

## Addressing Parity of Esteem in National Clinical Audit – A Guide: Appendix III – Examples of scientific research in relation to parity of esteem

A great deal of research has been conducted in the area of crossovers between mental and physical health and a full literature review is beyond the scope of this guidance. Below are some examples however of studies which were identified from the literature in Appendix I and PubMed<sup>1</sup> searches combining a physical condition with a mental health condition for abstracts in the life sciences. Audit providers may wish to use this method to gather the most recent and tailored research abstracts in their particular area of interest and need in regards to addressing parity of esteem.

### Chronic medical conditions

Katon et al. (2007)<sup>2</sup> conducted a literature review of 31 studies involving 16,922 patients with diabetes, pulmonary disease, heart disease or arthritis and concluded that after controlling for severity of illness, those with comorbid anxiety or depressive disorders had a significantly higher number of medical symptoms. Egede published a systematic review in 2007<sup>3</sup> of yearly prevalence of major depression in people with chronic medical illnesses such as congestive heart failure, hypertension, diabetes, coronary artery disease, stroke, chronic obstructive pulmonary disease and end stage renal disease. He found that the rates were 8.8% for any condition – a 2.6 fold increase in the chance of having a mental illness in patients with a chronic physical health condition. Katon and Ciechanowski (2002)<sup>4</sup> reviewed articles on some of the many ways that depression impacts on chronic medical illness including: significantly higher health costs, symptom amplification, poorer self care and adherence to medical advice, functional disability, and higher mortality.

Of the factors thought to link physical and mental health, including social adversity and behaviours such as drug, alcohol and tobacco abuse, there is increasing evidence inflammation may be common to both depression and chronic illness. Almond (2013)<sup>5</sup> summarises current thinking on the theory depression may be an exaggeration of symptoms we experience from the release of inflammatory markers during illness, such as fatigue and loss of appetite that go along with common colds.

### Cardiovascular

Thomas et al. (2004)<sup>6</sup> conducted a review of epidemiological, clinical, neuroimaging and neuropathology studies to investigate the multiple bidirectional ways that depression and vascular disease interact. Daskalopoulou et al. (2016)<sup>7</sup> conducted a cohort study of nearly 2 million adults who were free from cardiovascular disease at baseline and found that the risk of 12 cardiovascular diseases including myocardial infarction, heart failure, angina, stroke and peripheral artery disease were all increased in those with depression (Hazard Ratio 1.13-1.70). In peripheral vascular disease, Pratt et al. (2005)<sup>8</sup> found the prevalence rate of depression to be 23-57% on review of six amputee studies.

### **Musculoskeletal**

Theis et al. (2007)<sup>9</sup> found high levels of comorbid depression in men and women with all types of arthritis at 20% and 33% respectively and Sale et al. (2008)<sup>10</sup> reported over 20% of people more than 55 years of age with chronic knee arthritis also had depression.

### **Cancer**

The Lancet published a series of articles on the associations between depression and cancer in 2014<sup>11</sup>, including a study of over 20,000 patients by Walker et al. (2014)<sup>12</sup> showing increased rates of depression in this patient group of up to 13.1% in lung cancer patients, but that only 73% of those with depression were receiving any form of treatment. The same group of researchers also conducted a randomised controlled treatment intervention for major depression in patients with cancer and found improvements of depression, anxiety, pain, fatigue, functioning and quality of life.<sup>13</sup> Chang et al. (2014)<sup>14</sup> found that people with cancer and mental illness have a worse survival prognosis even when diagnosed at the same stage of disease, suggesting that the differences arose during care. They found that people with serious mental illness had a 74% increased mortality risk over the four-to-five year follow up period and this was 66% higher in people with comorbid dementia and 30% higher in people who also had diagnosis of depression, compared to those who did not. A meta-analysis by Satin et al. (2009)<sup>15</sup> from 25 independent studies showed up to a 39% increase in mortality for patients with cancer and comorbid depression.

