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# Stigma and perception of psychological distress and depression in Australian-trained medical students: Results from an inter-state medical school survey

Daryl R. Cheng<sup>a,b,\*</sup>, Flora Poon<sup>c,d</sup>, Tran T. Nguyen<sup>e,f</sup>, Richard J. Woodman<sup>g</sup>, Jun D. Parker<sup>h,i</sup>

<sup>a</sup> Royal Children's Hospital, Parkville, Victoria, Australia

<sup>b</sup> Central Medical School, Monash University, Clayton, Victoria, Australia

<sup>c</sup> Faculty of Health Sciences and Medicine, Bond University, Queensland, Australia

<sup>d</sup> Royal Melbourne Hospital, Parkville, Victoria, Australia

<sup>e</sup> Flinders Medical Centre, Bedford Park, South Australia, Australia

<sup>f</sup> School of Medicine, Flinders University, Adelaide, South Australia, Australia

<sup>g</sup> Flinders Centre for Epidemiology and Biostatistics, School of Medicine, Flinders University, Adelaide, South Australia, Australia

<sup>h</sup> Royal Brisbane and Women's Hospital, Herston, Queensland, Australia

<sup>i</sup> School of Medicine and Dentistry, James Cook University, Townsville, Queensland, Australia

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## ABSTRACT

Stigmatisation towards depression has previously been reported amongst medical students from a variety of backgrounds. This study explored personal and perceived stigmas associated with depression, and their relationship with demographics, knowledge of depression, levels of personal stress and history of medical illness amongst Australian-trained medical students. A cross-sectional survey was undertaken amongst students enrolled June-to-August 2009 across four Australian medical schools. In total, 1010 students completed the survey, a response rate of 29.6%. Approximately 25% of students reported a past history of depression. Higher stress (K-10 scores) was reported by females and those with a past history of depression. On a scale of 0-to-5, the mean ( $\pm$ S.D.) personal and perceived stigma depression scores were  $1.83 \pm 1.49$  and  $4.05 \pm 1.42$  respectively. In multivariate analysis, higher perceived stigma and K-10 scores, a past history of anxiety and Year 3 of medical school indicated higher personal stigma scores. Perceived stigma was positively associated with K-10 scores, personal stigma scores, and a Caucasian background. Our findings suggest a high level of personal and particularly perceived stigma associated with depression amongst medical students, especially those displaying higher levels of stress. Adequate support and screening for psychological stress may de-stigmatise depression and improve mental health amongst future Australian doctors.

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## 1. Introduction

An estimated 45% of Australians are likely to experience a mental illness during their lifetime, and the lifetime prevalence of depression in the population is 11.6% (Australian Bureau of Statistics, 2008). This means that over 1.8 million Australians have or will suffer from depression, making this ailment one of the most prevalent conditions that contributes strongly to morbidity and mortality (AIHW, 2009).

Depression, or major depressive disorder, is defined according to the Diagnostic and Statistical Manual of Mental Disorders criteria (DSM-IV-TR). Previous studies have shown that junior doctors are more likely to experience depression compared to the general population (Schernhammer and Colditz, 2004). A

recent Australia and New Zealand survey reported that out of 941 junior doctors, 54% reported excessive workloads, 70% high levels of stress, 71% low job satisfaction and 69% reported burnout, with around 25% meeting criteria for depression (Markwell and Wainer, 2009; Sen et al., 2010).

Given the high rates of depression amongst the general Australian population and amongst Australian doctors in particular, it is important to understand how doctors with depression might perceive themselves and others with depression, and the possible reasons for stigmatising attitudes towards depression. Despite greater knowledge of the symptoms amongst physicians, no differences appear to exist in negative views towards depression between physicians and laypersons (Aghukwa, 2009; James et al., 2012). Indeed, medical students and doctors may fear greater stigma from peers, colleagues and the community when diagnosed with depression compared to the general population (Dickstein and Hinz, 1992). Although a recent study suggested that students with a past encounter of mental health treatment

\* Correspondence to: 50 Flemington Rd, Parkville, VIC 3052, Australia.

Tel.: +61 3 9345 5522.

E-mail address: [daryl.cheng@rch.org.au](mailto:daryl.cheng@rch.org.au) (D.R. Cheng).

have less stigmatizing attitudes towards depression amongst others (Korszun et al., 2012), another reported depressed students were more sensitive towards perceived stigma from colleagues, teachers and caregivers (Schwenk et al., 2010). Additionally, stigmas have been attached to the mental health profession itself (Schulze, 2007), highlighting the complex inter-relationship between the disorder itself and its treatment.

The stigma amongst medical students potentially leads to reluctance in seeking help, under-diagnosis, delayed treatment and potentially, poorer outcome (Givens and Tjia, 2002; Schomerus et al., 2009). In one study, although 9.4% of medical students were identified as being clinically depressed, only 8.9% of these had been diagnosed and only 9.7% received treatment (Roh, 2009). In a study of college students and primary care patients, a more positive attitude towards treatment for mental health was associated with less treatment related stigma and an increased likelihood of seeking help in the future (Elhai et al., 2008).

Depression is one of the most common causes of impaired judgment in medical professionals, accounting for 62% of reported cases in Victoria over a 15-year period (Wijesinghe and Dunne, 1999). This increases the risk of boundary violations, misdiagnosis and mismanagement and these outcomes can further adversely affect physical and mental wellbeing. Early identification and treatment of those at increased risk of depression is therefore paramount not only to protect the health of the physician but also their patients. Since 2008, the Australian Medical Students' Association (AMSA) has campaigned about living well during medical school, promoting student wellbeing by hosting forums and events enhancing understanding and knowledge of mental illnesses, as well as releasing research and policy-making on this issue (Hillis et al., 2010).

