Physiotherapy Students' Attitudes toward Psychiatry and Mental Health: A Cross-Sectional Study

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ABSTRACT

Purpose: A cross-sectional exploration of Notre Dame Australia physiotherapy students' attitudes toward psychiatry and mental illness, students' perceptions regarding preparation in this area for general clinical practice, and a cross-sectional investigation of current mental health—and psychiatry-related content in physiotherapy curricula across Australia and New Zealand. **Methods:** A questionnaire including demographic details, level of exposure to mental illness, and the Attitudes Toward Psychiatry–30 items (ATP-30) was completed by pre-clinical and clinically experienced physiotherapy students from the University of Notre Dame Australia. Students with clinical experience were asked additional questions about preparedness for practice. Staff of 10 of 17 physiotherapy programmes across Australia and New Zealand responded to an online questionnaire investigating relevant content and quantity of learning experiences in mental health. **Results:** Student response rate was 89%. Students generally had a positive attitude about psychiatry and mental health. Women were significantly more positive than men, and students who had completed clinical experience had a significantly more positive attitude. Physiotherapy program responses (response rate = 59%) highlighted disparate approaches to psychiatry and mental health learning opportunities in terms of quantity and content. **Conclusion:** Entry-level physiotherapy students who have clinical experience generally have a more positive attitude toward psychiatry and people with mental illness. Given the prevalence of mental health problems and the increase in physical and mental health comorbidities, it is imperative that future clinicians have positive educational experiences in psychiatry. A coherent, integrated approach to mental illness and psychiatry is suggested for entry-level physiotherapy programmes in Australia and New Zealand.

Key Words: attitudes; curriculum; mental health; psychiatry; students.

RÉSUMÉ

Objectif : Analyse transversale des attitudes des étudiants en physiothérapie de l'Université Notre Dame, en Australie, à l'égard de la psychiatrie et des maladies mentales, perceptions des étudiants au sujet de la préparation dans ces domaines en vue de la pratique clinique générale et analyse transversale du contenu courant portant sur la santé mentale et la psychiatrie dans les cursus en physiothérapie en Australie et en Nouvelle-Zélande. **Méthodes :** Des étudiants en physiothérapie chevronnés aux niveaux préclinique et clinique de l'Université Notre Dame, en Australie, ont rempli un questionnaire comportant des détails démographiques, le niveau d'exposition aux maladies mentales et 30 questions sur les attitudes à l'égard de la psychiatrie (ATP-30). On a posé aux étudiants qui avaient de l'expérience clinique d'autres questions sur la préparation à la pratique. Dix des 17 programmes de physiothérapie de l'Australie et de la Nouvelle-Zélande ont répondu à un questionnaire en ligne portant sur le contenu pertinent et le volume des expériences d'apprentissage en santé mentale. **Résultats :** Le taux de réponse des étudiants s'est établi à 89%. Les étudiants avaient en général une attitude positive à l'égard de la psychiatrie et de la santé mentale. Les femmes étaient beaucoup plus positives que les hommes et l'on a constaté une attitude beaucoup plus positive chez les étudiants qui avaient de l'expérience clinique. Les réponses des programmes de physiothérapie (taux de réponse = 59%) ont mis en évidence des approches disparates des possibilités d'apprentissage en psychiatrie et en santé mentale sur les plans de la quantité et du contenu. **Conclusion :** Les étudiants en physiothérapie au niveau débutant qui ont de l'expérience clinique ont en général une attitude plus positive à l'égard de la psychiatrie et des personnes vivant avec une maladie mentale. Étant donné la prévalence des problèmes de santé mentale et l'augmentation des comorbidités en santé physique et mentale, il est impératif que les futurs cliniciens aient des expériences d'éducation positives en psychiatrie. On suggère une approche cohérente et intégrée de la santé mentale et de la psychiatrie pour les programmes de physiothérapie au niveau débutant en Australie et en Nouvelle-Zélande.

