

2016

## Do physiotherapists have the skill to engage in the "psychological" in the bio-psychosocial approach?

J Connaughton

University of Notre Dame Australia, joanne.connaughton@nd.edu.au

W Gibson

University of Notre Dame Australia, william.gibson@nd.edu.au

Follow this and additional works at: [https://researchonline.nd.edu.au/physiotherapy\\_article](https://researchonline.nd.edu.au/physiotherapy_article)



Part of the [Physical Therapy Commons](#), and the [Physiotherapy Commons](#)

This article was originally published as:

Connaughton, J., & Gibson, W. (2016). Do physiotherapists have the skill to engage in the "psychological" in the bio-psychosocial approach?. *Physiotherapy Canada*, 68 (4), 377-382.

Original article available here:

<http://www.utpjournals.press/doi/abs/10.3138/ptc.2015-66>

This article is posted on ResearchOnline@ND at [https://researchonline.nd.edu.au/physiotherapy\\_article/98](https://researchonline.nd.edu.au/physiotherapy_article/98). For more information, please contact [researchonline@nd.edu.au](mailto:researchonline@nd.edu.au).



This is the author's version of the following article, as accepted for publication: -

Connaughton, J., and Gibson, W. (2016) Do physiotherapists have the skill to engage in the "psychological" in the bio-psychosocial approach? *Physiotherapy Canada*, 68(4): 377-382.

doi: 10.3138/ptc.2015-66

<http://www.utpjournals.press/doi/abs/10.3138/ptc.2015-66>

ARTICLE

## Do Physiotherapists Have the Skill to Engage in the “Psychological” in the Bio-psycho-social Approach?

Joanne Connaughton, B.App.Sc (Physio), DPhysioRes;\* William Gibson, BSc (Hons), M(Phty), PhD\*

From the: \*School of Physiotherapy, University of Notre Dame Australia, Fremantle, Western Australia.

Correspondence to: A/Prof Joanne Connaughton School of Physiotherapy, The University of Notre dame Australia, PO Box 1225, Fremantle, Western Australia, 6959. Joanne.connaughton@nd.edu.au

### ABSTRACT

**Purpose:** To describe a cross-sectional exploration of attitudes of physiotherapists in general practice in Western Australia toward psychiatry and mental illness, how often they treat people with mental illness, their perceptions of how well their undergraduate education prepared them to work with these people, and their opinions about what further education would enable them to provide best practice care.

**Methods:** A questionnaire that included questions about participants’ demographic information, personal experiences with mental illness, the ATP-30, and open-ended questions about their preparedness to work with people with mental illness was distributed through 110 email contacts to physiotherapy departments in Western Australia. **Results:** A total of 75 completed questionnaires contributed to the findings; 11 returned questionnaires were incomplete and were not included in the data analysis. ATP-30 scores indicated moderately positive attitudes toward psychiatry and mental illness. Females indicated significantly more positive attitudes than males. Of the full sample, 41% ( $n = 31$ ) reported treating someone with a comorbid mental health problem every day and 76% ( $n = 57$ ) every week. **Conclusion:** Physiotherapists in general practice in Western Australia have generally positive perceptions of psychiatry. The majority of clinicians reported treating patients with mental illness at least once a week. Participants identified that they felt underprepared to work with this patient group, a need for the undergraduate curriculum to be revised, and an overwhelming need for postgraduate training in psychiatry and mental health.

**Key Words:** attitude; comorbid mental health issues; physiotherapists; preparedness; psychiatry.

The link between physical health and mental health is widely accepted, yet many health professionals report being underprepared to manage both the physical and the mental health needs of patients. The mental health of patients in general hospital settings receiving treatment for physical disorders is often disregarded and overlooked.<sup>1, 2</sup> Arvaniti and colleagues<sup>1</sup> surveyed 480 health service staff working in a general hospital and found that the majority believed that they did not have adequate education or skills to recognize the psychological problems experienced by their patients, nor did they have the skills required to provide the appropriate support. In a similar study, nurses caring for older people admitted to a general hospital for management of a physical illness failed to recognize when mental health issues had links to the underlying physical condition.<sup>3</sup>

