Pacini Editore & AU CNS

Regular article

Heroin Addict Relat Clin Probl 20xx; xx(x): xx-xx

HEROIN ADDICTION & RELATED CLINICAL PROBLEMS
www.europad.org
www.wftod.org

Staff regard towards working with patients with co-morbid depression and substance misuse: an exploratory study

Rachel Nutt[1], Gail Gilchrist[2], Ferran Marsa Sambola[3], and Alexander Baldacchino[4]

1-School of Medicine, University of St Andrews, North Haugh, St Andrews, UK
2-National Addiction Centre, Institute of Psychiatry, Psychology and Neuroscience, Kings College London, UK
3-Department of Children, Young People and Education, University Campus Suffolk, Ipswich, UK
4-School of Medicine, University of St Andrews, North Haugh, St Andrews, UK

Summary

Background. Patients having co-morbid mental health and substance misuse experience poorer treatment outcomes than those treated for either condition alone. Studies suggest health professionals regard towards these patients is a factor. **Aims.** To compare regard towards patients with co-morbid depression and substance misuse across different health professions and services, relative to independent conditions (depression, diabetes, alcohol and/or drug misuse). **Methods.** A cross-sectional comparative exploratory study of regard towards five patient groups conducted on multi-disciplinary staff (general practitioners, psychiatrists, psychologists, nurses and social workers. Total n=113) in three Scottish NHS board regions – NHS Fife, Tayside and Forth Valley. Services from three main treatment entry points were recruited in each region - 10 primary care services (43.5%), 7 mental health (70%) and 4 specialist addiction (100%). Descriptive statistics were calculated for regard towards each patient group. Multifactorial between subjects ANOVA examined influences on Medical Condition Regard Scale (MCRS) scores. **Results.** Regard towards patients with co-morbid depression and substance misuse was frequently lower than towards patients with independent conditions. Male professionals held lower regard towards these patients than female (p=0.03). Addiction services held the highest regard and general practice lowest (p <0.001). Over-45's held the lowest regard towards these patients (p=0.02). Health professional's satisfaction with working with these patients was also low (mean 1.98, sd 1.22) compared to other conditions. **Conclusions.** Regard towards patients with co-morbid depression and substance misuse is lower than either condition independently, particularly among older, male professionals and those in general practice.

Key Words: Substance Misuse; Comorbidity; Dual Diagnosis; Depression; Mental Health

1. Introduction

The co-existence of mental health and substance misuse (co-morbidity) is common [10, 35, 36, 46, 55]. Prevalence estimations differ but Torrens et al. [36] suggest that in the EU about 50% of substance misusers in treatment also have mental health problems. In Scotland at least 20% of patients in treatment with a drug use diagnosis also have a mental health diagnosis [27]. Patients who have co-morbid mental health and substance misuse are associated with significantly poorer treatment outcomes than those treated for either condition alone [2, 35] and it has been suggested that health professionals regard towards these patients is a factor [59].

There has been little examination of differing levels of regard between staff or service types, despite patients with co-morbid mental health and substance misuse making contact with a number of professionals and services during treatment. A small number of studies have examined health professionals' regard towards patients with co-morbid mental health and substance misuse; however these studies have mainly been conducted among those working in mental health services [2, 11, 37, 41].

Studies have reported poor regard towards working with patients with substance misuse problems across a number of health professions (general

Corresponding author: Rachel Nutt, PhD Student, School of Medicine, University of St Andrews, North Haugh, St Andrews, Fife KY16 9TF, UK
Email: ran1@st-andrews.ac.uk

practitioners [13, 43, 57], physicians [14], psychiatrists [53, 57], nursing staff [19, 25]) and others [4, 57, 59]. These patients can be perceived as violent, manipulative, poorly motivated [17] and hard to treat [18, 24, 49, 59]. Suggested reasons for negative staff regard include lack of education, training and support structures [2, 28, 57, 59]. Health professionals may feel they lack appropriate knowledge, skills or experience to care for this patient group [16, 20-22, 30, 45, 56, 57, 59].

Negative regard toward patients is a barrier to effective treatment [2, 16, 46, 56, 59] , which can result in poorer treatment outcomes [21, 22, 24]. Patients require support, not stigmatisation, in order to engage with services [20, 46]. Negative regard towards patients diminishes patients' sense of empowerment [30, 45, 56]. Negative regard may also effect healthcare delivery, with lower levels of engagement [40] and quality [4, 51] resulting in treatment avoidance or failure to re-engage by patients [2, 6, 8, 15, 39].

Improvement of Access to Treatment for People with Alcohol and Drug Related Problems (IATPAD) was a European Commission project spanning eight European countries conducted over 36 months from 2006. The main objectives were to identify barriers in access to substance misuse treatment. As part of this, health and social care professional's regard towards patients with alcohol problems, drug problems, diabetes and depression was compared. The full results of this study are presented elsewhere [21], however it was found that regard towards patients with substance misuse issues was significantly lower than other patient groups. The study site in Scotland added an additional patient group, patients with co-morbid depression and substance misuse. These results are presented in this paper.

2. Methods

2.1. Design of the study

A cross-sectional comparative study of regard towards working with five different patient groups (diabetes, depression, alcohol misuse, drug misuse and co-morbid depression and substance misuse) was conducted among multi-disciplinary health and social care professionals working in three National Health Service (NHS) board regions in Scotland – NHS Fife, NHS Tayside and NHS Forth Valley. These boards cover populations of around 366, 412 and 300 thousand people respectively and employ between approximately 5,200 and 12,000 NHS staff.