People with serious mental health issues generally have poorer physical health than people without mental illness,^{1–4} and the majority of these people may not receive appropriate primary care for these comorbidities.^{5–7}

Broadly speaking, many of these physical health comorbidities fall under the scope of musculoskeletal, cardiopulmonary, and neurological conditions for which physiotherapy is recognized as either the treatment of choice

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or an essential component of management. Thus, physiotherapists can arguably play a key role in the delivery of health care to people with a mental illness.^{8–10}

Entry-level physiotherapy programmes in Australia prepare graduates with the knowledge and skills to assess and treat musculoskeletal conditions and chronic pain, acute and chronic cardiorespiratory conditions, a wide range of neurological conditions, and many preventable diseases such as diabetes.^{8–10} Students are also taught to look for and recognize potential biopsychosocial factors that may affect treatment in all of these areas of practice, but they receive minimal training in how to address and accommodate mental health comorbidities. Previous work involving nurses has demonstrated that students and new graduates rely on their own personal experiences and beliefs about people with mental illness to shape their attitudes and guide provision of care;¹¹ we do not currently know, however, whether the same is true for physiotherapy students and new graduates. Research conducted in Belgium that examined physiotherapy students' attitudes toward psychiatry demonstrated scores deemed to be moderately positive when assessed with the Attitudes Toward Psychiatry–30 items (ATP-30),¹² but little is currently known about Australian physiotherapy students' perceptions and attitudes toward psychiatry and people with mental illness. This is important to address because health care providers who have negative attitudes and prejudices are unlikely to provide optimal health care and appropriate emotional support to people in this situation.

Education can foster positive attitudes toward people presenting with mental health comorbidities;¹³ several studies have shown that medical and allied health students' attitudes toward psychiatry can be influenced by the psychiatric content in their undergraduate courses.^{12–14} Limited curricula in physiotherapy programmes in the area of mental health and psychiatry could imply a lack of insight by the profession into the prevalence of mental health comorbidities and the role of psychiatry and highlight that physiotherapists may not graduate with the necessary skills to deliver best holistic practice in the treatment of all their patients. Graduates who have not been adequately trained may then rely on their own personal experiences, stereotypes, and prejudices to guide interactions and aid holistic management for their patients with mental health comorbidities.

We collected data from physiotherapy students from the University of Notre Dame Australia on their self-reported attitudes toward mental illness and psychiatry and their self-reflections on education received in this area. Our research aimed to answer the following questions:

- What are physiotherapy students' attitudes toward psychiatry and mental health?
- How often do physiotherapy students believe they will treat patients with mental illness? Does this change once students start clinical placements?
- What are physiotherapy students' perceptions of mental health content in their physiotherapy course?
- What are the current characteristics of mental health learning experiences offered in Australian and New Zealand tertiary entry-level courses?

We anticipate that the results may help shape curriculum planning in Australian physiotherapy programmes.

METHODS

Design

Our cross-sectional study was conducted in the entry-level program of the School of Physiotherapy, University of Notre Dame Australia. All students who had not yet undertaken any clinical placements (Years 1 and 2) and all final-year students nearing the completion of their clinical placements (Year 4) were included. Students were asked to complete a hard-copy questionnaire that included the ATP-30, age, gender, program year, and previous experience with mental illness, including personal mental health problems or contact with family members or patients with mental health problems. Students were asked how often they thought they might treat people with comorbid mental illness after graduation. Final-year students were also asked to complete two open-ended questions asking what they now knew about psychiatry that they had not known before starting their clinical placements and what they would have liked to have known.

The ATP-30 was developed in Canada in the 1980s to measure medical and occupational therapy students' attitudes toward psychiatry and demonstrate changes in attitude after exposure to psychiatry through curriculum. The tool has been shown to be both reliable and valid.¹⁴ It consists of 30 statements (14 positively phrased and 16 negatively phrased) about mental illness and treatment; psychiatric patients, psychiatric institutions, and psychiatrists; and teaching, knowledge, and career choice. Participants are asked to rank their response to the statements using a 5-point Likert-type scale (ranging from 1 = *strongly agree* to 5 = *strongly disagree*). Scores for the positively phrased questions are reversed by subtracting them from 6; all item scores are summed to arrive at a total score out of 150. Higher scores indicate more positive attitudes; a score of 90 is considered neutral.¹⁴ There is currently no specific tool for physiotherapy, but the ATP-30 is considered general rather than dedicated to a specific group. It was used in a Flemish study of physiotherapy students in 2010.¹²

We also developed an online course-content questionnaire to collect data on course learning content and experiences in the area of psychiatry and mental illness in entry-level physiotherapy programmes across Australia and New Zealand.

Ethics approval for this study was granted by the Human Research Ethics Committee of the University of Notre Dame Australia (HREC No. 013037F).

