings on perceived discrimination by clients.	Clients' perception of staff discrimination predicted treatment drop out. The expectation of clients about stigmatizing attitudes of the society also influenced their experiences of discrimination. Health professionals were open to diminish their discriminatory behaviour as experienced by clients.
Curtis and Harrison (2001)	Topics covered in the interviews were: dimensions of empowerment, the way in which empowerment and power are currently used in the clinical setting. Furthermore, collaboration in alcohol and other drug treatment facilities, treatment philosophy and structure, interactions between physician and clients, marginal position of institutions and clients in the health care system were subject of this study.	Clinicians may be unwittingly imposing their beliefs and prejudices on clients and consequently unconsciously disempower the people they intent to empower. Collaboration between clinician and clients was not present. The work environment is not conducive to collaborative practice. Health professionals feel disempowered and were therefore not able to empower their clients.
Deans and Soar (2005)	Investigating experiences of a group of health professionals involved in caring for clients with dual diagnoses. Concepts included in interviews were motives, difficulties in caring for these clients, actions and reactions, perceptions of health professionals and physical characteristics of the work environment.	In recent years psychiatric services are more recognizing and treating dual diagnosis clients. However, no additional education for professionals is offered. Health professionals identified negative experiences, feelings of inadequacy, and a lack of knowledge. This study highlights the need for supervision and education of clinicians treating dual diagnosis patients.
Ding et al. (2005)	• Physician survey: knowledge of HIV treatment and management, risk factors, physician stress, attitudes towards HIV-infected and IDU patients. • Patient survey: health care quality was assessed by perceived access to health care, problems with health care, unmet nonmedical needs and patient satisfaction with care.	23.2% of HIV and IDU patients had physicians with negative attitudes towards IDU patients. More prevalent care for IDU patients, having higher knowledge and treating fewer patients per week were related to more positive attitudes. Physicians' attitudes were not associated with problems with care, satisfaction with care of patients, unmet needs or perceived access to care according to the patient survey.
*Ford et al. (2008)	• Alcohol and Alcohol Problems Perception Questionnaire (AAPPQ) Therapeutic attitude measured with this scale including: motivation, satisfaction, self-esteem, role adequacy and legitimacy. Second measure was the disapproval of drug use scale to measure nurses' attitudes to illicit drug use. Finally, role support, education and workplace factors were measured.	Nurses struggled with the care for patients who use illicit drugs. Motivation, satisfaction, role support and education were low among nurses. Role support was an important predictor of therapeutic attitude. To improve nurses' attitudes the focus should be more on organisational support. Education without role support was counterproductive.
Ford et al. (2009)*	• Alcohol and Alcohol Problems Perception Questionnaire (AAPPQ) Therapeutic attitude measured with this scale including: motivation, satisfaction, self-esteem, role adequacy and legitimacy. Workplace drug and alcohol education and experience with these patients group were also measured.	Only an effect of education on nurses' therapeutic attitudes was found when nurses had at least a moderate level of role support. Nursing workforce development needs to focus on strategies that provide role support for nurses who work with patients who use illicit drugs.
Ford (2011)*	Qualitative measure to assess which factors impede ability to provide nursing care to patients who use illicit drugs. This paper focuses on the interpersonal challenges that were reported by nurses in one particular open question about impeding factors.	Three themes emerged from the analysis: violence, manipulation and irresponsibility were impeding factor in the care for illicit drug users. Nurses described the care environment as emotionally challenging and potentially unsafe. Workplace education and organisational role support and security are recommended in order to achieve a harm minimisation paradigm.
Foster and Onyeukwu (2003)	• Substance Abuse Attitude Survey (SAAS) This scale measures treatment intervention, treatment optimism, permissiveness, non-moralism, and non-stereotypes.	The forensic psychiatric nurses had suboptimal attitudes towards substance misusers. Only permissiveness was a moderate score. The attitudes of the nurses of this study were lower compared to other mental health professionals. Female workers had higher non-moralistic attitudes. Staff nurses had less stereotypical views compared to ward managers and charge nurses. Black nurses reported higher treatment optimism compared to non-black nurses.

