

clinical cases are presented of patients admitted to an Acute Inpatient Psychiatry Unit due to psychotic symptoms, being reported a B12 deficiency.

**Objectives:** Review clinical information about vitamin B12 deficiency as a factor involved in the development of psychiatric disorders, specifically psychotic symptoms, pointing out the peculiarities regarding clinical presentation, diagnosis, prognosis, and treatment management.

**Methods:** Search in the medical database PUBMED, MEDSCAPE and UPTODATE.

**Results:** Vitamin B12 deficiency is associated with hematological, neuropsychiatric, and digestive disorders, is estimated that around 5-40% of the elderly population may present it. Neuropsychiatric syndromes may be the first, and sometimes sole, manifestation, related to a different etiological mechanism. Vitamine B12 deficiency implies enzymatic defects that cause an accumulation of methylmalonic acid and homocysteine, which is proportionally related to the severity of the neuropsychiatric symptoms. The range of clinical features includes psychotic and affective episodes, behavioral disorders, cognitive impairment, along with other neurological manifestations such as polyneuropathy and encephalopathy. The diagnosis delay is crucially important, as early detection could lead to reverse the neuropsychiatric symptoms and some of the neuroradiological alterations. Parenteral and oral vitamin B12 supplementation should be initiated, monitoring levels in plasma, together with psychiatric drugs until the symptoms are controlled.

**Conclusions:** Vitamin B12 deficiency is a factor that may be involved in the etiopathogenesis of psychiatric disorders. Thus, screening must be considered among the vulnerable population when presenting neuropsychiatric disorders as early diagnosis and treatment are key to clinical prognosis.

**Keywords:** Vitamin b12; Cyanocobalamin; dementia; psychosis

## EPP0840

### Dementia patients have greater anti-cholinergic drug burden on discharge from hospital: A multicentre cross-sectional study

J. Randall<sup>1</sup>, A. Hook<sup>1</sup>, C-M. Grubb<sup>1</sup>, N. Ellis<sup>1</sup>, J. Wellington<sup>1</sup>, A. Hemmad<sup>2</sup>, A. Zerdelis<sup>3</sup>, B. Geers<sup>4</sup>, B. Sykes<sup>5</sup>, C. Auty<sup>4</sup>, C. Vinchenzo<sup>6</sup>, C. Thorburn<sup>7</sup>, D. Asogbon<sup>8</sup>, E. Granger<sup>9</sup>, H. Boagey<sup>10</sup>, J. Raphael<sup>11</sup>, K. Patel<sup>4</sup>, K. Bhargava<sup>2</sup>, M.-K. Dolley<sup>12</sup>, M. Maden<sup>4</sup>, M. Shah<sup>13</sup>, Q. Lee<sup>13</sup>, R. Vaidya<sup>2</sup>, S. Sehdev<sup>14</sup>, S. Barai<sup>15</sup>, S. Roche<sup>10</sup>, U. Khalid<sup>16</sup>, J. Harrison<sup>17</sup> and D. Codling<sup>18</sup>

<sup>1</sup>School Of Medicine, Cardiff University, Cardiff, United Kingdom;

<sup>2</sup>Medical School, Newcastle University, Newcastle, United Kingdom;

<sup>3</sup>James Cook University Hospital, Middlesbrough, United Kingdom;

<sup>4</sup>School Of Medicine, University of Manchester, Manchester, United Kingdom;

<sup>5</sup>Medical School, University of Exeter, Exeter, United Kingdom;

<sup>6</sup>Lancaster Medical School, Faculty Of Health And Medicine, Lancaster University, Lancaster, United Kingdom;

<sup>7</sup>Medical School, University of Bristol, Bristol, United Kingdom;

<sup>8</sup>Birmingham Medical School, College Of Medical And Dental Sciences, University of Birmingham, Birmingham, United Kingdom;

<sup>9</sup>Acute Medicine, University Hospitals of Morecambe Bay NHS Foundation Trust, Kendal, United Kingdom;

<sup>10</sup>Medical Sciences Division, University of Oxford, Oxford, United Kingdom;

<sup>11</sup>Norwich Medical School, University of East Anglia, Norwich, United Kingdom;

<sup>12</sup>Peninsula Medical School, The Faculty Of Medicine And Dentistry, Plymouth University, Plymouth, United Kingdom;

<sup>13</sup>Medical School, Bart's and

The London School of Medicine and Dentistry, London, United Kingdom;