Table 1 Student Attitudes toward Psychiatry and Mental Health

Students	Mean (SD) ATP-30 score*		
	Female	Male	Total
Students, no. (%)	115 (71)	47 (29)	162 (100)
All students	104.7 (11.1)	99.0 (11.6)	103.1 (11.5)
Clinically experienced students	110.0 (9.0)	102.4 (7.9)	107.8 (9.3)
Students with no clinical experience	101.9 (11.1)	97.2 (12.9)	100.6 (11.8)

*Unless otherwise indicated.

ATP-30 = Attitudes Toward Psychiatry–30 items.

Figure 1 Comparison between pre-clinical and clinically experienced students' expected frequency of contact with patients with a comorbid mental illness in clinical practice.

Participants

Students in Years 1 and 2 who had not yet been on clinical placements ($n = 130$) were invited to participate at the end of a lecture in April 2013. Students in Year 4 ($n = 63$) were recruited while on campus undertaking clinical preparation for their final two placements. All students were asked to complete a hard copy of the questionnaire and place their completed questionnaire in a box. Surveys were anonymous, and consent was implied by returning the survey.

In April 2014, we sent a link to the online course-content questionnaire by email to all members of the Physiotherapy Clinical Education Managers Australia and New Zealand, asking that they pass it along to the most appropriate staff member for response. Of the 17 universities contacted, staff members at 10 (59%) completed the questionnaire.

Analysis

Attitudes toward psychiatry and mental health were determined using descriptive and inferential analysis. Below we present results of the ATP-30 as means and standard deviations; we compared these scores by student group and gender using independent t -tests ($\alpha = 0.05$). Answers to the open-ended questions were coded and sorted into themes for thematic analysis.

RESULTS

Student questionnaire

Of 193 students, 172 completed the questionnaire, for a response rate of 89%. However, 10 questionnaires were incomplete, leaving a total of 162. The sample was 71% female ($n = 115$), a good representation of gender distribution in the physiotherapy program (see Table 1); ages ranged from 17 to 37 years, with a median of 20 years.

ATP-30 scores were generally positive (see Table 1). A t -test found more positive attitudes among female students than among male students ($t_{150} = 2.85$, $p = 0.005$). The ATP-30 scores of students who had been on clinical placement were significantly more positive than those of students who had not ($t_{151} = -3.83$, $p < 0.005$). Women who had completed clinical placements were more positive than women who had not ($t_{106} = -3.8$, $p < 0.001$), but we found no significant differences among men ($p = 0.16$).

In response to the question "How often do you think you'll be treating patients with a comorbid mental illness once you are graduated and working in clinical practice?" clinically experienced students predicted more contact with patients with a comorbid mental illness than those without clinical experience (see Figure 1). Among clinically experienced students, 93% (52 of 56) expected to have contact with patients with a comorbid illness at least three to four times per week, versus 62% (66 of 106) of pre-clinical students.

Of 56 students with clinical experience, 46 (82%) responded to the two open-ended questions on psychiatry and mental health (see Table 2). Students stated that the clinical experience highlighted issues surrounding the prevalence, complexity, and management of people with comorbid mental health problems (Table 2). Students also identified a desire for more knowledge of the side effects of medications used in psychiatry and pathophysiology of common mental health problems and more education on signs and symptoms of depression and the roles of mental health practitioners, including psychiatrists, before undertaking their clinical placements (see Table 2).

Table 2 Students' Responses to Open-Ended Questions

What have you learned about psychiatry and people with mental illness since doing clinical placements?	What do you wish you had already known about psychiatry and people with mental illness before starting clinical placement?
The prevalence of comorbid mental illness is higher than expected.	Communication strategies to engage the person with comorbid mental illness
Patients with comorbid mental illness are more complex than expected.	Medication and its side effects
The approach to management of the physical health issues of the person with comorbid mental illness should change.	More information about different areas of psychiatry
The effects mental illness have on physical illness	More education on signs, symptoms, pathophysiology, and management of mental health conditions
The influence of mental health medications on client management	How to identify depression More information about psychiatry treatments

Table 3 Universities' Responses to Course Content Questionnaire ($n = 10$)