Table 5 (*Continued*)

Study	Research tools and outcomes	Main results and conclusion
Giannetti et al. (2002)	Measurements were social workers' personal experiences and feelings about addicted clients, attitudes and beliefs concerning aetiology and treatment of addictions and knowledge about addictions.	Attitudes of social workers were moderate with regard to alcoholism. The disease model of addiction was believed by social workers. Knowledge was low and satisfaction to work with alcohol abusing patients was generally high. Education and work experience were important factors in the attitudes of social workers towards alcohol abusing patients.
Gilchrist et al. (2011)	• Medical Condition Regard Scale (MCRS) This scale reflects biases, emotions and expectations a medical condition generates among caregivers. Regard was measured for several conditions, namely working with drugs, alcohol, diabetes and depression.	Health professionals' regard was lowest for patients with drug- and alcohol problems. No differences for gender, age or professional group. Psychologists, social workers, and professionals in the addiction services showed the highest regard. Lowest regard was found among physicians who did not work in specialized addiction services.
Happell et al. (2002)	• Substance Abuse Attitude Survey (SAAS) This scale measures knowledge, attitudes, beliefs, regular practices and skills of nurses regarding the care for patients with substance use problems.	Nurses had adequate levels of knowledge and problem solving abilities regarding treatment of substance abuse. However, training programs should be offered to nurses particularly in relation to assessment and management of clients with dual diagnosis.
Happell and Taylor (2001)	Measurements were attitudes, confidence and perceived knowledge of nurses in relation to the care for clients with drug- and alcohol related problems. Also the use of liaison services and advice by specialized nurses of the drug and alcohol unit was analyzed.	Half of the nurses consulted a liaison service or specialized nurse. Attitudes of nurses were neutral and no differences between nurses who did and did not use the service were found. However perceived knowledge was higher among nurses that used the service.
Howard and Holmshaw (2010)	• The co-occurring mental health and illicit substance use perceptions questionnaire • Drug and Drug Problems Perception Questionnaire (DDPPQ) Concepts were perceptions of aspects of providing care to inpatient mental health service users who use illicit substances. Also staff experiences, multidisciplinary working practices and problematic issues were investigated. This scale measured five attitude subgroups: treatment intervention, treatment optimism, permissiveness, non-moralism, and non-stereotypes.	Staff who received training held less negative attitudes towards illicit substance users regardless their work experience or work setting. Support structures, clinical supervision, and further training should be more easily available and accessible to support health professionals in working with clients with co-occurring problems. Professionals have appropriate attitudes for constructive working with substance users which may positively influence the quality of health care provision. Satisfactory level of knowledge was found among professionals, although some deficits. Despite positive attitudes there were opportunities to improve specific knowledge and services of professionals of emergency departments.
May et al. (2002)	• Version of the Substance Abuse Attitude Survey (SAAS) This scale measured five attitudes subgroups: treatment intervention, treatment optimism, permissiveness, non-moralism, and non-stereotypes.	Compared to other physicians, anaesthesiologists had less positive attitudes towards addiction. More positive attitudes if (personal) experiences, formal training in substance abuse management and attendance at a twelve step meeting. Experience and education contributed to more positive attitude about addiction.
McGillion et al. (2000)	Measurements were demographic information, attitudinal scale, a course of action scale and factors that may influence GPs involvement with drug misusers.	GPs easily perceived these drug misusers as manipulative, rude, poorly motivated and aggressive. They felt responsible for the detection of drug problems; although they felt they had not enough knowledge about these issues.
McLaughlin et al. (2006)	Professional experience with illicit drug users, differences of illicit drug users and other patients, perceived responsibility to care for illicit drug users, training needs in relation to illicit drug users, perceived care and treatment by illicit drug users.	Many professionals held negative views towards people that use illicit drugs and had little knowledge or skills to assist users with their problems. Minority of professionals reported positive views and were willing to care for these patients. Professionals were of the opinion that the care for this group should be undertaken by specialized services.
Peckover and Chidlaw (2007)	Practice experiences of discrimination or inequality issues facing drug misusing clients were asked. Furthermore, the district nursing role in helping such clients in terms of delivering care and allocating resources and their views about the potential influence of organisational strategy in overcoming discrimination.	Substance-misusing clients were found to be subject of reductionist approach in their health care provision. Nurses were not prepared to work with this group and perceived these patients as risky. Consequences for healthcare delivery to drug misusers were short visits of nurses, nurses visiting in pairs and more difficult access to health care for these patients. There is a need for improve education and training of nurses.
Pinikahana et al. (2002)	• Substance Abuse Attitude Survey (SAAS) This scale was used measuring five attitudes subgroups: treatment intervention, treatment optimism, permissiveness, non-moralism, and non-stereotypes.	Mental health professionals generally had positive and non-discriminatory attitudes toward drug and substance abuse. Respondents held positive views on treatment interventions, and reported disagreement on statements about permissiveness of drug and alcohol issues.
Rao et al. (2009)	• The Attitude to Mental Illness Questionnaire (AMIQ) This scale was used to assess health professional's attitudes towards patients (vignettes) with forensic, schizophrenia and substance use disorder. Also differences between acute dependencies and people that are abstaining and working were investigated.	Health professionals held more negative and stigmatizing views of substance abusers compared to patients with other mental illness. A history of detention was found to be even more stigmatizing. Respondents expressed more positive attitudes towards people who recovered from an addictive disorder compared to patients in relapse. People who were abstaining and working also evoked more positive attitudes.
Russell et al. (2011)	• The Addiction Beliefs Scale This scale was used to measure beliefs that addiction is a disease, beliefs about aetiology and need for treatment and addicted individual's capacity for self-control. Also health professionals' experience, own substance use and personality were considered.	North American health professionals believed more strongly in the disease model compared to health professionals in Great Britain. Respondents who believed the disease model were more likely to had personal experience with addiction, increased work experience and more often worked in the profit-sector.

