

## Systematic review of patient and nurse attitudes to depot antipsychotic medication<sup>†</sup>

JESSICA WALBURN, RICHARD GRAY, KEVIN GOURNAY, SEEMA QURAIISHI and ANTHONY S. DAVID

**Background** Depot antipsychotic medication is used widely in the treatment and prophylaxis of severe mental illness.

**Aims** To review the literature on patient and nurse satisfaction with, and attitudes towards, depots.

**Method** A systematic search of Medline, Embase, PsycINFO, CINAHL and *The Cochrane Library* was undertaken, along with citation searches. Studies were selected if satisfaction/attitude data were described in the title or abstract and original data were included. Study quality was rated.

**Results** The search produced 1374 articles; 22 articles met the inclusion criteria, 18 of which were cross-sectional surveys. Of the 12 studies with relevant data, 10 conveyed a positive opinion of depot medication. Five out of six studies comparing depot with oral medication showed patient preference for depot.

**Conclusions** High-quality data examining patient and nurse attitudes regarding depot antipsychotics are sparse. What data there are show a positive attitude to depots from patients. Future randomised controlled trials should include satisfaction as an outcome.

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Antipsychotic medication is fundamental to the effective management of schizophrenia, in terms of both acute treatment and relapse prevention. Long-acting depot antipsychotics, given every 1–6 weeks by intramuscular injection, were developed in the 1960s as an additional method of drug delivery aimed specifically to counter problems with treatment adherence in chronic sufferers (Simpson, 1984) and to simplify the medication process (Johnson, 1984; Barnes & Curson, 1994; Davis *et al*, 1994). A series of systematic reviews on the efficacy, effectiveness and safety of depot neuroleptic drugs in the treatment of schizophrenia has been published recently (Adams & Eisenbruch, 2000; Coutinho *et al*, 2000; Quraishi & David, 2000*a–e*; Quraishi *et al*, 2000), summarised in the accompanying article (see Adams *et al*, this issue). Here we review the published evidence on patient and staff satisfaction with depots. It is ironic that the very reasons why clinicians favour depot medication in certain circumstances are those that make this method of administration unpopular with some users. For example, Anderson *et al* (1989) reported that the depot clinic is perceived as being “out of date, not geared to the needs of the patient, inaccessible and unable to provide personalised care”. Pereira & Pinto (1997) stated that “Consumer advocates concentrate on the undeniable adverse effects of antipsychotic drugs and upon the accusation that depot treatments involve an element of coercion”. It is against this backdrop that the review was carried out.

### Objective

The objective of the review was to explore patient and nurse satisfaction with depot antipsychotic medication. None of the studies included in the effectiveness reviews reported data that directly assessed patient satisfaction with the medication. Consequently, a wider review incorporating

studies of mixed design and not restricted to randomised controlled trials (RCTs) was instituted. The specific aims were to investigate: patient satisfaction with depot antipsychotic medication; the patient preferred setting for the administration of depot antipsychotic medication; patient preference for depot antipsychotic medication or oral antipsychotic medication; and nurse satisfaction with depot antipsychotic medication.

### METHOD

A systematic search strategy was implemented. This involved searching the following electronic databases: Medline, Embase, PsycINFO, CINAHL and *The Cochrane Library* from 1966 up to the end of May 1999. The review used a subject and text-word search strategy with DEPOT, DELAYED-ACTION PREPARATIONS, (INTRAMUSCULAR) INJECTIONS and ANTIPSYCHOTIC (AGENTS) and/or NEUROLEPTIC (DRUGS) as the main search terms. The databases were also searched using specific depot drug names in order to be as comprehensive as possible. These were combined with ‘satisfaction’, ‘attitude’ and related terms. Reference and library source searching plus hand-searches also were carried out (see Appendix).

### Inclusion/exclusion criteria

Studies were included if they contained original data describing nurse or patient satisfaction (i.e. any opinion or attitude) towards depot antipsychotic medication according to the title or abstract. A second independent reviewer selected studies from a random 10% of the references to ensure that selection of studies was reliable. Where differences of opinion occurred, these were resolved by discussion.

### Analysis

The quality of the articles was assessed in two stages. The first stage used a ‘hierarchy of evidence’. This is a method of categorising studies via the attributes of their design. It is a hierarchy of bias, which increases progressively downwards. We used an amalgamation of two hierarchies (University of York NHS Centre for Reviews and Dissemination, 1996; Greenhalgh, 1997) – essentially from RCTs, through non-randomised controlled trials, to cohort studies, to case-control studies,

<sup>†</sup>See pp. 290–299, this issue.

to case series, etc. The categorisation for each study was carried out by two of us (J.W., R.G.) independently and any disagreements were resolved by discussion.