Learning experience	Responses
Does your entry-level program have a specific unit that addresses mental illness and psychiatry?	0% have a specific unit.
Do you have explicit learning experiences within your course that provide a basic overview of common mental illnesses such as depression, anxiety, bipolar affective disorder, or eating disorders?	80% have some coverage. 20% have no coverage.
Do you have explicit learning experiences within your entry-level course that inform students on the prevalence of common mental illnesses such as depression, anxiety, bipolar affective disorder, or eating disorders?	70% have course content in this area.
Do you have explicit learning experiences on pathophysiology of mental illness or psychiatric conditions in your entry-level program?	50% have no coverage. 30% have <3 course h. 20% have ≥ 12 course h.
Do you have explicit learning experiences within your entry-level course that inform students on issues on pharmacological management of mental illness?	30% reported coverage.
Do you have explicit learning experiences within your entry-level course that inform students on the impact mental illness can have on an individual's physical well-being and recovery?	90% reported coverage.
Do you have explicit learning experiences within your entry-level course that inform students on communication strategies to engage the person with a comorbid mental illness or psychiatric condition?	20% have no coverage. 80% reported 2–12 course h.

Course content questionnaire

Of the 17 universities approached, staff members at 10 completed the survey, for a response rate of 59%. Table 3 identifies these responses. The themes of additional responses are summarized by the following comments: "This is an increasingly critical area of curricula for physiotherapy students," "it can be a significant comorbidity in our clients," and "it is hard to know where to fit it in though other than as an embedded product."

DISCUSSION

Our findings demonstrate that, overall, undergraduate students in the University of Notre Dame Australia's entry-level physiotherapy program have generally positive attitudes toward psychiatry and mental health problems. This is an important finding, given the prevalence of mental illness and physiotherapists' role in health care for people with comorbid mental and physical conditions. Female physiotherapy students had a more positive attitude toward psychiatry and mental health problems than their male counterparts, whose attitude

was approximately neutral. This finding is consistent with those of previous research comparing attitudes of male and female medical students.¹³ When we compared clinically experienced respondents with pre-clinical respondents, we found that women who had been on clinical placements showed significantly more positive attitudes than pre-clinical female students; the same comparison for male students suggested a trend in the same direction, but the difference was not statistically significant. Our findings are based on cross-sectional data, however, and further studies would be needed to determine whether and why clinical experience truly has a more profound effect on attitudes toward psychiatry and mental health among women than among men.

Probst and Peuskens¹² study of Flemish physiotherapy students' attitudes toward psychiatry and mental health produced very similar results: The female:male ratio of their sample was the same, as were their sample's ATP-30 scores (the overall positive attitude scores of 103.1 and 103.9 were almost identical). These two studies were conducted independently of each other and with

no collaboration, which suggests that there may be some common personality characteristics across physiotherapy students.

Unlike previous studies that have compared students' attitudes before and after exposure to people with diagnosed mental illness,¹⁵ our study examined attitudes after diverse general practice in which students may have had exposure to people with comorbid mental illness. Our findings suggest that clinical experience has an effect on attitude, especially among female students. It is acknowledged this study used a cross-sectional design and that causal relationships cannot be established; however, as an initial finding, further investigation appears warranted.

To help inform curriculum, we elicited students' thoughts regarding their knowledge of mental health and psychiatry before clinical placements and what they perceived would have helped them with management of their clients. Probst and Peuskens¹² demonstrated that education specific to psychiatric rehabilitation had a positive impact on physiotherapy students' attitudes, and a qualitative study by Matteo (2013) highlighted an increase in empathy among psychology students after education on mental illness and stigma.¹⁵ Kuhnigk et al.'s¹⁶ and other studies^{7,13,17,18} have found that a positive education experience fosters a positive attitude toward psychiatry in students, which translates into better patient care. It may be that more education before clinical experience would result in further improvement in attitudes toward psychiatry and mental health issues. Currently, physiotherapy students at the University of Notre Dame Australia receive 4 hours of lectures dedicated to pathophysiology and management of clients with mental illness. References to depression and how it may affect treatment are also embedded in the musculoskeletal and neurological elements of the curriculum. Hodgins et al.¹⁷ argued that information alone is not enough to engender a more positive attitude and that a practice-based educational model is required in which students can develop and practise skills at the same time as they receive education on patient management. This is an element to be considered in future curriculum development for any physiotherapy program.

Our finding that students who have been on general clinical placements have a more positive attitude is interesting and suggests that students may be accessing positive information by observing more experienced clinicians during their clinical experience. In another study, psychology students developed a more positive attitude after having personal contact with people with mental health problems,¹⁹ and perhaps the same phenomenon is experienced by physiotherapy students on general clinical placement.