Table 5 (*Continued*)

Study	Research tools and outcomes	Main results and conclusion
Saitz et al. (2002)	Measurements were level of professional satisfaction, perceived responsibility, confidence in clinical skills, attitudes, and interpersonal experience.	Physicians were significantly less satisfied when caring for patients with alcohol and drug problems compared to other illnesses. Perceived responsibility for addressing substance abuse and confidence in their intervention skills were high. They also held positive attitudes, although they had the feeling not to be successful in treating substance-abusing patients.
Segal and Dittrich (2001)	• The Art of Care Scale • The Technical Quality of Care Index • The Optimum Investment of Time Index • Severity Index of Substance Use These scales were used to assess quality of care, severity of psychiatric presentation, complexity of the patients' clinical needs and clinician's attempt to engage in collaborative interaction. Furthermore clinician's attitudes toward the patients were observed.	Substance use cases received better quality of care in psychiatric emergency services compared to other patients on all 4 study criteria. However, attitudes of health professionals were not always positive towards this patient group.
Strauser et al. (2009)	• The psychiatric disability attribution questionnaire (PDAQ) This scale measured perceptions of six categories of illness: AIDS, cocaine addiction, mental retardation, psychosis, depression and cancer. Perceived stability and controllability was measured for each condition. Also work experience and educational level were taken into account.	Community-based rehabilitation practitioners with a masters' degree had more negative stigma for certain disability groups (cocaine addiction, psychosis) than did practitioners with a bachelors' degree. However the stigma level that respondents reported was below the criteria for negative stigma. Unlike education level, years of work experience was not of influence on the level of reported stigma.
von Hippel et al. (2008)	Measurements were prejudice toward IDU patients, job satisfaction and job intentions of nurses to change their present job. Also work experience, stress level at work and experiences of negative behaviours were assessed. Finally, nurses completed an implicit association test to measure implicit attitudes.	Among drug and alcohol nurses, implicit prejudice was a significant mediator for the relation between job stress and intention to change job. Nurses who experienced higher job stress levels also reported a higher intention to change their present job. The results showed that implicit attitudes may influence behaviour.

IDU = Injecting drug use.
GPs = General practitioners.
HIV = Human immunodeficiency virus.
HCV = Hepatitis C Virus.
* Same study sample.

opinion that caring for patients with dual diagnosis was complex and stressful, and they experienced frustration, resentment, and powerlessness in the care for this specific patient group (Deans and Soar, 2005).