### **Endocrine**

Sullivan et al. (2006)<sup>16</sup> found that diabetic patients presenting to accident and emergency departments were less likely to be admitted for diabetic complications if they also had a comorbid mental illness. Ciechanowski et al. (2000) found that a higher severity of depressive symptoms in people with diabetes was associated with a poorer diet, lower compliance with medications and higher functional impairment and healthcare costs<sup>17</sup>. Elsewhere, van der Feltz-Cornelis et al. (2010)<sup>18</sup> conducted a systematic review of 14 randomised controlled trials for depression treatment in diabetes and found a potential for improvements in glycaemic control as well as improved mood. There is also a prospective cohort study of people with newly diagnosed type 2 diabetes mellitus being conducted in South London, looking at the effect of depression on diabetes outcomes<sup>19</sup>.

### **Psychiatric conditions**

De Hert et al. (2011) conducted a systematic review on physical illness in people with serious mental illness and commented that a wide range of illnesses are more prevalent in this group, including: cardiovascular, musculoskeletal, viral, respiratory and metabolic diseases, as well as pregnancy complications, and that they are less likely to receive standard levels of care for these conditions<sup>20</sup>.

### **Maternal, infant and child**

The rate of postpartum depression is estimated to be approximately 13% in the first year after birth<sup>21</sup> and two per thousand mothers will develop puerperal psychosis<sup>22</sup>. Maternal depression and anxiety disorders were shown to have a negative effect on the development of children in several domains, including physical in a study by Comaskey et al. (2017)<sup>23</sup>. Guilfoyle et al. (2015) found that 23% of young people with epilepsy in their sample screened positive for depressive symptoms<sup>24</sup>.

## Older adults

Nightingale et al. (2001) found that dementia, delirium, and depression all increased the risk of mortality in the two years following hip fracture in 731 people over the age of 65 years<sup>25</sup>. Vaughn et al. (2000)<sup>26</sup> also found an association between depression and frailty syndrome in their systematic review.

