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Research paper

Public opinion of drug treatment policy: Exploring the public's attitudes, knowledge, experience and willingness to pay for drug treatment strategies

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ABSTRACT

Background: Research evidence is strong for opiate replacement treatment (ORT). However, public opinion (attitudes) can be at odds with evidence. This study explored the relationships between, attitudes, knowledge of drugs and a range of socio-demographic variables that potentially influence attitude. This is relevant in the current policy arena in which a major shift from harm reduction to, rehabilitation is underway.

Methods: A cross sectional postal questionnaire survey in Scotland was conducted where the drug, treatment strategy has changed from harm-reduction to recovery-based. A random sample ($N = 3000$), of the general public, >18 years, and on the electoral register was used. The questionnaire was largely structured with tick box format but included two open questions for qualitative responses. Valuation was measured using the economic willingness-to-pay (WTP) method.

Results: The response rate was 38.1% (1067/2803). Less than 10% had personal experience of drug, misuse but 16.7% had experience of drug misuse via a friend/acquaintance. Regression modelling revealed more positive attitudes towards drug users in those with personal experience of drug misuse, ($p < 0.001$), better knowledge of drugs ($p = 0.001$) and higher income (those earning >£50,000 per, annum compared to <£15K; $p = 0.01$). Over half of respondents were not willing to pay anything for drug treatment indicating they did not value these treatments at all. Respondents were willing-to-pay most for community rehabilitation and least for methadone maintenance treatment. Qualitative analysis of open responses indicated many strong negative attitudes, doubts over the efficacy of methadone and consideration of addiction as self-inflicted. There was ambivalence with respondents weighing up negative feelings towards treatment against societal benefit.

Conclusions: There is a gap between public attitudes and evidence regarding drug treatment. Findings suggest a way forward might be to develop and evaluate treatment that integrates ORT with a community rehabilitative approach. Evaluation of public engagement/education to improve knowledge of drug treatment effectiveness is recommended.

Introduction

Problem drug use continues to challenge society. An estimated 1% of the UK population and 1.6% of the Scottish population (Hay, Gannon, Casey, & McKeganey, 2009) are dependent on drugs. Despite the strong evidence base for drug treatment, it receives much negative media attention. In his analysis of the role of the media in drug policy, Silverman (2011) claims that politicians do not listen to research evidence and that in popular media 'he who shouts loudest can elicit a government response'. Silverman concluded that the media harmfully limits debate on drug policy. One senior politician even admitted 'we don't lead on drugs, we follow public opinion' (Silverman, 2011). This paper explores public opinions and understanding of current drug treatment strategies

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through a population survey. Attitudes, value, knowledge and experience are considered to bring objective, scientific evidence into the policy debate.

Across the EU an estimated 730,000 people receive Opiate Replacement Therapy (ORT) (also known as Opiate Substitution Treatment) with methadone or, more recently, buprenorphine (European Drug Report, 2013). An estimated 200,000 people in England (NTA, 2012a) and 24,500 in Scotland (Scottish Govmt, 2012) receive methadone. There is considerable research evidence for the effectiveness of ORT, summarised in several systematic reviews over the last twenty years (Farrell, Ward, & Mattick, 1994; Marsch, 1998; Mattick, Breen, Kimber, & Davoli, 2009; Simoens, Matheson, Bond, Inkster, & Ludbrook, 2005; Van Beusekom & Iguchi, 2001; Ward, Mattick, & Hall, 1994). Furthermore long term observation studies have endorsed the positive effect on reducing illicit drug use, injecting behaviour and crime (Comiskey et al., 2009; Gossop, Marsden, Stewart, & Kidd, 2003; Teesson, Mills, Ross, Darke, & Williamson, 2008). The National Treatment Agency states that for every £1 spent on drug treatment £2.50 is saved in health and social costs (NTA, 2012b). There is no such strong evidence base to support detoxification and rehabilitation programmes suffer from a lack of rigorous evaluation (Simoens et al., 2005). However, despite this strong evidence of benefit, ORT remains controversial.

The focus of drug policy during the 1990–2000s, in many European member countries (Cook, Bridge, & Stimson, 2010) (including the UK (PMSU, 2007)) was to encourage people into drug treatment. In Scotland, the number of people receiving methadone from community-based pharmacies increased from 3387 in 1995 to an estimated 17,226 in 2005 (Matheson, Bond, & Tinelli, 2007). This resulted in an increased awareness of methadone provision among the general public in the 1990s (Matheson, 1998).