Physiotherapy is considered to be integral to the treatment of the physical aspects of musculoskeletal, cardiorespiratory, and neurological conditions, and it plays a significant role in managing chronic pain and preventable diseases such as diabetes.<sup>4-6</sup> However, one in four people with musculoskeletal conditions has comorbid mental illness,<sup>7</sup> and there is strong evidence of mental health problems in people with multiple pain sites, chronic pain, and conditions such as chronic fatigue syndrome.<sup>8-10</sup> People with poor mental health have increased prevalence of cardiovascular disease, ischaemic heart disease, hypertension, diabetes, and respiratory disease, and this suggests that people with mental health problems will be well represented in mainstream health care settings.<sup>11,12</sup> A full 50% of people with multiple sclerosis (MS), and 50% of people with motor neuron disease, suffer from depression.<sup>13-16</sup> Even when patients have no comorbid mental health issues, health professionals working in a variety of care settings, including physiotherapists, provide reassurance, psychological support, and education to reduce distress and promote behavioural change.<sup>17</sup>

Physiotherapists in Australia are educated and have the skills to manage the physical needs of these patients, and they are trained to look for and recognize potential bio-psycho-social factors that may affect treatment. However, no research has been carried out on how well prepared they perceive themselves to be to manage mental health needs. MacNeela and colleagues<sup>17</sup> highlighted the fact that without adequate training and education in mental health, nurses working in general practice draw on previous experiences and beliefs to provide care for patients with comorbid mental health problems. It would, therefore, be reasonable to assume that physiotherapists (if reporting the same lack of perceived knowledge, skills, and attributes) may use similar strategies to care for people with mental health problems.

It is possible, then, that physiotherapists may rely on their own personal experiences, stereotypes, and prejudices to guide their interactions with, and to help or hinder holistic management for all of their patients. Negative stereotyping and prejudices toward people with mental health issues reduces the likelihood of health workers building rapport with these patients or providing appropriate emotional support.<sup>20</sup> It has been shown that education about mental health issues improves the attitudes of care providers toward people presenting with mental health conditions.<sup>18-20</sup>

This study aimed to collect cross-sectional data on the self-reported attitudes of physiotherapists working in Western Australia toward psychiatry and their evaluation of their undergraduate education in psychiatry and mental health. The research specifically aimed to answer the following questions:

- What are the attitudes of Western Australian physiotherapists toward psychiatry and mental health?
- How often do Western Australian physiotherapists working in general practice treat people with mental health problems?
- What are Western Australian physiotherapists' perceptions of how well prepared they were on graduation to work with people with comorbid mental health problems?
- What do Western Australian physiotherapists perceive should be included in their ongoing education to enable them to provide best practice care to people of this demographic?

## **METHODS**

### **Data collection**

Using an online survey, a cross-sectional study was conducted of physiotherapists working in metropolitan and rural Western Australia. The survey included the international Attitudes to Psychiatry

(ATP-30) measurement, captured participants' demographic details, asked questions about their exposure to mental health problems and how frequently they treated people with comorbid mental illness, and asked open-ended questions about their current knowledge of psychiatry and mental illness and their knowledge on graduation. It also asked participants what content they thought would be important in a postgraduate programme.

There is currently no specific tool to measure the attitudes of physiotherapists toward mental health services or mental health problems. The ATP-30 was developed in Canada in the 1980s to measure medical and occupational therapy students' attitudes toward psychiatry and to determine whether any changes in attitude occurred after students had been exposed to psychiatry through their curriculum. The tool has proved to be both reliable and valid.<sup>19</sup> A high score (maximum 150) indicates a positive attitude, while a score of 90 is deemed to be neutral.

The demographic details collected included information on the participants' age; gender; clinical experience; the type of facility in which they worked, such as a hospital, the community, or private practice, and whether it was metropolitan or rural; and client base, such as paediatrics or older adults. Questions about their previous experience dealing with mental health issues included personal mental health problems or interactions with family members or patients with mental health problems. Participants were asked to identify how frequently they treated people with mental health problems.

Ethics approval was granted by the University of Notre Dame Australia, HREC #013037F.

### **Participants**

Physiotherapy managers ( $n = 110$ ) of non-mental health facilities that supported clinical education opportunities with the university were sent an email that described the project and included a link to the survey. Managers were invited to circulate the link to their physiotherapy staff. All surveys were anonymous, and consent was assumed by undertaking the survey.

### **Analysis**

The online survey responses were automatically de-identified, thereby blinding researchers to the participants and their places of employment. Attitudes to psychiatry and mental health were determined using descriptive and inferential analysis. The results of the ATP-30 were presented as mean  $\pm$ (SD), and independent  $t$ -tests ( $\alpha = 0.05$ ) were used to compare these scores by gender, frequency of contact with people with mental health problems, and personal experience of mental health problems. Key themes from each open-ended question were initially identified and discussed, then reported once consensus between the researchers was reached.