The second stage comprised the assessment of the studies using a 13-item checklist constructed specifically for the review. The items for this checklist were derived from a number of sources (University of York NHS Centre for Reviews and Dissemination, 1996; Greenhalgh, 1997) and finalised by discussion between us. The checklist focused upon those variables most often highlighted in critical appraisal, namely, justification of sample size, sampling, response/drop-out rates, validity of measures and the generalisability of the results (see Tables 1 and 2).

## RESULTS

The search strategy produced 1374 articles. Of these, 22 met the inclusion criteria for containing satisfaction data. Sixteen studies explored patient attitudes towards depot antipsychotic medication, four looked at the opinions of nurses and two investigated both. Eighteen studies were cross-sectional surveys, three were quasi-case-control studies and there was one RCT. The sample size of the studies ranged from 26 to 270 participants (median=73). The total number of patient participants was 2311. Various settings were used for the studies, including hospital-based depot clinics, out-patient clinics and general practitioner (GP) surgeries. Twenty studies used questionnaires or interviews specifically designed for the study, one adapted an existing measure and one applied an existing measure. The characteristics of the included studies and scales used are described in Table 1.

The quality of the studies was mixed. Their performance on the checklist (Table 2) and marks scored was in the range 1–10 out of a maximum of 13 (mean score=44%). Ten (48%) studies failed to score on eight of the items. The studies performed best for: 'response rate specified' (included by 90% of the studies) and 'demographic details' (67%). However, only one study included a sample size calculation, and, although 19 studies stated their response or drop-out rate, only four of these justified or explained these rates. Similarly, 16 studies did not attempt to show that their sample was in any way representative of the population they were aiming to investigate.

Ten of the twelve studies that included specific attitudinal or preferential data found that their patients held some positive views towards depot antipsychotic medication. One reported a neutral view and one a negative attitude (Table 3).

Four of the five studies investigating patient preference regarding treatment setting reported that the majority preferred to receive their medication at the depot clinic (a regular forum attached to a hospital or community centre where depots are administered), whereas Poole & Grimes (1998) found the preferred setting to be at home (Table 4). None of the studies found a majority of patients in favour of GP-based treatment. Indeed, this was the third least preferable option for all of the studies.

There were six studies that reported on a direct comparison of oral *v.* depot from the point of view of patient preference (Table 5). Five studies found that the majority of participants preferred to receive their medication via depot administration rather than in tablet form. Desai (1999), in an open non-randomised study comparing patients switched from depot to risperidone, found that 80% of their sample preferred oral medication.

Two studies investigated the importance given to particular side-effects. Buis (1992) asked patients to complete an amended version of the UKU side-effect rating scale (Lingjaerde *et al.*, 1987), where objective criteria had been replaced by subjective criteria. They then formed a hierarchy of the side-effects that were most important or troublesome. The top five were: sleepiness, increased fatigability, weight gain, tension or inner unrest and concentration difficulties. Side-effects associated with movement were among the least important. Larsen & Gerlach (1996) reported that extrapyramidal symptoms (EPS) (apart from akathisia) were least reported by patients. However, 88% of patients who reported no side-effects had at least one EPS. Larsen & Gerlach (1996) also found that non-physical or 'psychic' side-effects (dullness/tiredness) were the most frequently reported. This is in contrast to the perception of the patients' physician, who focused mainly on EPS.

### Nurse satisfaction

There were minimal data for nurse satisfaction with depot antipsychotics. No one paper focused specifically on the issue of nurse satisfaction with depot antipsychotics

and all data included were embedded within articles looking at other topics. There were differences between the attitude of community psychiatric nurses (CPNs) and practice nurses. Bennett *et al.* (1995) reported that, overall, the CPNs' attitude was favourable towards administering and monitoring medication, although 29% felt that it did not utilise their skills. However, Burns *et al.* (1998) reported that two-thirds of practice nurses administered depots but most lacked confidence and training. Kendrick *et al.* (1998) surveyed practice nurses by post and held a focus group to find that they felt unsupervised and that CPNs should be administering depots. Cantle (1997) surveyed 26 delegates (GPs and primary care nurses) at a training day for depot neuroleptics: 88% of the group stated that they would like more training. Warren (1998) carried out an audit of depot administration and reported that nurses wanted more training in medication and treating psychoses in general. Finally, only one of the five studies looking at patient preference for treatment setting investigated nurse opinion. Brooker *et al.* (1996) asked clinic nurse managers of 135 depot clinics to rate their overall satisfaction (0=totally unsatisfactory, 8=excellent) with their clinic arrangements. The mean rating was 4.8, with 40% scoring below this figure.