Although not the focus of this research, it appears that the media may influence both public opinion and drugs policy. One study exploring how drug misuse is reported in the media found issues related to drug-associated crime to be the most frequently reported (Loughborough, 2010). Press reporting of treatment issues has also been largely negative with headlines questioning whether 'addicts' should receive methadone in prison (The Sun, 2006) or whether scarce NHS resources should be used to treat drug 'addicts' (The Herald, 2008). These reports have political ramifications E.g. in Scotland in 2012, a media campaign against methadone treatment (Daily Record, 2012) prompted another government review of ORT.

In Scotland and England, current drugs strategy focuses on recovery (Home Office, 2012; Scottish Govmt, 2008). Concurrently there has been a move for greater patient and public participation in decision-making about health services (DoH, 2003). However, ensuring this involvement represents public consensus rather than strong opinions of an articulate minority may be challenging, especially in policy areas such as drug treatment.

A review of the literature on public opinion in drug treatment found research studies conducted on representative samples of the public suggest evidence of more support for drug treatment than generally perceived. A European study surveying six member states revealed general support for the provision of sterile needles to prevent blood-borne infections, with stronger support in Denmark and Holland and mixed views in Bulgaria and Poland. On the controversial question of whether heroin should be prescribed to drug addicts, Sweden was least supportive (5% said 'definitely yes') and Denmark was most supportive (32% said 'definitely yes') (HCLU, 2009). This survey was conducted by a civil rights group which could be considered less objective than an academic research group. In a previous UK general public survey exploring attitudes towards treatment strategies and people with drug dependence only 35% agreed the health service should spend more on treating drug addicts (Luty & Grewal, 2002). A more recent survey reported 77% of respondents considered government investment in drug treatment 'a good thing' and 80% agreed drug users can get addicted due to other problems in their lives (Roberts, 2009). This may indicate a shift in attitudes over time or the co-existence of negative and positive/more understanding pragmatic views. In the UK, drug misuse habits are covered in the British Crime Survey (BCS), The Scottish Crime Survey (SCS) and the General Crime Survey (GCS) (BCS, 2011; SCS, 2011; GHS, 2011) but these do not assess attitudes in detail.

One way to look at the value the population place on drug treatment is to use the economic instrument of willingness to pay (WTP). Here value is assessed by asking people to assign a monetary value to the service (Donaldson, Mason, & Sharkey, 2012). Whilst this method has been used extensively in the health field, its application to value drug treatment is limited, with only one study identified (Tang, Liu, Chang, & Chan, 2007). This study of the Taiwan general public asked about WTP for a drug use treatment program and methods of payment and did not differentiate between treatment strategies. Participants were more willing to pay for drug use treatment via increases in National Health Insurance premiums than via donations. A review of the application of cost-benefit analyses of drug treatment found no UK studies (Cartwright, 2000), and recommended WTP as the most appropriate approach to value benefits of drug treatments.

The aim of this study was to explore the public's attitudes, knowledge, experience and value (willingness to pay) for drug treatment strategies. Knowledge of drugs and a range of socio-demographic variables potentially influential on attitudes were recorded. This is particularly relevant in the current policy arena in which a major shift in emphasis is underway from harm reduction to rehabilitation.

Methods

The study was a cross-sectional questionnaire survey of the general public in Scotland. The questionnaire, which is available from the authors on request, covered:

- Demographics; experience of drugs and drugs misuse;
- Attitudes to drug users and drug treatment;
- Knowledge of drugs liable to misuse;
- Understanding of the aims of treatment;
- Ranking of different treatment strategies using a hypothetical scenario (a family member or close friend with a drug problem);
- Willingness to pay for different treatment strategies;
- Comments section.

The questionnaire included a combination of newly developed questions (WTP and knowledge) and those from questionnaires used and validated previously, including beliefs about methadone (Stancliff, Myers, Stuart, & Drucker, 2002); health professionals and pharmacy customers' attitudes towards drug misusers (Lawrie, Matheson, Bond, & Roberts, 2004; Matheson et al., 2007); views and experience of drug use (Roberts, 2009), and general attitudes adapted from the Scottish Social Attitudes Survey (Ormston, Bradshaw, & Anderson, 2010). The question format was a mix of closed and open questions and Likert Scales (attitude statements).

Willingness to pay was assessed using a scenario in which respondents were asked to imagine the Government were considering expanding their programme for treating drug misusers with treatment paid for through tax contributions from the general population. Respondents were asked how much they would be willing to pay to expand each of the four treatment services: needle exchange services; methadone maintenance programmes; community detoxification and rehabilitation programmes and residential detoxification and rehabilitation programmes. Respondents

who stated they were unwilling to contribute anything were asked to explain why. The aim was to distinguish 'protesters' (those who objected to the method) from those who genuinely did not wish to contribute (those who did not value treatment strategies and had a valid zero).