Causal attribution beliefs emerged to play a role in health personnel's attitudes towards patients with substance use disorders. Stigma research has consistently demonstrated that causal attribution beliefs, such as high perceived controllability over a disease, cause more intolerant judgements and attitudes towards a disease (Brickman et al., 1982; Corrigan et al., 2003; Corrigan, 2000; Weiner et al., 1988). Regarding substance use disorders, perceptions of high controllability over injecting drug use contributed to the negative attitudes of healthcare workers towards people who use injecting drugs (Brener et al., 2010a). One study established that rehabilitation service providers viewed persons with a cocaine addiction as more responsible for their condition compared to persons with psychosis, AIDS, or depression (Strauser et al., 2009).

The influence of education and training on health professional's attitudes towards patients with substance use disorders was investigated in several studies. In general, health professionals have low levels of knowledge about substance use disorders, and have the feeling they lack specific knowledge and skills in caring for this particular patient group (Deans and Soar, 2005; Giannetti et al., 2002; McGillion et al., 2000; McLaughlin et al., 2006). A few studies established positive effects of training and education on health professional's attitudes and perceived knowledge in working with patients with substance use disorders (Ding et al., 2005; Happell and Taylor, 2001; Howard and Holmshaw, 2010; May et al., 2002). Mental health professionals also reported training as a helping factor in working with patients who use illicit drugs (Howard and Holmshaw, 2010).

Contextual factors such as time, organisational policy, feelings of professionals to work legitimate with patients with substance use disorders, and role support by colleagues, were found to influence the level of therapeutic commitment of health professionals; in that particular study, therapeutic commitment comprised willingness to work with alcohol users, perceived expectations and self-esteem, and work satisfaction (Albery et al., 2003). One study emphasised the effect of the work environment in health professionals' feelings of empowerment to work collaboratively during the treatment of patients. This in turn influences health professionals' ability to empower patients (Curtis and Harrison, 2001). Mental health professionals identified availability and accessibility of support structures and clinical supervision as essential factors in working with patients with dual diagnosis (Howard and Holmshaw, 2010). Studies of Ford et al. also highlighted the importance of organisational and role support in improving health professionals' attitudes (Ford, 2011; Ford et al., 2008, 2009). Education has a positive influence on health professionals' attitudes, however this was counterproductive when perceived role support of colleagues was low. Hence, organisational and role support are significant factors in health professionals' attitudes (Ford et al., 2008).

3.5. Consequences of attitudes on healthcare delivery

Only a few studies investigated whether negative attitudes of health professionals have consequences on the healthcare delivery to patients with substance use disorders. One study confirmed that patients who reported greater perceived discrimination by health professionals and dissatisfaction with the treatment, were less likely to complete their treatment (Brener et al., 2010a). Another study demonstrated that patients judged their health professionals as more favourable if health professionals expressed more positive attitudes towards their patients (Brener et al., 2007). Alternatively, Ding et al. (2005) found no association between negative attitudes of physicians and patients reporting having problems with care,

dissatisfaction with the care they receive, or perceived access to care.

Negative attitudes of health professionals may have a negative impact on the empowerment of patients, and as a consequence, influence treatment outcomes and patients' self-esteem. According to one study, clinicians unwittingly impose their beliefs and prejudice on patients with substance use disorders, resulting in impeding collaboration between professional and patient (Curtis and Harrison, 2001). A qualitative study revealed that nurses encountered difficulties in the care offered to patients with substance use disorders in comparison with other patients. The provided care was suboptimal and had a more avoidant approach, which may result in diminished personal engagement and empathy in the health care delivery. For example, nurses indicated to make shorter visits, visit patients with substance use disorders more often in pairs, and to have a more task-oriented approach (Peckover and Chidlaw, 2007).

4. Discussion

We present an overview of recent evidence regarding attitudes of health professionals towards patients with substance use disorders. Most evidence indicated that health professionals generally have lowered regard, less motivation and feelings of dissatisfaction when working with this patient group (Ford et al., 2008; Gilchrist et al., 2011; McLaughlin et al., 2006; Rao et al., 2009). This was sometimes explained by the perception of health professionals that these patients are potentially violent, manipulative, or poorly motivated which may cause feelings of frustration, resentment and powerlessness among the professionals (Deans and Soar, 2005; Ford, 2011; McGillion et al., 2000). Health professionals who more frequently work with or who have more contact with patients with substance use disorders, expressed more positive attitudes (Brener et al., 2007; Ding et al., 2005). This is in line with the contact hypothesis which states that people who have more contact or have more experience with a stigmatized condition are more tolerant and have more positive attitudes towards these people (Corrigan et al., 2001a,b; Penn et al., 1994).