Unfortunately, recent data suggested there remains a high proportion of medical students who appear reluctant to seek help for depression (Hickie et al., 2007). In an effort to assess the current levels of stigma associated with depression amongst Australian medical students as well as the possible causes of these negative views, we conducted a multi-state online survey among Australian-trained medical students across four universities.

## 2. Methods

### 2.1. Participants

Students were invited to participate in this study through their university email account. An email containing the URL for the survey, along with the aims and instructions of the study and an information sheet were made available. Reminder emails at the third and sixth week were sent to all students encouraging participation in the study. All surveys were conducted electronically through online survey software.

The survey was electronically distributed to all 3410 medical students enrolled in four medical schools across Australia: Flinders University in South Australia, James Cook University and Bond University in Queensland, and Monash University in Victoria and was available from June to August 2009. Flinders University and Monash University Gippsland Campus offer a 4-year graduate-entry program, while the other universities offer undergraduate medical courses ranging from 4 to 6 years. Medical students voluntarily participated in this study.

### 2.2. Ethics approval

Ethics approvals were granted from each of the participating universities: Flinders Clinical Research Ethics Committee, Monash University Standing Committee on Ethics in Research Involving Humans, Bond University Human Research Ethics Committee, and James Cook University Human Research Ethics Committee.

### 2.3. Survey instrument and outcome measures

Although there is now a validated physician and healthcare student specific scale for assessing attitudes towards mental illness (Gabbidon et al., 2012), at the time of the survey there was no specific instrument available. We therefore

administered an abridged 15-item survey comprising sections 1, 2, 5, 6 and 7 of the International Depression Literacy Survey (IDLS) evaluating typical features, prevalence, understanding and stigma associated with depression (Hickie et al., 2007). The construction and efficacy of the IDLS as a depression literacy questionnaire in evaluating the prevalence and perceptions of depression in similar population groups has been described elsewhere (Hickie et al., 2007; Kelk et al., 2009; Rong et al., 2009). The 15-items included in the survey were: medical school, year of study, age, gender, studying location (home town, state or country), cultural background, completion of a psychiatry term (yes or no), choice of the five most common features of depression from a list of 23, choice of the five most common symptoms of depression from a list of 15, a 5-choice question on the prevalence of depression, a 5-choice question on the chance of you or a close friend having depression in their lifetime, five statements regarding personal stigma and five statements regarding perceived stigma (see below), the Kessler Psychological Distress Scale (K-10, see details below) and three questions asking whether students had ever suffered a major episode of depression, whether anyone close to them had suffered an episode of major depression and whether or not they had been diagnosed (or believe they had suffered from) anxiety or other social phobias.

The two measures of stigma associated with depression were evaluated using a modified question based on sections 5–7 of the IDLS and a validated depression stigma scale (Schomerus et al., 2009). *Personal stigma*—the participant's personal feelings towards their depression if they were to experience it, and *perceived stigma*—participants' beliefs about others with depression, were assessed via two 5-item statement tests comprising broad themes about depression including discrimination, avoidance, unpredictability, character flaws and depression as a medical illness. The tests have been previously validated in an Australian context for the evaluation of depression literacy (Griffiths et al., 2004; Schomerus et al., 2009). Participants rated these statements on a four-point Likert scale ranging from 'strongly agree' to 'strongly disagree' or "don't know". In order to ease the interpretation of results, these variables were collapsed into bivariate outcomes whereby students who strongly and probably agreed were assigned to 'agreed' and all other students were assigned to 'did not agree or don't know'. The scores for the five items on each test were then summed to create Personal and Perceived stigma scores, each ranging from 0 to 5.

The Kessler Psychological Distress Scale (K-10) was used to assess psychological distress. The K-10 is a validated tool that measures the level of non-specific psychological distress over the previous 30 days and is also used as a screening tool for mood and anxiety disorders (Andrews and Slade, 2001; Cairney et al., 2007; Furukawa et al., 2003). It has previously been tested in a nationwide survey of Australian mental health and wellbeing (Australian Bureau of Statistics, 2008). Levels of psychological distress were defined as scores of: 10–15; no or low distress, 16–21; moderate distress, 22–29; high distress and 30–50; very high distress (Australian Bureau of Statistics, 2008).

### 2.4. Statistical analysis

Results were analysed using SPSS version 17.0 (SPSS Inc, Chicago, IL, USA). Univariate associations were assessed using an independent *t*-test or chi-squared test of association as appropriate. Univariate binary logistic regression was used to examine the odds of student agreement that "people would talk badly about you" and that "depression is a sign of personal weakness" according to the personal and perceived stigmas attached to depression. A multivariate analysis to determine possible predictors of personal and perceived stigmas was performed with age and gender assessed alone in the first model and then with personal or perceived stigma, past history of depression, past history of anxiety, K-10 stress scores, race and student year added to the model. We also assessed whether knowledge (correctly answered prevalence of depression in Australia as one in five), studying location (home city, home state or home country) and whether or not the student was in a graduate entry medical programme were independent predictors. Statistical significance was defined as a *p*-value <0.05.

## 3. Results

### 3.1. Participant characteristics

A total of 1010 surveys were completed amongst a potential pool of 3410 students representing a response rate of 29.6%. The mean ( $\pm$ S.D.) age of the students was 22.2 $\pm$ 4.3 years. The majority of students were female (65.1%) and Caucasian ( $n=571$ , 56.8%). There were 340 Asian students (33.8%), 27 were from the Middle East, Africa or were Hispanic (2.7%) and 68 were from other regions (6.8%). A total of 351 students (34.8%) undertook medical studies in their home city, 253 (25.1%) studied away from their home town, 249 (24.7%) away from their home State and 156 (15.5%) away from their home country. Pre-clinical students

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