The section at the end of the questionnaire for open comments was analysed qualitatively. This data was then used to aid further interpretation of responses to both the WTP and other questions.

Pre-piloting and piloting

Pre-piloting was conducted with an opportunistic sample of University and Scottish Drugs Forum staff ($N = 10$). Question wording and content was further tested with a convenience sample of lay people identified through personal contacts with no knowledge of the drugs field ($N = 20$).

The formal pilot then tested the distribution process, as well as question wording. The questionnaire, invitation letter and a reply-paid envelope were posted to a random electoral roll sample ($N = 200$). No changes were required other than improvements in printing quality.

Main questionnaire distribution

The sampling frame was all residents in Scotland, >18 years, on the electoral roll. The questionnaire was mailed in 2011 to a random, stratified sample (age and geographical location) of 3000 people. The sample was provided by an independent sampling company.

Measures taken to maximise the response rate, and thus reduce response bias included: the option of online questionnaire completion (with a web link supplied), respondent entry into a prize draw for shopping vouchers and publicity via the University Press Office. Two reminders were sent at three weekly intervals. Respondents were identified using ID numbers on reply-paid envelopes. Questionnaires were separated from envelopes prior to data entry to preserve anonymity but allow identification of non-responders.

Data management and analysis

Questionnaire data was entered into an SPSS database and a 10% sample checked for accuracy. Qualitative comments made in open questions were exported into word for thematic analysis.

Quantitative data

Responses to 22 attitude statements regarding drug users and drug treatment ranged from a score of 5 (most positive) to 1 (least positive). Negative statements were reversed prior to analysis. The two attitude scores (attitudes to drug users and attitudes to treatment) were combined into a single score as analyses showed they were highly correlated. Knowledge about drugs score was based on responses to 11 questions in which a correct answer was scored 1 and an incorrect or 'don't know' answers scored 0. An overall score was computed by adding responses to each question.

Internal reliability of both attitude and knowledge scales was assessed using Cronbach's Alpha (CA). Principal Components Analysis (PCA) was conducted on the 22 attitude statements to assess the extent to which a single score would be a valid representation of attitudes towards drug misusers and drug misuse treatment. Attitude statements were included in the final attitude score if the following criteria were met: factor loading for the hypothetical factor in the PCA was >0.4 (Nunnaly & Bernstein, 1991) and CA of the resulting scale was >0.7 (Streiner & Norman, 1995).

One way relationships between the attitude score, demographics and drug misuse experience were explored using *t*-tests or ANOVA and between attitudes and knowledge scores using Pearson's correlation coefficient. Linear regression explored multivariate associations between attitudes, demographics, knowledge and experience of drug misuse. Variables significant at the 5% level in the univariate analysis were included in the regression analysis.

Mean WTP responses, together with median and range, was estimated for the four treatment strategies. 'Protestors' and outliers (e.g. 'unrealistic' values in excess of stated annual salaries) were removed from the data before WTP values were estimated.

Qualitative data

Basic thematic analysis (Ritchie & Lewis, 2003) was used to analyse responses to the open-ended questions. Verbatim quotes are included in the results identified by the respective questionnaire identification number for both justifications given for the WTP zero value responses and the additional comments section.

Ethics

Ethical approval was granted from the University of Aberdeen's College Ethical Review Board.

Results

Response rate and demographics

Of the 3000 questionnaires sent, 197 were returned incomplete (undelivered, 151; respondent unable to complete, 46). Eleven questionnaires were completed online. The valid response rate was 38.1% (1067/2803).

Respondents were evenly distributed across age groups, 47% were male and 95% self-classified as 'white British'. Forty one per cent were in full-time employment, a third retired, and 15% worked part-time (see Table 1).

Experience of substance use

Almost 80% of respondents drank alcohol, just under half had never smoked and 18% were current smokers. Fewer than five per cent had used illicit drugs in the last year. Less than 10% had personal experience of drug misuse but 16.7% had experience of drug misuse via a friend or acquaintance.

Knowledge of drugs of dependence

The eleven item knowledge score ranged from 0 to 11 and had a CA of 0.81. It was normally distributed with a mean of 5.34 (s.d. 3.11) (see Table 2).

Attitudes towards drug misuse

The responses to all 22 attitudes statements are displayed in Table 3. The 22 item attitude scale had a CA of 0.78. PCA revealed two items with extraction values of <0.4 which were removed. The CA of the resulting 20 item scale was 0.76 and therefore met the defined criteria. The scale ranged from 5 to 100 and was normally distributed with a mean of 54.33 (s.d. 8.98).