## DISCUSSION

There were few data in the literature concerned with patient satisfaction with depot antipsychotic medication, and even fewer investigating the attitudes of nurses. All were from the lower levels of the hierarchy of evidence. Although the cross-sectional survey is appropriate for investigating satisfaction, more complex longitudinal designs could be used to assess, for example, how attitudes may change over time.

### Data quality

The favourable findings regarding depots in the majority of studies are in contrast to the negative popular perception of depot antipsychotic medication and the view put forward in the introduction (Anderson *et al.*, 1989; Pereira & Pinto, 1997). However, the scarcity and mixed quality of the studies make generalisations problematic. First, no studies asked the same question to gauge overall satisfaction, so amalgamating the

**Table 1** Characteristics of included studies (study denoted by first author and year of publication)

Study	Design	Participants	n	Satisfaction outcome measures
Anderson 1989	Cross-sectional survey	Diagnosis: not specified; patients attending 2 depot clinics over a 1-month period. Setting: hospital-based depot clinics	168	16-item questionnaire investigating general attitudes towards the depot clinic
Bennett 1995	Cross-sectional survey	Diagnosis: not specified Profession: CPN Setting: CPNs in 3 health districts	55	20-item questionnaire investigating CPNs' practice in administration of depot medication and their attitudes towards it
Brooker 1996	Cross-sectional survey	Diagnosis: not specified; attendees of depot clinics in north-west catchment area Setting: depot clinics	270	34-item questionnaire investigating clients' views about their depot medication and the arrangements of their depot clinic
Buis 1992	Cross-sectional survey	Diagnosis: not specified; "most had a diagnosis of schizophrenia" Setting: out-patient clinic	44	Adapted UKU side-effect scale. Objective criteria replaced with subjective
Burns 1998	RCT	Diagnosis: schizophrenia Profession: practice nurses Setting: 140 general practices, south London	149	Exit interviews describing nurses' attitudes towards their ability to perform the structured assessments
Cantle 1997	Cross-sectional survey	Diagnosis: not applicable Profession: GPs and practice nurses Setting: study day	26	10-item questionnaire regarding management of schizophrenia in general practice
Desai 1999	Quasi-case-control	Diagnosis: DSM-IV schizophrenia Setting: out-patients referred to the study	143	Patient acceptance of medication on 7-point scale Comparison of depot/oral on 7-point scale
Eastwood 1997	Cross-sectional survey	Diagnosis: not specified; patients receiving depot medication in a number of settings	100	Semi-structured depot neuroleptic interview investigating patients' knowledge about their medication and their attitudes towards it
Garavan 1998	Cross-sectional survey	Diagnosis: DSM-III-R schizophrenia Setting: out-patient clinic	70	Drug attitude inventory
Goldbeck 1999	Cross-sectional survey	Diagnosis: not specified; patients receiving depot medication at a community health centre in Clydebank Setting: community health centre	59	Semi-structured interview looking at depot medication issues
Hoencamp 1995	Cross-sectional survey	Diagnosis: DSM-III schizophrenia Setting: out-patient clinic, depot=81, oral=93	174	17-item Modified Patient Request Scale (Dutch Version); 8-item Neuroleptic Evaluation and Attitude List (interview)
Jacobsson 1980	Cross-sectional survey	Diagnosis: schizophrenia Setting: hospital depot clinic	43	Interview Questionnaire
Kendrick 1998	Cross-sectional survey	Diagnosis: not applicable Profession: practice nurse Setting: GP surgery	192	Postal survey Focus group
Larsen 1996	Cross-sectional survey	Diagnosis: ICD-10 schizophrenia Setting: out-patient clinic	53	14-item questionnaire specially designed to evaluate the patients' attitude to treatment; Psychological General Well-being Schedule
Pan 1989	Quasi-case-control	Diagnosis: schizophrenia; attenders and irregular attenders at depot clinic Setting: hospital depot clinic	80	4-part Health Belief Questionnaire specifically designed for the study
Pereira 1997	Cross-sectional survey	Diagnosis: chronic schizophrenia/paranoid psychosis Setting: out-patient clinic	173	Semi-structured interview/questionnaire investigating patients' attitudes towards their medication
Poole 1998	Cross-sectional survey	Diagnosis: not specified; patients receiving depots in a number of settings within the locality	47	Questionnaire asking patients to choose where they would prefer to receive their medication
Sandford 1996	Cross-sectional survey	Diagnosis: not specified; patients receiving depots in 5 clinics Setting: 5 depot clinics	58	Structured interview investigating patients' views of the care and service they received at the clinic
Singh 1995	Cross-sectional survey	Diagnosis: schizophrenia (188), manic-depressive psychosis (15) and schizoaffective disorder (15) Setting: hospital-based depot clinic	218	17-item interview questionnaire investigating patients' views of the care and service they received at the clinic
Smith 1999	Quasi-case-control	Diagnosis: schizophrenia DSM-III-R Setting: depot clinic and day hospital	40	4-item interview schedule derived from motivational interviewing, investigating attitudes towards medication and compliance
Warren 1998	Cross-sectional survey	Diagnosis: not specified; patients receiving depot antipsychotics Profession: 68 nurses Setting: various	76	Structured interview schedules investigating the quality of care during the administration of depot medication
Wistedt 1995	Cross-sectional survey	Diagnosis: schizophrenia (68); other diagnoses (5) Setting: depot clinic	73	Six questions investigating patient attitudes towards their depot medication, asked by mental health nurse