## References

- <sup>1</sup> [www.ncbi.nlm.nih.gov/pubmed](http://www.ncbi.nlm.nih.gov/pubmed)
- <sup>2</sup> Katon, W., Lin, E., Kroenke, K. (2007) [The association of depression and anxiety with medical symptom burden in patients with chronic medical illness](#), *General Hospital Psychiatry* 29: 147–155
- <sup>3</sup> Egede, L. (2007) [Major depression in individuals with chronic medical disorders: Prevalence, correlates and association with health resource utilization, lost productivity and functional disability](#), *General Hospital Psychiatry* 29: 409–416
- <sup>4</sup> Katon, W., Ciechanowski, P. (2002) [Impact of major depression on chronic medical illness](#), *Journal of Psychosomatic Research* 53: 859–863
- <sup>5</sup> Almond, M. (2013) [Depression and inflammation: Examining the link](#), *Current Psychiatry* 12(6):24–32
- <sup>6</sup> Tomas, A., Kalaria, R., O'Brien, J. (2004) [Depression and vascular disease: what is the relationship?](#) *Journal of Affective Disorders* 79 (1):81–95
- <sup>7</sup> Daskalopoulou, M., George, J., Walters, K., Osborn, D., Batty, D., Stogiannia, D., Rapsomaniki, E., Pujades-Rodriguez, M., Denaxas, S., Udumyan, R., Kivimaki, M., Hemingway, H. (2016) [Depression as a Risk Factor for the Initial Presentation of Twelve Cardiac, Cerebrovascular, and Peripheral Arterial Diseases: Data Linkage Study of 1.9 Million Women and Men](#), *PLoS One* 22:11(4)
- <sup>8</sup> Pratt, A., Norris, E., Kauffmann, M. (2005) [Peripheral vascular disease and depression](#), *Journal of Vascular Nursing* 23 (4): 123–127
- <sup>9</sup> Theis, K., Helmick, C., Hootman, J. (2007) [Arthritis burden and impact are greater among U.S. women than men: Intervention opportunities](#), *Journal of Women's Health* 16(4): 441–53
- <sup>10</sup> Sale, J., Gignac, M., Hawker, G. (2008) [The relationship between disease symptoms, life events, coping and treatment, and depression among older adults with osteoarthritis](#), *Journal of Rheumatology* 35(2): 335–42.
- <sup>11</sup> [www.thelancet.com/depression-and-cancer](http://www.thelancet.com/depression-and-cancer)
- <sup>12</sup> Walker, J., Holm Hansen, C., Martin, P., Symeonides, S., Ramesur, R., Murray, G., Sharpe, M. (2014) [Prevalence, associations, and adequacy of treatment of major depression in patients with cancer: a cross-sectional analysis of routinely collected clinical data](#), *The Lancet Psychiatry* 1(5):343–350
- <sup>13</sup> Sharpe, M., Walker, J., Holm Hansen, C., Martin, P., Symeonides, S., Gourley, C., Wall, L., Weller, D., Murray, G. (2014) [Integrated collaborative care for comorbid major depression in patients with cancer \(SMaRT Oncology-2\): a multicentre randomised controlled effectiveness trial](#), *The Lancet* 384(9948): 1099–1108
- <sup>14</sup> Chang, C., Hayes, R., Broadbent, M., Hotopf, M., Davies, E., Møller, H., Stewart, R. (2014) [A cohort study on mental disorders, stage of cancer at diagnosis and subsequent survival](#). *BMJ open*. 4(1) p. e004295
- <sup>15</sup> Satin, J., Linden, W. and Phillips, M. (2009) [Depression as a predictor of disease progression and mortality in cancer patients: a meta-analysis](#), *Cancer* 115: 5349–5361
- <sup>16</sup> Sullivan, G., Han, X., Moore, S., Kotrla, K. (2006) [Disparities in hospitalization for diabetes among persons with and without co-occurring mental health disorders](#), *Psychiatric Services* 57: 1126–31
- <sup>17</sup> Ciechanowski, P., Katon, W., Russon J. (2000) [Depression and diabetes: impact of depression symptoms on adherence, function, and costs](#), *Arch Intern Med* 160:3278–3285
- <sup>18</sup> van der Feltz-Cornelis, C., Nuyen, J., Stoop, C., Chan, J., Jacobson, A., Katon, W., Snoek, F., Sartorius, N. (2010) [Effect of interventions for major depressive disorder and significant depressive symptoms in patients with diabetes mellitus: a systematic review and meta-analysis](#), *Gen Hosp Psychiatry* 32(4):380–95
- <sup>19</sup> [www.kcl.ac.uk/ioppn/depts/pm/people/acaprof/The-SOUTH-London-Diabetes-\(SOUL-D\)-Study.aspx](http://www.kcl.ac.uk/ioppn/depts/pm/people/acaprof/The-SOUTH-London-Diabetes-(SOUL-D)-Study.aspx)
- <sup>20</sup> De Hert, M., Correll, C., Bobes, J., Cetkovich-Bakmas, M., Cohen, D., Asai, I., Detraux, J., Gautam, S., Möller, H., Ndeti, D., Newcomer, J., Uwakwe, R., Leucht, S. (2011) [Physical illness in patients with severe mental disorders. I. Prevalence, impact of medications, and disparities in health care](#), *World Psychiatry* 10: 52–77
- <sup>21</sup> O'Hara, M. & Swain, A. (1996) [Rates and risk of postpartum depression—a meta-analysis](#), *International Review of Psychiatry*, 8:1, 37–54
- <sup>22</sup> Kendell, R., Chalmers, K., Platz, C. (1987) [Epidemiology of puerperal psychoses](#), *Br J Psychiatry* 150:662–73
- <sup>23</sup> Comaskey, B., Roos, N., Brownell, M., Enns, M., Chateau, D., Ruth, C., Okechukwu, E. (2017) [Maternal depression and anxiety disorders \(MDAD\) and child development: A Manitoba population-based study](#), *PLoS ONE* 12(5): e0177065
- <sup>24</sup> Guilfoyle, S., Monahan, S., Wesolowski, C., Modi, A. (2015) [Depression screening in pediatric epilepsy: Evidence for the benefit of a behavioral medicine service in early detection](#), *Epilepsy Behaviour* 44: 5–10
- <sup>25</sup> Nightingale, S., Holmes, J., Mason, J., House, A. (2001) [Psychiatric illness and mortality after hip fracture](#), *Lancet* 357: 1264–5
- <sup>26</sup> Vaughan, L., Corbin, A. & Goveas, J. (2015) [Depression and frailty in later life: a systematic review](#), *Clinical Interventions in Aging* 10: 1947–1958