<sup>14</sup>Faculty Of Medicine, University of Southampton, Southampton, United Kingdom;

<sup>15</sup>School Of Clinical Medicine, University of Cambridge, Cambridge, United Kingdom;

<sup>16</sup>Medical School, University College London, London, United Kingdom;

<sup>17</sup>Cardiff University Brain Research Imaging Centre (cubric), Cardiff University, Cardiff, United Kingdom and

<sup>18</sup>Institute Of Psychiatry, King's College London, London, United Kingdom

\*Corresponding author.

doi: 10.1192/j.eurpsy.2021.1127

**Introduction:** Anticholinergic medications block cholinergic transmission. The central effects of anticholinergic drugs can be particularly marked in patients with dementia. Furthermore, anticholinergics antagonise the effects of cholinesterase inhibitors, the main dementia treatment.

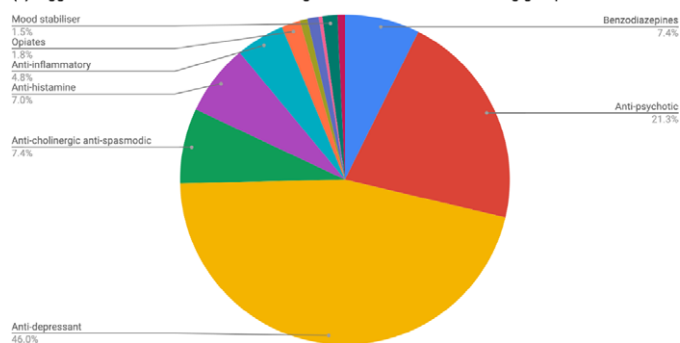
**Objectives:** This study aimed to assess anticholinergic drug prescribing among dementia patients before and after admission to UK acute hospitals.

**Methods:** 352 patients with dementia were included from 17 hospitals in the UK. All were admitted to surgical, medical or Care of the Elderly wards in 2019. Information about patients' prescriptions were recorded on a standardised form. An evidence-based online calculator was used to calculate the anticholinergic drug burden of each patient. The correlation between two subgroups upon admission and discharge was tested with Spearman's Rank Correlation.

**Results:** Table 1 shows patient demographics. On admission, 37.8% of patients had an anticholinergic burden score  $\geq 1$  and 5.68%  $\geq 3$ . At discharge, 43.2% of patients had an anticholinergic burden score  $\geq 1$  and 9.1%  $\geq 3$ . The increase was statistically significant ( $\rho = 0.688$ ;  $p = 2.2 \times 10^{-16}$ ). The most common group of anticholinergic medications prescribed at discharge were psychotropics (see Figure 1). Among patients prescribed cholinesterase inhibitors, 44.9% were also taking anticholinergic medications.

Characteristic	N	Percentage (%)
<b>Age (Years)</b>	<65	6 1.7
	65-74	25 7.1
	75-84	137 38.9
	85-94	161 45.7
	>95	22 6.3
<b>Sex</b>	Female	190 54
<b>Dementia Subtype</b>	Alzheimer's	130 36.9
	Vascular	80 22.7
	Mixed	47 13.4
	Lewy Body	34 9.7
	Frontotemporal	5 1.4
	Other (e.g. Unspecified Dementia, Dementia in Parkinson's etc)	56 15.9
<b>Ward</b>	Acute Ward	65 18.5
	Dementia Ward	34 9.7
	Geriatric Ward	186 52.8
	Surgical Ward	36 10.2
	Other (e.g. Delayed discharge ward, Medical rehabilitation etc)	30 8.5
<b>Specialist Input</b>	Geriatrician	216 61.4
	Dementia Specialist	18 5.1
	Old Age Psychiatrist	4 1.1
	Input from 2+ of above	65 18.5

(a) Biggest contributors to the Anticholinergic Burden Score based on drug group



**Conclusions:** This multicentre cross-sectional study found that people with dementia are frequently prescribed anticholinergic drugs, even if also taking cholinesterase inhibitors, and are significantly more likely to be discharged with a higher anticholinergic drug burden than on admission to hospital.