2.2. Recruitment of services and staff

Services from the three main treatment entry points for substance misusers and mental health patients were recruited in each region: addiction services, mental health services and general practice. A multi-disciplinary convenience sample of professionals (psychologists, psychiatrists, nurses, social workers, GPs and others) completed the Medical Condition Regard Scale (MCRS) [9] to ascertain their regard to working with patients with depression, diabetes and co-morbid depression and substance misuse, alcohol and drug misuse. Nurses included in this study were psychiatric nurses, rather than general nurses, reflecting the structure of the services involved. In total 23 primary care (General Practitioners) services, 10 mental health services and 4 specialist addiction services were approached to participate.

2.3. Instruments

The MCRS was used to measure staff regard to working with patients with depression, diabetes, co-morbid substance misuse and depression, alcohol and drug misuse. The MCRS has been used in a number of studies exploring health professionals or students regard towards patients with substance misuse [1, 20, 21, 32, 33, 57-60]. Regard towards working with patients with co-morbid depression and substance misuse was added to explore if and how regard towards working with these patients differed from regard towards working with patients who misused drugs or alcohol alone, or with the two control conditions (depression alone or diabetes). The MCRS has 11 items, a coefficient alpha of 0.87 and test-retest reliability of 0.84 [9]. Scores can range from 11-66 with a lower score indicating lower regard). For missing items, if five or fewer, a mean score for completed items was used.

2.4. Research Governance

The study was approved by the National Research Ethics Service (REC Number: 08/S1401/18). Data were handled in accordance to the Data Protection Act 1998 and all processes carried out in line with NHS Research Scotland requirements (SSA Number: 08/S050/23). The University of Dundee was the sponsor for this study.

Table 1. Demographics of staff completing the MCRS by recruitment site

	Total n=113		Addiction Services n=37		Mental Health Services n=42		General Practice n=34		p
	n	%	n	%	n	%	n	%	
Sex									
Male	41	37.6	14	37.8	14	35.9	13	39.4	0.954
Female	68	62.4	23	62.2	25	64.1	20	60.6	
Age range (years)*									
18-24	2	1.8	0	-	1	2.4	1	2.9	0.114
25-34	18	16.1	8	21.6	5	12.2	5	14.7	
35-44	48	42.9	20	54.1	19	46.3	9	26.5	
45-54	35	31.3	8	21.6	14	34.1	13	38.2	
>54	9	8.0	1	2.7	2	4.9	6	17.6	
Profession									
Psychologist	2	1.8	1	2.7	1	2.4	0	-	<0.001
Psychiatrist	11	9.7	2	5.4	9	21.4	0	-	
Nurse	54	47.8	27	73.0	21	50.0	6	17.6	
Social worker	7	6.2	4	10.8	3	7.1	0	-	
GP	22	19.5	0	-	0	-	22	64.7	
Other*	17	15.0	3	8.1	8	19.0	6	17.6	
Years working Mean (sd)	19.98	(10.27)	-	-	18.61	(9.17)	20.66	(10.88)	0.548
Health Board									
Tayside	29	25.7	13	35.1	8	19.0	8	23.5	
Fife	48	42.5	12	32.4	22	52.4	14	41.2	0.379
Forth Valley	36	31.9	12	32.4	12	28.6	12	35.3	

Note: No GPs in Addiction or MH, no psychiatrists or social workers in General Practice

2.5. Data analysis

Descriptive statistics were calculated using SPSS version 20. Total scores, mean and standard deviations (SD) were calculated for regard to working with each of the five patient groups (Table 2). Multifactorial between subjects ANOVA was used to determine the influence of each of the factors on the MCRS score for co-morbidity.

3. Results

3.1. Characteristics of staff

In total 10 primary care services (43.5%), 7 mental health services (70%) and 4 specialists addiction services (100%) agreed to participate. One hundred and thirteen (113) staff completed an MCRS for the 5 conditions described. Of these, 47.8% (n=54) were nurses, 19.5% (n=22) were GPs (general practitioners), other professions included were 9.7% (n=11) psychiatrists, 6.2% (n=7) social workers, 1.8% (n=2) psychologists plus 'others' 15% (n=17, of which 6 occupational therapists, 8 health or social care assistants, 1 final year nursing student, 1 senior practitioner and 1 office manager). Staff working in specialist addiction services completed 33% (n=37) of MCRS's, mental health services 37% (n=42), and primary care 30% (n=34). The majority of participants were female (62.4%, p=0.95), and had been working for a mean of 19.98 (SD=10.27, p=0.55) years. None of the GPs recruited worked in mental health or addiction services and none of the psychiatrists or social workers recruited worked in general practice. There were no significant differences in sex, age, years working in their profession or NHS recruitment regions (Table 1).

3.2. Regard for working with different conditions

The highest mean MCRS score was 52.67 (SD=6.13) for depression, with the lowest mean score of 44.65 (SD=10.49) for drug misuse (higher scores indicate more positive regard). Of the five conditions, co-morbid depression and substance misuse was in the median position, with a mean of 46.78 (SD=8.36) (Table 2).