Our survey of physiotherapy programmes across Australia and New Zealand uncovered little coherence in terms of content and quantity of information on psy-

chiatry and mental health. The majority, including the program at Notre Dame Australia, include a basic overview of the most commonly seen comorbidities, anxiety and depression. Although this information may help students identify these common problems in their patients, it will not help them with patient management. Interestingly, despite these overviews, many Notre Dame Australia students reported that they wanted more information on how to recognize depression in their patients.

Pre-clinical students' perceptions of frequency of contact with people with comorbid mental illness were significantly lower than predicted by students who had general clinical experience. Although most programmes educate students on the prevalence of mental health problems, the information is likely to be based on prevalence in the total population and thus may not accurately reflect what students will see in practice. It is known that poor mental health and poor physical health are linked,¹⁻⁴ so it is not unrealistic to expect that people with mental health issues may make up a larger proportion of admissions or outpatient appointments in general hospital settings than of the general population. Further research should be undertaken to determine the actual prevalence of comorbid mental illness among physiotherapy patients.

Students expressed some surprise at the added complexity of management of and recovery from physical health problems when comorbid mental health issues are present. The majority of entry-level programmes appear to cover the impact of mental health problems on physical health and recovery, but further investigation would be needed to determine what format this education takes. As previously suggested, a brief overview of mental health problems may help physiotherapy students recognize these comorbidities, but, as in other health professions, better training is needed to help physiotherapy students manage these issues.²⁰ Students may not be able to fully appreciate the impact of mental health comorbidities before exposure to treating patients in clinical practice.

We can assume that an understanding of pathophysiology will help students to understand the manifestations of mental health conditions and, to some extent, the impact of these conditions on a person's physical health. The students we surveyed requested more information on pathophysiology, highlighting their need to better understand these mental health problems so as to better manage their patients. Of the physiotherapy programmes surveyed, 50% ($n = 5$) included in their curricula learning experiences that address the pathophysiology of some mental health conditions.

Students also indicated that they wanted more education and learning experiences dedicated to communication strategies for engaging this client group. Of the programmes surveyed, 80% ($n = 8$) included strategies for communicating with people with mental illness, but

the course time devoted to this topic ranged from 2 hours to 12 hours over the duration of the program, which may not be enough time or offer enough learning opportunities to allow students to move from accessing knowledge to developing skills and, finally, applying those skills in this area. Physiotherapy students spend many hours practising their practical clinical skills in tutorials and laboratory sessions, and they arguably need the same practice to perfect the communication skills used to engage people with mental health comorbidities.¹⁷

Side effects of medications used to manage mental health issues can have a significant impact on physical health and well-being, and our student respondents identified this as the second most important element lacking in their education. Only 30% of programmes surveyed ($n = 3$) reported having learning experiences in this aspect of mental health, and it is obvious that this needs to be addressed.

Physiotherapy programmes in Australia are accredited through the Australian Physiotherapy Council, whose Australian Standards for Physiotherapy include quite strict guidelines on curriculum content. The Chartered Society of Physiotherapists²¹ has acknowledged mental health comorbidity and a need for more education on managing the increasing number of clients with mental health issues so that future physiotherapists can deliver best-practice treatment to and management for their patients.

Respondents to our program survey identified a common problem across physiotherapy curricula in Australia: the increasing demand to fit more content into already content-heavy entry-level programmes.²² Respondents saw the prospect of introducing more content related to mental health as a significant challenge, one that may require removing other curriculum content; this could have serious implications for accreditation and therefore requires very careful consideration. Clearly, this situation is problematic and calls for a review of the standards to identify whether all current standards are relevant to the changing face of health care.

Clarification and consensus on what constitutes mental health and psychiatry content within physiotherapy courses may be an area for further investigation. For example, the physiotherapy program at the University of Notre Dame Australia includes education on managing chronic pain, complex regional pain syndrome, and chronic fatigue syndrome within musculoskeletal and pain management units, but not under the umbrella of mental health; neurology lectures include information about the common side effects of depression and anxiety; and developmental problems and physiotherapy involvement in eating disorders are included in pediatric course content. Arguably, integrating psychiatric content throughout the physiotherapy curriculum accurately reflects the prevalence of mental health issues in society and rein-

forces the psychological in the bio-psychosocial approach advocated for physiotherapeutic management. This integrated approach is used in all participating programs surveyed that indicated they included mental health content in their course.