Attitudes were more likely to be positive if respondents were female ($p = 0.02$), unemployed ($p < 0.001$), had an income of >£50,000 ($p = 0.014$), drank alcohol ($p < 0.001$) or had experience of drug misuse ($p < 0.001$). Attitude score was unrelated to age (p 0.062) or smoking status ($p = 0.82$).

Table 1
Demographics and substance use experience ($N = 1067$).

Demographics	N (%)
Age	
18–34	168 (15.8)
35–44	151 (14.2)
45–54	230 (21.7)
55–64	220 (20.8)
65 plus	175 (16.5)
>75	16 (1.4)
Employment status	
Part-time	165 (15.7)
Full time	437 (41.5)
Unemployed	40 (3.8)
Retired	307 (29.2)
Maternity leave/Looking after family/other	44 (4.2)
Full time student	23 (2.2)
Long term sick/disabled	37 (3.5)
Missing	14 (1.3)
Household income	
<15K	318 (32.3)
£15000–24,999	177 (18.0)
£25K–£34,999	180 (18.3)
£35K–£49,999	136 (13.8)
£50,000 or more	173 (17.6)
Missing	83 (7.8)
Substance use experience	
Do you drink alcohol? (Yes)	821 (77.8)
Missing	12 (1.1)
How many units of alcohol in one week? Mean (SD)	10.22 (11.09)
Do you smoke?	
No – but ex-smoker	367 (34.7)
No – never smoked	511 (48.3)
Yes	179 (16.9)
Missing	10 (0.9)
Have you used any illegal drugs in the last month?	
Yes	34 (3.2)
Missing	10 (0.9)
Drugs used	Cannabis, heroin, diazepam, cocaine, temazepam
Have you used any illegal drugs in the last year?	
Yes	39 (4.3)
Missing	159 (14.9)
Drugs used	Cannabis, cocaine, MDMA, heroin
Have you got any current/past experience in your own family?	
Personal experience	95 (9.2)
Professional experience	38 (3.7)
Member of family	134 (12.9)
Friend/acquaintance	173 (16.7)

MDMA is otherwise known as ecstasy.

Regression analysis

Linear regression (Table 4) revealed that more positive attitudes were associated with earning >£50,000 (when the reference was an income of <£15K) and having personal experience of drug misuse (when the reference was no personal experience). A higher knowledge score was significantly associated with more positive attitudes.

Understanding of drug use and treatment aims

When asked to estimate the length of time a person might use heroin, 2.9% thought this would be less 12 months (31/1067), 29.1% stated 1–5 years (310/1067) and 59.2% over 5 years (631/1067). When asked how easy/difficult they perceived it to be for a heroin user to *become* drug free, 94.1% stated 'fairly' or 'very difficult' ($N = 967$) and 92.8% ($N = 953$) believed it was 'fairly' or 'very difficult' to *stay* drug free.

A large majority of respondents believed the main aims of treatment were to become drug free (90%; 944/1067) and to reduce health risks such as the spread of blood borne viruses (87%; 904/1067). A smaller majority agreed with other listed treatment aims of reducing crime (70.9%; 735/1067), enabling drug users to play a full part in society (80.6%; 837/1067) and helping to cope with their dependency (62.6%; 647/1067).

Ranking treatment strategies

In a hypothetical scenario in which a family or a close friend had a drug problem, more respondents prioritised residential detoxification and rehabilitation treatment, and harm reduction through needle exchange, over community-based detoxification and rehabilitation followed by methadone maintenance (46.5%, 45.3%, 34%, 26%) (see Table 5).

Willingness to pay for treatment strategies

Overall 70.6% of respondents (753/1067) answered the WTP questions. That is, they provided either a zero value or positive value.

After analysing the accompanying qualitative comments, 100 of the 753 responses were categorised as 'invalid zeros'. These 'invalid zeros' included 83 protesters, i.e. respondents who objected to/did not understand the methodology: "I think the government should be paying for this" (343); and 1.6% (17/1067) 'cost-based' responses (respondents who tried to estimate the cost of services (as opposed to the value): "no idea of cost" (1304). These 100 respondents were also dropped.

The remainder were categorised as 'valid zeros', ranging from 60.6% of valid responses for methadone to 48% for residential rehabilitation (see Table 6). Qualitative explanations of these 'valid zero responses identified three themes:

Table 2
Knowledge of drugs shaded areas indicate correct responses.