3.3. Summary of regard towards patients with co-morbid depression and substance misuse

Male professionals had a lower regard towards

Table 2. Descriptive statistics for MCRS by health condition

Condition	n	mean	sd	95% CIs
Depression	113	52.67	6.13	51.53-53.81
Diabetes	113	49.80	6.71	48.51-51.09
Comorbidity	113	46.78	8.36	45.22-48.34
Alcohol	113	45.73	7.95	44.25-47.21
Drugs	113	44.65	10.49	42.70-46.61

working with patients with co-morbid depression and substance misuse than female professionals (Mean 44.71 vs 48.34, p=0.03) (Table 3). Out of the three services (addiction services, mental health services and general practice), addiction services had the highest regard (mean 50.69, SD=5.97) for patients with co-morbid depression and substance misuse and general practice (mean 42.68, SD=10.08) the lowest regard (p<0.001). However, within addiction services, and in comparison with other conditions, co-morbidity was regarded lower (mean 50.69, SD=5.97) than drug misuse alone (mean 51.62, SD=5.76) or depression (mean 51.62, SD=6.63), although it was regarded higher than working with patients with diabetes (mean 46.49, SD=6.57) or alcohol misuse alone (mean 49.03, SD=7.60). Within general practice, and in comparison with other conditions, regard for working with patients with co-morbid depression and substance misuse was lower (mean 42.68, SD=10.08) than for all other conditions apart from drug misuse (mean 40.07, SD=11.78).

'Other' staff (see characteristics section) had the highest regard towards working with patients with co-morbid depression and substance misuse (mean 50.45, SD=7.88) compared to other staff types (p=0.01), with GPs having the lowest regard of all the staff types (mean 40.48, SD=9.18). Despite the 'other' staffs regard being higher than for other staff types, within this group regard towards patients with co-morbid depression and substance misuse was still lower than regard for other conditions, except alcohol misuse alone (mean 48.95, SD=7.54). Similarly, within the GP group, regard for patients with co-morbid depression and substance misuse (mean 40.48, SD=9.18) was lower than for all other conditions except drug misuse alone (mean 37.02, SD=11.20).

Professionals aged 18-34 years had the highest regard for patients with co-morbid depression and substance misuse (mean 50.16, SD=7.37, p=0.015), with regard being higher than for other conditions, with the exception of depression (mean 54.10, SD=6.11). Professionals aged 45 years and older had the lowest regard for patients with co-morbid depression and substance misuse (mean 44.15, SD=8.68), and their regard was lower than for other conditions, with the exception of drug misuse alone (mean 40.90, SD=12.28).

Professionals with a length of service less than 10 years had the highest regard for patients with co-morbid depression and substance misuse (mean 50.27, SD=9.01, p=0.09), with this regard being lower than towards patients with depression or diabetes but higher than towards patients with alcohol or drug misuse alone. Professionals with a length of service between 11 and 20 years had the lowest regard towards patients with co-morbid depression and substance misuse (mean 39.82, SD=9.10), and this regard was lower than for all other conditions except drug misuse alone (mean 34.82, SD=11.14). Across all lengths of service, regard towards patients with drug misuse alone was the lowest.

3.4. MCRS items by health condition

Table 4 describes the mean and standard deviation for each MCRS item by health condition. The highest mean for MCRS item by condition was the item 'I can usually find something that helps patients like this feel better' for the condition depression (mean 4.81, SD=0.87). The lowest mean for MCRS item by condition was the item 'Treating patients like this is a waste of money' for the condition depression (mean 1.42, SD=0.51).

The highest scoring item for patients with co-morbid depression and substance misuse was the item 'insurance should cover patients like this to the same degree that they cover patients with other conditions', with a score of 4.31 (SD=1.76). This score was lower for this item than depression or diabetes, but higher than drug or alcohol misuse alone. The lowest scoring item for patients with co-morbid depression and substance misuse was for the item 'treating patients like this is a waste of medical money' (mean 1.45, SD=0.86), lower than for all other conditions except

Table 3. Descriptive statistics for MCRS by condition and staff characteristics

		Comorbidity			Depression			Alcohol			Drugs			Diabetes		
	n	Mean	SD	p	Mean	SD	p	Mean	SD	p	Mean	SD	p	Mean	SD	p
Overall	113	46.78	7.95		52.67	6.13		45.73	7.95		44.65	10.49		49.80	6.71	
Sex	109			0.028*			0.982			0.226			0.023*			0.352
Male	41	44.71	8.54		52.73	6.39		44.71	8.68		41.71	11.43		49.07	7.65	
Female	68	48.34	8.11		52.76	6.14		46.62	7.43		46.47	9.86		50.35	6.15	
Place of Work	113			<0.001*			0.068			0.008*			<0.001*			<0.001*
Addiction	37	50.69	5.97		51.62	6.63		49.03	7.60		51.62	5.76		46.49	6.57	
Mental Health	42	46.66	7.06		54.40	4.74		44.10	7.58		42.22	9.61		49.02	5.41	
General Practice	34	42.68	10.08		51.67	6.75		44.16	7.88		40.07	11.78		54.43	5.76	
Staff Type	113			0.003*			0.215			0.092			0.001*			0.038*
Psychologist	2	45.50	6.36		46.50	4.95		46.50	7.78		46.00	5.66		45.00	0.00	
Psychiatrist	11	48.75	7.69		55.73	4.15		44.21	9.82		41.94	11.28		48.76	7.04	
Nurse	54	47.59	7.31		52.06	6.23		46.74	7.32		45.95	9.06		48.38	6.80	
Social Worker	7	48.71	7.93		52.29	4.54		44.29	9.76		48.29	11.31		49.00	8.53	
GP	22	40.48	9.18		51.94	6.75		41.92	7.38		37.02	11.20		53.73	6.25	
Others[a]	17	50.45	7.88		54.45	6.14		48.95	7.54		50.51	8.43		50.78	3.70	
Age Group	112			0.015*			0.277			0.256			0.005*			0.009*
18-34	20	50.16	7.37		54.10	6.11		47.76	8.25		49.27	8.86		47.92	6.30	
35-44	48	47.77	7.94		51.70	6.45		46.13	7.93		46.11	8.23		48.37	6.77	
>45	44	44.15	8.68		53.19	5.73		44.34	7.86		40.90	12.28		52.30	6.27	
Length of Service	52			0.090			0.801			0.236			0.069			0.138
Sub 10	11	50.27	9.01		54.36	6.14		47.16	8.89		47.09	10.90		50.89	7.22	
11-20	11	39.82	9.10		52.27	6.18		40.55	7.85		34.82	11.14		52.73	6.66	
21-30	14	44.89	9.62		54.69	5.74		45.38	5.96		41.75	9.55		54.00	4.56	
Over 31	16	44.05	9.49		53.20	9.13		42.92	9.67		41.00	10.14		58.13	4.37	