CPN, community psychiatric nurse; GP, general practitioner; RCT, randomised controlled trial.

**Table 2** Checklist results: quality of studies

Study (first author and year)	Explicit <i>a priori</i> aims of investigation	Definition/size of population under investigation	Sample size calculation	Justification that sample is representative of population	Inclusion/exclusion criteria stated	Demographic details	Research independent of routine care/practice	Justification of validity/reliability of measures	Original questionnaire available	Response/drop-out rate specified	Justification of response/drop-out rate	Discussion of generalisability	Statement of source of funding	Marks lost	Percentage of maximum quality score
Brooker 1996	+	+	-	+	-	+	+	N/A	+	+	+	+	+	2	77
Pan 1989	+	-	-	-	+	+	+	+	+	+	N/A	+	+	3	69
Larsen 1996	+	+	-	-	+	+	+	+	+	+	-	+	+	3	69
Sandford 1996	+	+	-	+	+	+	+	+	-	+	+	+	-	3	69
Burns 1998	+	+	-	-	+	+	+	-	N/A	+	-	+	+	4	62
Desai 1999	-	-	+	-	+	+	-	N/A	+	+	+	+	+	4	62
Garavan 1998	-	-	-	-	+	+	+	+	N/A	+	-	+	+	5	54
Hoencamp 1995	-	-	-	+	-	+	+	+	+	+	-	+	-	6	54
Smith 1999	+	-	-	-	+	+	+	N/A	+	+	-	-	-	6	46
Pereira 1997	+	+	-	-	+	+	-	-	-	+	-	-	+	7	46
Jacobsson 1980	-	-	-	-	+	+	-	-	+	+	+	+	-	7	46
Kendrick 1998	+	+	-	-	-	-	+	-	+	+	-	+	-	7	46
Cantle 1997	-	-	-	-	+	-	+	+	-	+	-	+	-	8	38
Wistedt 1995	-	-	-	-	+	+	-	N/A	+	+	-	-	-	8	31
Bennett 1995	-	+	-	+	-	-	-	+	-	+	-	+	-	8	38
Singh 1995	+	-	-	-	+	+	+	-	-	+	-	-	-	8	38
Goldbeck 1999	-	+	-	-	-	+	-	-	-	+	-	-	-	10	23
Warren 1998	-	+	-	+	-	-	-	-	-	+	-	-	-	10	23
Eastwood 1997	+	-	-	-	-	+	+	-	-	-	-	-	-	10	23
Poole 1998	-	+	-	-	-	-	-	-	-	+	+	-	-	10	23
Anderson 1989	-	-	-	-	+	-	-	-	-	-	-	+	-	11	15
Buis 1992	-	-	-	-	-	-	-	-	-	+	-	-	-	12	8
Total	10/22	10/22	1/22	5/22	12/22	14/22	12/22	7/18	8/20	19/22	4/21	12/21	7/22	Mean 6.9	Mean 44

+, Present; -, absent; N/A, not available.