## **RESULTS**

Eighty-six people responded to the questionnaire, 11 of whom did not complete all questions in the ATP-30 and were therefore not included in further analysis. Of the remaining 75 respondents, 75% were female ( $n = 56$ ). Clinicians were aged 21–66 years, for a mean age of 36 (SD 11.5) years, and they had been working 4–35 years, giving a mean of 18.6 (SD 9.1) years. Table 1 lists the working environments of participants, highlighting the range of environments involved.

**Table 1** Working Environments of Participants

| Type of facility  | No. of participants |
|-------------------|---------------------|
| Tertiary hospital | 24                  |

|                     |    |
|---------------------|----|
| General hospital    | 18 |
| Rural hospital      | 8  |
| Private practice    | 8  |
| Paediatrics         | 7  |
| Community aged care | 4  |
| Private hospital    | 2  |
| Community health    | 2  |
| Research            | 1  |
| Disability sector   | 1  |

Of those physiotherapists who responded, 41% ( $n = 31$ ) reported that they treated someone with a comorbid mental health problem every day, and 76% ( $n = 57$ ) reported that they treated at least one person a week with comorbid mental health issues. Table 2 shows the full list of results.

**Table 2** Frequency of Treatment of People with Comorbid Mental Health Illness

| Frequency        | No. of participants |
|------------------|---------------------|
| Almost every day | 31                  |
| 3–4 times a week | 10                  |
| 1–2 times a week | 16                  |
| Twice a month    | 6                   |
| Once a month     | 11                  |
| Never            | 1                   |

Attitudes to psychiatry were generally positive, with a mean ATP-30 score of 107.8 (SD 9.5). Using an independent  $t$ -test, females had a more positive attitude (mean = 109.9,  $n = 56$ ) than males (mean = 101.6,  $n = 19$ ,  $t = 3.54$ ,  $p = 0.001$ ).

Clinicians who treated patients with mental health issues at least once a week ( $n = 57$ ) had a slightly more positive attitude toward mental health and psychiatry (mean = 109.9) than those who saw such patients less frequently (mean = 101.2,  $n = 18$ ,  $t = 3.7$ ,  $p < 0.001$ ). There was a significant difference between the attitudes of people who self-reported having experienced mental illness (mean = 116.4,  $n = 7$ ) and those who did not (mean = 106.9,  $n = 68$ ,  $t = 2.6$ ,  $p = 0.01$ ).

Responses to the open-ended questions can be typified by the following:

How poorly prepared we are as undergraduate physiotherapists to work with patients with psychiatric issues. Although you might not specialize in this area, you will treat patients with psychiatric conditions; therefore, some basic skills are required.

The key consensus themes regarding acquired knowledge of psychiatry and mental health since starting clinical practice are listed in Box 1. Participants indicated that since graduation, they had learned how

mental illness could affect physical illness, delivery of health care, and the time needed to manage a person with comorbid mental health problems. One participant reported,

It is a strong driver for people’s physical ailments, and [their] treatment outcomes often depend on dealing with people’s psychiatric issues as well as their physical problems.

Another participant suggested,

Need to allocate significantly more time to treat a patient with an active mental illness. [Also need ] effective strategies for communicating with people with an active mental illness.

Respondents also indicated that they lacked the communication strategies and skills required to engage people with mental illness.

Treatment of patients with diagnosed or non-diagnosed psychiatric problems is less effective due to the communication difficulties related to these issues.

One theme that emerged was surprise at the prevalence of comorbid mental health conditions and the higher than expected number of patients with these conditions whom the participants encountered in general practice; the respondents argued that there was a need for more education about the signs and symptoms of poor mental health, the pathophysiology of mental health conditions, and how best to interact with patients. Another theme was the importance of educating undergraduates that psychiatry and mentally ill people are not to be feared. One participant wished that everyone were trained to

treat the person first and not immediately dismiss other medical problem[s] (e.g., pain) [as being] in their head as [if] they are a “psych case.”