Similarly, Kuhnigk and colleagues (2009)¹³ advocated this integrated approach for medical students, and Bell and colleagues (2006)²³ for pharmacy students. Kuhnigk and colleagues¹³ also highlighted how attitudes toward psychiatry and mental health problems improved after students had undertaken specific units about mental health and recommended the integration of training in this area throughout the whole course.

Our study had several limitations. First, the students invited to participate were from only one university and thus are representative only of that program. Further studies should include all programs in Australia to provide better representation of Australian physiotherapy students as a whole. Second, the cross-sectional study design limits our ability to draw causal connections from our data. A prospective study could further explore the impact of clinical experience on attitudes toward psychiatry.

CONCLUSION

Physiotherapy students from the University of Notre Dame Australia who have some clinical experience generally have a more positive attitude toward psychiatry than those who have not yet begun clinical placements. Students without clinical experience predicted a low frequency of contact with people with comorbid mental health problems compared with students who had clinical experience. Communication strategies; medication side effects; and signs, symptoms, and pathophysiology of common mental health problems were identified by students as the key areas in which they would have liked training before undertaking clinical placement. Learning experiences in physiotherapy entry-level programmes across Australia and New Zealand are varied and inconsistent.

Examining students' attitudes at different universities could give insight into the impact of these differing learning experiences on students' attitudes toward mental health. Students from different universities undertake a similar suite of clinical placements, and a comparison of students' attitudes would be linked more to the individual and the program than to the clinical experience. This would allow us to evaluate the impact on attitude of the actual mental health learning experiences within each program and to establish a benchmark.

KEY MESSAGES

What is already known on this topic

A negative attitude and prejudices toward people with mental illness is unlikely to result in optimal health care delivery. If students and graduates rely on their own

personal experiences, stereotypes, and prejudices to guide interaction with and management of their patients with mental health comorbidities, it is imperative that they have a positive attitude. Education can foster positive attitudes toward people with mental health comorbidities.

What this study adds

Australian physiotherapy students from one university have a positive attitude toward psychiatry. General clinical experience may have a positive effect on attitude. Students recognized that mental health problems added complexity to the management and recovery of people's physical health problems. Physiotherapy programs across Australia and New Zealand have a very disparate approach to psychiatry and mental health learning opportunities, with the majority including basic information on anxiety and depression.