**Table 3** Patient satisfaction with depot antipsychotics

Study (first author and year)	Positive (+) satisfaction data	Neutral (0) satisfaction data	Negative (–) satisfaction data
Pan 1989		Most subjects believed that maintenance treatment was neither beneficial nor harmful for their physical health, family life, marital relationships, finances and social life	
Larsen 1996	60% of the patients had a positive attitude towards depot medication		
Desai 1999			Patient acceptance of risperidone was significantly higher than that of depot medication: 83% v. 23%
Hoencamp 1995	62% of patients taking depots prefer to remain on depots		
Pereira 1997	87% of patients receiving depot medication would prefer to continue with depot either alone or in combination with oral medication		
Jacobsson 1980	77% thought injection was better than tablets because no risk of forgetting; 67% thought medication was/might be more effective than tablets		
Wistedt 1995	A little over 60% seemed satisfied		
Singh 1995	93% enjoyed attending the clinic		
Goldbeck 1999	39% expressed a positive view, 29% neutral, 32% a negative view		
Warren 1998	86% who responded felt their injections to be useful		
Eastwood 1997	53% preferred depot; 54% considered it helpful		
Anderson 1989	60% positively enjoyed attending the depot clinic		
Number of studies	10	1	1

These studies had specific data asking patients how satisfied they are with their depot antipsychotics rather than an overall judgement by the reviewer. Studies are shown in the order of their score on the checklist.

**Table 4** Patient preference for treatment setting

Study <sup>1</sup>	n	Depot clinic (%)	Home (%)	GP (%)
Brooker 1996	270	74 <sup>2</sup>	–	
Sandford 1996	58	52	29	19
Singh 1995	218	63/88 <sup>3</sup>	37	14
Poole 1998	47	21 <sup>2</sup>	64	9
Anderson 1989	168	56 <sup>2</sup>	39	17
Number of studies		4	1	0

1. Studies (denoted by first author and year) shown in order of their score on the checklist.

2. Patients were given the three options to choose from.

3. Patients were given a choice of depot v. home and depot v. general practitioner (GP).

responses may be inappropriate. Similarly, comparison between studies was difficult. Second, the higher quality studies tended to show less positive results, indicating a possible relationship between study quality and outcome, but because there are only two dissenters this cannot be concluded

with confidence. Another more persuasive explanation for the findings is sample selection bias. The patients involved in the studies were, by definition, 'attenders' and 'compliers'. People who attend depot clinics would be expected to be reasonably positive about depots, otherwise they

would not attend. Data on non-attenders and non-compliance are, *ipso facto*, hard to obtain. The key factor is that the studies did not formally seek a sample that was representative of all those who were prescribed depot antipsychotic medication but took a convenience sample with all its associated pitfalls. Similarly, a non-selected group of patients on maintenance oral medication would include many who had been either on depots in the past or at least offered them and declined. The views of such patients on depots (presumably rather negative) would complete the picture, as well as perhaps offering insights into why such patients dislike depots (see Hoencamp *et al.*, 1995). The most informative study would compare a population-based survey of all patients on maintenance treatment – depot and oral. Depot recipients are bound to have been given oral medication previously and many patients on oral

**Table 5** Patient preference for depot v. oral antipsychotic (unless otherwise stated, patients are on depot antipsychotics)

Study <sup>1</sup>	Question asked (where stated)	n <sup>2</sup>	Preference, %			
			Depot	Oral	Combination	No preference
Desai 1999 <sup>3</sup>	Patients asked to compare risperidone with their previous depot medication	143	9	80		11
Hoencamp 1995 <sup>4</sup>	"Rather medication by depot or tablet?"	81	62	33		
Pereira 1997	Patient preference for route of administration	107	59	3	24	
Eastwood 1997	Patient preference	100	53	23		14
Jacobsson 1980 <sup>5</sup>	"Do you think there is a difference between taking tablets daily or receiving an injection every few weeks?"	43	56	20		
Wistedt 1995	"How do you feel about the medicine you get in the form of injections compared with earlier treatment with tablets?"	73	63	0	–	26
Number of studies			5	1		

1. Studies (denoted by first author and year) shown in order of their score on the checklist.

2. Total number in the study and does not take account of missing data.

3. Patients thought that oral medication was much better than their previous treatment depot.

4. This paper does include data for those on oral medication but not for this question.

5. Patients were asked three questions regarding the difference between medication types; all questions showed that a majority of patients preferred depots.

medication also will have experience of depots. Hence, each could express a preference. Reasons for accepting/declining depots could be gathered systematically.