**Box 1** Key Themes about Knowledge of Psychiatry and Mental Illness before and after Graduation

| What participants had learned since graduating  | What participants wished they had already known when they graduated   |
|---|---|
| <ul style="list-style-type: none"> <li>• Higher prevalence than expected</li> <li>• Effects of mental illness on physical illness</li> <li>• More time is required when working with these patients</li> <li>• Communication is a key to engagement</li> <li>• Holistic approach means considering mental health</li> <li>• Need to set realistic goals</li> <li>• How underprepared he or she was</li> </ul> | <ul style="list-style-type: none"> <li>• You can’t separate mind and body</li> <li>• The signs and symptoms and the pathophysiology of mental health conditions</li> <li>• The impact of depression and anxiety on physical health</li> <li>• Communication strategies to engage people with mental illness</li> <li>• Psychiatric medications and their side effects</li> <li>• The importance of managing psychiatric issues to provide effective rehabilitation</li> <li>• How to refer for appropriate treatment</li> </ul> |

The key themes that emerged around postgraduate educational opportunities were the need for communication skills to engage the person with mental illness; education about other treatments, including cognitive behavioural therapy; and the role of psychiatrists and psychologists. Approximately one-third of participants wanted to know more about the relationship between chronic pain and mental health and how to educate themselves about physiotherapy scope of practice in mental health, including strategies to help patients manage their physical health challenges.

## DISCUSSION

Physiotherapists in Western Australia have a moderately positive attitude toward psychiatry and mental health; this is a reassuring finding because it is evident that they treat many more people with comorbid mental health problems in a general health care setting than they had anticipated when they graduated. A staggering 41% of physiotherapists reported treating patients with mental health comorbidity every day, while 76% treated people with this condition at least once a week. But this high prevalence is not surprising when the mental health comorbidities associated with the physical health issues commonly treated by physiotherapists are considered.

People who smoke are often admitted to cardiorespiratory and oncology wards and require physiotherapeutic interventions. A full 66% of smokers in Australia have a comorbid lifetime mental illness,<sup>21</sup> while in Western Australia, two-thirds of people with psychotic illness smoke an average of 21 cigarettes a day;<sup>10</sup> this suggests that a reasonable percentage of people admitted to hospital with smoking-related disorders would also present with comorbid mental health problems. Similarly, there is a strong link between heart disease and depression: major depression occurs in up to 27% of people within two weeks of experiencing a myocardial infarction.<sup>22</sup> In both hospital and community settings, the role of physiotherapy in managing MS and stroke is well documented: up to 44.5% of people with MS experience anxiety, and 18.5% experience depression,<sup>23</sup> while up to 52% of people who suffer a stroke experience depression within five years.<sup>24</sup> Physiotherapists working with these patient groups will be treating many people with comorbid mental health problems. In the private practice setting, physiotherapists regularly see people with mental health issues associated with chronic pain – statistics suggest that a reasonably large proportion of these people also have depression and/or anxiety.<sup>8</sup>

It is interesting to note that the wider public perception is that physiotherapists do not work with people with mental illness. This is evidenced by the fact that physiotherapy is not considered a primary profession in the Australian mental health workforce and is not even listed as a workforce that plays a significant role in delivering services to mental health consumers.<sup>25</sup> As a profession physiotherapists do not typically consider that they work with people with mental illness, yet there is a clear disparity between this position and the fact that as mentioned above, 41% of all physiotherapists surveyed reported that they treated people with a comorbid mental illness every day and over 75% reported treating someone at least once a week. This flawed public perception appears to be based on hearsay rather than fact. Further studies should compare the frequency of service for people with mental health problems provided by physiotherapists in general practice with the frequency of services provided by dietitians, pharmacists, and speech therapists. These professions are deemed to play a significant role in delivering services to this patient group in Australia.

Physiotherapists deliver “person-centred care” using a bio-psycho-social approach, but actual practice within this paradigm becomes problematic if a physiotherapist does not have adequate background knowledge of mental health and its impact on a person’s physical health. Some participants articulated that they would have liked more information as an undergraduate about the importance of connecting mind and body. Having more education about the signs, symptoms, and pathophysiology of mental illness, its impact on physical health, and the side effects of medication would help physiotherapists better engage in person-centred care and connect the mind with the body. It is interesting that previous work with undergraduates identified a similar concern about providing educational opportunities and experiences.<sup>26</sup>



A lack of communication skills to engage people with comorbid mental illness was a theme that emerged from this survey. While undergraduate training could assist in this regard, it would fail to capture those physiotherapists already in practice. Encouraging health care providers to make it a priority to employ physiotherapists with the appropriate knowledge and skills (including postgraduate education in mental health) to act as guides and mentors for other staff and to train them in such knowledge and skills, may go some way toward addressing this problem.