Statement	True N (%)	False N (%)	Don't Know N (%)
Diazepam is used for the treatment of anxiety	678 (63.5)	34 (3.2)	326 (30.6)
Cocaine is a stimulant that can make you talkative	424 (39.7)	92 (8.6)	518 (48.5)
Heroin induces a feeling of euphoria	508 (47.6)	80 (7.5)	437 (41.0)
Heroin can only be administered by injection	229 (21.5)	530 (49.7)	265 (24.8)
Alcohol is a stimulant	571 (53.5)	254 (23.8)	208 (19.5)
Cannabis relaxes your muscles	592 (55.5)	41 (3.8)	402 (37.7)
Cocaine increases your heart rate and blood pressure	593 (55.6)	26 (2.4)	407 (38.1)
Heroin can be used medically as a pain killer called diamorphine	573 (53.7)	50 (4.7)	405 (38.0)
Crack is a form of cocaine	593 (55.6)	62 (5.8)	375 (35.1)
Codeine is related to heroin	299 (28.0)	121 (11.3)	600 (56.2)
Codeine is used in cough medicines	474 (44.4)	84 (7.9)	467 (43.8)

Table 3
Attitude scale components.

Statement	Strongly agree/ agree *N* (%)	Neither *N* (%)	Strongly disagree/disagree *N* (%)
People become addicted to drugs because of other problems in their lives	535 (52)	269 (26.2)	224 (21.8)
I think drug misusers are a menace to society	641 (62.3)	269 (26.1)	119 (11.6)
I think drug misuse is a major cause of crime	911 (88.9)	84 (8.1)	36(3.5)
I think drug misusers can be good parents	94 (9.2)	266 (26)	662 (64.8)
Heroin prescribing should be introduced in Scotland for those who have not found methadone useful	146 (14.2)	171 (16.6)	712 (69.2)
Methadone should be provided to all who need it	405 (39.2)	236 (22.9)	391 (37.9)
Methadone helps reduce crime	204 (19.8)	377 (36.6)	448 (43.5)
Methadone reduces the chances of being infected with HIV and/or hepatitis	384 (37.6)	343 (33.6)	294 (28.8)
We should stop giving people methadone as it is of no benefit	246 (23.9)	400 (38.9)	294 (28.8)
We should only provide services which aim to get people off drugs quickly	476 (46.1)	244 (23.6)	312 (30.2)
For most drug misusers, drugs are only one of many problems	823 (79.7)	137 (13.3)	72 (7.0)
The only real way of helping drug misusers is to get them to stop using drugs altogether	833 (80.7)	101 (9.8)	98 (9.5)
I think oral drugs like methadone, should be prescribed to drug misusers for as long as they need it	370 (35.7)	235 (22.7)	430 (41.5)
Using illegal drugs is a normal part of some people's lives	732 (70.9)	137 (13.3)	163 (15.8)
Drug users should be given clean needles to stop them getting fatal diseases	667 (64.6)	188 (18.2)	178 (17.2)
Providing prescribed heroin to be injected in a controlled environment is a good idea	209 (20.3)	225 (21.8)	598 (57.9)
Having a drug dependency problem should in no way affect a patient's access to healthcare services of any kind	558 (53.9)	244 (23.6)	233 (22.5)
All drug misusers should have access to a supported rehabilitation period (e.g. social or psychological intervention)	781 (75.5)	177 (17.1)	76 (7.4)
All drugs should be legal	111 (10.7)	108 (10.5)	814 (70.8)
Provision of a consumption room for illegal drugs is a good idea	144 (14.5)	241 (23.4)	641 (62.2)
Most drug misusers eventually move on from their addiction[a]	123 (12)	437 (42.8)	461 (45.2)
I regard drug misusers as having a medical condition[a]	271 (26.8)	212 (21)	527 (52.2)

[a] Not used in final attitude scale.

Table 4
Linear regression of factors affecting attitude.

Variable	Regression coefficient	Standard error	95% Confidence Interval	*P* value
Constant	47.26	2.29	47.77–51.75	
Gender (reference-male)				
Female	0.96	0.65	−0.31–2.23	0.14
Employment (reference-full time)				
Employed part time	−1.1	0.92	−2.91–0.71	0.23
Unemployed	3.36	1.98	−0.53–7.24	0.09
Retired	1.83	1.04	−0.22–3.87	0.08
Other (maternity/disability/long term sick/homemaker etc)	1.34	1.28	−1.18–3.86	0.3
Income (reference- <£15K)				
£15K–£24,999	0.08	0.98	−1.84–2	0.08
£25K–£34,999	1.31	0.96	−0.57–3.18	0.17
£35K–£49,999	1.91	1.08	−0.2–4.02	0.08
>£50K	2.85	1.04	0.81–4.89	0.01
Alcohol drinker yes	1.56	0.85	−0.12–3.24	0.07
Experience, yes to:				
Personal experience of drug misuse	4.78	1.08	2.65–6.9	<0.001
Professional experience of drug misuse	−0.67	1.52	−3.65–2.32	0.67
Experience of drug misuse in family member	0.9	0.95	0.97–2.77	0.35
Experience of drug misuse in a friend/acquaintance	1.39	0.86	−0.3–3.08	0.11
Knowledge score	0.66	0.11	0.43–0.88	<0.001

Observations: 768, $R^2 = 0.146$.