### Preference for depots

Hoencamp *et al* (1995) did compare patients on oral and depot medication but could not obtain data regarding preference from those currently on oral medication. It was reported that 26 of the 93 patients on oral medication had been on depot medication previously but only two preferred depot medication. Nevertheless, the conclusion that can be drawn from this and similar studies is that the majority of patients on depot antipsychotic medication accept their medication, with approximately a quarter of patients in three of the studies not satisfied. Desai (1999) was the only study reporting that patients preferred oral medication to their current depot medication. However, this can be attributed to bias because the sample was composed of patients whose psychiatrists had considered that they would benefit from a switch from depot antipsychotic medication to risperidone, an oral atypical antipsychotic drug.

The results show that the majority of patients prefer to have their medication administered at a clinic organised for this purpose. This may be because of the social contact afforded by attending the clinic and ready access to health care professionals. These benefits would not follow from attendance at the GP surgery, where there

would be few other relevant facilities on site. However, the bias described previously may also explain the preference for treatment setting. All five studies took their sample from patients receiving their medication at a depot clinic. None of the studies took a representative sample from patients of clinics, at home and at their GP surgery.

### Reasons for preference

The evidence reviewed showed clear patient preference for depot antipsychotic medication over oral antipsychotic medication. Therefore, although evidence of clinical superiority may be elusive, we have found support for a 'subjective superiority' for depots. One possible explanation is convenience. Wistedt (1995) found that 67% of their sample thought it easier to have an injection than taking tablets once or twice daily. Hoencamp *et al* (1995) also found convenience to be an important factor, because 42% of those who preferred depots cited this as a reason why. In contradiction to the concerns regarding the loss of personal freedom, Jacobsson & Odling (1980) reported that 67% of their sample receiving antipsychotics via a depot did so because of the control they had over the timing and dosage of treatment.

The emphasis of patients on the 'psychological' side-effects described by Buis (1992) and Larsen & Gerlach (1996) and its discordance with the emphasis of health professionals (Larsen & Gerlach, 1996) highlights the need for a patient focus. Although the physical side-effects must be

addressed for the patient's safety and satisfaction, the psychological aspects also need to be addressed to improve quality of life. The neglect of this dimension may lead to non-compliance.

### Nurse satisfaction

There are few studies looking at the perception of nurses administering depot antipsychotic medication. We may conclude, nevertheless, that there is ambiguity as to the type of nurse who should administer depot antipsychotic medication and that more and better training should be given (see Burns *et al*, 1998; Kendrick *et al*, 1998).

### ACKNOWLEDGEMENTS

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### APPENDIX: SEARCH STRATEGY

#### Database searching

- Medline, 1966–May 1999 (updated weekly):  
[(DEPOT\$.mp/or exp Delayed-action preparations)/and (ANTIPSYCHOTIC\$.mp/or exp antipsychotic agents or "NEUROLEPTIC\$.MP)]
- PsycINFO, 1887–May 1999 (updated monthly):  
[(DEPOT\$.mp/and (ANTIPSYCHOTIC\$.mp/or "NEUROLEPTIC\$.mp/or exp neuroleptic drugs)]
- CINAHL, 1993–April 1999 (updated monthly):  
[DEPOT\$.mp/or exp injections, intramuscular]/and (ANTIPSYCHOTIC\$.mp/or exp antipsychotic agents or "NEUROLEPTIC\$.mp)]

(d) Embase, 1980–May 1999 (updated weekly):  
[DEPOT\$.mp/and (ANTIPSYCHOTIC\$.mp/or  
exp atypical antipsychotic agent/or NEUROLEP-  
TIC\$.mp/or exp neuroleptic agent)]

(e) *The Cochrane Library* (issue 4, 1999)

The above databases were also searched using specific depot drug names in order to make the search as comprehensive as possible (see text). These were combined with 'satisfaction' and related terms, as follows:

(a) Medline [(exp consumer satisfaction/or exp job satisfaction/or exp patient satisfaction/or exp personal satisfaction/or satisfaction.mp) or (exp attitude/or exp attitude of health personnel/or exp attitude to health/or attitude.mp)]

(b) PsycINFO [(exp satisfaction/or satisfaction.tw) or (exp adult attitudes/or exp attitudes/or exp drug use attitudes/or exp attitudes towards mental illness/or attitude\$.tw)]

(c) CINAHL [(exp consumer satisfaction/or exp job satisfaction/or exp patient satisfaction/or exp personal satisfaction/or satisfaction.mp) or (exp attitude/or exp attitude of health personnel/or attitude to mental illness/or attitude\$.mp)]

(d) Embase [(exp job satisfaction/or exp life satisfaction/or exp patient satisfaction/or exp satisfaction/or satisfaction.mp) or (exp patient attitude/or exp nurse attitude/exp physician attitude/or attitude\$.mp)]

## Reference searching

The references of the included studies were inspected for further studies. Each of the included studies was sought as a citation on the SCISEARCH database. Reports of articles that had cited these studies were inspected in order to identify further trials.