Comments to open-ended questions suggested that there is not only a need but also a desire for physiotherapists to engage in postgraduate education in physiotherapy and mental health. Many European countries, including Belgium, Norway, and Sweden, offer programmes in this area. Further research into these and similar programmes should be undertaken to help guide and shape possible future postgraduate educational opportunities.

Despite having identified shortcomings in their undergraduate preparation for working with people with comorbid mental illness, Western Australian physiotherapists do tend to have a positive attitude toward working with people with mental health issues. It can be suggested that the lack of explicit content in the physiotherapy curriculum means that this positive attitude relies on intrinsic personal characteristics and beliefs and is constructed from individuals drawing on previous experiences rather than being the outcome of a well-defined and -articulated education in mental health or psychiatry. This could reflect the type characteristics and traits of individuals entering the physiotherapy profession. More comparative research would be required to determine whether this is the case.

The limitations in mental health education identified by our respondents are not confined to physiotherapy: they have been noted in medical, nursing, and other allied health literature.<sup>1,3,27</sup> Hodgins and colleagues<sup>27</sup> found that general practitioners who treat patients with mental health problems also deal with the systemic challenge of lack of knowledge and that, in some instances, they are also challenged by their intrinsic personal characteristics and beliefs, including stigmas. Nevertheless, further studies are required to determine whether postgraduate education and training would help physiotherapists develop a more positive attitude toward patients with mental health issues.

This study has some limitations that should be kept in mind when interpreting the results. Distribution of this study was possibly limited because the email that announced it was sent to only a single contact in each health facility, and we relied on that individual to circulate the message to his or her colleagues. The resultant participant numbers were small compared to the number of physiotherapists working in many of these facilities. It is not known whether participant bias meant that only people who had an interest in mental health completed the survey (possibly skewing the results). We hope that a subsequent study might provide a larger survey sample, from across all of Australia, and not be limited to one state or depend on people circulating an email to their peers.

## **CONCLUSIONS**

Physiotherapists in general practice in Western Australia have a generally positive attitude toward psychiatry, and 72% of respondents reported treating patients with mental dysfunction at least once a week. Participants identified that they felt inadequately prepared to work with this patient group, but this lack of preparedness is not unique to physiotherapy. It is apparent that the undergraduate programme needs some revision, but there is also an overwhelming need for more advanced, postgraduate training in psychiatry and mental health. The scope of this research could be widened to include physiotherapists in other countries.

**Key Messages:****What is already known on this topic?**

Little is currently known with respect to Western Australian Physiotherapists attitudes toward mental health and psychiatry nor their self-reported frequency of contact with patients who have a co-morbid mental health illness.

**What this study adds.**

The Physiotherapists who participated in this study had generally positive attitudes toward mental health and psychiatry. A high frequency of contact with patients who have a co-morbid mental health illness was reported. Respondents indicated topics they wish they had more education on at undergraduate level as well as offering suggestions for inclusion in undergraduate curriculum in this area.

**Ethical considerations:** Ethical approval was granted from the University of Notre Dame Australia.

**Funding:** This project was unfunded.

**REFERENCES**

1. Arvaniti F, Samakouri, M., Kalamara, E., Bochtsou, V., Bikos, C., Livaditis, M. . Health service staff's attitudes towards patients with mental illness. *Social Psychiatry And Psychiatric Epidemiology*. 2009;44(8):658 -665.
2. Maria Johanna K, Goossens PJJ. Factors Influencing Attitudes of Nurses in General Health Care Toward Patients with Comorbid Mental Illness: An Integrative Literature Review. *Issues in Mental Health Nursing*. 2011;32(8):519-527.
3. Harrison A. ZS. Professional influences on the provision of mental health care for older people within a general hospital ward. *Journal of Psychiatric and Mental Health Nursing*. 2005;12(4):472-480.
4. Australian Physiotherapy Association A. Chronic Disease and Physiotherapy: Position Statement. 2009.
5. Australian Physiotherapy Association A. Pain Management: Position Statement. 2012.
6. Australian Physiotherapy Association A. Primary Health Care and Physiotherapy: Position Statement. 2008.
7. Australian Institute of Health and Welfare A. When musculoskeletal conditions and mental disorders occur together. Canberra2010.
8. Gureje O, Von Korff, M., Kola, L., Demyttenaere, K., He, Y., Posada-Villa, J., et al. . The relation between multiple pains and mental disorders: Results from the world mental health surveys. *Pain*. 2008;135(1-2):82-91.
9. Korszun A, Young EA, Engleberg NC, Brucksch CB, Greden JF, Crofford LA. Use of actigraphy for monitoring sleep and activity levels in patients with fibromyalgia and depression. *Journal Of Psychosomatic Research*. 2002;52(6):439-443.
10. Morgan V, Waterreus A, Jablensky A, et al. People living with psychotic illness in 2010: The second Australian national survey of psychosis. *The Australian And New Zealand Journal Of Psychiatry*. 2012;46(8):735-752.
11. Galletly CA, Foley DL, Waterreus A, et al. Cardiometabolic risk factors in people with psychotic disorders: The second Australian national survey of psychosis. *The Australian And New Zealand Journal Of Psychiatry*. 2012;46(8):753-761.