* $p<0.05$ [a] 6 occupational therapists, 8 health or social care assistants, 1 final year nursing student, 1 senior practitioner and 1 office manager

Table 4. MCRS items by health condition

MCRS items	Alcohol		Depression		Drugs		Diabetes		Comorbid depression & substance misuse	
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
Working with patients like this is satisfying	4.05	1.24	4.59	0.94	3.97	1.44	4.32	1.07	3.98	1.57
Insurance plans should cover patients like this to the same degree that they cover patients with other conditions	3.85	1.36	4.77	1.07	3.68	1.50	4.77	1.07	4.31	1.76
There is little I can do to help patients like this	2.26	1.09	1.80	0.83	2.34	1.18	2.28	1.19	2.11	1.28
I feel especially compassionate towards patients like this	3.80	1.23	4.44	1.19	3.87	1.33	4.14	1.20	3.89	1.53
Patients like this irritate me	2.16	1.12	1.72	0.63	2.36	1.15	1.77	0.60	1.59	0.69
I wouldn't mind getting up 'on call' at night to care for patients like this	2.67	1.41	3.47	1.56	2.57	1.40	3.21	1.53	2.80	1.73
Treating patients like this is a waste of medical money	1.84	0.89	1.42	0.51	2.01	1.01	1.55	0.79	1.45	0.86
Patients like this are particularly difficult for me to work with	2.66	1.37	1.90	0.74	2.73	1.36	2.42	1.23	2.27	1.32
I can usually find something that helps patients like this feel better	4.28	1.09	4.81	0.87	4.10	1.25	4.49	1.06	4.17	1.55
I enjoy giving extra time to patients like this	3.50	1.32	4.25	1.20	3.45	1.41	4.00	1.26	3.75	1.56
I prefer not to work with patients like this	2.50	1.30	1.82	0.97	2.55	1.51	2.11	1.15	1.98	1.22

depression – indicating that professionals felt that treating patients with co-morbid depression and substance misuse was worthwhile (financially). For the item 'patients like this irritate me', patients with co-morbid depression and substance misuse scored lower than for all other conditions (mean 1.59, SD=0.69), indicating that professionals found these patients the least 'irritating' of all the conditions. In general, professionals seemed to respond positively to patients with co-morbid depression and substance misuse, compared to other conditions. The exceptions were for the items 'I can usually find something that helps patients like this feel better' (mean 4.17, SD=1.55)), which was lower than for all other conditions except drug misuse alone (mean 4.10, SD=1.25)), and for 'working with patients like this is satisfying' (mean 3.98, SD=1.57), which was lower than for all other conditions except drug misuse alone (mean 3.97, SD=1.44). These results suggest that although professionals seem to feel a degree of compassion or understanding towards patients with co-morbid depression and substance misuse, they also feel unable to help and so experience less satisfaction than when dealing with patients with other conditions.

3.5. Multi-factor ANOVA

For staff's attitude to patients with comorbid depression and substance misuse, gender (p=0.01, η^2_p=.064) and length of service (p=0.01, η^2_p=.096 [38]) were identified as positive predicting factors .

4. Discussion

4.1. Summary of regard towards patients with co-morbid depression and substance misuse

This study found that regard towards patients

Table 5. Multi-factor between-subjects analysis of variance for Medical Condition Regard Scale (MCRS) condition

	df	F	Sig.	Partial Eta Squared
Alcohol				
sex	1	.227	.635	.002
age	2	.189	.828	.004
service	2	2.665	.075	.054
staff type	5	1.465	.209	.073
length of service	2	1.681	.192	.035
a. R Squared = .215 (Adjusted R Squared = .114)				
Drugs				
sex	1	3.510	.064	.036
age	2	.837	.436	.018
service	2	10.370	.000	.182
staff type	5	2.546	.033	.120
length of service	2	2.809	.065	.057
a. R Squared = .430 (Adjusted R Squared = .357)				
Depression				
sex	1	.223	.638	.002
age	2	1.170	.315	.025
service	2	2.621	.078	.053
staff type	5	1.362	.246	.068
length of service	2	.095	.909	.002
a. R Squared = .151 (Adjusted R Squared = .041)				
Diabetes				
sex	1	2.450	.121	.027
age	2	1.616	.205	.036
service	2	5.142	.008	.106
staff type	5	.338	.888	.019
length of service	2	.279	.757	.006
a. R Squared = .294 (Adjusted R Squared = .197)				
Comorbid				
sex	1	6.363	.013	.064
age	2	.645	.527	.014
service	5	1.99	.086	.097
staff type	2	3	.055	.061
length of service	2	4.91	.009	.096
a. R Squared = .430 (Adjusted R Squared = .357)				