REFERENCES

- Coghlan R, Lawrence D, Holman C, Jablensky A. Duty to care: physical illness in people with mental illness. Crawley: University of Western Australia; 2001.
- Richardson CR, Faulkner G, McDevitt J, et al. Integrating physical activity into mental health services for persons with serious mental illness. *Psychiatr Serv*. 2005;56(3):324–31. <http://dx.doi.org/10.1176/appi.ps.56.3.324>. Medline:15746508
- Galletly CA, Foley DL, Waterreus A, et al. Cardiometabolic risk factors in people with psychotic disorders: the Second Australian National Survey of Psychosis. *Aust N Z J Psychiatry*. 2012;46(8):753–61. <http://dx.doi.org/10.1177/0004867412453089>. Medline:22761397
- Morgan VA, Waterreus A, Jablensky A, et al. People living with psychotic illness in 2010: the Second Australian National Survey of psychosis. *Aust N Z J Psychiatry*. 2012;46(8):735–52. <http://dx.doi.org/10.1177/0004867412449877>. Medline:22696547
- Griswold KS, Homish GG, Pastore PA, et al. A randomized trial: are care navigators effective in connecting patients to primary care after psychiatric crisis? *Community Ment Health J*. 2010;46(4):398–402. <http://dx.doi.org/10.1007/s10597-010-9300-x>. Medline:20204511
- Griswold KS, Zayas LE, Pastore PA, et al. Primary care after psychiatric crisis: a qualitative analysis. *Ann Fam Med*. 2008;6(1):38–43. <http://dx.doi.org/10.1370/afm.760>. Medline:18195313
- van der Kluit MJ, Goossens PJJ. Factors influencing attitudes of nurses in general health care toward patients with comorbid mental illness: an integrative literature review. *Issues Ment Health Nurs*. 2011;32(8):519–27. <http://dx.doi.org/10.3109/01612840.2011.571360>. Medline:21767254
- Australian Physiotherapy Association. Chronic disease and physiotherapy: position statement [Internet]. Camberwell (VIC): The Association; 2009 [cited 2012 Aug 17]. Available from: http://www.physiotherapy.asn.au/DocumentsFolder/Advocacy_Position_Chronic_Disease_2009.pdf
- Australian Physiotherapy Association. Pain management [Internet]. Camberwell (VIC): The Association; 2012 [cited 2012 Aug 17]. Available from: http://www.physiotherapy.asn.au/DocumentsFolder/Advocacy_Position_Pain_Management_2012.pdf
- Australian Physiotherapy Association. Primary health care and physiotherapy: position statement [Internet]. Camberwell (VIC): The Association; 2008 [cited 2012 Aug 17]. Available from: http://www.physiotherapy.asn.au/DocumentsFolder/Advocacy_Position_Primary_Health_Care_2008.pdf
- MacNeela P, Scott PA, Treacy M, et al. A risk to himself: attitudes toward psychiatric patients and choice of psychosocial strategies among nurses in medical-surgical units. *Res Nurs Health*. 2012;35(2):200–13. <http://dx.doi.org/10.1002/nur.21466>. Medline:22334254
- Probst M, Peuskens J. Attitudes of Flemish physiotherapy students towards mental health and psychiatry. *Physiotherapy*. 2010;96(1):44–51. <http://dx.doi.org/10.1016/j.physio.2009.08.006>. Medline:20113762
- Kuhnigk O, Hofmann M, Böther AM, et al. Influence of educational programs on attitudes of medical students towards psychiatry: Effects of psychiatric experience, gender, and personality dimensions. *Med Teach*. 2009;31(7):e303–10. <http://dx.doi.org/10.1080/01421590802638048>. Medline:19811138
- Burra P, Kalin R, Lechner P, et al. The ATP 30—a scale for measuring medical students' attitudes to psychiatry. *Med Educ*. 1982;16(1):31–8. <http://dx.doi.org/10.1111/j.1365-2923.1982.tb01216.x>. Medline:7057722
- Matteo E. A qualitative study of undergraduates' conceptualizations of mental illness. *J Prev Intervent Community*. 2013;41(4):231–43. <http://dx.doi.org/10.1080/10852352.2013.818482>. Medline:24010560
- Kuhnigk O, Strebel B, Schilauke J, et al. Attitudes of medical students towards psychiatry: effects of training, courses in psychiatry, psychiatric experience and gender. *Adv Health Sci Educ Theory Pract*. 2007;12(1):87–101. <http://dx.doi.org/10.1007/s10459-005-5045-7>. Medline:17115252
- Hodgins G, Judd F, Davis J, et al. An integrated approach to general practice mental health training: the importance of context. *Australas Psychiatry*. 2007;15(1):52–7. <http://dx.doi.org/10.1080/10398560601083019>.
- Thomas S, Pai N, Dawes K, et al. Updating medical school psychiatry curricula to meet projected mental health needs. *Australas Psychiatry*. 2013;21(6):578–82. <http://dx.doi.org/10.1177/1039856213500092>. Medline:23996665
- Matteo EK, You D. Reducing mental illness stigma in the classroom. *Teach Psychol*. 2012;39(2):121–4. <http://dx.doi.org/10.1177/0098628312437720>.
- Arvaniti A, Samakouri M, Kalamara E, et al. Health service staff's attitudes towards patients with mental illness. *Soc Psychiatry Psychiatr Epidemiol*. 2009;44(8):658–65. <http://dx.doi.org/10.1007/s00127-008-0481-3>. Medline:19082905
- Chartered Society of Physiotherapy. Recovering mind and body: a framework for the role of physiotherapy in mental health and wellbeing [Internet]. London: The Society; 2008 [cited 2012 Aug 17]. Available from: <http://www.csp.org.uk/publications/recovering-mind-body>
- McMeeken J, Webb G, Krause K-L, et al. Learning outcomes and curriculum development in Australian physiotherapy education. Melbourne: University of Melbourne; 2005.
- Bell JS, Johns R, Chen TF. Pharmacy students' and graduates' attitudes towards people with schizophrenia and severe depression. *Am J Pharm Educ*. 2006;70(4):77–77. <http://dx.doi.org/10.5688/aj700477>. Medline:17136196