## Library source searching

The catalogues at the Institute of Psychiatry and the Royal College of Nursing were searched to obtain secondary sources:

- Depot and [antipsychotic or neuroleptic]
- Psychiatric Nursing and Depot

## Hand-searching

The following journals were hand-searched for June, July and August 1999 to identify publications that may not have been entered on the databases yet:

- Acta Psychiatrica Scandinavica*
- Journal of Mental Health*
- British Journal of Psychiatry*
- Schizophrenia Bulletin*
- Psychiatric Bulletin*

## REFERENCES

**Adams, C. E. & Eisenbruch, M. (2000)** Depot fluphenazine for schizophrenia. *Cochrane Library*, issue 2. Oxford: Update Software.

## CLINICAL IMPLICATIONS

- Patients currently on depot medication are generally happy with that mode of delivery.
- Most patients on depots prefer them to oral drugs.
- Convenience seems to be the main reason for patient preference of depot.

## LIMITATIONS

- There are no data from randomised controlled trials on the issue of patient satisfaction.
- The quality of data is not high.
- Surveys from representative samples of patients on maintenance antipsychotic medication have not been carried out.

JESSICA WALBURN, RICHARD GRAY, RMN, KEVIN GOURNAY, PhD, SEEMA QURAISHI, MSc, ANTHONY S. DAVID, FRCPsych, Institute of Psychiatry, London, UK

Correspondence: Professor Anthony David, Institute of Psychiatry & GKT School of Medicine, Denmark Hill, London SE5 8AF, UK. Tel: 020 7848 0138; Fax: 020 7848 0572; e-mail: a.david@iop.kcl.ac.uk

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\_\_\_, Fenton, M. K. P., Quraishi, S., et al (2001)

Systematic meta-review of depot antipsychotic drugs for people with schizophrenia. *British Journal of Psychiatry*, **179**, 290–299.

**Anderson, D., Leadbetter, A. & Williams, B. (1989)**

In defence of the depot clinic. The consumers' opinion. *Psychiatric Bulletin*, **13**, 177–179.

**Barnes, T. R. E. & Curson, D. A. (1994)** Long term

depot antipsychotics. A risk–benefit assessment. *Drug Safety*, **10**, 464–479.

**Bennett, J., Done, J. & Hunt, B. (1995)** Assessing the

side-effects of antipsychotic drugs: a survey of CPN practice. *Journal of Psychiatric and Mental Health Nursing*, **2**, 177–182.

**Brooker, C., Faugier, J. & Gray, C. (1996)** *An Audit of*

*Depot Clinics in the North West Region*. Sheffield: University of Sheffield/NHS Executive N.W. Regional Office.

**Buis, W. (1992)** Patients' opinions concerning side effects

of depots neuroleptics. *American Journal of Psychiatry*, **149**, 844–845.

**Burns, T., Millar, E., Garland, C., et al (1998)**

Randomised controlled trial of teaching practice nurses to carry out structured assessments of patients receiving depot antipsychotic injections. *British Journal of General Practice*, **48**, 1845–1848.

**Cantle, F. (1997)** Management of depot neuroleptics.

*Practice Nursing*, **8**, 118–147.

**Coutinho, E., Fenton, M. & Quraishi, S. (2000)**

Zuclopentixol decanoate for schizophrenia and other serious mental illnesses. *Cochrane Library*, issue 2. Oxford: Update Software.

**Davis, J., Metalon, L., Watanabe, M., et al (1994)**

Depot antipsychotic drugs: place in therapy. *Drugs*, **47**, 741–773.

**Desai, N. (1999)** Switching from depot antipsychotics to

risperidone: results of a study of chronic schizophrenia. *Advances in Therapy*, **16**, 78–88.

**Eastwood, N. & Pugh, R. (1997)** Long-term

medication in depot clinics and patients' rights: an issue for assertive outreach. *Psychiatric Bulletin*, **21**, 273–275.

**Garavan, J., Browne, S. & Gervin, M. (1998)**

Compliance with neuroleptic medication in outpatients with schizophrenia; relationship to subjective response to neuroleptics: attitudes to medication and insight. *Comprehensive Psychiatry*, **39**, 215–219.

**Glazer, W. M. & Kane, J. M. (1992)** Depot neuroleptics

therapy: an underutilized treatment option. *Journal of Clinical Psychiatry*, **53**, 426–433.