with co-morbid depression and substance misuse was significantly poorer than regard for patients with either condition alone or patients with a physical condition (diabetes). Regard appears to be influenced by professional group, service where the professional worked and professionals' characteristics such as age, duration worked in their profession and gender. Specialists, both in terms of profession and service, appear to have higher regard for patients with co-morbid depression and substance misuse, as do younger and female professionals. Males, GPs and those in general practice appear to have the lowest regard for these patients. Professionals indicated that they felt it was difficult to treat or help these patients and this may lead to poorer satisfaction and less willingness to engage with these patients.

4.2. Comparison with findings from other studies

Although we have not identified any other studies which used the MCRS to examine attitudes towards co-morbid mental health and substance misuse, the results of this study are consistent with those which have looked at substance misuse alone. These studies found that regard for substance misuse was lower than for depression, mental illness, intellectual disability or attempted suicide [1, 59] (medical, social work and paramedic students). These two studies

also found that regard was higher among females than males, a finding also supported by this study. Williams et al. [59] suggest this could be due to either greater empathy among females, the social acceptability of emotional expression or sex-role stereotyping [59] . It has been suggested that although it is empathy that draws many to work in the health and social care field to begin with, over time this can reduce and there can be an 'emotional hardening' as a coping mechanism to deal with the rigours of working in a stressful and emotionally demanding role [7, 44]. This may in part explain the decline in regard over length of service and years of age found in this study and in others (along with other factors like out of date training and education).

Although Ahmedami [1] found no difference in regard between social work and medical students, both Williams [59] and Van Boekel [57] found differences between professions. Williams [59] found dual paramedic-nursing students having higher regard for substance users than paramedic-only students suggesting this was due to greater interpersonal skills in the dual-degree students. Van Boekel [57] found addiction specialists held higher regard than psychiatrists but both holding higher regard than GPs. Both studies comment that the categorisation of substance misuse as 'self-inflicted' may be responsible for the difference between professions; with more specialised professions having greater insight into the biopsychosocial mechanisms of substance misuse possibly due to a combination of adequate training, more time to formulate in a non judgemental manner a clinical case of comorbidity and/or better resources to support a positive clinical environment. This will support a less blame-attributing view. The consistency of these recent studies findings with our own suggest that there is a real and ongoing stigma of patients with substance use problems and this may be exacerbated for patients with co-morbid substance use and mental health problems.

4.3. Implication for practice

The regard of health professionals is an important component of the stigma experienced by patients and poor regard may act as a barrier to treatment as well as influencing treatment outcomes [2, 21, 22, 24, 29, 35, 59]. Efforts should be directed initially towards those in general practice due to the lower regard shown by those in this area, perhaps through education or training such as described by Strang et al. and Silins et al. [47, 50, 51]. This is additionally important as for many patients primary care is the main point of treatment entry and GPs are often relied on for referrals to specialist services.

A number of studies examining regard towards substance misuse have highlighted the importance of education and training to increase the knowledge and skills of health professionals [14, 26, 29, 47]. Sillins et al. [47] found that a structured drug and alcohol education programme had a positive influence on medical students' perceptions of alcohol misuse patients. Outside of healthcare, Bahora et al. [3] observed a significant reduction in police officers wish for social distance from substance misusers (both alcohol and drugs) following crisis intervention skills training.

However, increasing knowledge and awareness does not always influence regard, with Luty et al. [31] finding that regard towards substance misusers did not differ significantly between those who received educational factsheets and those who did not. A number of studies agree that there is a need to effect affective responses and entitlement judgements [21, 29, 48, 56] which would in turn address some of the unwillingness of staff to work with these patients. One of the keys to achieving this appears to be through greater levels of experience and exposure to working with substance misuse or patients with co-morbid depression and substance misuse [21, 29, 34, 42]. The findings of those such as Ramirez-Cacho et al. [42] where medical students were placed in a specialized prenatal clinic for women with substance misuse disorders and the students' comfort levels increased over time spent working with these patients suggest that intervention at an early stage (i.e. as students) may be effective route to change. This process may already be in action as our results have shown increased regard among younger professionals. This may also be indicative of a more general reduction in wider social stigma. Van Boekel et al. [56] and others [8, 12, 52] suggest that key to improving regard may be tackling the 'causal attribution beliefs' – the perception of control over a disease, responsibility for that condition, or more simply, blame.

A number of additional elements to improving the regard towards this patient group have been identified, highlighting the importance of an integrated and comprehensive approach. In a systematic review of the effectiveness of interventions for reducing substance misuse related stigma, Livingston et al. [29] described the importance of not only education, training and experience as described above, but also structural and systematic support, financial incentives, improved collaboration between services, changes in

organisational culture and peer support [5]. Attempts to address stigma and regard towards patients would need to be multi-disciplinary, cross-service and incorporate a number of methods.

Limitations

The study has a number of limitations in terms of sample size, sampling methods, use of MCRS and missing data. Notably this exploratory study has a small sample size, and is compounded by convenience sampling methodology, which may reduce the generalisability of findings. It may also increase potential selection bias with no data being collected on the general population of available participants. However, the results given in this study are consistent with those found both in the wider study [21] and those which have examined substance misuse and depression separately (as described in previous sections).