12. Richardson C, Faulkner G, McDevitt J, Skrinar G, Hutchinson D, Piette J. Integrating physical activity into mental health services for persons with serious mental illness. *Psychiatric Services*. 2005;56(3):324-331.
13. McLeod JE, Clarke DM. A review of psychosocial aspects of motor neurone disease. *Journal of the Neurological Sciences*. 7/15/ 2007;258(1–2):4-10.
14. Chen K, Fan Y, Hu R, Yang T, Li K. Impact of depression, fatigue and disability on quality of life in Chinese patients with multiple sclerosis. *Stress And Health: Journal Of The International Society For The Investigation Of Stress*. 2013;29(2):108-112.
15. Kurt A, Nijboer F, Matuz T, Kübler A. Depression and Anxiety in Individuals with Amyotrophic Lateral Sclerosis: Epidemiology and Management. *CNS Drugs*. 2007;21(4):279.
16. Gladigau EL, Fazio TN, Hannam JP, Dawson LM, Jones SG. Increased cardiovascular risk in patients with severe mental illness. *Internal Medicine Journal*. 2014;44(1):65-69.
17. MacNeela P, Scott PA, Treacy M, Hyde A, O'Mahony R. A risk to himself: attitudes toward psychiatric patients and choice of psychosocial strategies among nurses in medical-surgical units. *Research In Nursing & Health*. 2012;35(2):200-213.
18. Probst M, Peuskens J. Attitudes of Flemish physiotherapy students towards mental health and psychiatry. *Physiotherapy* 2010;96(1):44-51.
19. Burra P, Kalin R, Leichner P, et al. The ATP 30-a scale for measuring medical students' attitudes to psychiatry. *Medical Education*. 1982;16(1):31-38.
20. Kuhnigk O, Hofmann M, Böthern AM, Haufs C, Bullinger M, Harendza S. Influence of educational programs on attitudes of medical students towards psychiatry: Effects of psychiatric experience, gender, and personality dimensions. *Medical Teacher*. 2009;31(7):e303-e310.
21. Lawrence D, Lawn S, Kisely S, Bates A, Mitrou F, Zubrick SR. The potential impact of smoke-free facilities on smoking cessation in people with mental illness. *The Australian And New Zealand Journal Of Psychiatry*. 2011;45(12):1053-1060.
22. Larsen KK, Christensen B, Søndergaard J, Vestergaard M. Depressive symptoms and risk of new cardiovascular events or death in patients with myocardial infarction: a population-based longitudinal study examining health behaviors and health care interventions. *Plos One*. 2013;8(9):e74393-e74393.
23. Wood B, van der Mei IAF, Ponsonby AL, et al. Prevalence and concurrence of anxiety, depression and fatigue over time in multiple sclerosis. *Multiple Sclerosis Journal*. 2013;19(2):217-224.
24. Ayerbe L, Ayis S, Wolfe CDA, Rudd AG. Natural history, predictors and outcomes of depression after stroke: systematic review and meta-analysis. *The British Journal Of Psychiatry: The Journal Of Mental Science*. 2013;202(1):14-21.
25. Health Workforce Australia A. Health Workforce Australia 2013, Mental Health Workforce Planning Data Inventory. 2013.
26. Connaughton J, Gibson W. Attitudes of Physiotherapy students to psychiatry and mental health:A cross-sectional study. *Physiotherapy Canada* (in press)
27. Hodgins G JF, Davis J, Fahey A. An integrated approach to general practice mental health training: the importance of context. *Australian Psychiatry: Bulletin of Royal Australian and New Zealand College of Psychiatrists*. 2007;15(1):52-57.