**Conflict of interest:** This project was planned and executed by the authors on behalf of SPARC (Student Psychiatry Audit and Research Collaborative). We thank the National Student Association of Medical Research for allowing us use of the Enketo platform. Judith Harrison was su

**Keywords:** dementia; Cholinesterase Inhibitors; Alzheimer Disease; Muscarinic Antagonists

## EPP0841

### Use of benzodiazepines and related drugs and the risk of dementia: A review of reviews

P. Ferreira<sup>1\*</sup>, A.R. Ferreira<sup>2</sup> and L. Fernandes<sup>3,4</sup>

<sup>1</sup>Fmup, Faculty of Medicine of Porto University, Porto, Portugal, Portugal, Porto, Portugal; <sup>2</sup>Cintesis – Center For Health Technology And Services Research, Faculty of Medicine, University of Porto, Porto, Portugal; <sup>3</sup>Cintesis – Center For Health Technology And Services Research; Department Of Clinical Neuroscience And Mental Health, Faculty of Medicine of Porto University; Centro Hospitalar Universitário de São João, Porto, Portugal, Portugal and <sup>4</sup>Cintesis – Center For Health Technology And Services Research; Department Of Clinical Neuroscience And Mental Health, Faculty of Medicine of Porto University, Porto, Portugal

\*Corresponding author.

doi: 10.1192/j.eurpsy.2021.1128

**Introduction:** Benzodiazepines (BZDs) and related drugs (BZRDs) are widely used to reduce agitation, anxiety and sleep disturbances in the elderly, despite concerns raised about their modest efficacy for such indications and risk of severe adverse effects, including acute consequences on cognition. Recently, some studies have also raised concerns about the long-term effect of BZDs, suggesting their association with an increased risk of cognitive decline and dementia.

**Objectives:** To review published synthesis studies on the risk of dementia development due to BZDs/BZRDs use.

**Methods:** An electronic search was conducted in PubMed. Meta-analysis, systematic and non-systematic reviews examining the

association between BZDs/BZRDs and subsequent dementia were included. No language nor publication date restrictions were applied. Search results other than synthesis studies were excluded. Studies were screened for relevance based on predefined inclusion and exclusion criteria.

**Results:** Overall, 246 results were obtained. After initial screening, nine studies were included. From these, three were systematic reviews with meta-analysis of observational studies (cohort and/or case-control), one was a systematic review from observational studies and five were non-systematic reviews. Most studies found an association between BZDs/BZRDs and subsequent dementia, with meta-analysis studies reporting an increased risk (OR) between 1,38 and 1,78, even after controlling for protopathic bias. However, difficulties in establishing a causal relationship are reported due to the considerable clinical and methodological heterogeneity of the primary studies.

**Conclusions:** Most studies suggest an association between the use of BZDs/BZRDs and dementia risk, highlighting that their prescription should be cautious, prevented or reduced to attenuate this risk.

**Keywords:** dementia; Cognitive decline; Benzodiazepines; Z-drugs

## EPP0842

### Combined exercise programs as protective factor against depression later in life: A systematic review

K. Argyropoulos<sup>1</sup>, E. Ntantouti<sup>2</sup>, A. Argyropoulou<sup>3</sup>, D. Avramidis<sup>1\*</sup> and E. Jelastopulu<sup>4</sup>

<sup>1</sup>Medical School, School of Medicine, University of Patras, Patras, Greece; <sup>2</sup>Postgraduate Program “aging And Chronic Diseases Management”, Joint Degree, School Of Medicine, University Of Thessaly & Hellenic Open University, Hellenic Open University, Patras, Greece; <sup>3</sup>General Practice, Health Center of Andravida, Patras, Greece and <sup>4</sup>Department Of Public Health, Medical School, University of Patras, Patras, Greece

\*Corresponding author.

doi: 10.1192/j.eurpsy.2021.1129

**Introduction:** Exercise has been repeatedly reported as an effective means of preventing and treating mood disorders. Therefore, there is a significant research interest for the way exercise is connected with depression and the effectiveness of different exercise parameters as intensity, duration and modality. There is significant research evidence supporting the hypothesis that exercise can alleviate the symptoms of clinical depression. Nevertheless, there has not enough evidence to compare the effectiveness of deferent types of exercise as complementary therapy in depression.

**Objectives:** The purpose of the present study was to review the available research concerning the effect of exercise modality in depression and attempt to code and analyze the programs used in elderly (>65).

**Methods:** A systematic review was contacted of randomized control trials published in electronic journals. The electronic data bases PubMed, EBSCOhost and Trip Medical Database were used.

**Results:** Combined programs are predominate used for improving mood in elderly and the combinations used more frequently was short-term, light to moderate sub maximal aerobic exercise combined with dynamic resistance exercise following by Short-term, light to moderate sub maximal aerobic exercise combined with