Table 5
Ranking of treatment options.

We would like you imagine a member of your family or close friend had drug problem. Please rank these treatment strategies in order of preference	1 Highest priority *N* (%)	2 *N* (%)	3 *N* (%)	4 *N* (%)	5 Lowest priority *N* (%)	Missing
Harm reduction by provision of clean needles and syringes to make sure they do not catch potentially lethal infections like HIV or hepatitis C	435 (46.3)	140 (14.9)	168 (17.9)	83 (11.3)	83 (8.8)	128
Provision of methadone to substitute for heroin and ensure that they reduce or stop taking illegal drugs	244 (26)	198 (21.1)	256 (27.3)	131 (14)	109 (11.6)	129
Community detoxification and rehabilitation	316 (34)	307 (33)	172 (18.5)	80 (8.6)	55 (5.9)	137
Residential detoxification and rehabilitation	432 (46.5)	215 (23.1)	145 (15.6)	76 (8.2)	61 (6.6)	138

Table 6
Willingness to pay for treatment approaches.

Response	Needle exchange *N* (%)	Methadone maintenance *N* (%)	Community detoxification and rehabilitation *N* (%)	Residential detoxification and rehabilitation *N* (%)
Valid	653 (61.2)	653 (61.2)	653 (61.2)	653 (61.2)
Valid '0'	371 (56.8)	396 (60.6)	324 (49.6)	317 (48.5)
Valid > 0	282 (43.2)	257 (39.4)	329 (50.4)	336 (51.5)
Willingness to pay (mean)	£10.23	£8.29	£16.10	£14.10
Median	0	0	0	0
Range	0–2000	0–1000	0–1500	0–1000

Self inflicted condition – the largest category was those who objected to paying because either they considered drug use to be a self-inflicted condition: "*Why should I pay for someone's stupidity?*" (539), or, linked to this that they did not believe drug users were deserving of treatment as they had not contributed to society. Some respondents also felt that to pay any money to treat drug users was a waste of money as they would continue to use drugs. Some comments of this nature gave personal examples to explain their views: "*in my daughter's case she lies and steals for heroin after getting methadone. It would be a waste of money for her*" (532).

Financial considerations – were either personal or because respondents preferred to prioritise other uses for their money. For example several pensioners, students and people who stated they were on a low income and could not afford to pay anything; or felt they had already paid enough tax: "*I am not in a financial position to contribute to any of these treatments*" (408).

Several respondents preferred giving their money to charities whilst others questioned the government's priorities for spending money e.g. on free prescriptions.

> "*Not happy to pay more taxes but feel existing contribution should be better allocated. More should be allocated to treatment strategies instead of other unnecessary benefits e.g. free prescriptions, free bus travel of over 60s . . .*" *(364)*

Question Treatment Effectiveness – Some respondents questioned the benefit of treatment, particularly methadone, a theme evident in the final open question as is presented in detail below.

> "*. . .Heroin addiction cannot be stopped with methadone. Most users use methadone along with heroin or take long periods to reduce their dosage. . .Methadone is a waste of money!*" *(14).*

Willingness to pay

Willingness to pay values for valid responses are shown in Table 6. Slightly more respondents were willing to pay for detoxification and rehabilitation approaches rather than needle exchange or methadone maintenance. Willingness to pay was highest for community detoxification and rehabilitation (£16.10) followed by residential detoxification and rehabilitation (£14.10), needle exchange provision (£10.23) and lowest for methadone maintenance treatment (£8.29).

Further qualitative data: open question

307 respondents provided qualitative data in the open space provided. Thematic analysis identified five themes: opinions of drug users, opinions of treatment, responsibility, law and order and personal anecdote.