**Goldbeck, R., Tomlinson, S. & Bouch, J. (1999)**

Patients' knowledge and views of their depot neuroleptic medication. *Psychiatric Bulletin*, **23**, 467–470.

**Greenhalgh, T. (1997)** *How to Read a Paper. The Basics of Evidence Based Medicine*. London: BMJ Publishing Group.

**Hoencamp, E., Knegtering, H., Kooy, J. J. S., et al**

(1995) Patient requests and attitude towards neuroleptics. *Nordic Journal of Psychiatry*, **49** (suppl. 35), 47–55.

**Jacobsson, L. & Odling, H. (1980)** Psykologiska

aspekter på depåbehandling vid schizofrena syndrom. *Lakartidningen*, **77**, 3522–3526.

**Johnson, D. A. W. (1984)** Observations on the use of long-acting depot neuroleptic injections in the

maintenance therapy of schizophrenia. *Journal of Clinical Psychiatry*, **45**, 13–21.

**Kendrick, T., Millar, E., Burns, T., et al (1998)** Practice nurse involvement in giving depot neuroleptic injections: development of a patient assessment and monitoring checklist. *Primary Care Psychiatry*, **4**, 149–154.

**Larsen, E. B. & Gerlach, J. (1996)** Subjective experience of treatment, side-effects, mental state and quality of life in chronic schizophrenic out-patients treated with neuroleptics. *Acta Psychiatrica Scandinavica*, **93**, 381–388.

**Lingjaerde, O., Ahlfors, U. G., Bech, P., et al (1987)** The UKU side effect rating scale. A new comprehensive rating scale for psychotropic drugs and a cross-sectional study of side effects in neuroleptic-treated patients. *Acta Psychiatrica Scandinavica*, **334**, 1–100.

**Pan, P. C. & Tantum, D. (1989)** Clinical characteristics, health beliefs and compliance with maintenance treatment: a comparison between regular and irregular attenders at a depot clinic. *Acta Psychiatrica Scandinavica*, **79**, 564–570.

**Pereira, S. & Pinto, R. (1997)** A survey of the attitudes of chronic psychiatric patients living in the community

toward their medication. *Acta Psychiatrica Scandinavica*, **95**, 464–468.

**Poole, I. & Grimes, P. (1998)** Depot injections at home or clinic? Letting clients choose. *Community Nurse*, **4**, 15–16.

**Quraishi, S. & David, A. (2000a)** Depot flupenthixol decanoate for schizophrenia or other similar psychotic disorders. *Cochrane Library*, issue 2. Oxford: Update Software.

— & — (2000b) Depot fluspirilene for schizophrenia. *Cochrane Library*, issue 2. Oxford: Update Software.

— & — (2000c) Depot haloperidol decanoate for schizophrenia. *Cochrane Library*, issue 2. Oxford: Update Software.

— & — (2000d) Depot perphenazine decanoate and enanthate for schizophrenia. *Cochrane Library*, issue 2. Oxford: Update Software.

— & — (2000e) Depot pipothiazine palmitate and undecylate for schizophrenia. *Cochrane Library*, issue 2. Oxford: Update Software.

—, — & Adams, C. E. (2000) Depot bromperidol decanoate for schizophrenia. *Cochrane Library*, issue 2. Oxford: Update Software.

**Sandford, T. (1996)** Involving users in developing phenothiazine services. In *Perspectives in Mental Health Nursing* (eds T. Sandford & K. Gournay). London: Baillière Tindall.

**Simpson, G. M. (1984)** A brief history of depot neuroleptics. *Journal of Clinical Psychiatry*, **45**, 3–4.

**Singh, V., Hughes, G. & Goh, S. E. (1995)** Depot clinic: consumers' viewpoint. *Psychiatric Bulletin*, **19**, 728–730.

**Smith, J. A. & Hughes, I. (1999)** Non-compliance with anti-psychotic depot medication: users' views on advantages and disadvantages. *Journal of Mental Health*, **8**, 287–296.

**University of York NHS Centre for Reviews and Dissemination (1996)** *Understanding Systematic Reviews of Research on Effectiveness* (CRD Report 4). York: University of York.

**Warren, B. (1998)** Developing practice through clinical audit. *Journal of Clinical Effectiveness*, **3**, 151–154.

**Wistedt, B. (1995)** How does the psychiatric patient feel about depot treatment, compulsion or help? *Nordic Journal of Psychiatry*, **49** (suppl. 35), 41–46.