The MCRS was developed and tested with medical students and nurses, so its validity and applicability for other professions is not yet fully established. Although, there has been some examination of its internal consistency (Cronbachs alpha = 0.87) and test-retest reliability (r=0.84) [23]. In addition, Williams et al. [60] and van Boekel et al. [57] have all successfully utilised the MCRS in studies examining differences between professions, so there is precedent.

The study utilised a standard approach to missing data, however results for some of the physical conditions (mainly diabetes) may be affected by higher levels of missing data due to substance misuse and mental health staff having less contact with these patients. Response rate was also relatively low (around 33%), however this is in keeping with other surveys of NHS staff such as the NHS Staff Scotland Survey (an official Scottish government survey) which had a response rate of 35% [54].

Future research

Research on access to health care, including alcohol and drug treatment, and efforts to improve access, focus mainly on patient characteristics and the structure of services. The influence that the regard of health professionals involved in patients' care has not been so well explored. The co-existence of mental health and substance misuse is common in both substance misuse and mental health patient groups [10, 36, 46]. Previously, studies have addressed regard towards mental health and substance misuse patients as independent issues, but few studies have addressed them in combination [25]. Although this study has made some progress examining the regard of health professionals towards patients with co-morbid depression and substance misuse, it should be regarded as a preliminary investigation to larger-scale and multi-country research – such as those carried out previously for substance misuse and mental health as freestanding issues.

In addition, the MCRS has been established and tested primarily among medical students and nurses and therefore further validation testing should be considered, again as part of a wider study.

5. Conclusions

Regard towards working with patients with co-morbid depression and substance misuse was consistently lower than for either diabetes or depression alone, but higher than substance or alcohol misuse. However, it was also found that GPs, those that work in general practice and older members of staff had the lowest regard towards working with these patients. Moreover, in some cases this regard was lower than for the comparator conditions. These findings suggest there are issues to address within substance misuse policy, work-force development and education. The regard of medical professionals are an important component of the stigma experienced by patients and poor regard may act as a barrier to treatment as well as influencing treatment outcomes. This is an important issue when one considers the increasing incidence of comorbid treating seeking populations accessing all three service systems investigated by this exploratory study.

References

1. Ahmedani B. K., Kubiak S. P., Rios-Bedoya C. F., Mickus M., Anthony J. C. (2011): Willingness to treat drug dependence and depression: comparisons of future health professionals. *Subst Abuse Rehabil*. 2: 43-51.
2. Avery J., Zerbo E., Ross S. (2016): Improving Psychiatrists' Attitudes Towards Individuals with Psychotic Disorders and Co-Occurring Substance Use Disorders. Acad Psychiatry. 40(3): 520-522.
3. Bahora M., Hanafi S., Chien V. H., Compton M. T. (2008): Preliminary evidence of effects of crisis intervention team training on self-efficacy and social distance. *Adm Policy Ment Health*. 35(3): 159-167.
4. Baldacchino A., Gilchrist G., Fleming R., Bannister J. (2010): Guilty until proven innocent: a qualitative study of the management of chronic non-cancer pain among patients with a history of substance abuse. *Addict Behav*.