Opinions of drug users: Many respondents expressed largely negative, generalised opinions:

> "*I think all drug users should be put on an island with as many drugs as they want and then forget about them. They are a menace to society*" *(236)*,

There were very few positive comments and even those that had a more positive aspect displayed ambivalence:

> "*People are scared [of drug users] and quite rightly so, but these people are human beings and in need of so much more help. . .*" *(143)*

Opinion of treatment: A third of all the comments related to the treatment approach. Most (*N* = 48) were about methadone prescribing, with many demonstrating mixed feelings and only two being favourable. Perceived 'abuse' of methadone prescribing was the main concern:

> "*Methadone helps many heroin users become drug free, however the system is abused. . .*" *(58).*

And

> "*I see people going to the pharmacy for their methadone, then coming out talking about where they are going to get their next "hit"*." *(610)*

Only twelve comments were made about heroin prescribing; these were largely thoughtful, balancing potential benefits with a basic dislike of the concept:

> "*. . .I would not like to think that heroin would be prescribed legally but if nothing else helped it may be that this would be the answer in the future. . .*" *(714)*

Almost all comments about rehabilitation/residential programmes were positive, whilst recognising funding issues:

> "*There must be more residential and rehab [centres] – but with the number of drug users in Scotland – where will the money come from?*" *(68).*

The small number of comments on needle exchange included positive, negative and ambivalent views:

> "*. . .We are in a recession & I'm being asked to pay for clean needles for wasters who wouldn't think twice about stealing my last penny for shopping?. . .*" *(772)*

Responsibility: Four groups were considered to be responsible for the care and rehabilitation of drug users: the drug user, the parents/family of the drug user, drug suppliers, and society:

> "*the drug dealers should pay for this problem, they cause it*" *(890)*

Law and order: Criminality of drug users was a recurring theme, because of the size of the perceived effect on society:

> "*I feel that the misuse of drugs has had a [catastrophic] effect on our society. It's responsible for a high percentage of crime. . .*" *(528).*

The legalization of drugs or decriminalization was widely raised with many comments supportive:

> "*All drugs should be legalised and then the criminality would be taken out of it*" *(583).*

Overall, although some comments reflect negative views, there was an emerging cross-cutting theme of ambivalence in which people seemed to weigh up a dislike of drug users, their lifestyle or the criminal association of drug use against possible benefits of treatment to society and/or to the individual.

Discussion

Key findings

The postal questionnaire achieved a 38.1% response rate. Only a small number of respondents opted for online completion, suggesting this is not a worthwhile option, as since concluded by others (Ziegenfuss, Beebe, & Rey, 2010). Less than five per cent of respondents had used illicit drugs in the last year and less than 10% had personal experience of drug misuse. Regression modelling found positive attitudes were more prevalent in those with personal experience of drug misuse, better knowledge of drugs and higher income (>£50,000 pa compared to <£15K). Over half of respondents were not willing to pay anything for the treatment options given, indicating they did not value these treatments at all. Respondents were willing to pay most for community detoxification or rehabilitation and least for methadone maintenance treatment.

Strengths and limitations

A strength of the study was use of the electoral roll to give a representative sample of the Scottish population, although those who change address or opt out of voting may be excluded. The response rate was reasonable for a UK population survey, but theoretically low limiting the generalisability of findings. Similarly there may be some response bias: older people were slightly over-represented (23% >65 years compared to 20% in the general population (SHS, 2009)); smokers and alcohol drinkers were slightly under-represented (18% current smokers compared to and 25% in the general population; 79% drank alcohol compared to 88% in the Scottish population (SHS, 2009)). Over ten per cent had experience through a family member with a few more (16.7%) having experience through a friend or acquaintance. This is similar to the Drugscope survey (Roberts, 2009) where one in ten reported having experience of illicit drug use through a family member.

Responses to the WTP questions were fewer than for other questions in this questionnaire. This may be because respondents did not understand the questionnaire, or because they objected to the valuation method. Future work should explore this as well as the validity of the WTP method, i.e. the extent to which respondents would pay in reality what they state in a hypothetical context. A further minor limitation is that education status was not recorded as there was no theoretical basis for including it. In retrospect, analysis by education status may have been insightful and future work should record this.

Attitudes and knowledge

Regression analysis identified that having an annual income >£50K, or having personal experience of drug misuse and having better knowledge of drugs were significantly associated with a more positive attitude. It is not surprising that those with personal experience have a more positive attitude as they will be likely to understand the complex issues associated with drugs misuse. The more positive attitude of those with the highest salary may be because this group can 'afford' to be more sympathetic, or may be less exposed to the negative aspects of drug misuse if they live in affluent areas. People in low to middle income groups may feel more resentful of drug misusers receiving treatment on the NHS, particularly if they perceive them to be abusing their treatment. However the regression model suggests there are other factors influencing attitude that are not accounted for in this model which requires further exploration. No previous research was found exploring factors influencing attitude in this way for comparison.