In addition, several studies underlined the need for and positive effects of training and education of health professionals, in order to extend the knowledge, skills and self-efficacy of professionals in working with patients with substance use disorders (Ding et al., 2005; Howard and Holmshaw, 2010; May et al., 2002). Moreover, the work environment and contextual factors seem to influence health professionals' attitudes towards patients with substance use disorders. Organisational support, such as role support, supervision, and possibilities to consult an expert, contributes significantly to an increased willingness and satisfaction to work with these patients. Furthermore, organisational support enhances self-esteem, perceived knowledge and feelings of empowerment among health professionals (Albery et al., 2003; Curtis and Harrison, 2001; Ford et al., 2008).

Negative attitudes of health professionals may reduce collaboration between professionals and patients. This may have an effect on feelings of empowerment and self-esteem of these patients, and subsequently influences treatment outcomes (Curtis and Harrison, 2001). Indications were found that health professionals have a more avoidant approach in the delivery of healthcare to patients with substance use disorders compared to other patients. As a result, health professionals make shorter visits, show less empathy and have diminished personal engagement when caring for these patients. This can lead to suboptimal healthcare delivery due to a more task-oriented approach of health professionals when working with patients with substance use disorders (Peckover and Chidlaw, 2007).

4.1. Strengths and limitations

This systematic review offers a broad overview of the current evidence on health professionals' attitudes towards patients with substance use disorders. In addition, it provides explanations as to why some health professionals have a negative attitude towards these patients. We found few studies that examine the consequences of negative attitudes of health professionals on healthcare delivery. Nevertheless, to investigate these consequences in more depth, studies using observations and perceptions from the patients' perspective are needed. However, this was beyond the scope of the present literature review. The inclusion of quantitative as well as qualitative studies strengthens the findings of this review.

Although the literature was systematically searched, it is possible that relevant studies were not found or included. Articles for which no abstract and no full text was available were excluded from the search. Another limitation was the restriction of the search results to articles in English and Dutch. Finally, the quality and results of the primary studies might be affected by selection bias since only motivated healthcare professionals participated in the primary studies (Cuddeback et al., 2004). In addition, self-reported data and social desirability in answering questions often limits the quality and strengths of the results of the primary studies.

4.2. Conclusion

In conclusion, in most examined studies health professionals were found to express negative attitudes towards patients with substance use disorders. Since health professionals play a crucial role in the identification of substance use problems and act as gate keepers to treatment, negative attitudes of these professionals are undesirable. Inadequate training, education and support structures in working with this particular patient group may contribute to negative attitudes. The findings of this review emphasise the need for additional studies to investigate the effects and consequences of negative attitudes of health professionals towards patients with substance use disorders. This may underline the necessity for interventions to change health professionals' attitudes. Longitudinal study designs that combine information about health professionals' attitudes, patients' perceptions of the treatment, treatment outcomes and collaboration between professionals and patients are recommended.

The results suggest that more and specific education and training of health professionals may be needed to improve the attitude of health professionals towards patients with substance use disorders. Health services and education institutions should consider whether this can be incorporated in current education and training facilities of health professionals. Although these findings are not striking knowledge about potential barriers and best practices how to implement education and training facilities for health professionals would be valuable. Finally, this review highlights the positive effects of organisational support and counselling opportunities for health professionals in working with this particular patient group. Supporting structures and contextual preconditions for health professionals working with patients with substance use disorders may therefore improve the quality of healthcare delivery for these patients.

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Contributors

L. van Boekel performed the searches, selected the papers, extracted data, and constructed the tables. E. Brouwers, J. van Weeghel and H. Garretsen selected the papers and extracted data. All authors interpreted the findings L.C. van Boekel and were involved in the production and revisions of the manuscript.

Conflict of interest

No conflict declared.

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