35(3): 270-272.
5. Baldacchino A., Greacen T., Hodges C.-L., Charzynska K., Sorsa M., Saias T., Clancy C., Lack C., Hyldager E., Merinder L.-B. (2011): Nature, level and type of networking for individuals with dual diagnosis: A European perspective. *Drugs: Educ Prev Polic* 18(5): 393-401.
6. Ball S. A., Carroll K. M., Canning-Ball M., Rounsaville B. J. (2006): Reasons for dropout from drug abuse treatment: symptoms, personality, and motivation. *Addict Behav*. 31(2): 320-330.
7. Boyle M., Williams B., Brown T., Molloy A., Mckenna L., Molloy E., Lewis B. (2010): Attitudes of undergraduate health science students towards patients with intellectual disability, substance abuse, and acute mental illness: a cross-sectional study. *BMC Medical Education*. 10(1): 71.
8. Brener L., Von Hippel W., Kippax S., Preacher K. J. (2010): The role of physician and nurse attitudes in the health care of injecting drug users. *Subst Use Misuse*. 45(7-8): 1007-1018.
9. Christison G. W., Haviland M. G., Riggs M. L. (2002): The medical condition regard scale: measuring reactions to diagnoses. *Acad Med* 77(3): 257-262.
10. Conway K. P., Compton W., Stinson F. S., Grant B. F. (2006): Lifetime comorbidity of DSM-IV mood and anxiety disorders and specific drug use disorders: results from the National Epidemiologic Survey on Alcohol and Related Conditions. *J Clin Psychiatry*. 67(2): 247-257.
11. Coombes L., Wratten A. (2007): The lived experience of community mental health nurses working with people who have dual diagnosis: a phenomenological study. *J Psychiatr Ment Health Nurs*. 14(4): 382-392.
12. Corrigan P., Markowitz F. E., Watson A., Rowan D., Kubiak M. A. (2003): An attribution model of public discrimination towards persons with mental illness. *J Health Soc Behav*. 44(2): 162-179.
13. Deehan A., Taylor C., Strang J. (1997): The general practitioner, the drug misuser, and the alcohol misuser: major differences in general practitioner activity, therapeutic commitment, and 'shared care' proposals. *Br J Gen Pract*. 47(424): 705-709.
14. Ding L., Landon B. E., Wilson I. B., Wong M. D., Shapiro M. F., Cleary P. D. (2005): Predictors and consequences of negative physician attitudes toward HIV-infected injection drug users. *Arch Intern Med*. 165(6): 618-623.
15. Eaton L. (2004): Numbers starting treatment for drug misuse increase by 20% over two years. *BMJ*. 329(7474): 1066.
16. Evans-Lacko S., Thornicroft G. (2010): Stigma among people with dual diagnosis and implications for health services. *Adv Dual Diagn*. 3(1): 4-7.
17. Ford R. (2011): Interpersonal challenges as a constraint on care: the experience of nurses' care of patients who use illicit drugs. *Contemp Nurse*. 37(2): 241-252.
18. Ford R., Bammer G., Becker N. (2008): The determinants of nurses' therapeutic attitude to patients who use illicit drugs and implications for workforce development. *J Clin Nurs*. 17(18): 2452-2462.
19. Foster J. H., Onyeukwu C. (2003): The attitudes of forensic nurses to substance using service users. *J Psychiatr Ment Health Nurs*. 10(5): 578-584.
20. Gilchrist G., Moskalewicz J., Nutt R., Love J., Germeni E., Valkova I., Kantchelov A., Stoykova T., Bujalski M., Poplas-Susic T. (2014): Understanding access to drug and alcohol treatment services in Europe: A multi-country service users' perspective. *Drugs: Educ Prev Polic* 21(2): 120-130.
21. Gilchrist G., Moskalewicz J., Slezakova S., Okruhlica L., Torrens M., Vajd R., Baldacchino A. (2011): Staff regard towards working with substance users: a European multi-centre study. *Addiction*. 106(6): 1114-1125.
22. Grafham E., Matheson C., Bond C. M. (2004): Specialist drug misuse nurse's motivation, clinical decision-making and professional communication: an exploratory study. *J Psychiatr Ment Health Nurs*. 11(6): 690-697.
23. Hemmerdinger J. M., Stoddart S. D., Lilford R. J. (2007): A systematic review of tests of empathy in medicine. *BMC Med Educ* 7(1): 24.
24. Hewitt J., Coffey M. (2005): Therapeutic working relationships with people with schizophrenia: literature review. *Journal of advanced nursing*. 52(5): 561-570.
25. Howard M. O., Chung S. S. (2000): Nurses' attitudes toward substance misusers. I. Surveys. *Subst Use Misuse*. 35(3): 347-365.
26. Howard V., Holmshaw J. (2010): Inpatient staff perceptions in providing care to individuals with co-occurring mental health problems and illicit substance use. *J Psychiatr Ment Health Nurs*. 17(10): 862-872.
27. I-S-D-Scotland (2012): Drug Misuse Statistics Scotland 2011.
28. Iqbal N., Mccambridge O., Edgar L., Young C., Shorter G. W. (2015): Health-care professionals' attitudes across different hospital departments regarding alcohol-related presentations. *Drug Alcohol Rev DOI: 10.1111/dar.12243*
29. Livingston J. D., Milne T., Fang M. L., Amari E. (2012): The effectiveness of interventions for reducing stigma related to substance use disorders: a systematic review. *Addiction*. 107(1): 39-50.
30. Luoma J. B., Twohig M. P., Waltz T., Hayes S. C., Roget N., Padilla M., Fisher G. (2007): An investigation of stigma in individuals receiving treatment for substance abuse. *Addict Behav*. 32(7): 1331-1346.
31. Luty J., Rao H., Arokiadass S. M. R., Easow J. M., Sarkhel A. (2008): The repentant sinner: methods to reduce stigmatised attitudes towards mental illness. *The Psychiatrist*. 32(9): 327-332.
32. Madhan B., Gayathri H., Garhnayak L., Naik E. S. (2012): Dental students' regard for patients from often-stigmatized populations: Findings from an Indian dental school. *J Dent Educ*. 76(2): 210-217.
33. Meltzer E. C., Suppes A., Burns S., Shuman A., Orfanos A., Sturiano C. V., Charney P., Fins J. J. (2013):