The stigmatisation of drug users has been acknowledged since they first became 'visible' in pharmacies (Matheson, 1998). The UK Drug Policy Commission (UKDPC) explored stigmatisation in detail and acknowledged that 'the continuing stigmatisation of people with drug dependence will undermine the government's efforts to help them tackle their condition' (UKDPC, 2010). Findings support this and indicate a need for more knowledge and understanding of different treatment approaches. Open comments also suggested some respondents balanced their basic dislike of drug users and their feelings that they did not deserve treatment against the benefits to society of treating them. Better knowledge of drugs was associated with more positive attitudes, indicating the need to test the use of education/engagement activities to improve knowledge. This may in turn reduce attitudinal barriers and stigmatisation. However the witnessing of apparent abuse of ORT by the general public still needs to be addressed at a community level. Thus pharmacies, health centres and treatment centres need to consider how to manage this publicly observed interaction which has a negative image whilst also presenting the value of the drug treatment services they provide, through engaging and educating both their drug using patients and the community.

Valuation of drug treatment

Previously 77% of the public surveyed agreed that investment in drug treatment was a sensible use of government money (Roberts, 2009). However that question was framed as an attitude statement. In this current survey, using an open-ended WTP based on taxation, over half of respondents had 'valid zero' responses, indicating they did not value any drug treatment. Reasons for a zero value included believing drug addiction was a self inflicted condition and questioning treatment effectiveness (in part due to the perceived abuse of the system). As such, valuing alternative drug treatment strategies may be seen as different to valuing interventions where effectiveness is more certain and the individual is not 'responsible' for their need to use health services. Indeed, there has been debate in the literature regarding whether culpability/responsibility for ill health should influence ones entitlement to health care resources (Dolan, Shaw, Tsuchiya, & Williams, 2005).

Values differed across treatment strategies, with respondents willing to pay more towards detoxification, rehabilitation and harm reduction than methadone maintenance. The factors influencing this value will be related to the value of eliminating addiction (and the perceived benefits that will flow from this) as well as the value of the treatment per se. Assuming the value of eliminating addiction is constant, then the difference in value across treatment strategies can be seen as representing the value of the particular

treatment (over and above the value of getting rid of addiction). Further research could explore in more detail factors influencing WTP values.

The WTP valuation ordering differed from the ranking ordering – whilst respondents also favoured detoxification and rehabilitation in the ranking exercise, the residential model ranked higher than community based approach. The ranking question was asked from the perspective of a family member needing treatment. Our findings may indicate that people value things differently according to their own level of personal attachment. The WTP question could be considered to have more relevance to policy, providing evidence on strength of preference (and therefore comparable with costs), as opposed to a ranking where only ordinal preferences are provided.

Implications for future treatment strategy and research

Our results show that the general public do not value ORT as a treatment option. This leaves a mis-match between what the general public value i.e. an abstinence-based approach and what they understand about drug dependence i.e. that it is a long term and complex problem, with the strong evidence for ORT compared to abstinence-based approaches (see Introduction).

One option to resolve this mismatch is for future drug treatment strategy to include the development of an evidence-based, community-based, rehabilitative programme that could work alongside ORT, i.e. merging the two approaches. Anecdotally this is already happening at a delivery level. Expanding residential detoxification and rehabilitation services is probably not economically viable, or currently sufficiently supported by evidence or public opinion. Future research is recommended to evaluate such a merged model of treatment.

Methadone is suffering from an image problem, and this research indicates this may be partly through public observation of abuse of the system. As a result the name 'methadone' may have negative connotations and alternative terminology such as the broader 'opiate replacement treatment' could be usefully adopted in future public engagement initiatives. Evaluation of the impact of public education/engagement initiatives is required.

The use of WTP in this context was novel and exploratory. Further confirmation of the value of this approach alongside traditional assessment of attitudes might be gained by conducting similar research in other countries where drug treatment approaches have a different emphasis. For example in Sweden, where there is a restrictive drug policy (UNODC, 2007) and in Australia (UNODC, 2008) where a more liberal approach has taken harm reduction further forward with provision of heroin prescribing and injecting clinics.

Conclusion

This study was undertaken to determine public understanding and opinion of drug treatment options. This is set against a background of other research suggesting links between public opinion, the media and policy (not explored here). Findings demonstrate that the public are trying to balance a basic dislike of using public money to treat a self-inflicted illness with a treatment such as methadone that is widely perceived to be abused, against the benefits to society. However the public preference for a community-based, detoxification and rehabilitation approach alongside the policy move to 'recovery' needs to be supported by research evidence. The possibility of bringing together ORT with a community-based, rehabilitative approach in future should be researched. Finally, evaluation of both local and national public engagement/education is recommended.

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Conflict of interest

None.

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