Stigmatization of substance use disorders among internal medicine residents. *Subst Abuse*. 34(4): 356-362.
34. Meng C., Rayburn B. B., Ramirez-Cacho W. A., Rayburn W. F. (2007): Effect of a specialized prenatal clinic on medical student attitudes toward women with drinking problems. *J Matern Fetal Neonatal Med*. 20(3): 217-220.
35. Mojtabai R., Chen L. Y., Kaufmann C. N., Crum R. M. (2014): Comparing barriers to mental health treatment and substance use disorder treatment among individuals with comorbid major depression and substance use disorders. *J Subst Abuse Treat*. 46(2): 268-273.
36. Montanari L., Baldacchino A., Pasinetti M., Thanki D., Vicente J. (2013): Co-morbidity of substance use and mental disorders. What do we know on the prevalence of psychiatric comorbidity in Europe and what are the ways forward? *Ment Health Subst Use*. 6(2): 97-100.
37. Munro A., Watson H. E., Mcfadyen A. (2007): Assessing the impact of training on mental health nurses' therapeutic attitudes and knowledge about co-morbidity: a randomised controlled trial. *Int J Nurs Stud*. 44(8): 1430-1438.
38. Murphy K. R., Myors B. (2004): Statistical power analysis: A Simple and General Model for Traditional and Modern Hypothesis Tests (2nd ed.). Lawrence Erlbaum, Mahwah NJ.
39. Neale J., Tompkins C., Sheard L. (2008): Barriers to accessing generic health and social care services: a qualitative study of injecting drug users. *Health Soc Care Community*. 16(2): 147-154.
40. Peckover S., Chidlaw R. G. (2007): Too frightened to care? Accounts by district nurses working with clients who misuse substances. *Health Soc Care Community*. 15(3): 238-245.
41. Ralley C., Allott R., Hare D. J., Wittkowski A. (2009): The use of the repertory grid technique to examine staff beliefs about clients with dual diagnosis. *Clin Psychol Psychother*. 16(2): 148-158.
42. Ramirez-Cacho W. A., Strickland L., Beraun C., Meng C., Rayburn W. F. (2007): Medical students' attitudes toward pregnant women with substance use disorders. *Am J Obstet Gynecol*. 196(1): 86 e81-85.
43. Roche A. M., Guray C., Saunders J. B. (1991): General practitioners' experiences of patients with drug and alcohol problems. *Br J Addict*. 86(3): 263-275.
44. Rosenfield P. J., Jones L. (2004): Striking a balance: training medical students to provide empathetic care. *Med Educ*. 38(9): 927-933.
45. Schomerus G., Corrigan P. W., Klauer T., Kuwert P., Freyberger H. J., Lucht M. (2011): Self-stigma in alcohol dependence: consequences for drinking-refusal self-efficacy. *Drug Alcohol Depend*. 114(1): 12-17.
46. Scottish-Executive (2006): Substance misuse research: co-morbid mental health and substance misuse in Scotland.
47. Silins E., Conigrave K. M., Rakvin C., Dobbins T., Curry K. (2007): The influence of structured education and clinical experience on the attitudes of medical students towards substance misusers. *Drug Alcohol Rev*. 26(2): 191-200.
48. Skinner N., Roche A. M., Freeman T., Mckinnon A. (2009): Health professionals' attitudes towards AOD-related work: Moving the traditional focus from education and training to organizational culture. *Drugs: Educ Prev Policy*. 16(3): 232-249.
49. Sleeper J. A., Bochain S. S. (2013): Stigmatization by nurses as perceived by substance abuse patients: a phenomenological study. *J Nurs Educ Pract*. 3(7): p92.
50. Strang J., Hunt C., Gerada C., Marsden J. (2007): What difference does training make? A randomized trial with waiting-list control of general practitioners seeking advanced training in drug misuse. *Addiction*. 102(10): 1637-1647.
51. Strang J., Mccambridge J., Platts S., Groves P. (2004): Engaging the reluctant GP in care of the opiate misuser: Pilot study of change-orientated reflective listening (CORL). *Fam Pract*. 21(2): 150-154.
52. Strauser D. R., Ciftci A., O'sullivan D. (2009): Using attribution theory to examine community rehabilitation provider stigma. *Int J Rehabil Res*. 32(1): 41-47.
53. Tantam D., Donmall M., Webster A., Strang J. (1993): Do general practitioners and general psychiatrists want to look after drug misusers? Evaluation of a non-specialist treatment policy. *Br J Gen Pract*. 43(376): 470-474.
54. The-Scottish-Government (2014): NHS Scotland Staff Survey 2014.
55. Torrens M., Gilchrist G., Domingo-Salvany A., Psycobarcelona G. (2011): Psychiatric comorbidity in illicit drug users: substance-induced versus independent disorders. *Drug Alcohol Depend*. 113(2-3): 147-156.
56. Van Boekel L. C., Brouwers E. P., Van Weeghel J., Garretsen H. F. (2013): Stigma among health professionals towards patients with substance use disorders and its consequences for healthcare delivery: systematic review. *Drug Alcohol Depend*. 131(1-2): 23-35.
57. Van Boekel L. C., Brouwers E. P. M., Van Weeghel J., Garretsen H. F. L. (2014): Healthcare professionals' regard towards working with patients with substance use disorders: Comparison of primary care, general psychiatry and specialist addiction services. *Drug Alcohol Depend*. 134: 92-98.
58. Williams B., Boyle M., Brightwell R., Devenish S., Hartley P., Mccall M., Mcmullen P., Munro G., O'meara P., Webb V. (2012): An assessment of undergraduate paramedic students' empathy levels. *Int J Med Educ*. 3: 98-102.
59. Williams B., Boyle M., Fielder C. (2015): Empathetic attitudes of undergraduate paramedic and nursing students towards four medical conditions: A three-year longitudinal study. *Nurse Educ Today*. 35(2): e14-e18.
60. Williams B., Brown T., Boyle M., Webb V. (2013): The Medical Condition Regard Scale (MCRS): An examination of its factor structure using paramedic students. *Nurse Educ Today*. 33(9): 938-943.

Acknowledgements

We wish to acknowledge the contribution of all members of the UK IATPAD research team and thank all staff who participated in the study.

Role of the funding source

Funding was received from the European Commission (contract number 2005322). The funding body was not involved in the development of the study, analysis or interpretation of results or in the decision to publish.

Contributors

All authors were involved in the study design, had full access to the survey data and analyses, and interpreted the data, critically reviewed the manuscript and had full control, including final responsibility for the decision to submit the paper for publication.

Conflict of interest

None

Ethics

Authors confirm that the submitted study was conducted according to the WMA Declaration of Helsinki - Ethical Principles for Medical Research Involving Human Subjects. The study has IRB review/approval.

Note

It is the policy of this Journal to provide a free revision of English for Authors who are not native English speakers.

Received June 18, 2016 - Accepted July 21, 2016